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DE GRUYTER  
MOUTON

*John M. Anderson*

# A GRAMMAR OF ENGLISH

THE CONSEQUENCES OF A SUBSTANCE-BASED VIEW  
OF LANGUAGE

VOLUME 1: CATEGORIES

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John M. Anderson  
**A Grammar of English**  
Volume 1: Categories



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The Consequences of a Substance-Based View  
of Language

Volume 1: Categories

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In doing this book my intention was to interest people in my vision of things which is indissolubly allied to the style in which it is expressed. ... I have attended to it conscientiously with the hope of being entertaining or at least not insufferably boring to my readers. I cannot sufficiently insist upon the truth, that when I sit down to write my intentions are always blameless, however deplorable the ultimate effect of the act may turn out to be.

Joseph Conrad,  
preliminary note to *Chance*, 1920

to without whom this work would be FECKless



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# Preface

The provisional title for this work was ‘A representational grammar of English’. A title including ‘representational grammar’ is doubly tautological, but not harmfully so, I suggest. Grammarians try to provide representations of the linguistic representations whereby language users attempt to represent their perceptions and conceptualizations. The expression ‘representational grammar’ is perhaps particularly appropriate, however, in characterizing the grammar I shall try to present here, in that contemplation of the title may contribute to an understanding of why any grammar, and particularly this one, necessarily fails in formulating ‘rules’, or achieving exhaustiveness or homogeneity. The individual experiences and skills and intentions of the users of the ‘same language’, together with what they on any particular occasion want to mean, differentiate their internal representations of the language concerned. The present grammar acknowledges this situation and the limits it imposes on the grammarian’s formulations as well as the light it throws on linguistic structure. Language attempts to represent the substance of our variable perception and cognition.

This description and the subtitle of the present work – *A Grammar of English: The Consequences of a Substance-based View* – might suggest a lot of overlap with the author’s trilogy of 2011, given the latter’s overall title of *The Substance of Language*. However, the individual volumes of that trilogy focus on different aspects of language and each deals with a diversity of specific issues, involving different linguistic components and a range of languages. The present work introduces a radical development of the same particular substantive view of linguistic structure, but as applied to the description of crucial aspects of all the components of the grammar of a particular language, English. In particular, the basic status of the lexicon is emphasized here; and where there are overlaps between the two works, as with the treatment of periphrases, the present account offers innovations that strengthen the substance-based view. This is a view that has been developed over the last few decades, though it depends intimately on the main tradition in the history of linguistic theorizing, as it evolved over the centuries preceding the twentieth.

This is not to deny but rather to hope that the account of the view offered here has also benefited from the structuralist tradition of the twentieth century, in explicitness and graphicness of expression, in particular. However, contrary to the most extreme structuralists, intent on establishing the independence of linguistic structure from other cognitive capacities, and even its autonomy, the present book envisages languages as cultural artefacts constructed by these (other) capacities, using, for the physical implementation of manifestations of

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linguistic representations, physiological characteristics that have developed independently of language.

The assumption is that each learner has to construct such an artefact anew on the basis of tokens they are exposed to, and by implementation via the same linguistically-non-specific capacities. So that, for instance, what is universal in language is a reflection of what is universal in our perceptions and conceptualizations. And these artefacts that we call languages enable us to express, with varying success, our perceptions and conceptualizations, universal and particular, in a communicable form, in the first instance by implementation as speech. And, in attempting to understand speech and its parasitical alternatives we rely on knowledge of this artefact to feed our understanding (or misunderstanding).

This expressive, or representational, role has had a profound effect on the structure of language, so that in order to understand that structure and how it is learned and employed it is necessary to acknowledge, with the main pre-structuralist tradition in linguistics, that the classes of linguistic units at all levels have an extra-linguistic basis. To that extent the lexical and syntactic representations, in particular, can be said to be iconic with respect to cognition; but they themselves also supply structure to what, if abstract, is being iconized; iconization is active.

Classes of phonological segments and prosodies embody the ‘grammaticalization’ of our perception of sounds, and classes of words the ‘grammaticalization’ of cognitive distinctions. What is meant here by ‘grammaticalization’ is the adaptation of extra-linguistic mental/perceptual properties to form part of the complex constructed representational system we call language; that is the only sense of ‘grammaticalization’ I shall invoke. The grammaticalizations of conceptualization and sound perception are united in the sign and in the sentence. And, as already suggested, language makes possible the eventual embodiment and transmission of an approximation of the intricacies of our cognition in terms of a medium that can be perceived directly. In doing so, however, it shapes our perceptions and conceptualizations. The relationship is reciprocal, and not easily disentangled, given that language is the major means of embodying thought.

The present account of English grammar draws on my own experience of the use of the language and, to an extent difficult to calculate, on previous attempts to come to grips with its form and substance, as well as, to a lesser extent, with accounts of other languages, particularly ones I am myself familiar with. I have occasionally drawn illustrative extracts from the fictional work in Modern English that I have been reading while the book was in preparation or which I had read in the past. As well as typically providing instances of coherent discourses, these works often have the added advantage over many text types that such creative work can give an insight into the possibilities of the language, beyond what are

commonly attested. A simple illustration of this is Thackeray's happy revival or re-invention of *inhausting* in *A Little Dinner at Timmins's* (published along with *Hoggarty Diamond* [Smith Elder, 1873], p. 137): 'And she imitated the gurgling noise performed by the Doctor while inhausting his soup, in such a funny way, that Fitz saw inviting him was out of the question.' This is particularly important in illustrating that we are not dealing simply with predictable automata.

Similarly, Edith Wharton has supplied me with a questioned ordinal congener to *many* – in 'The how-many-eth dinner did that make this winter?' (*Twilight Sleep* [Library of America edn.], p. 551) – useful in affective and other contexts (though jocular in origin). Reading Willa Cather has revived *sensuosity* for me ('Eric Hermannson's Soul', Part II). And I am further grateful to Thackeray again for reminding me of the verb *darkle*, which in his usage is an apparently paradoxical blend of *sparkle* and *dark*, as well as a back-formation from *darkling*: '... the chapel is lighted, and Founder's Tomb, with its grotesque carvings, monsters, heraldry, darkles and shines with the most wonderful shadows and lights' (*The Newcomes*, vol. II, Chapter XXXVII). Such illustrations also bring along with them an accessible context, lacking with many types of corpora.

Many of the quotations I deploy are from texts emanating from the Victorian and Edwardian eras, and even earlier; but they indicate the continuing possibilities offered by the language. So do present developments in usage, as illustrated by recent (to my knowledge) negative verbs such as *uninvite*, *unfollow* and *unfriend*, all plausibly back-formations from *-ed* forms (though in sense the last of these is closer to the noun, or *befriended*), or *de-platform*. These also reflect (negative) cultural attitudes, of course. On the other hand, the more empathetic *unroost*, as in Smollett's *Peregrine Pickle*, Chapter XCV, '... he ... betook himself to rest, that he might be able to unroost with the cock', is, I think, obsolete, figurative or not, as is *unclose* (as in Radcliffe's 'She ... unclosed its outer door' (*The Mysteries of Udolpho* (Folio edn., p. 361). At this point I should acknowledge that I cannot list Laurence Sterne's endless innovations.

These quotations also serve as a counter-balance to the many innovations introduced by user incompetence and spread by the vagaries of fashion. Historians of language often underestimate the role in language change of what even their perpetrators perhaps regarded as errors.

As well as anticipating in this way what I hope the reader will find in these pages, I should also be frank about what one will not find, and about other assumptions that have not been made in its formation. I have already intended to indicate that there is no non-trivial place for current views of 'biolinguistics' in what follows; indeed, this is assumed to be close to being a non-subject, but the reader should be apprised of other 'absences' than any biolinguistic assumptions beyond human 'language-readiness' – the subject of 'bio-pre-linguistics'?

Thus, the grammar presented here is also not based on any electronic corpus or corpora, which is/are composed of dead utterances and, in the absence of further interaction with the language users involved, of little or no help in exploring the substantive basis of language. The term 'corpus' is apt: as far as the interests of the present account are concerned, i.e. in the representational role of language, a linguistic corpus is simply a graveyard of possibly defective linguistic corpses – indeed, typically of the dead, shed skins of utterances, often ill-formed. Whereas the study of language conceived of here concerns itself with particular mental activities and their contribution to actual articulation, perception, and interaction. Grammar itself is concerned with the mental constructs that enable the latter activities. Studies of 'usage' do not give us access to these, popular as such 'research' is, particularly in the age of readily available packaged (mis-) information, and of 'researchers' who are encouraged to be more interested in their careers than in competence in their discipline.

Nor is the present grammar claimed to be 'scientific'. It seems to me irresponsible to apply this term to disciplines that cannot fulfil the requirements of scientific method, disciplines such as grammar. The subject matter of these disciplines is only partially accessible, at most, to scientific methodology, particularly as regards falsifiability. This does not mean that work in at least some of the areas concerned cannot be evaluated, but only in terms of general requirements such as explicitness, coherence, elucidation, and generalization or connectedness, difficult enough to attain or even approach; the demands of devoted Popperistas just cannot be fully satisfied, but studies in these areas can indeed constitute 'disciplines'. And the ultimate unknowability of the material of such disciplines is of a different order from the admitted mutability of science.

Thus, to speak of 'linguistic science' or, partially ducking, or, rather, further complicating, the issue, 'language sciences', is to dress the study of language in borrowed, or rather stolen, clothes. There are no 'soft sciences'; and an 'expert' in economics or sociology or politics (!) is not 'expert' in the sense that a physicist might be. To some, this might seem to be 'merely' a terminological issue, a quibble – or even 'cranky' (a term typically used by those lacking arguments for their own unquestioned viewpoints); to others of us it involves an attempt at honest discrimination.

More specifically (and as implied above), the present work does not participate in any of the various recent mutations of M. Meillet's wild goose chase (or was it the pink chimaera that is the goal? – nobody seems to agree), nor has it invested in the 'construction' industry, nor the (for me) tautological 'cognitive grammar' or the oxymoronic 'formal semantics'. More positively, I have benefited, to an extent I cannot exaggerate (no matter how badly reflected in my own thinking and writing this might be), from an array of inspiring teachers, particu-

larly Michael Halliday, John Lyons, and John Sinclair, who also introduced me to the work of giants of the past, from Firth to Hjelmslev to Saussure and beyond. The periods of being taught by Rodney Huddleston, Bob Dixon, and Peter Ladefoged were much too short, alas.

Chapter 1 outlines the basic assumptions, and their consequences of a substance-based grammar. The first few chapters of Part I of the work continue to spell out more carefully the consequences for syntax and phonology of a view of language as representational – indeed as a set of re-representations of one kind of structure as another representation that includes further structural dimensions. These cumulative re-representations progressively acquire properties, such as linearization and other dimensions to do with the perception of sound, that bring them closer to correlation with physical perceptibility and the production of sound. The preceding formulation describes re-representation from the point of view of the speaker. Conversely, from the point of view of parsing, these perceptual representations are progressively re-represented as structures capable of meaningful interpretation. This is not a claim that production or comprehension of parts of discourses may not proceed at different paces, thus at different stages of re-representation. And many specific re-representational relations may be stored, as, most notoriously, with clichés.

The main text of the work is concerned with laying out the implications of such a view for the character of linguistic structure, as exemplified by English. It falls into four Parts, grouped into two books, titled respectively ‘Categories’ and ‘Structures’, of which the present volume is the first.

With a focus on their componentiality and their bases in mental substance, Part I, ‘Parts of Speech’, in this first volume introduces the basic categories of each component – phonology, lexicon (including morphology) and syntax – of the grammar, and the interfaces that hold between each pair of the grammatical components. Analogies and dis-analogies between the syntactic and phonological planes are investigated and motivated, culminating in the analogy of ‘parts of speech’ and the dis-analogy associated with the absence of ‘functional’ parts of speech in phonology. The parts of speech are basic lexical categories that are the site of different associative contrasts, i.e. polysystemicity, and of structure-building valencies.

Part II, ‘Modes of Signification’, looks at so-called derivational relations in the lexicon, and the differences in mode of signification that are associated with words related by morphologically marked signs, or signs that are related by ‘conversion’. Differences in mode are often associated with a figurative relation, particularly metonymy and metaphor. All such differences in signification are associated with the fact that particular modes, such as ‘entity’ vs. ‘event’, are associated with the semantic, i.e. substantive, differences among the parts of speech.



Part III, in Book 2, examines the nature of the lexicon generally and its internal interfaces (involving especially morphology), as well as, crucially, its interfaces with phonology and syntax. As the lexicon is the basic component of the grammar, the role of entries, signs, in the lexicon, and especially the valencies assigned to these are essential to the construction, at the lexicosyntactic interface, of the complex syntactic structures explored in more detail in Part IV. That Part and the Grammar conclude with representations that seek to include all the modules of the grammar – though not exhaustively, of course.

In the interest of continuity of focus, this account does not attempt to confront the framework that is developed and exemplified here with alternative views of linguistic structure or alternative analyses of particular phenomena, or with the history of the relationship between the present framework and such recent or contemporary alternatives, or indeed with precursors.

This is partly remedied, I trust, by the Commentary that follows the text of each book – whose comments are keyed to particular chapters – in particular by virtue of the references to further reading and presentation of alternative views of particular phenomena and examples. Indeed, the provision of these references is perhaps the main function of the Commentary, though it also fills in some background, some analytic details, and/or alternative interpretations within the same framework. It is my intention that the text can be read without reference to the Commentary – though I may have failed in this at some points.

On the other hand, the Commentaries are by no means ‘optional extras’; they complement the main journey of exploration of the the grammar of English, and are part of the more inclusive picture. One small indication of this integration is the numbering of Tables and Figures, indicated by Roman capitals, which may occur in the main text or the Commentary: the sequence of numbers reflects the chapter, main text or commentary thereon, and not the page number. Thus a Commentary Table referring to even an early chapter will have a much later looking page location.

In order again not to interrupt the exposition in the main text, this is itself also devoid of bibliographical references. Further, with the same motivation, there is no sectionalization within the chapters, which are anyway rather short. Instead, each chapter is preceded by a contents list of what I see as the main topics to be covered in that chapter.

Remaining clutter, as well as omissions and inappropriate commissions, is the fault of the author alone. I am happy to acknowledge, however – whatever they might feel about it – the many improvements in the content and exposition of the present book that resulted from many discussions and other communications with Fran Colman and with Roger Böhm (not to mention their own publications), the latter of whom also did his best to tame my ‘wild trees’ (several times)

and provided crucial help in preparing the final version. They do not necessarily agree with what I have to say, and, as usual, I shall no doubt regret those suggestions of theirs I have neglected – never lightly done, given their scholarship. Some comments of Böhm, however, suggest that the following final admissions of mine might be useful to the prospective reader.

I labelled earlier partial drafts of the work as ‘introductory’. But this was, perhaps unrealistically, not meant to be interpreted as suggesting that the work should be confused with anything resembling a textbook, or a first introduction to English grammar. No-one who embarks on reading it will labour under any such misapprehensions for long. The work offers an introduction to an approach to English grammar in the context of a presumed knowledge of common linguistic concepts and indeed a familiarity with those appealed to in grammars of English, ancient and modern. And in the interests of achieving a fairly comprehensive coverage of important concepts in a modest compass, the presentation is succinct, though intentionally repetitive, and often dense, though I hope not perversely obscure, but maybe even stimulating – though I cannot hope to be, with Conrad, ‘entertaining’. However, judgment of soporificity, bafflement, and the like I leave, of course, to the reader.

At any rate, it will be apparent that I have dropped the ‘introductory’ epithet (thank you, Roger), at the minor cost of not thereby flagging up the intentional failure of the work to engage extensively with alternative views of the nature of grammar. This work, moreover, is far from being comprehensive in detailed coverage. Comprehensiveness is indeed not aimed at, since anyway it is an impossible target; but the work is intended to deal with what I see as the essential topics to be addressed in the area of English grammar in the light of the overall assumptions adopted above, especially those aspects that provide a range of tests of the adequacy and even advantages of these assumptions. In approaching this goal, the exposition is cumulative, such that topics recur and are developed throughout the book; the presentation itself is re-representational. This too makes it quite unsuitable as a reference grammar – and more so as ‘introductory’. It represents a conceptual journey in which the encounter with fresh concepts inspired by particular phenomena often leads to a re-evaluation of conclusions reached at earlier stages in the journey.

This is perhaps an appropriate point at which to acknowledge the help, enthusiasm, and patience of those who facilitated the latter stages in the ‘journey’, my editors at de Gruyter, Birgit Sievert and Barbara Karlson, and their colleagues, whose contribution has been invaluable. Roger Böhm also prepared the text for type-setting and participated extensively in proof-reading.

This conceptual journey is not an attempt to replicate the author’s research programme, but a progressive deconstruction of aspects introduced in unanalysed form the understanding of whose internal structure depends on the devel-

opment of related aspects. It is thus not possible, before the journey is completed, to describe in any helpful way what the work is about, other than an English grammar in the context of, and as a test of, the assumptions mentioned above.

And, as always, the work itself constitutes simply a stage in an ongoing journey in research, but one whose presentation here I hope has some coherence. I hope too that the present work is representational in another sense, as a distinctive representative of grammars of English, though there cannot be the grammar of English. Another hope is that, though this work is not aimed at learners of English, it may be of some help, even illumination, to some of those responsible for the teaching of English.

I think that the attempt to write such a work as I've anticipated here is timely, however speculative it must remain at this point. We are reaching the (dead) end of the structuralist era in linguistics, particularly of the extreme form manifested in the development in North America of what started as the 'transformational revolution' and in various forms (not necessarily sympathetic to what evolved directly from the 'revolution') has dominated the last 50+ years in linguistics, much of it devoted to avoiding the consequences of adoption of the 'transformation', the first false step. My hope is that we are entering a post-structuralist era where grammarians can benefit from what insights emerged from various structuralist endeavours, while rejecting the central assumption of the latter-day tradition that syntax can and should be studied and understood independently of meaning. I find this assumption demeaning of my, and anybody else's, humanity. The invention of language, including syntax, was a wonderful achievement, and our capacity to use it creatively and load it with meaning continues to astonish and delight me. Certainly, language can also be a vehicle for obfuscation, and for even more dangerous practices. But this is all the more reason to interest ourselves in trying to understand how it works as a whole.

The present work, of course, draws on some European structuralist concepts, particularly in acknowledging the importance of contrastivity, (poly)systemicity, relationality, and planar distinctions. And, among the components of the structuralist legacy, the dichotomy between synchrony and diachrony, for instance, though it has sometimes proved difficult for scholars to discern, is conceptually unavoidable. And I endeavour in this book to deal with what are for me present-day structures, while acknowledging that my present is no doubt almost as out-of-date as a brand-new computer, and not monolithic. But from time to time I shall refer to historical developments that I think illuminate present-day phenomena, without attributing these diachronic mutations to the structure of present-day English. The explanatory status of history is apparent in relation, for instance, to the character of the morphological alternations exhibited by derivationally related words – but this situation does not warrant recourse to the

epochal confusion of including past changes in accounts of allegedly synchronic ‘generative phonology’.

My rejection of the ‘autonomy’ assumption, particularly as applied to syntax, is indeed not novel, but such a viewpoint has had little impact on most recent work on language. But it now seems to me, and (encouragingly) to others, to be becoming urgent to escape from the sterile and underconstrained proliferation within present-day structuralism of attempts at autonomous explanations, whether or not based on electronic corpora, of both phonological and syntactic phenomena, in particular – though this attitude also spread to ‘morphology’, once the existence of this last was re-acknowledged, or rather very partially re-discovered. It is only a pity that not more of the traditional wheels of the mechanism of earlier research on language have been ‘reinvented’ of late.

John M. Anderson  
Methoni Messinias (Greece), February 2021



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## Part I: **Parts of Speech**



# Chapter 1

## Representation

language as (re-)representational – signs – exponence – words and segments – planes and substance – sense and denotation – reference – ‘notional grammar’ – prototypicality and conversion – figurativeness – groundedness and grammaticalization – structural analogies and non-analogies between the planes – perceptual basis of both syntax and phonology

Language is representational. It enables us to represent our cognition in such a way as to allow it to be approximately conceived by others. What is transmitted is conveyed by sound, or a graphic or signing ‘equivalent’ of it. And, from the point of view of speakers, physical sound serves to implement, via our articulatory organs, a mental representation of what we hear as sound. But, from this ‘production’ point of view, the mental representation of sound is merely the final representation in a series of cumulative representations that transforms a representation of cognition into a representation that can be implemented in physical sound. For the hearer the transformation is reversed. More precisely, then, language is **re-representational**. It moves between representations that link, cumulatively in either direction, the representation of cognition with the representation of our perception of speech sounds. Hearer-based re-representation involves **interpretation**; speaker-based re-representation involves **realization**.

The transformation effected by re-representation is gradual and cumulative, not mutative or substitutional. Thus, again from the point of view of the speaker, the representation of cognition progressively acquires representational properties (involving linearization and phonicization, for instance) that facilitate an eventual re-representation in terms that can be mapped on to distinctions in perceived sound. And particular stages in re-representation are not strictly ordered in practice, in real time. So that the hearer may be constructing parts of more abstract representations (semantic categorization, for instance) while still completing the phonological representation of what will be implemented as an utterance – which may indeed remain incomplete. Different levels of representation may be processed in parallel.

The general direction in re-representation, however, is determined for the speaker by the acquisition of expressional properties that move closer to the possibility of physical implementation. These properties are acquired as follows, on the basis of information concerning linguistic items and their denotata stored in the lexicon, as well as awareness of context.

(a) unification of the signified categorizations of individual lexical items, or signs, with their colligational possibilities, or **valencies**, into a hierarchical



- representation of a cognitive scene – giving a syntactic **configuration** that is appropriate to the context;
- (b) linearization of the elements in the configuration provided by (a) representing that scene – giving a **word order**;
  - (c) phonically realizable re-representation of the elements in the signifying representation, based on lexical information and (a) and (b) – giving a predicational **phonology**.

A well-formed ‘configuration’ resulting from (a) is a **predication** that the speaker constitutes as a particular speech act type or **mood**. The formulation in (a) already suggests the crucial role of the lexicon in the construction of structure, as well as in connecting it with extra-linguistic knowledge.

The re-representation in (c), moving from some form of representation of cognitive **scenes** to representation of the units in these scenes as combinations of elements representing perception of sounds, is a crucial one, to which I shall return in a moment. However, all these preceding representations are built up of grammatical properties, like linearization, that are themselves also grammaticalizations of other aspects of cognition, of language-external mental substance – in the case of linearization, of our perception of time. By **grammaticalization** I understand simply ‘adaptation for use in grammar’. Linguistic structure is pervasively substantively based. The use of the term ‘substance’ is not meant to imply that the relevant mental domains necessarily lack non-linguistic structuring. Language (re-)structures such domains in a form that is suitable for re-representation and ultimate implementation.

The item *walk* represents an element in a mental scene, but in order for it to be communicated, this element must be associated with a representation that can be realized as sound – or, as on this page, a graphic ‘equivalent’. This association between a cognitively-based representation, i.e. embodying the meaning and valency of the element, and its re-representation as immediately perceptually-based elements, i.e. perceived sounds, identifies a **sign**. And a sign, here a minimal sign such as is abbreviated here orthographically by *walk*, is stored in our mental lexicons: lexical signs embody a stored lexicon-internal re-representation, whereas re-representation as intonation, though also involving sound, may take place in the syntax, along with configurational unification based on valency, and linearization of individual signs. Some lexical signs may be complex, in showing the kind of internal structure otherwise associated with syntactically expressed signs. These may constitute **idioms**, with non-compositional meaning, as with one interpretation of *She’s walking a tightrope*. At this point, however, we’re principally concerned with minimal signs. The substantively distinguished elements associated as a sign are its **poles**.

The relationship between the poles of the sign is, like other re-representations, necessarily asymmetrical; the re-representation is determined by the input representation, not vice versa. Thus, in linearizing a configuration of categories, or predication, that represents a scene, this configuration and these categories are independent of the sequencing they determine. Contrary-wise, in interpreting a sequence of lexical items as a particular configuration of categories, it is the sequence and intonation, influenced by the context, that are the determinants – though the expression may be ambivalent, as in *I meant the man you know left at twelve*. More generally, the contrarily oriented re-representations need not be ‘mirror-images’. But the minimal-sign-internal re-representation is particularly drastic, in associating the phonically-based with what is general-cognitively-based. The pole of cognitive **content** or signification is said to be **expounded** by the signifier pole of phonological realization, or **expression**.

One reflection of the asymmetry of exponence is illustrated by my talking above of the ‘meaning’ (singular) and ‘sounds’ (plural) associated with the representation of an element in a scene, or sign. There is normally no one-to-one relationship between a meaning and a particular perceived sound – as there is with, say, a cry of pain. A meaning in language is almost always associated with a collection, or arrangement, of sounds rather than an indivisible unit. The expression of the sign is articulated into smaller units in its entry in the lexicon, particularly the set of minimal sequential elements that are manifested as **segments** – though we should not fail to acknowledge ultimately suprasegmental elements (as in systems of ‘harmony’), associated with more complex units. This is one part of what has been called the ‘double-articulation’ of language.

Thus, the expression pole of a meaningful element, or sign, is articulated as a combination of elements that can – in another, very different sense – be ‘articulated’, at the periphery of grammar with non-grammar, as a physical sound sequence. But there is another language-internal articulation like the articulation of signs as phonological elements, that of the representation for a scene into its sign elements, as in (1).

(1) I walk to the surgery

The articulation, or syntax, of the signs in (1) is also partly determined, but indirectly, in the lexicon. Associated in the lexicon with the **content pole** of each of the elements in (1) is a **categorization**, including valency, that determines the place of the element in the syntactic articulation superficially expressed in (1). This categorization is the grammaticalization of recurrent aspects of cognition; they are part of the meaning of the pole.

One can differentiate two correlated aspects of meaning (or signification), **sense** and **denotation**. The former is defined by the logical relations of a sign with other signs (antonymy etc.), the latter with the relation of the sign to a set of extra-grammatical conceived phenomena whose identifying properties correlate with the sense relations that characterize the sign. Each sign also accrues to itself encyclopaedic knowledge concerning the denotata of the sign, beyond their defining attributes. As we shall see, this kind of knowledge, concerns particularly the individual identified by a name.

The smallest syntactic unit is the **word**; it is the syntactic manifestation of the content pole of a minimal sign such as *walk*. And construction of syntax formulates how words can combine to form successively more complex signs. Thus *walk* in (1) is in content an action sign that, as the relational centre of the representation of a cognitive scene, can be associated with, among other things, a self-propelling agent, as well as possibly a goal, though this implies another, more complex verb *walk*, involving actionality with directionality. Normally in English the agent is expressed to the left of the verb, here the word associated with the sign *I*, and any goal to its right. In (1) the goal is expressed, as is typical, by *to* and its accompanying reference-point (*the surgery*). **Reference** is the relation between some reference-dedicated signs and a particular extra-grammatical individual or individuals. The sign *the* expresses a definite reference – i.e. to a referent that the speaker assumes is identifiable by the addressee. A referential sign in turn is, as here, typically, but not necessarily, accompanied by a sign denoting a set of entities, *surgery* in our example, whose content helps in the identification of the referent. These sign-content categorizations are given in the lexicon, and their consequences for the articulation of the scene described by (1) are given by general rules driven by these categorizations, especially the valencies. These are the rules of syntax-building grouped together above, with configurationality having priority. They articulate the **content plane** of language on the basis of combinations of the cognitively-based categories of the content poles selected from and supplied by the lexicon.

We can associate a similar categorization with the **expression plane** – where a plane is the set of representations in the language that are constructed out of basic elements associated with a particular extralinguistic **substance**, in this case what we perceive as phonic substance, the substance of expression. Phonic substance, as with cognitive substance, may be represented in other, non-linguistic ways, of course; that is to say, our perceptions may be represented in various ways. We are concerned here with the linguistically relevant categorizations of the substances. Here I am reminding us that the labelling of these as substances is not to deny that we are able to structure these domains in other ways than via language – though alternative structurings obviously interact with linguistic structurings.

The phonological categorizations partly determine the sequence of the collection of sounds provided by lexical entries: there are phonological rules of sequencing within the groupings of segments that constitute syllables, in particular. Thus the central element in the phonological expression of *walk* is a vowel, a sound with maximum inherent perceptual salience, or **sonority**; and, as such, it occupies the centre or peak of the monosyllable that in this case constitutes the phonic expression of the sign. The non-vowels, of reduced sonority, are relegated to the periphery. And further positionings, involving consonant clusters, in particular, are also determinate, though not all on the basis of relative sonority. Intra-syllabic linearity is almost entirely determined, and need not be included in the entries for signs in the lexicon – though it very likely will be, as a stored routine. The sequence of syllables, or rather syllabics, in polysyllabic signs, on the other hand, must be specified in the lexicon. The placement of syllable boundaries depends on the interaction of onset maximization, vowel transitivity, and accent placement, to all of which we shall return.

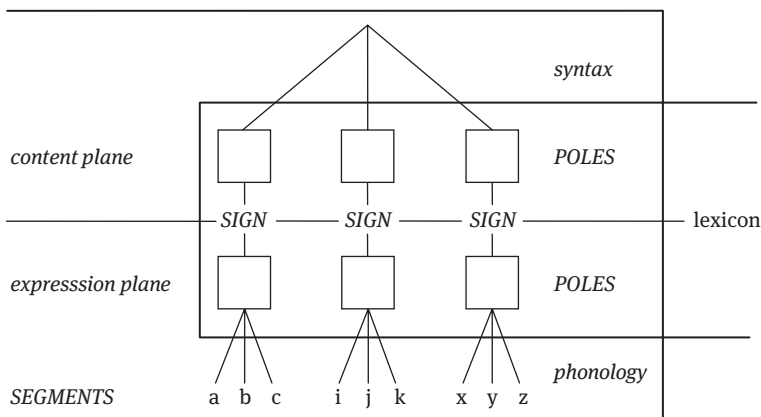
Again, the categorizations, in this case phonological, are included in the lexical information associated with the sign concerned, with its **lexical entry**. And the categorizations and the positionings of the categorized elements reflect the perceptual substance that the categories represent, and indeed aspects of their phonetic implementation outside the grammar. There are properties of the production of speech sounds, and particularly syllables, that favour the central positioning of vowels. Vowels, the most sonorous segment-type, occur at the peak of the pulse of air on which the syllable is formed.

Similarly, my description above of the syntax of (1) also implies the relevance of substance to the categorizations that determine that syntax. The verb in (1), for instance, which labels the kind of situation being represented, is representationally – though not necessarily linearly – central, and other elements, representing components in the situation, are licensed by it and positioned relative to it. This sensitivity to substance is associated with the representational basis of language. The substances represented are imprinted in the forms of the representations; to this extent the latter are iconic.

Re-representation, too, can be at least partially iconic. So that, for instance, word order reflects aspects of configurationality: the word order of a particular language can typically be said to correlate with substantive aspects of the configuration of categories it represents, as with the typically initial positioning of topical elements, or in the ordering of conjuncts. The sequence of the latter may reflect temporal order, as in *She came in and sat down*. Even the drastic re-representation of exponents within the sign may involve onomatopoeia, imprinting of the particular language's grammaticalization of semic substance

in the phonic expression, conditioned by the phonological resources of the language, as in English *bow-wow* but Greek *γαβ-γαβ*.

We can sum up much of the preceding as in Figure I, in which the boxes are poles of the sign, linked by the sign relation, and an articulation is associated with both of the external interfaces of the lexicon (whose internal interfaces may involve morphology, to which we again shall return).



**Figure I:** Planes, Poles, and Signs

Syntactic articulation combines poles, externally to the lexicon, whereas phonological articulation analyses individual poles, internally to the lexicon, in the first instance. The content poles contain the categories that largely determine the articulation, or erection, of syntactic structure, and the expression poles contain phonological categories most of which (at least) are articulated by the phonology as linearized segments. The nature of these categorizations is the subject of Chapter 2. We also take up, but in Part II, and particularly Part III, the place of morphology – non-phonological word-structure – in such a schema as is presented in Figure I.

I have observed that, just as the expression plane is associated with representation of a particular perceptual substance, so the elements of the content plane are linguistic representations of cognitive substance. Anyone familiar with traditional ‘notional’ grammars of the earlier twentieth century and before will recognize such ‘notional’ definitions of the basic categories of syntax as ‘a noun is a word that labels a thing or idea’, whereas ‘a verb tells us about an action or state’. The qualifications ‘or idea’ and ‘or state’ illustrate some of the difficulties that have been attributed to such definitions – and indeed they introduce the further problem that nouns can plausibly label ‘states’ and verbs be interpreted

as ‘ideas’. In essence it is difficult to apply these labels decisively to every word. With many tokens of words, even apparently unproblematical ones, it is their position that tells us which category they belong to. Contrast the *walk*'s of (1) and (2).

- (1) I walk to the surgery
- (2) I am tired after my walk

Here we have two words whose respective distributions tell us that they belong to different categories, despite their shared form and some close-connectedness of meaning. But this does not mean that we must abandon reference to meaning in our definitions of syntactic categories. Indeed, such reference is essential. But it is important to recognize that it is only certain members of a category that will fully display the substantive properties of the class, the **prototypical** members; and only they will discriminate the essential distributional properties of the class. Their meaning determines their distribution.

Prototypical nouns are **entity**-denoting; the denotata of central instances such as *girl* or *boulder* are accordingly stable and discrete, as well as concrete. The set of denotata of nouns is, because of this particular perceptual basis, most transparently identifiable among the word classes; the meaning of verbs is most easily identified by their sense. These prototypical nouns establish for us what we recognize as the distribution of nouns. But words that are substantively less typical can be presented as nouns, and thus as constituting entities, by occupying such a noun position. *Walk* is not a prototypical noun; it is closer to being a verb-prototype, as illustrated in (1). In so far as we can delimit them, its denotata are non-stable, or dynamic, and non-discrete, or relational. It denotes an **event** with at least one overt participant; in (1) two are present. The *walk* of (2), on the other hand, is a derived noun, a verb **converted** in the lexicon into a noun; but it retains verbal properties, so that e.g. a participant in the event may be indicated, as in that example (*my*). This is because conversion involves building, not replacement. In the present case the sign denotes an event viewed and presented as an entity.

It appears that not all non-prototypical nouns are necessarily derived from other categories, however. There are nouns such as *side* that are not neatly discrete but relational; a *side* is a part of something. Moreover, we can use the category noun to denote phenomena that are not obviously concrete entities, as allowed for by the ‘or ideas’ of the traditional type of definition. This reflects a crucial property of language, or rather a crucial capacity of language-users: they can use language **figuratively**. Categories suitable for representing overt entities and events can be projected into domains that are not themselves overt, but

whose properties can be conceived of in terms of such projections. And these projections enable us to structure more abstract domains in terms of entities and events.

A simple example of this is involved in the interpretation of *She enlarged her repertoire*, or the idiomatic interpretation of *We've come a long way*. More complex, and perhaps less obvious, is the following. We can represent 'love' as a non-prototypical event, as a state, and perhaps only indirectly overt. It is something that is not necessarily dynamic but something that entities, as with physical events, can participate in, as with *She loves him*. It is a relational 'state'. Or 'love' may be presented as a non-prototypical (relational) entity, something that can participate in events, as in *He despised her love*. Here we again have a conversion, and so on with even more abstract domains. Figurativeness and the **flexibility** illustrated by *love* are fundamental to an understanding of the workings of language. Figures are not merely a question of 'ornamentation', and indeed, cannot be avoided, especially in subject areas where the 'scientifically-inclined' commonly protest that figures must be eschewed.

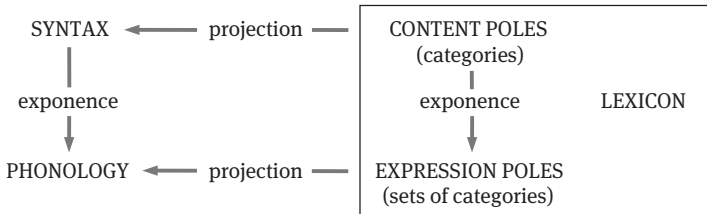
Largely because of this, language itself is a fundamental aid to our cognition, rather than simply representing it passively. Of course, the projection of linguistic categories into new domains is likely to be triggered by perceived or cognitively reconstructed similarities between the new domain and the source domain; but different languages do not always embody recognition of the same similarities. Thus, to take a trivial example, the most obvious equivalent in English to the first-person singular Greek verb *φταίω* (*εγω*), with optional first-person pronoun, is not a simple verb form and first-person subject but copular expressions such as *It's my fault* or *I'm in the wrong*. The most accessible categorial representation of the state of being 'in the wrong' is different in the two languages. Because of this, cognition and language are mutually influential. And language provides us with a vital means of giving structure – or at least an alternative, communicable structure – to different cognitive domains. Indeed, language enables individual thought as well as communication with others.

Both planes of language represent (different) mental substances. The substances are different but their common role in relation to language underlies the first great **analogy** between the planes: they are both **grounded** in extra-linguistic mental substance. Their categories **grammaticalize** substantive distinctions, represent them as part of one of the semiological systems we call languages; and the distribution of the categories reflects their substance. Thus, the relationality of both verbs and vowels is reflected in their core position in the predication or syllable; it is their presence that allows the participation of non-verbs and non-vowels in these structures. The existence of analogies in structure is indeed the unmarked assumption concerning the two planes. The assumption made in the preceding

that both predications and syllables can be segmented into sequential ‘elements’ is but another aspect of this. Where possible, the same logical apparatus assigns the same kind of structuring to the planes, based again on the perception of similarities. This has been called the **structural analogy** assumption.

Nevertheless, we have already noted discrepancies between the planes. For example, part of the sequencing of sounds is necessarily given in the lexical entries, and part (especially that within the syllable) may be determined by lexical rule; whereas the assigning of sequence to minimal signs, or words, is not given in the lexicon but is part of the role of the interface rules linking it to the syntactic plane. Here analogy is lacking because of the asymmetrical relation of exponence, whereby phonology and syntax are differently oriented with respect to the lexicon, and because of the different characters of the substances that they grammaticalize. Concerning the latter, phonology, for instance, is more intimately associated with direct perception and its linear character. There is less scope in this respect for variation among languages and within individual languages.

This asymmetrical relationship between the planes is already roughly indicated in Figure I, but it is made more explicit in Figure II, which provides more of the architecture surrounding Figure I.



**Figure II:** Rough Guide to the Grammar

The content, or syntactic, categories of lexical items in the lexicon are **projected** into syntactic structures via the submodules in Figure I, and the expressional, or phonological, categories are projected into phonological structures. These projections are the interfaces between lexicon and the planes, whose establishment, particular as concerns syntax, also relies on interface with the context, linguistic and otherwise.

Moreover, as part of their articulation, categories of the syntax can be expounded by aspects of phonological structure such as intonation; we have an extra-lexical relation of exponence, involving also phonological interaction between individual signs. And, within the lexicon, the content pole of a sign is a unit in the unmarked case, but the expression pole is typically a combination of units within the expression pole. We have, as anticipated, a second articulation



within the expression pole into contrastive units, not in themselves meaningful. Ultimately this reflects the difference between the two substances and their different roles in linguistic communication, as involving content vs. expression.

But analogy also fails where the demands made on phonology and syntax by their extra-linguistic substances are incommensurate. In particular, the elaboration of phonological structure is restricted by the limitations of the mode of transmission, articulatory movements producing (hopefully) audible sounds; while the need to express sometimes complex cognitive scenes encourages greater elaboration of structure in the syntax, and in the lexicon, some of the latter being expressed morphologically (whose role is again neglected in Figure II). In what follows we shall encounter both analogies and discrepancies between the structures of representations on the two planes. What is striking is the extent of analogy despite the factors disfavoring it. Such analogies are another testimony to our capacity for figurativeness.

Content form I often refer to as ‘notionally-grounded’, as involving a ‘notional grammar’; I thereby emphasize a certain continuity with the grammatical tradition alluded to above. However, I have adopted the label of ‘substance-based’ in the title of the present work to emphasize the homogeneity in the status of linguistic structures in general: they are all mental representations. Language is a system of re-representations which ultimately permits the transmission (perhaps only to oneself) of a representation of cognitive scenes as what can be realized as phonetic events. The signs included in our mental lexicons involve the major re-representation of exponents. The content poles of the signs are combined in the creation of syntax according to their categorization. Likewise the articulation of the structure of the expression pole is determined by the categorizations of the perceived sounds that constitute the pole. These linguistic representations are grammaticalizations of extra-linguistic properties, and their structure reflects the demands of these properties, as embodied in the first place in the categorizations.

The term ‘scene’ in ‘cognitive scene’ is not inappropriate here, given that, as we shall continually see in what follows, even abstract semantic domains are typically structured in terms familiar from perceived domains. Use of the term recognizes that syntactic structure is not merely conceptually-based but ultimately is, as with phonological structure, as just described, specifically perceptually-based. Perceived scenes are models for more ‘abstract’ scenes. Phonology is based on a more restricted perceptual domain, but more directly based on it.

Because of the generality of aspects of human perception of sound and capacities for sound-production, the categorizations of phonology form a universally available set, though selection is largely language-specific. Commonness of aspects of perception in general also means that certain basic syntactic categorizations will tend to recur, such as the verb/noun distinction. But, again, both

variety of experience and the flexibility of the syntactic structures that are available to represent perception means that the main interest in the study of that plane in particular is the diversity of syntactic ‘solutions’ to be found in different instances of language(s), and the range of imagination that underlies these.

This diversity constitutes the focus of the study of our linguistic capacities, which is necessarily a ‘humanistic’, non-deterministic enterprise. Individual learners create their language faculty, with varying success, on the basis of their general cognitive and perceptual endowment and of the environment they are confronted with. Creative diversity is of far more significance for understanding the nature of language than the instinct to communicate that creativity fulfils – though creation, of course, is guided by imitation and learning. Linguistic knowledge is knowledge of a cultural artefact and how to use it. Speakers differ in what they know and how they use that knowledge. However, undoubtedly ‘<s>peech was a great invention’ (H.G. Wells *Brynchild*, Chapter 10, §1), though this, and specifically the means of implementation, was facilitated by various prior biological developments in the evolution of humans. And the results of these developments continue to facilitate language learning. But the invention of language was no doubt itself a stimulus to the development of the brain.

The succeeding chapters are concerned with one instance of this language diversity and the varying generality of its properties, one instance of a language, one instance that is itself diverse, Present-day English. We now begin in the chapters that immediately follow to look more carefully at the nature of linguistic categorization. This is indeed the primary concern of Book 1 of this work. I call this Book ‘Categories’, and Part I is ‘Parts of Speech’, a term traditionally restricted to the study of syntax. The categories and structures of syntax and phonology, in sharing basic analogies, are treated in parallel in what follows, however, wherever appropriate. Part II is entitled ‘Modes of Signification’, again not a novel notion, which introduces particularly the relationships, including morphological, between different signs that reveal differences in the perceptions associated with different parts of speech, possibly signalled as related.

The primary categories of syntax and phonology proposed in Part I are distinguished by their location on the perceptual dimensions in terms of which they are classified, and out of these categories syntactic and phonological structures are built; and in both cases this primary categorization is evidenced by both substance and distribution. In phonology the classificatory dimension has vowel at one end and voiceless plosive at the other. Placement on the dimension is determined by how and if perceptually-based features are combined, so that phonological categories intermediate between vowel and voiceless plosives typically combine the defining features of these extremes. Parts of speech are characterized componentially, as will be explored in the immediately following chapters.

Categorization is thus substantively-based, and the distribution of categories reflects this substantive basis. And the primary categories of both planes seem to belong to a small set the presence of some of which is pre-supposed by others. In both planes this set is the basis for classifying the membership of the (traditional) **parts of speech**. However, paradoxically perhaps, application of the term to syntax turns out to be more complex than to phonology.

In applying the term to both planes I'm invoking an equivocation in the term 'speech': in syntax, the term 'part of speech' applies to the sequentially differentiated classes of basic lexical elements that linguistic representations are constructed out of, the *μέρη τοῦ λόγου* and *partēs orationis* of Greek and Latin grammars; but I am also applying this term 'part of speech' to the basic phonological elements of 'speech' considered as expression, or *vōx*. The use of the same term 'parts of speech' to cover the same aspect of both planes, is intended to emphasize the analogies between them, particularly the analogy of groundedness – though we shall quickly discover where analogies break down. And, indeed, though both syntax and phonology manifest parallel types of categorization, simplex combinations of the features that define categories cannot be equated with parts of speech in syntax. We shall find that some syntactic parts of speech – word classes with a distinctive lexical membership – are inherently complex in their categorization; they involve combinations of categorial feature-combinations that distinguish other parts of speech. The distinction between simple and complex categorization seems not to be appropriate to phonology: in phonology simplex primary category = part of speech, apparently. But we shall eventually discover a distinction that is perhaps analogous to what we find in syntax.

Despite disagreements on the membership of the parts of speech in syntax, the European tradition has, throughout, numbered them as round about eight. Lily, for instance, in his grammar of Latin (in English), distinguishes the following, divided into two groups, a morphologically-based division dating back to early Latin grammarians.

Declined	Undeclined
Noun	Adverb
Pronoun	Conjunction
Verb	Preposition
Participle	Interjection

One thing we must confront in what follows is whether this and its bipartite division reflects something systematic or merely an 'accident' of history.

Part I of this work is thus concerned with the composition of these sets of primary categories in phonology and syntax, and with the markedness relations between their members. In the case of syntax we shall also look at the correlation between parts of speech and complexity of categories. Later chapters in Part I also look at basic aspects of the interaction of categories with other dimensions of linguistic structure, to do with hierarchization, or configuration, and linearization, and at the substantive basis for these dimensions as well.

Parts II–IV take up progressively more complex structural properties in both planes, but principally, for reasons to do with their different demands on representation, in the syntax, both in the plane and as part of the structure of lexical items. We shall look, particularly in Part IV at those elaborations of the syntax that permit the expression of complex cognitive scenes and of the kind of act of speech that is involved and its relationship to the participants in the act. These substantive requirements require structurization beyond that necessitated in the phonology, which, rather, is limited by the physical demands of transmission.

Part II focuses only on syntactic elaborations that depend on the category-representing associated with lexical ‘derivations’, which link different modes of signifying, as with our *walk* form. Part III looks primarily at the exponence of lexical derivation by morphological units or conversion. And Part IV explores the syntactic structures that reflect a range of valency requirements. Valency, however, will occupy us almost immediately in the chapter that now follows. And throughout the following presentation of a view of English grammar there will recur confirmations of the central place of the lexicon in the grammar, and in particular of the categorizations and colligational requirements that both grammaticalize (parts of) cognitive scenes and account for the distributions we call syntax. The core of syntax, as well as phonology, is in the lexicon.

## Chapter 2

# Categorization

componentiality of the word – cross-classes – notional features – valency and circumstantials – primary vs. secondary categories – inflectional morphology – inherent vs. elective features – componentiality of the segment – perceptual features – complements and modifiers in phonology – structural analogy

The preceding chapter invoked substance-based categories in both planes, such as verb and vowel, whose linguistic behaviour reflects their groundedness. For instance, the category that prototypically denotes an event and provides labels for cognitive scenes, scenes which may be internally complex and often transient (typically processes rather than states), is the verb. In representing the core of scenes, the verb is thus prototypically relational, in licensing a number of **participants** – necessary elements – and a wide range of **circumstances** – contingent elements; and it is dynamic, and so associated with the expression of tense and aspect. This last observation invites us to ask what the status of tense and aspect might be. But firstly we need to examine the status of ‘verb’ itself. Pre-theoretically, there is agreement that something corresponding to what has traditionally been labelled ‘verb’ obviously has a role to play in syntactic representation. But there are reasons to think that ‘verb’, as well as the other categories appealed to in Chapter 1, is not an atomic category. We can attribute to these categories **componentiality**: they have internal structure.

In support of this, we can observe that there is in the first place evidence of cross-classification of categories. Categories belonging to a particular cross-class share behaviour. For example, in English neither nouns, entity-denoting words, nor adjectives, **attribute**-denoting words, can normally be **finite**; they cannot license a potentially independent predication, as exemplified in (3).

- (3) a. This \*(is) mud  
b. This \*(is) nice  
c. She \*(is) an American  
d. She \*(is) American

The asterisked brackets indicate that the contents of the brackets cannot be omitted. In order for the examples in (3) to constitute independent sentences they must contain a **finite** element, here *is*, which enables them to be **predicative**.

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Contrast these with (4), where the verb is finite, ensuring an independent status for the predication.

(4) This vibrates

Nouns and adjectives thus form a distributional cross-class that excludes verbs. In notional terms, (3c–d) also illustrate the salient classificatory capacity and relatively low dynamism shared by entity-words and attribute-words.

On the other hand, there are apparently underived, or simple, adjectives in English that, unlike prototypical underived nouns, seem to invite varied participants. There may be more than one element that complements the semantics of the adjective, elements whose presence characterizes a scene-type. This is particularly true of adjectives expressing the notion of ‘state’. Such adjectives are accompanied by a range of normally obligatory complements, and are in this respect more ‘verb-like’ than a prototypical adjective, such as *small* or *old*. This is exemplified in (5b), where the adjective is apparently complemented like the verb of (5a).

- (5) a. John likes Judy  
 b. John is fond of Judy  
 c. John has a liking for Judy

Contrast (5c), where the noun *liking* is derived, and the sentential structure more ‘periphrastic’. Here the presence of the participant *for Judy* is associated with the presence, in a complex, derived nominal form, of the verb category on which the noun is based. The apparent participants of the noun are licensed by the presence of the verbal base. Recall too the noun *walk* of Chapter 1, whose derived status is not marked morphologically; it is a **conversion**. In both instances this categorial complexity, contrasting with the apparent simplicity of *fond*, is characteristic of the phenomena we shall be looking at in Part II, involving ‘derivation’. What is our concern at this point, however, is evidence that verbs and adjectives form a distributional cross-class that excludes nouns, which typically are minimally complemented, as well as being stable.

Non-prototypical ‘relational’ nouns involve, instead of ‘states’, such relatively inalienable, or at least stable, relationships as part-whole relations (*side*) or kinship relations (*daughter*) or measure terms (*kilo*). These, being typically stable, are even more unlike prototypical verbs than the adjectives of state. We can represent the place of adjectives (as prototypically statal) on a discreteness scale as intermediate between verbs (prototypically denoting events) and nouns

(prototypically representing entities). And they again fall into an intermediate slot in terms of contingency, as prototypically denoting attributes, or properties, often alienable, rather than entities or events.

This evidence of competing cross-classifications is allowed for if adjectives share component properties with both nouns and verbs. This is expressed, as a first approximation, in (6), where the braces include categorial representations.

- (6) {P} = verb  
 {P,N} (or {N,P}) = adjective  
 {N} = noun

The adjective combines properties, or features, that appear on their own in the internal composition of verbs and nouns, with simple combination indicated by the comma. It is with the property **P**, predicability, that we can associate relationality and transience, and with **N**, referentiability, discreteness and stability. In visual terms, **P** is like ‘gesture, mime’, **N** is like ‘pointing’.

Adjectives are characterized by the presence of both notional features, the effect of which co-presence is their mutual dilution. This is reflected in the distribution of adjectives, as exemplified above, but, of course, it is also notionally appropriate, as also anticipated above. It has emerged that adjectives, as prototypically denoting possibly transient attributes, are often to be interpreted as less stable than noun denotata, entities; and as denoting such attributes, which may, on the contrary, be persistent, they are less dynamic than verbs. And their relative relationality is revealed not just in their status as denoting an attribute, an inherent or temporary property of something else, but also in their capacity for a variety of complements, i.e. for the necessary elements in a scene that I’ve called participants. Let us turn now to the expression of this relationality of some signs; this constitutes another aspect of their componentiality.

Such relationality is crucial in uniting signs into predications. Relational signs possess **valency** requirements that are part of their entry in the lexicon. These can be indicated as in (7), where a verb is represented as taking two participants in the scene-type it denotes, given to the right of the slash.

- (7) {P/{X}{Y}}

For the moment, the symbols for the participant-types are arbitrary. (7) might be a partial representation of the valency of the verb in (5a). Even though one participant precedes the verb, and is traditionally designated the ‘subject’, whose

syntactic status we shall return to, and the other follows, they together satisfy the valency of *likes*. The valency reflects the semantics of the verb. The positioning is a matter for the construction of syntax at the lexicon-syntax interface. But we shall see that this too is determined in accordance with lexical categorization, and so ultimately is notionally based.

However, as anticipated, there can be elements in the predication that are not participants, but have to do with the circumstances of the scene. These are **circumstantials**, elements that are not required semantically to be part of the valency of the relational sign, but may well accompany it, in being compatible with its semantics. In order to accompany another sign, they themselves are relational in another way. This might be illustrated by the final word in (8a), which introduces a temporal circumstance.

- (8) a. John liked Judy yesterday  
 b. Yesterday was independence day

In this case, the element concerned is to be characterized as capable of accompanying a sign whose significance it extends by showing a particular circumstance, here temporal. Such an element as *yesterday* can be represented optionally in the lexicon as in (9b), as an alternative to (9a), which is potentially a participant, as in (8b).

- (9) a. {Z}  
 b. {Z\{P}}

(9b) should be interpreted as saying that this element, again represented by an arbitrary symbol, can take a {P} sign as denoting the core of the predication-type that it can extend by providing a circumstance. The optional circumstantial status of ‘Z’, in the case of *yesterday*, is, however, combined with our observation that it could also, in an appropriate predication, be a participant, as in the equative sentence of (8b). It is not necessarily circumstantial only.

The penultimate and the final forms in (8a) are often distinguished by grammarians as complement vs. adjunct, and I have alluded to the term ‘complement’ in what precedes. However, I use, for preference, the terms ‘participant’ and ‘circumstantial’ here to emphasize the notional basis for the distinction in the syntax, as well as to include the subject as belonging to the former, even though it is not normally labelled ‘complement’. The complement/adjunct distinction has to be drawn in notional terms, anyway – and cannot be reduced to ‘obligatory vs.



optional', for example. For instance, the optionality of *the competition* in (10) is not evidence against its participant status.

(10) Paul won (the competition) in Helsinki

*Win* is a notionally transitive verb, but allows contextually interpretable ellipsis of the post-verbal participant. I shall regard '/' and '\ ' as representing different kinds of valency requirement, based on notional necessity vs. compatibility.

We return in future chapters, beginning with Chapter 5, to the consequences of such lexical representations for the erection of syntax at the interface, i.e. for the articulation of the structure of predications on the basis of such categorizations. The **major** or **primary categories** of syntax, involving combinations of **P** and **N**, together with the valencies associated with the categories, determine the basic syntax of words. But at this point I am primarily involved in elaborating the content of lexical entries. And this brings us to another distinct dimension of this content anticipated initially, 'the status of tense and aspect'. I now turn to these and other **minor** or **secondary categories** and the major categories they are associated with. These are categories whose presence, or rather that of the alternative **features** of the categorial dimension they label, may be manifest in the syntax, and may also be marked morphologically, by **inflectional morphology**. That is, different (combinations of) these features may be associated with distinctive **forms** of the same word.

In the lexicon certain combinations of the features of primary and secondary category may be associated with the presence of an **affix**, or by some difference in the shape of the **root** of the word. The former is what is indicated (in phonetic transcription and morphological brackets) in [[liv]d], as a first approximation, where the presence of the affixed [d] signals with this word form the presence of past **tense** as the feature of that secondary category. In [[sat]], this is indicated by the presence of a second pair of braces, as with [[liv]d], but with a difference in the root compared with the non-past form [sit]. Unlike the planes of phonology and syntax, morphology does not have a distinct alphabet: it associates syntactic categorizations with phonological representations that morphologically are bracketed into **formatives** of the word, roots and affixes. In inflectional morphology this unlabelled structure signals the presence of features of some secondary categories. The phonetic transcriptions given here have no systematic status; phonology too is componential, as well as contrastive.

Verbs in English may express tense, as illustrated again by (5a) vs. (8a).

(5) a. John likes Judy

(8) a. John liked Judy yesterday

I have suggested that this is notionally natural, given the insistence on occurrence in time, particularly associated with verbs, which are prototypically manifested in time and possible transience. Tense relates the time of the scene signified to the time of speaking. And, as a property of the predication as a whole, tense is also fittingly associated with its relational core, the verb. I have taken verb, noun, and adjective to be primary categories, in so far as they are the primary determinants in the distribution of the sign to which they belong, as well as establishing its essential notional character. Tense is a secondary syntactic category, which is manifested by secondary features such as {past}. And it is hosted by an appropriate primary category; its presence in (8a) is reflected in the shape of the verb. It is the primary category that provides the root of the word; the realization of tense is an extension of the root. Tense affects only minor aspects of the distribution of the host, as well as locating the scene temporally with respect to other scenes, including particularly the moment of speaking.

Nouns too are associated naturally with a secondary category, that of **gender** (in a wide sense), or ‘inflectionally expressed noun notional class’. The prototypically stable and discrete denotatum of the noun makes it the ideal host for a persistent classificatory property such as gender. The gender of a noun, say feminine, is an **inherent** property of individual nominal items; though some nouns may be ambivalent or simply uncategorized for gender. Contrast such an inherent feature with an **elective** feature such as past, which may or may not be associated with particular instances of verbals. Gender tends to become relatively opaque; the motivation for classification may become obscure. Such gender systems are traditionally distinguished as ‘grammatical’, rather than ‘natural’, but some of the members of such a gender subclass may share distinctive ‘natural’ properties.

Gender, natural and/or grammatical, aids in cross-reference, which is important in keeping track of the entities that participate in the scenes described by different predications or sub-predications. This is illustrated by the pronouns in the possible continuation of (5a) offered by (11).

(11) But she loathes him

In many languages, but not English, gender is systematically marked morphologically on ‘full’ nouns as well as pronouns and many names, and then may be heavily idiomatized, as ‘grammatical gender’.

Typically, too, given its role in ‘tracking’, gender participates in ‘agreement’, whereby again co-referring elements in a construction can be identified. This is marginal in Present-day English. But an extensive agreement system is illustrated by the (out-of-context) sentence from Kathlamet Chinook of (12).

- (12) qust      i-kiḫiḫ      i-axi-ax      ik-i-x-lucx-am  
Behold MASC-sealion MASC-that-EMP MASC.ERG-MASC.ABS-RFL-see-PURP  
(‘Behold, a sealion came to see the dance’)

(MASC = masculine, EMP = emphatic, ERG = ergative, ABS = absolutive, RFL = reflexive, PURP = purposive). We shall be returning to some of the other, non-gender categories signalled by these word forms. All that matters at this point is illustration of the agreement of the other forms with the masculine gender of the noun. Each word assumes the form appropriate for the signalling of agreement. Again, we shall have to return to the mechanism of agreement, as applied to English in particular.

We can represent secondary features as in (13), i.e. as simply an element within an internal brace in the categorial representation.

- (13) a. {N{feminine}}  
b. {P{pres}/{P,N}}

(13a), with inherent feature would be part of the lexical entry for *Judy*, whereas (13b), the entry for *is* in (5b), combines an elective secondary feature with a representation of valency, specifically in this instance an adjectival participant, realized as *fond* in (5b). We are not concerned here with sequencing of the categories, if any.

We should note here too, however, that there is a further important difference in status between primary and secondary categories. A primary category is associated with a combination of features (so that, say, an adjective might be defined by equal combination of the two features **P** and **N**); secondary features are normally disjunctive members of the secondary category they belong to (as, say, singular and plural as features, or terms, of number) – though, as we shall see there can also be minor-feature combinations (indeed of number features). The commonness of primary feature combinations we shall encounter reflects the notionally and distributionally fundamental status of (combinations of) primary features.

The categorial representations just offered are provisional, pending the discussion in the next chapter, which will affect aspects of them, and provide further motivations for componentiality. It is also rather obvious that many of the secondary categories of the syntax, such as tense, conceal complex internal structures,

only some of which we can explore in what follows. However, this does not affect the propriety of drawing of analogies between the planes of language even at this point. And in what remains of this chapter I illustrate the presence of distinctions in category-type in phonology that are analogous to those we have associated with the syntax.

Thus, it seems appropriate to attribute to phonological units components that allow for cross-classification. To begin with, we need not just to distinguish between vowels and non-vowels but also to allow for the fact that there is again an intermediate category, distinguished by combining the defining properties of the extremes. This is allowed for by combinations of the sonically perceptual features **V** and **C**.

- (14) {V} = vowel  
 {V,C} (or {C,V}) = sonorant  
 {C} = obstruent

**V**, the vocoid property, is associated physically, when implemented, with the presence of solely periodic energy, and **C**, contoid, with relative suppression of periodicity, through there being a major obstruction of the vocal tract (giving at least frictionless continuants, or sonorants – in combination with **V**), or even, more severely, the presence of a non-periodic sound source (giving friction) or, even more severely still, by occlusion of the vocal and nasal cavities (stopping of the air flow). However, such articulatory correlations as I have just drawn are not intended to disguise the status of the phonological features as perceptual. But they illustrate the range of primary feature distinctions that will be necessary in the phonology.

To begin with, in terms of (14), vowels have uniquely **V** in their categorization. Obstruents, fricative or oral stop, have solely **C** as a primary feature. Sonorants – liquids and nasals – combine the two features, as in {V,C} or {C,V}. Obstruents and sonorants thus share occurrence of **C**, and this correlates with their typical occurrence in syllable margins, or ‘consonantal positions’. But the presence of the **V** feature with sonorants means that in general they are much more likely to occur in the syllable peak, the position otherwise occupied by vowels, than are obstruents. Moreover, they normally occur closer to the syllable peak than obstruents, as in (15).

- (15) a. [fri] = free  
 b. [bild] = build

Such cross-classificatory phenomena suggest that componentiality should be associated with phonology as well as syntax. We find analogous categorization-types among the primary categories of phonology to those we associated with syntax. In both planes these primary categories are defined by combinations of substantively-based features, and these determine the basic distribution of the elements they characterize.

And phonology also exhibits grounded secondary categories. We can, for instance, distinguish various vowel-types in terms of presence or absence or combination of the secondary features, **i** and **u**, for instance. This is indicated in (16), where the secondary features are distinguished from primary by lower case, as well as by their occurrence between inner braces.

- (16) {V{i}} {V{i,u}} {V{u}}  
       [i]     [y]       [u]

The secondaries **i** and **u** are again perceptual features. They are most closely related to the acoustic features of **acuteness** and **gravity**. The latter terms refer to the distribution of energy through the spectrum, in these cases concentrated high (acute) and low (grave) in the spectrum. In articulatory terms they can be thought of as respectively ‘unrounded frontness’ and ‘back roundedness’. Front rounded vowels combine the two features. As suggested by the label ‘front rounded’, this has the effect of cancelling the first part of each of the articulatory descriptions for [i] and [u] and combining the second parts. Such combination of secondary features seems to be much more common in phonology than in syntax. As suggested above, semantically-based syntactic secondary features are commonly oppositional rather than also cumulative.

The third secondary feature that typically distinguishes vowels also illustrates another property of categorization that is shared by phonology and syntax. For this feature is **v**, the occurrence of vocoid as a secondary rather than a primary feature. It is associated with **compactness** of the energy in the spectrum, whereas acuteness and gravity are associated with **diffuseness**. The feature **v** characterizes the vowel-type of (17), the lowest vowel in a three-plus vowel system, the strongest vocoid, the most sonorous.

- (17) {V{v}}  
       [a]

In diphthongs [a] is more prominent than [u] or [i]: as in [a<sub>u</sub>], [a<sub>i</sub>]. [a] is the vowel of vowels. Presence of {v} also characterizes voiced vs. voiceless obstruents. {C{v}}/{C}. {v} here may contrast simply with its absence, but, depending on the language, it may be differentiated from presence of {c}, glottal-reinforcement, and/or the combination {v,c}, aspiration.

Analogously, the syntactic feature of predicability can occur as a secondary, in indicating the relationality of non-prototypical nouns like *side*, which is typically complemented.

- (18) {N{p}}/{X}  
side

The secondary feature correlates with the presence of a valency with an unde- rived noun, though the basic distribution of such a noun remains otherwise as expected. {p} as a secondary to {P} could designate the prototypical sentence-type, the indicative (though other complexities are involved here). There is some initial plausibility, at least, in suggesting that both syntax and phonology show sharing of substance between primary and secondary categories.

The analogies extend even further. Certain members of the set of accented vowels in English require to be **complemented**. So that there is no monosyllabic lexical item in English corresponding to (19a) but without a following consonant.

- (19) a. [kɪd] = *kid*  
b. \*[kɪ]

And this is not an ‘accidental’ gap: there are no accented monosyllables ending in [-ɪ]. [ɪ] is one of those vowels that take a complement (unless ‘reduced’, as we shall see), with this valency expressed as in (20), where ‘X’ is an arbitrary label.

- (20) {V/{X}}

Compare the verb in (8a), which differs only in showing two participants, one preverbal.

- (8) a. John liked Judy yesterday

The initial consonant in (19a) is not a complement, however; its presence is not required, as evidenced by the word *id* or *it*.

There are other vowels that lack a complement, but may take a following **modifier**, as in (21).

(21) [bi(d)] = *bee/bead*

In using terms to generalize the description of such phenomena over syntax and phonology, I shall talk of the distinction ‘complement vs. modifier’, where syntactic participants are complements (but include subjects) and circumstantials are modifiers. I shall prefer the ‘complement vs. modifier’ terminology to the common ‘complement vs. adjunct’. We shall find in the following chapters that ‘adjunct’ is used here in a rather different sense – in contrast with ‘subjunct’.

Unlike (19a) and (21), (15b) above shows two following consonants, and at least one of them is, like the single consonant in (19a), obligatory.

(15) a. [fri] = free  
b. [bɪld] = build

The vowel may be said to be transitive. The vowel in (21), and that in (15a), is intransitive, it lacks a complement, though it may take a coda modifier, as in (21).

The verb in (22) lacks not just a traditional ‘complement’ but any participant – though in English the syntax requires, in most circumstances, a subject-filler, here an **expletive**.

(22) a. It rained (yesterday)  
b. awe

The vowel in (22b) lacks not just a post-vocalic complement but any accompanying consonant at all, including, like *id/it*, any initial. But in some varieties of English the expletive of syntax may be matched in the phonology by glottal-stop initiation of such a syllable; we have a purely phonological ‘expletive’. And, overall, **transitivity** is in English a shared property of the two planes.

However, the extent of this last analogy is limited. Phonology has nothing to compare with the multiple participants we can associate with predications such as (23).

## (23) Fog extended from Queensferry to Crail

Here we have three participants implied by the semantics of the verb (whose dynamic or static character is not relevant here). This discrepancy is associated with the nature of the substances with which the two planes respectively interface. Whereas the expression of various cognitive scenes is facilitated by the availability of verbs with a valency allowing for several participants, no such expressive demand is associated with phoneticity. Rather, the possible structural distinctions that can be carried by, for example, the syllable are restricted, in the first place, by the perceptual representation of phonology having to correlate with the physical properties of speech sounds and of the articulatory apparatus that produces them. And this reinforces the limitations imposed by the absence of semanticity, whereby participants may be differentiated. Thus, vowels can be at most mono-transitive, though permitting several modifiers, the number and position depending on the language. Languages with only or nearly only (C)V syllables are not uncommon.

We have now come to a major source of dis-analogy between the planes. And this is associated with the demands of the representation of cognition for differentiations in categorization and structure that are unnecessary in the phonology, as well as being incompatible with the presence of phoneticity rather than semanticity. Moreover, the elaboration of predications with multiple participants, for instance, depends on the presence of a further distinction among syntactic primary features that is not replicated in the phonology. It is this distinction that is the ultimate concern of the following chapter. Firstly, however, there will be introduced a further extension of the system of categorization developed in this chapter, an extension that involves the recognition that features may be combined asymmetrically in both planes, content and expression, syntax and phonology.

In the course of Part I the relationship between the primary categorizations that are being explored and the notion of a ‘part of speech’ will come to acquire some more complexity than what at first might seem to be the case. In syntax I take the latter to be a set of lexical items – prototypically single words – that share a distinctive notional characterization and a distinctive distribution. The categories that we have in the preceding characterized as {N} and {P} seem to be quite straightforwardly parts of speech. But it is not just that some lexical items are phrasal: thus a phrase like *on condition (that)* can be grouped notionally and syntactically with a word like *if*, and labelled traditionally as a member of the part of speech ‘subordinating conjunction’. But there are also motivations for taking some single-word parts of speech as categorially complex – not merely in the way that {P,N} is complex, which is a complex category-internally – but rather in that a part of speech exhibits semantic and syntactic properties that are otherwise associated



with more than one category. This seems to be appropriate in the case of many, at least, of those words traditionally called ‘adverbs’ – as well, indeed, as ‘conjunctions’ like *if*. We shall find an analogous notion of ‘part of speech’ to be appropriate in phonology, but reflecting the different orientation of the expression plane.

Parts of speech in phonology are a manifestation of polysystemicity, the presence of different subsystems of contrast at different places in the syllable, in particular. A familiar example is the neutralization of plosives after initial [s], resulting in a different subsystem of contrasts at that position from elsewhere, and a set of plosives at that position that belong to distinctive systems from those associated with the occurrence of plosives in other positions, and the [s] belongs to a different part of speech from other instances of onset [s]. This is explored in Chapter 12 and after.

A problem that the representational grammarian faces is that the content of the substance-based features of each plane cannot be described independently of language, as illustrated above. With meaning we can resort to gestures or diagrams, but they have limited applications. With speech sounds, we can describe them indirectly in terms of how they are produced, or in relation to their acoustic properties, and I resort to both of these here. Spectrograms give us visual icons of speech sounds that we can invoke, and there are also traditional tactile metaphors (‘rough’, ‘smooth’) that are often appealed to informally. Articulatory gestures are closely associated in our minds with the sounds we hear, so that language users form an association between the sounds of their language and vocal-tract movements. Those with colour/sound synaesthesia can go further and provide colour icons, but not necessarily the same ones. And these external resources must be reconciled with what the distribution of words and segments shows us about their substantive basis.

Moreover, it should be emphasized that the use of ‘transcriptions’ such as those in (15) is for convenience of the reader only, and even then they can be a rough guide at best.

- (15) a. [fri] = free  
 b. [bild] = build

These representations have no systematic status: phonological representations at all levels, are componential, involving combinations of the perceptual features proposed here. Identifying ‘transcriptions’ with phonological representations has led to many false steps in the study of language, not least in the reconstruction of earlier stages in the evolution of a language or languages. We cannot associate ‘transcriptions’ even with ‘phonetic representation’, since the latter is not a well-defined distinctive notion: there is no such linguistically relevant single level.

# Chapter 3

## Categorial Asymmetries and Functional Categories

asymmetrical feature combinations in phonology – cross classes – markedness – sonority and syllable structure – secondary features – asymmetrical combinations in syntax – contentive vs. functional categories in syntax – operatives and finiteness – derivational morphology: affixation vs. root modification – conversion– determiners and referentiality – comparators – functors – subjects – universality of syntactic primary categories – syntactic cross-classes – predicators

With respect to both planes, the combinations of primary categories allowed for so far are clearly insufficient to allow for all the major substantively and distributionally relevant distinctions to be found in language. For instance, in the phonology the distinction between fricative and oral stop, or plosive, is, apart from being potentially paradigmatically contrastive (distinguishing *pit* vs. *fit*, for instance), also, unlike some such contrastive distinctions (say, in *pit* vs. *bit*), distributionally salient. Most strikingly, fricatives typically occur closer to the syllable peak than do plosives, and this is in accord with what we perceive as relative sonority. How are they to be differentiated categorially?

Further distinctions can be allowed for by recognizing that the combinations of primary features that define distributional classes can be **asymmetrical**. Rather than simply {X,Y}, we have {X;Y} and {Y;X}, where, by convention, the feature to the left of the semi-colon ‘preponderates over’ that on the right. Recognition of asymmetry of combination permits the drawing of the scalar distinctions in (24).

(24) {V}      {V;C}      {C;V}      {C}  
vowels   sonorants   fricatives   plosives

We can still characterize cross-classes, so that continuants, for instance, are the cross-class containing **V**: vowels, sonorants, and fricatives. We can represent this cross-class as V, i.e. **V** without a bracket. And obstruents can be said to be that class in which **C** preponderates, {C;}. In the case of the plosives there is simply nothing to preponderate over; their representation in (24) is equivalent to {C;∅}; cf. {V;∅} for vowel. And fricatives are thus represented, appropriately, as both obstruent and continuant.

But, in addition, the notation deployed in (24) also enables us to extend the capacity to represent relative **markedness** in terms of relative complexity of

combination. Thus, fricatives emerge as more complex than oral stops, and so more marked. This accords with the observation that fricatives are less common in languages than plosives; there are often fewer fricatives in a particular system than plosives. It goes without saying that these markedness values are **intrinsic** to the category and may, of course, be overruled in context. Intervocally, for instance, it is fricatives rather than plosives and voiced (with the additional secondary feature {v}) rather than voiceless that are **contextually unmarked**. This is simply illustrated by the incidence of voiced fricatives and plosives in Spanish, where the fricatives occur intervocally.

And (24) also makes it clear that we can define another hierarchy in terms of the relative preponderance of **V**. This is the **sonority hierarchy**, the hierarchy of perceived relative sonority, with vowels at the top, and with sonority decreasing as we move rightwards in (24). Decreasing sonority correlates with decreasing salience of a well-defined formant structure. Relative sonority is fundamental in defining the sequence of segments in the syllable. Language-particular requirements may supervene, but higher-sonority segments tend to be closer to the peak than lower, where the peak is typically a vowel. These two hierarchies – of markedness and sonority – involve further phonological relationships whose characterization is based on the componentiality of categories – and componential asymmetry.

The role of sonority in determining syllable structure was illustrated for sonorants and obstruents by (15), repeated here.

- (15) a. [fri] = free  
b. [bɪld] = build

And in (25a) the post-vocalic fricatives are closer to the peak than the plosives.

- (25) a. soft, mist  
b. stop  
c. apse, adze

(25b) illustrates a common exception to sequencing according to sonority, and (25c) a more language-particular one. Initial clusters with cluster-initial [s] like that in (25a) are quite well testified in language – though in some other languages the cluster has been diachronically avoided by prothesis or retention of a vowel, for instance. (25c) is an instance of the aberrant behaviour of coronal obstruents in English with respect to sonority, an ‘aberrance’ that is shared in some form by a number of other languages.

There are some obstruents whose realization is associated with the presence of the harmonic source constituted by the vibration of the vocal cords; they are voiced. As suggested in Chapter 2, we can relate this voicing to the presence of a secondary **v**, just as we accounted for the greater sonority of the low vowel in such a way; but sonorants are distinguished in secondary sonority (witness *kiln*, and, in rhotic accents, *whirl*, *turn*). Thus we can differentiate the obstruents as in (26a) and the sonorants as in (26b) – and recall the compact vowel of (17).

- (26) a.    {C;V{v}}            {C;V}            {C{v}}            {C}  
           voiced fric.    voiceless fric.    voiced plosive    voiceless plosive
- b.    {V;C{v}}            {V;C}            {V;C{c}}  
           rhotic            lateral            nasal
- (17) {V{v}}  
       [a]

Sonority within the set of vowels and sonorants and voicing of obstruents are not associated with distinctions in primary feature. They are not basic to the determination of distribution, though adjacent obstruents normally agree in voicing, but {v} + non-{v} diphthongs are common. Thus, it may be that (24) suffices to differentiate the primary categorial distinctions within the phonology of English and other languages, and their relative distribution, but we shall return to the character of some other kinds of distinction below.

Certainly, the minor differences in sonority associated with the presence or absence of the secondary features may be reflected in distribution, as illustrated in (27).

- (27) earl, arm, film, kiln

But these clusters are unstable. In many varieties of English the historical rhotic in the first two words in (27) has disappeared. The rhyme is detransitivized and retains a modifying coda, however; the rhyme remains ‘heavy’. And otherwise there is a tendency to epenthesize a vowel between the members of the clusters in (27), or again to vocalize the lateral in the second two words. The sonority differential in the cluster is apparently not big enough to sustain such clusters in stability. This instability suggests again that we do not need to extend (24) as a representation of distinctions in primary feature in the phonology of English; we are at the limits of differentiation that can maintain stable combinations.

However, the equivalent of (24) is not sufficient to allow for the primary categories of English syntax, which have been even more under-represented in what we have looked at so far. In particular I have ignored the presence of a set of syntactic categories that behave distributionally in a very different way from the nouns, verbs, and adjectives we have so far been concerned with. The presence of these requires not only that the range of primary categories to be allowed for is more extensive than in (24) but also that we must recognize and be able to distinguish in our representations these two different kinds of primary syntactic category. I shall look at the need for what we can call the functional/contentive distinction in category before looking in other respects at the representation of the primary categories of the syntax.

The primary syntactic categories we have been looking at involve open-ended classes sometimes labelled as ‘lexical classes’. Given the range of interpretations of the term ‘lexical’, here I prefer the term **contentive** classes. And many of the members of these classes have indeed detailed meanings, or **senses**, as well as having attached to them pieces of **encyclopaedic** information. So that we know that the word *witch* denotes a subset of humans, usually adult and female, with allegedly special powers. Other ideas we have about witches – consorting with a black cat, transportation by broomstick, association with particular historical periods and cultures – move us further from what is most relevant to linguistic structure and firmly into the purely encyclopaedic.

Members of these primary categories also may have zero valencies. There are nouns, adjectives, and even verbs whose meaning does not involve a distinct participant in the scene they denote as predicators or predicatives. Recall (22), and compare (28) with noun and adjective, all with an **expletive** subject.

(22) It rained (yesterday)

(28) a. It’s summer  
b. It’s cold

As we have seen, these categories can be ranked in terms of their relationality, with verbs being most susceptible to allowing multiple participation in the scene signified. But none of the categories necessarily involves the presence of a participant.

Grammarians have long recognized that there are other categories that are at most slow to expand and further differentiate their membership, and are associated with a particular semantic domain. These categories also seem to be those that have a most obviously **functional** role, in ‘joining together’ the parts of a pred-

ication and relating it to its context of speech. I interpret their role as involving these two types of relationality, intra-grammatical and interfaced with the extra-grammatical. And, indeed, language-internally these categories are necessarily relational, valency-bearing, unlike the contentive categories that are associated with an open-ended membership, as we have just seen. These relational functional categories are thus basic to the erection of predicational structure. But they are also basic in anchoring an utterance to the context of the act of speaking and the kind of act itself: they embody in particular deixis and reference, mood and modality. Thus, while nouns, for instance, **denote**, context-free, a set of entities perceived as sharing a particular sense, a member of the functional category determiner, say *that/those*, **refers** to a particular or particulars. Contentive words, being mostly but not entirely non-iconic, roughly correspond in interpretation to Peircean ‘symbolic signs’, words that belong to functional categories correspond to one variety of ‘indexical signs’, that which reflects the immediate setting of the act of speech.

The functional categories have no analogue in phonology; the only necessarily complemented elements therein are some vowels, the checked, or transitive vowels, which, unless reduced or pre-ictus, must be complemented by a consonant. And the presence of such a set of vowels is far from universal in language. Syllable structure is otherwise formed on the basis of a generalized ‘maximize dependency’ requirement, as we shall look at. The contentive vs. functional distinction in word class is universal, however. It is basic to the fulfilment of the expressive function of language. Indeed, there are languages where the ‘noun/verb distinction’ is primarily signalled by the functional category a contentive is dependent on. The planes present here, then, a rather different kind of categorical asymmetry – a dis-analogy between them in terms of absence vs. presence of this distinction.

Let us now look further at the properties of the functional categories of syntax, at the same time as we endeavour to identify them. And let us return in the first instance to their role in the syntax of those contentive categories in English that cannot be finite, as mentioned in Chapter 2. A consideration of these will lead us to a further crucial property of functional categories.

In Chapter 2 I observed that nouns and adjectives in English are not ever finite, but at best are predicative with respect to a finite such as *be* (3a–b).

- (3) a. This \*(is) mud  
b. This \*(is) nice

In order to constitute a potentially independent sentence the sequences in (3) with ‘predicative’ nouns and adjectives must contain a distinct finite element, in these cases realized as *is*. The latter form belongs to a category that embod-

ies finiteness, the capacity to licence an independent predication. I shall call instances of the category of finiteness-conferment **operatives**. It is a functional category. As such it is closed-class, and its members must take a complement. In (3) this is a noun or adjective.

In many cases the members of this particular functional category correspond to what have traditionally been called ‘auxiliary verbs’. But not all occurrences of ‘auxiliaries’ are finite. In (29) the *be* is not finite, but it still confers predicativity.

- (29) a. This will be mud  
b. This will be nice

*Be* and *have* can be either finite or non-finite. They are both non-finite in (30a), while the *has* of (30b) is finite.

- (30) a. It may have been raining  
b. It has been raining

Normally, modal verbs like *will* and *may* are always finite. *Be* and *have* are optionally operatives, but that is their unmarked state; the core modals are obligatorily such. Each of the first of the verbal forms in (30a–b), however, has a non-finite as its valency. The behaviour of *have* and *be* suggests a close link between operatives and verbs, as traditionally recognized. Moreover, the forms of *have* also function as an ordinary verb. *They have too much money.*

What then of (‘non-auxiliary’) verbs in English? They too can be either finite or not, as illustrated by (22) vs. (30). But, unlike the independent operatives, the sentence types in which they can occur as finites are strictly limited. As illustrated in (31), they occur in simple positive declaratives, sentences that make a positive non-emphatic statement (31a), and also sentences that pose an intonation-signalled question (31b) and a (possibly overtly subjectless) command (31c), futile as it is in this instance.

- (31) a. It (\*did) rained  
b. It rained?  
c. Rain!

But in all of the sentence-types in (32), the verbs also require the presence of an independent finite to ensure potential independent sentencehood.

- (32) a. Did it rain?  
 b. It didn't rain  
 c. It did rain

(where in (32c) the double-underlining indicates 'insistent intonation'). The presence of the particular operative in (32) is a default option that occurs in the absence of another, sense-bearing operative, except in sentences such as those in (31). Compare (33) with operatives whose presence is associated with an independent semantic difference, aspectual or modal.

- (33) a. It was raining/It could rain  
 b. Was it raining?/Could it rain?  
 c. It wasn't raining/It couldn't rain  
 d. It was raining/It could rain

For a full finite distribution, contentive verbs are very dependent (in both the general and technical senses, as we shall see) on operatives.

Indeed, even when, as in (31), verbs seem to be finite in their own right, this is to be interpreted as the result of being converted in the lexicon into operatives. The possible **inflectional** markers of finiteness in particular languages, such as, in English, the third-person singular ending or the indication of tense, though not themselves derivational affixes, are a reflection of this non-morphologically-expressed **lexical recategorization**, or **conversion**. And this correlates with a property of functional categories that they share with other categories but which has a very distinctive role to play in their case. This is their capacity to be the categorial goals of the lexical conversion of other categories.

In Chapter 1 we looked at the conversion in the lexicon of the verb *walk* to a noun, as illustrated in (2) vs. (1).

- (1) I walk to the surgery  
 (2) I am tired after my walk

Functional categories are frequently the goals for conversions, and this is indeed characteristic of their distribution. And their derivation from contentive categories differs from lexical relationships among contentive categories in normally



(rather than merely sometimes) lacking a derivational affix or other derivational-morphological signal, i.e. precisely in being restricted to conversion. The presence of lexical recategorization in such as (31a) or (1) may be signalled by the presence of inflectional distinctions associated with operatives, but the function of these inflections is not directly derivational. Notice again that, despite what the traditional ‘derivational’ terminology might suggest, these relationships involve structure-building lexical redundancies.

Not all relationships between primary categories in the lexicon involve overt **derivational morphology**; and, as we have seen, the latter is not limited to **affixation**. Thus, in the first place, the difference between verb [*declaim*] and noun [*declam[ation]*] (here illustrated using orthography, not phonetic transcription) is signalled by both affixation and **root modification**, and verb [*sing*] and noun [[*song*]] differ only in the shape of the root, with the derivationality here also being indicated notationally by the double braces. But, further, there is no phonologically expressed distinction between verb [*dance*] and noun [[*dance*]]. Derivation here does not involve morphology. We have **conversion** in this last case, but in all three we have a lexical relationship between two primary categories. Even [king] and [king[dom]] involve a relationship between primary categories, which happen to be both nouns, though of different subclasses. The representations illustrate such a relationship between primary categories, characterizes derivational rather than inflectional morphology, which also does not involve conversion, though derivation is itself not necessarily morphological. **Inflectional morphology** differentiates word forms.

Derivation of a functional category is normally by conversion. And, as we shall see, the base of the conversion satisfies the necessary complementation of the functional category – but ‘internally’ to the word form, ‘as it were’. All of this means that functional categories, as well as not being open-ended in membership and taking an obligatory complement, such as the verb forms in examples (30–32), have a further characteristic. It is characteristic of operatives and other functional categories that they may be signalled in three different ways. It may be signalled by an independent item, i.e. **analytically**, here by an overt operative, or **synthetically** by the inflectional morphology manifested by the de-contentive category (*sit/sat*, *kick/kicked*), or simply by its **position**, as in (1), with no overt morphology. The derivationality does not have a dedicated signal.

In the latter, non-analytical, cases, what would otherwise be a distinct complement is the base of a conversion to operative status, and the entire derived form occupies an operative position. (31a) contains a derived form, an operative based on a verb, and, as we’ve seen, the verb satisfies the operative’s need for a complement ‘internally’.

## (31) a. It (\*did) rained

The base satisfies the valency of the operative. And, conversely, default *did* is unnecessary because the sentence already contains a derived operative. In the chapters that follow we look at how such a derivational relationship might be characterized more explicitly, so that we can remove the ‘as it were’ from the above formulation.

In contrast with contentive verbals, operatives *be* and *have* do not normally require the default *do*; they are finite (as well as non-finite) in their own right. Contentive verbs undergo finitization in appropriate circumstances, in the absence of a distinct operative – as in (31a), and as we shall investigate below. If not, finiteness is signalled by a distinct operative, as in (32–33). *Be* and *have* are non-finite only when this status is required by the valency of another element, as in (29) and (30). They are operatives that may de-finitize in such a specific context (again a structure-building addition of ;N). Thus, *be* and *have* can appear as the essential part of finite clauses of all types – interrogative and negative as well as positive declarative (with the partial exception of emphatic or negative imperatives) – they are basically finite – and, as we have seen, *be*, as **copula**, allows finiteness even to non-verbs. Whereas finiteness is denied contentive verbs in a range of the above clause types – they are basically non-finite.

Operatives are crucial to the expression of distinctions associated with the **speech act** in which a sentence is embedded. These involve contrasts such as declarative vs. interrogative, negative vs. positive, contrastive vs. neutral. And they are what are distinguished in (31) and (32). Operatives, whether independent or the result of conversion of a verb, guarantee the independent status of a sentence with a particular speech-act role. They provide sentences with a **communicative structure**. Even when subordinate, operatives provide a link to the speech act orientation of the operative that heads the whole sentence, as in expression of tense, for instance. But let us now consider further functional categories, and how they all might be categorized, and what their role might be.

There seems to be a functional category corresponding to each contentive category. To put it crudely, each functional/contentive pair has a member that specializes in ‘function’, and one that carries most of the ‘lexical content’. Operatives confer on dependent verbs, in particular, finiteness, the capacity to license a potentially independent predication and access to the context of speech. Similarly, **determiners** enable nouns to have **referentiality**, rather than simply their inherent capacity to denote a class of entities. Nouns identify types, determiners refer to tokens, not necessarily definite. And **comparators** provide gradient adjectives with the capacity to compare the perceived intensity of differ-

ent instances of the property that the adjectives attribute or predicativize. They allow more defined positioning on a cline; they indicate **degree**. In *Greg is small*, with non-overt comparator, we understand Greg's (vertical) dimensionality to be located towards the positive end of the cline of smallness, Greg is relatively small; but in *Greg is smaller (than Bob)*, where we have an overt comparator, we are given a definite point on the cline, Bob's height, by which to locate Greg's – though Bob's height might be anywhere on the smallness cline – such as 'not small at all'. Let us now look in a little more detail at these two further functional categories.

Determiners may or may not be **definite** in reference, and they may or may not be **partitive**, and partitives may or may not be **specific**. The determiner in (34a) is definite; it signals that the speaker assumes that the interlocutor can identify the referent(s) he has in mind.

- (34) a. The workers were poor  
 b. Some (of the) workers protested  
 c. Any (of the) workers could protest

The act of reference is thus again associated with the speech act and its context. This is even more evident in the case of deictic determiners such as *this* and *that*. The determiner phrase in (34a) (and those headed by deictics) is also partitive; it refers to a specific subset of the set of denotata associated with the noun *worker*. (34b) too is partitive, but it is not definite; the speaker does not assume the referents, though specific, to be necessarily identifiable. (34c) is non-specific.

Either definiteness or specific/non-specific partitivity may be present even in the absence of an overt determiner. So, the 'generic' subject of (35a) is definite.

- (35) a. Workers are poor  
 b. Workers protested

On the obvious interpretation of (35a), the speaker assumes that the reference of workers can be identified; it is simply to the members of the set denoted by the noun *worker*. (35a) is not normally partitive. Definite non-partitivity is what most typically characterizes the nominal contribution to 'generic' sentences. In many languages (e.g. Greek) such 'generics' are overtly definite, so that *οι εργατες* 'the workers' may or may not be partitive. (35b), however, would most probably be interpreted as not definite, but it is partitive. This interpretation, as with the definiteness of (35a), I associate with the presence of a derived specific determiner. The nouns in (35) have been converted in the lexicon into determiners. As such

they can serve as arguments in predications that refer to individuals, even if these individuals are left not definite or are generic. Determiners provide a **referential structure** for nouns; nouns themselves merely denote classes of entities.

The functional category corresponding to adjective allows for differences in what is known traditionally as ‘degree’, as invoked above. (36) exemplifies respectively analytic and synthetic constructions expressing the **comparative** degree.

- (36) a. Betty is more obese than Billy  
 b. Betty is fatter than Billy

The overtly comparative comparators in (36) differ in terms of analytic vs. synthetic expression. Traditionally there are only some adjectives that allow the synthetic exponence; they are typically native and simplex, but I continually come across innovative synthetic comparatives. The gradient adjective in (36b) has been recategorized lexically as a **comparative comparator**, signalled by the suffix. The derived form has the same distribution as the comparator construction in (36a), and a shared interpretation. I have suggested that this involves identification of a specified **point of comparison** with respect to the gradient property expressed by the adjectival base: hence the tautological label. The simple gradient adjective, however, with covert positive comparator, offers comparison with an implicit norm. Such an adjective is converted lexically to a **positive** comparator to bear the implicit norm, since only gradient adjectives normally can be compared. All of the adjectives in (35a) and (36), as well as **superlatives** such as *poorest/most industrious*, are associated with provision of a **gradience structure**. Normally non-gradient adjectives such as *pregnant* or *English* involve degree differences only figuratively, notably by metonymy or metaphor, as in *By February she looked very/more pregnant* or *Why do you have to be so English about it?/Could you be less English about it?*

It can be said of functional categories in general that such a provision of distinctively functional structure is limited to the content plane; it is irrelevant to the expression of phonological distinctions. Any analogue of the contentive vs. functional distinction is not relevant to phonology. With non-analytic operatives, determiners, and comparators, the change of category from the corresponding contentive may be signalled by presence of inflectional exponents associated with the functional category, such as expression of tense or person-number on the converted verb, and of number on the determinerized noun, and non-positive comparison with adjectives.

However, things become a little more complex in the last case when we note that the analytic comparator in (36a) can itself be said to be a comparative form, with corresponding, if opaquely in expression, positive forms *much/many*.

The analytic comparator in (36a) is already marked intrinsically as comparative. Further complication is introduced by the observation that *much/many/more* display characteristics of both determiners (*much of that*) and of adjectives (*very many, They are many*). We pursue such complexity in Book 2, particularly in Part IV, just as the other functionals will also claim further attention, in the present Part, the determiners first of all in Chapter 8 and operatives initially in Chapter 15.

All of these functional categories are fairly uncontroversially not open-ended in membership, except that other set of non-definite-partitives/adjectives called **numerals**, which has a recursive structure of its own. There is a further primary functional category, however, that is rather obviously relational but whose closed-class status is rather more controversial. There is also no contentive category with which it can be paired. Despite this it has a strong claim to be a functional category, indeed one that is central to the relationality of predications, one that provides them with a **predicational structure**. This is the category that identifies the participants and circumstantials in the scenes whose type is denoted by the predicator; centrally it relates predicators to the **arguments** they require, or permit, and in so doing it distinguishes the secondary features, the **semantic relations** that arguments participate in. This category is called the **functor** category, represented { / }, with empty primary category; its relational secondary features alone are its content. A functor feature can be signalled by inflections and to some extent by position; the inflected forms are traditionally known as case forms. But functors, like the other functional categories, are very often signalled by an independent element, by an **adposition** – in English, prepositions. And that’s where the controversy arises, for it is perhaps not so obvious that adpositions are ‘closed-class’. But let us look firstly at some examples of the various manifestations of functors.

The prepositions in (23) from Chapter 2 manifest respectively a functor with the non-primary feature source and one with the feature goal.

(23) Fog extended from Queensferry to Crail

The membership of the set of even obviously locational prepositions is at least more extensive than that of other functional categories – particularly if we lay aside the special case of numerals (and other complexities involving determiners we shall encounter).

The pre-verbal participant in (23) and that in (10a), however, are associated with functors with different semantic relations, but this is not signalled by the presence of a distinct word, a preposition, as with *from* and *to* in (23), but by the position of the nouns.

## (10) a. John liked Judy

The functors are present in the lexical representations of the nouns, which are categorially complex in different ways. Both (23) and (10) sentences contain an initial functor converted in the lexicon from a nominal (as is *Judy* in (10a)). The initial functor in (10a) has the secondary feature provisionally termed ‘experiencer’; that in (23) has simply the ‘neutral’ secondary feature. The latter introduces the argument whose referent is interpreted entirely in accordance with the semantics of the verb, in this case as the element that ‘moves’ or ‘extends’, or ‘is extensive’, actually or abstractly. The unmarked argument that satisfies a functor is a determiner. Thus, the mass noun *fog* in (23) has been converted into a (partitive, non-definite) determiner that has been converted into a functor.

The other functional categories typically are complemented by a contentive category, but, as indicated above, with functors the prototypical satisfier of their valency is a determiner, another functional category (which itself can then be complemented by a functor: *on some of the roads*). This circumstance, a succession of the functional categories functor and determiner, marks the boundary between the structures concerned with mood and predication and those whose concern is the identification, by description and reference, of the participants in predications. But let us proceed with further observations concerning what is manifested by such examples as (23) and (10a).

The presence of the functor in the pre-verbal instances and also post-verbally in (10a) is indicated only positionally. It is the identity of the particular functor involved that allows preverbal position to the determiner-noun, but which functor is involved is not invariant as well as not being overtly signalled; the functor signalled by preverbal position is a **neutralized** functor, and this functor phrase is usually referred to as **subject**. The subject thus neutralizes the expression of distinctions among the secondary functor features; normally, no distinction in semantic relation is signalled by the subject itself. Nevertheless, in any particular instance the identity of the preverbal functor is recoverable from the valency of the verb.

The valency of the verb in (23) contains a ‘neutral’, a source, and a goal functor. Of these three it is the ‘neutral’ that is chosen as subject by rule at the lexico-syntax interface. Similarly, the ‘experiencer’ in (10) is preferred as subject to the ‘neutral’ *Judy*. There is a **subject-selection hierarchy** among participants, whereby a subject is determinately selected from any array of participants to be associated with a predicator; and in (23) and (10a), for instance, the result of this selection is marked positionally, as generally in English. Subjecthood is derivative of the subject-selection hierarchy. We return to this in Chapter 4.

The presence of the neutralized functor may be also be signalled by morphology, as in (37), where *he* appears preverbally in preference to *him*.

(37) He likes him

In other languages functors may quite generally be expressed inflectionally, by case inflections such as the traditional nominative associated with the subject of (37), as in the Latin of (38).

(38) *Missī lēgātī Athēnās sunt*  
(‘Envoys were sent to Athens’)

Here the plural *-ī* of *lēgātī* ‘envoys’ also expounds nominative.

The functional/contentive distinction is a fundamental one as far as the primary categories of syntax are concerned. And it represents an important dis-analogy between the phonology and syntax. As we shall see, the presence of functional categories accounts for an important aspect of the greater structural complexity of syntax. And as I’ve suggested, this complexity is a reflection of the demands imposed by the need to represent complex cognitive scenes. It is a complexity that there is no motivation for in the representation of phonological structure.

Table I offers a means of drawing the distinction between functional and contentive, while maintaining the essential character of the relationships expressed in (6).

**Table I:** Primary Syntactic Categories

Functional		Contentive	
Operative	{P/}	Verb	{P;N}
Comparator	{P.N/}	Adjective	{P;N}
Determiner	{N/}	Noun	{N;P}
Functor	{ / }		

The functional categories are distinguished by being necessarily complemented, and by showing only simple – non-asymmetrical – combinations of **P** and **N** or their absence. {P/}, {N/}, the simple combination {P.N/}, insisted on as contrastive by the period, and the null combination { / }. Verbs and noun are respectively {P;N} and {N;P}. And they are the contentive categories corresponding to

operator and determiner, respectively. And the colon in the representation for adjective indicates that they combine representations where both **P** and **N** predominates over the other: the representation  $\{P:N\}$  abbreviates  $\{\{P;N\}.\{N;P\}\}$ , a simple combination of the verb and noun representations. The adjective thus again emerges as the most complex category – appropriately, in view of the markedness revealed by, among other things, the absence of adjectives from a number of languages and their paucity or their predominantly or purely derivational status in others.

Given the universally available cognitive basis for the primary syntactic categories, these latter are universally available to a language. And it is generally assumed that some minimum will be found in any language. Further, it may be hypothesized that likelihood of absence of a particular category correlates with complexity of representation, markedness. Thus, adjective is the most complex category in Table I; it combines the properties of nouns and verbs. So it is unsurprising that, as just observed, it is lacking in a number of languages. Languages are more likely to ignore in their structure distinctions that introduce more than a minimal complexity. That minimum is an empirical question, depending on attestation. Thus, in line with what has been claimed concerning the distribution of adjectives in language, it has commonly been maintained that, of the contentive categories, noun and verb are the minimum set that is found in language.

But even this is disputed, so that it has been claimed elsewhere that a language may possess only one non-functional category, the simple contentive, which we can represent as  $\{P,N\}$ , a simple combination of the two primary features. The comma in its representation expresses simple combination in a system lacking asymmetrical combination – while the full stop in the comparator representation indicates simple combination that is in contrast with asymmetrical combinations. In terms of the present framework, the capacity of such a contentive category for both ‘verbal’ and ‘nominal’ syntax is facilitated by combination with – particularly conversion to – the appropriate functional categories. Moreover, relational and dynamic contentives will favour conversion to  $\{P/\}$ , discrete and stable to  $\{N/\}$ .

At least the distinction between functional and contentive categories seems to be universally drawn. And the functional categories  $\{ /\}$ ,  $\{P/\}$ , and  $\{N/\}$  appear to be indispensable for the functioning of human languages, even if there is only one contentive. We can exclude here from necessary presence the comparator, which presumably will be absent as such from adjectiveless languages, though not necessarily if there are at least adjectives that are derived. What is important theoretically is that our framework of representation provides some account of relative commonness of categories, including the possible absence of some. The question of what the minimum complement of categories for a language might



be is, as proposed above, an empirical one – though a complex one, particularly given the interaction of contentive with functional categories.

The representations in Table I also enable us to characterize various cross-classes in English. We can, for instance, define the cross-class of **nominals** as comprising those categories that show a preponderance of **N**; and the class of **verbals** have a preponderance of **P**. Contentive categories all contain ‘;’, an asymmetrical relation, or two of them. Any category containing **P** belongs to the cross-class that can be categorized as simply as P, i.e. **P** without a bracket. Any member of this class is a potential **predicative**, predicable of something, though only {P/} itself guarantees finiteness, propositional or speech-act status, or **mood**, of a predication; and nouns and adjectives in English cannot be converted to {P/}. Modals are {P/}, but *have* and *be* are {P/}&{P;N/}, or, better, {P<;N>/}, where the **N** is optional, or indeed {P>/}, where **P** preponderates. ‘Auxiliary’ *have* and *be* are either operative or verb, whereas contentive verbs, including ‘main verb’ *have*, are operative only by conversion.

And those categories containing **N** permit at least **textual co-indexing**, though full referentiality is limited to {N/}, uncombined **N**. Thus, in *I stole the bread, though I know I shouldn’t have done*, the pro- $\{P;N\}$  *done* is interpreted by recurrence to the  $\{P;N\}$  *stole* and its subordinates. This capacity, represented by co-indexing, is associated with the presence of **N** in  $\{P;N\}$ ; but this does not constitute coreference. A  $\{P;N\}$ , or other contentive category, including nouns, does not refer, as opposed to denote, extra-linguistically. Strictly, perhaps only  $\{N;P\}$ s denote, given that what verbs **signify** is often difficult to delineate, given their internal complexity, extensible relationality, and possible notional transitoriness. Whether a scene is to be counted as a member of the signification class of a particular verb is often difficult to decide: consider, for instance, the range of candidate scenes for signification by different verbs associated with means of (even unassisted) animate locomotion. Most adjectives, intermediate as usual, are less difficult to associate with the members of a class of denotata. However, abstract denotata for any lexical form are inaccessible in relation to abstract domains, except by figurative means, such as via the metonymies of concrete correlates of the abstract denotatum – physical signs of happiness, for instance.

Illustration of the roles of these and other cross-classes will arise in what follows. The list of primary categories in Table I is incomplete, however. We have not allowed, in particular, for pronouns and names. Contrary to one pervasive tradition, these cannot be regarded as sub-types of noun. The class of pronouns is not open-ended, and the distribution of neither class corresponds to that of nouns. Their primary distribution resembles that of determiners, but determiners without an overt complement. Below, in Chapter 7, we shall look at arguments for regarding them, in their common usage, as derived determiners. As we shall

see (in Chapter 9), they thereby satisfy the complementation requirements of the determiner internally, by conversion – i.e. in the lexicon, not in the syntax. And, as determiners, they are able to refer, as can nouns when so converted. We must also take up later the status of the traditional parts of speech ‘adverb’ and ‘conjunction’ (see in the first instance Chapter 7). Can they be seen to be compatible with the categorial framework embodied in Table I?

The set of representations in Table I, the extent of whose incompleteness we must come back to, is nevertheless sufficient to illustrate, in comparison with (24), the greater variety of distributional categories necessitated by syntactic structure, compared with phonological. Recall the primary categories of (24), which again are universally available, and ranked in markedness, but not as elaborated as in syntax.

(24)	{V}	{V;C}	{C;V}	{C}
	vowels	sonorants	fricatives	plosives

Elaboration beyond this is unnecessary in English and perhaps generally, given an appropriate use of secondary features. These representations, and particularly the relative sonority they express, are the basis of the erection of sub-syllabic phonological structure. Though there is an analogue to sonority in syntax, as discussed below, more fundamental is the articulation of categories into functional and contentive, lacking in phonology. And this variety in the syntax of both number and type of category is a response to the demands of the cognitive substance with which the syntax interfaces, a response that also involves complex categorization, categories that are lexically-derived from other categories.

This kind of response to cognitive demands, and syntactic complexity in general, is possible because syntax is not directly tied to the constraints imposed by phonic expression on phonological representations. Thus, for instance, the idea that one category can be derived synchronically from another is incoherent in the context of phonological representation, where each category is identified by particular sonic characteristics incompatible with those that identify other categories. An event may be viewed as an entity, as with the noun *walk*, but there is no comparable substantive motivation or capacity for viewing a fricative as a stop. We shall focus more precisely on how syntactic structure meets the representational demands of cognition after we have given further attention, in the chapter that follows immediately, to a functional category that plays a crucial role in the representation of predicationally-complex as well as simple structures, the functor.

To end this one I make some distinctions in categorial notation that we shall rely on in what follows. We have seen that the major categories of syntax – noun, verb, etc. – are distinguished by the (symmetrical and asymmetrical, unary and null) combinations of major or primary features **P** and **N** enclosed in braces, as {N;P} for nouns. And there are minor or secondary features that distinguish subclasses, some of them at least corresponding in substance with primary features, as with **n**, which distinguishes, for example, adjectives that are usually ‘classificatory’, like *deciduous*, as {P:N{n}}, for instance. This major-minor parallelism is even more common, possibly even the norm, in phonological categorization.

Combinations of these minor features distinguish minor categories, and single features are often also in **associative contrast**. Thus, the features that distinguish different kinds of the gradient subcategory of adjectives include alternative sets of adjectives of weight, speed, size, length etc. We can represent this situation, **hyponymy**, when necessary, as in terms of the crude notation abbreviated in {P:N{GRAD(IENT)::length}}. However, allusion to this phenomenon arises with any salience only later, in our discussion of lexical-derivational relations in Part II.

# Chapter 4

## The Content of Functors

semantic relations as non-primary features of functors – absolutes – locatives, goals and sources – feature combinations – ‘experiencers’ decomposed – ‘holisticness’ – subject-selection hierarchy and routinization – localism – functors and dimensionality/orientation – non-morphological lexical relationships – complex functors in English and elsewhere

In this Chapter I present a theory of functors as a functional category. The membership of the category is differentiated by features that, in traditional terms, we might call ‘cases’ or ‘case relations’, but have also been called **semantic relations**. I adopt here the last of these labels, despite its lack of transparency, because traditionally ‘case’ has a too restricted denotation. With functors the status of functional category has to be reconciled with the apparent problems exhibited by the relatively extended membership of the functor class and by their distribution, whereby in Latin, for instance, a combination of two different kinds of element showing functor-like properties – a preposition and an inflection (traditional ‘case’) – can introduce a single participant or circumstantial, while in the same language case inflections can also occur alone, without a preposition.

In the preceding chapter, we encountered five distinct functors, which I labelled source, goal, ‘neutral’, ‘experiencer’, and (simple) locative. The quotation marks around two of these anticipate that these labels will not persist once we elaborate a fuller framework of secondary functor features. But the other three – source, goal, and locative – also demand some attention on specific grounds. This arises from such questions as: can’t sources and goals be said to be a kind of ‘location’ as well as locatives? And isn’t this reflected, as concerns goal (and sometimes source) and locative, in the fact that there is often neutralization of their expression, as in *He went/was inside the shop*? And doesn’t the relationship between goal and simple locative correlate with the observation that normally the statement *She has gone to Crete* implies that *She is in Crete* is true. The answers to these questions, if positive, introduce some further factors concerning the relations among suggested functor features. Firstly, however, look at the possibly most straightforward of the provisional labels that I’ve marked with quotation marks. This will enable us to begin to introduce such factors.

I am going to lay aside the label ‘neutral’ on purely historical-terminological grounds: in the tradition that immediately underlies the present account of representational grammar, the equivalent of ‘neutral’ has for some time been called **absolute**. I have allowed this to override use of the provisional term, which

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is perhaps more transparent, and avoids the problem that ‘absolute’ is a traditional label for a case inflection in some languages. This secondary feature label designates the most neutral functor: its precise interpretation depends on the semantics of the predicator it is associated with, particularly that involving the rest of the semantic relations in its valency. Thus, as we have seen, ‘neutral’/absolute introduces the argument that refers to the entity that is located or moves in locational/directional sentences; but also it introduces the argument that refers to the entity that is the ‘goal’ of an action sentence, or the entity that has attributed to it a process or state. And we shall find that its ‘neutrality’ is the basis for further distinctive properties vis-à-vis the other functors. On these grounds we might recognize that it is the unmarked feature of the unmarked functional category, with a representation { { }/}, the ‘empty’ functor, the empty feature of the secondary/minor category associated with the empty primary category. However, in the interest of transparency and of terminological consistency, I shall again retain here the ‘absolute’ label, with { {abs}/} as equivalent to { { }/}.

This terminological decision means that we should say that (23) contains an absolute, a source, and a goal.

(23) Fog extended from Queensferry to Crail

But – to take up again the status of **source** and **goal** – it seems appropriate to regard the labels other than **abs** applied to (23) as involving here **tertiary features**, not secondary like absolute; these two functors share the secondary feature **locative**. This is the dominant feature with respect to both source and goal. There are at least two levels of minor features.

In these terms, we can annotate the valency of (23) as in (39a), where the tertiary features appear within inner braces relative to the secondary, and the (null) primary feature, or category, that these functors share (i.e. { /}) is omitted here, for simplicity.

- (39) a. Fog extended from Queensferry to Crail  
 $\{abs\} \quad \{loc\{src\}\} \quad \{loc\{gol\}\}$   
 b.  $\{P;N/\{abs\}\{loc\}\{\{src\}\}\} \Rightarrow$  (c)  
 c.  $\{P;N/\{abs\}\{loc\{gol\}\}\{loc\{src\}\}\}$   
 d. It lies in Crail harbour  
 $\{abs\} \{loc\}$

*Extend* is then a **directional** verb, either dynamic or static, with the redundancy-free valency shown in (39b), where the functors are again represented only by minor features such as absolutive ( $\{abs\}$ ). And the co-presence in a valency of a locative ( $\{loc\}$ ) and a source ( $\{src\}$ ) functor in (39b) means that that valency can be expanded by general lexical rule as in (39c). The latter introduces redundant features. That is, in the presence of tertiary source in a verb valency, a locative acquires a goal ( $\{gol\}$ ) tertiary feature, and the (tertiary) source becomes tertiary to a locative. Thus, (39b) is simply (39c) with the redundancies in the latter removed. In the absence of tertiary source, a locative is not redundantly a goal, as exemplified in (39d).

$\{loc\{src\}\}$  is typically associated with presence of a  $\{loc\{gol\}\}$  in the same predication, which is thereby directional. But it can occur alone, as in *Fred is out(side)* or *It is off the map*. To be ‘out’ is to be ‘not in’. This relationship between source locatives and negation and antonymy will assume some importance in our discussion of existence and negation, truth and the opposite (beginning in Chapter 15), as well as lexical relations.

Despite the association of the  $\{gol\}$  of the  $\{loc\{gol\}\}$  with presence of  $\{loc\{src\}\}$  in a valency, a source locative is much more commonly not made explicit in a sentence, as in *He travelled to lots of places* (though a source or sources might be apparent from the context). This follows from the positive value of  $\{gol\}$ , as does its primacy in the conjunction *to and fro*. We return to antonymies in general in the conclusion to Part III.

A simple secondary, rather than tertiary, source is to be interpreted, in the absence of a secondary  $\{loc\}$ , as the source of the action, or agentive, i.e. as not locational, as illustrated in (40a).

- (40) a. Fred read the notice  $\{src\}$   $\{abs\}$   
 b.  $\{P;N/\{abs\}\{src\}\} \Rightarrow (c)$   
 c.  $\{P;N/\{abs\{gol\}\}\{src\}\}$   
 d.  $\{<loc>\} \Rightarrow \{<loc\{gol\}\}/\{<src>\}$

The valency of the verb is given in (40b). However, in the presence of a source participant and no locative, the absolutive is interpreted as a goal, i.e. the required functors are amplified as in the redundant (40c). (40a) thus involves a non-place direction, to do with the directionality of action, not of locations in a movement or extension:  $src$  as part of a valency that contains a distinct  $\{loc\}$  (as in (39b)) is itself spatial, and tertiary; in the absence of a distinct  $\{loc\}$  (as in (40b)) or a dominating one (as in *Maria is out*),  $src$  is agentive, and so secondary. In both instances of source, the corresponding (locational

or non-locational) functor acquires a goal tertiary, as in the redundancy in (40d), where content of all the paired angles must be simultaneously present or absent, and the slash introduces the environment. We have two different kinds of ‘journey’, spatial vs. actional. We shall see that (40d) follows from other generalizations.

The preceding exhaust the set of minor (secondary and tertiary) features of the functor, or semantic/case relations, as they are sometimes referred to. However, there are more combinatory possibilities than we have encountered so far, some of which eliminate other putative ‘functor features’. The verb with the ‘experiencer’ participant in example (5) from Chapter 2 also involves a combination with locative and source, but with source as secondary and the locative feature tertiary, as shown in the suggested valency  $\{P;N/\{abs\}\{src\{loc\}\}\}$ .

(5) a. John likes Judy

Such a source-locative combination introduces the participant that, as with source alone, is the source of the scene, but of a scene which is not an action because it is located internally to the source entity; it is an ‘experiencer’, which, as we shall see, shares further properties with agentive. The second of the two provisional labels mentioned initially is decomposed in this way, then: the label ‘experiencer’, often appealed to, does not correspond to an atomic secondary feature but to a combination of features, thus exploiting the componentiality of categorial representations.

We also find this combination in the partial representations in (41a–b), which are directional, not simply locational, and are minimally specified (and again only minor features are indicated).

- (41) a. Frieda received a pleasant sensation from the contact  
 $\{src\{loc\}\} \quad \{abs\} \quad \{src\}$
- b. Frieda suffered from anxiety attacks  
 $\{src\{abs,loc\}\} \{src\}$
- c.  $\{P;N/\{abs\}\{src\{loc\}\}\{src\}\} \Rightarrow (e)$
- d.  $\{P;N/\{src\{abs,loc\}\}\{src\}\} \Rightarrow (f)$
- e.  $\{P;N/\{abs\}\{src\{loc\{gol\}\}\}\{loc\{src\}\}\}$
- f.  $\{P;N/\{src\{abs,loc\{gol\}\}\}\{loc\{src\}\}\}$
- g.  $\{P;N/\{src.abs\{loc\{gol\}\}\}\}\{loc\{src\}\}\}$

The representation of the first functor in (41b), with a simple combination of tertiary absolutive and locative, is provisional; the presence of absolutive is meant to mark the locative as affected by the independent locative source; ‘affectedness’ is a property associated with functors, specifically the {abs{loc}} combination. (41c) and (d) represent the valencies of the respective verbs in (41a–b), which are thereby annotated appropriately as ‘experiencers’ that are ‘recipients’, or **receivers**. (41c) involves a directional verb where the simple source functor, realized in (41a) as the preposition *from*, is interpreted as a locative source in the presence of a distinct locative; and the original locative of the valency, combined with **src** in introducing *Frieda* in (41a), is a goal. As a receiver, it is an ‘experiencer goal’. Compare the expansion of (39b) as (39c). We thus in the present case expand (41c) as in (41e). Likewise, rules of redundancy give (41f) from (41d). In these latter, the representation stresses the coincidence of the location and the sensation, indicated here by the simple combination of {abs} and {loc} – which we now shall turn to.

(41f) thus shows symmetrical combination of the two tertiaries, locative and absolutive. If this is just, then we might expect secondary features also to be able to combine symmetrically, as a simple combination, whereas so far I have not appealed to such. It may be that such a distinction between the treatments of secondary and tertiary functor features is universally appropriate. But it could be that symmetrical or asymmetrical combination of particular features is a linguistic variable, depending on whether there is a contrast in dominance of the features involved in the language concerned. Or it could be that asymmetry is the norm among functor features.

In English it seems, as a first approximation, at least, that locative and absolutive also combine symmetrically as secondaries, as well as when tertiaries (as in (41f)), in identifying the functor with the ‘holistic’ argument of (42a).

- (42) a. The basement flooded {abs,loc}  
 b. {P;N/{abs,loc}}  
 c. Water flooded into the basement  
 d. The water reached the ceiling  
 e. The chairs got a lick of paint  
 f. {P;N/{loc{abs}}}  
 g. {P;N/{abs{loc}}}

The effect of the action of a verb such as is represented in (42b) is to exhaust the relevant dimensions of the {abs,loc} argument. Complex dimensionality such as is made overt by the presence of *in-* in (42c), which is the ‘non-holistic’ congener of (42a), will be discussed shortly. The effect of holisticness, associated with



the presence of the absolutive-locative combination, is indirectly expressed by optional suppression – circumstantialization – of the other argument in (42c). *The basement flooded (with water/wine/sewage).*

It is not unnatural that such an interpretation of ‘holisticness’ be associated with a process involving exhaustion of the dimensionality of a location that is also absolutive. For absolutives in general are associated with ‘holisticness’. We can normally assume from (40a), for instance, that the notice as a whole was read.

(40) a. Fred read the notice {src} {abs}

Of course, this inference can be cancelled in various ways, such as by the presence of the progressive in *Fred was reading the notice*. On the other hand, the journey aspect can be made overt. *Fred read through the notice*. Concerning the representations in (42a–b), however, we can observe that they simplify somewhat, since the predicator is clearly directional.

It might be suggested too that we can locate a contrast in dominance between locative and absolutive when we compare (42d) with (42a) – or the corresponding transitive in *The leakage flooded the basement*. The sentences contrast in whether it is the journey or the dimensions of the location that is exhausted. But this seems to depend rather on whether complex dimensionality is involved rather than the simple semantic relation. Both (42a) and (42d) might be regarded as ‘holistic’ in different ways – either in terms of relevant dimensions or the single dimension of a ‘journey’. However, there are further examples suggesting a distinction in dominance in combinations of {abs} and {loc}.

It can be argued, in particular, that (42a) and (42d) contrast with (42e) in dominance, i.e. as { {loc{abs}}} vs. { {abs{loc}}}, as in the abbreviated valencies (42f–g) above, where the combination in the latter case of a prominent absolutive with tertiary locative is associated with ‘intrinsic affectedness’ vs. the ‘holisticness’ of {loc{abs}}, where the location and its dimensions are dominant. Notice that the ‘experiencer’ subject in (5a) may also be said to be ‘affected’ in some way, but unlike the subject of (42e), specifically ‘experientially’.

(5) a. John likes Judy

This suggests that we can then associate **patienthood** in a very general sense with both {src{loc}}, experiencers, and {abs{loc}}, affecteds – i.e. a patient is where a locative is a tertiary to a basic non-locative – secondary source or absolutive. I shall adopt these suggestions here. In this case, the valency of the verb in *Frieda suffered*

from *anxiety attacks* should be specified as (41g) rather than (41f), repeated here, i.e. with simple combination of the non-locational, a combination, however, that contrasts with asymmetric combinations of these features, as in intransitive agentives vs. middles, and this is indicated by the period separating the features in (41g).

- (41) f.  $\{P;N/\{src\{abs,loc\{gol\}\}\}\{loc\{src\}\}\}$   
 g.  $\{P;N/\{src.abs\{loc\{gol\}\}\}\{loc\{src\}\}\}$

The secondaries in (41g) are combined. The participant is both experiencer and affected. And we eliminate the symmetrical combination of secondaries  $\{abs,loc\}$ , and expect to find holistic experiencers, i.e.  $\{src\{loc\{abs\}\}\}$  – perhaps for *love* rather than *like*, while the simple absolute of (43c) contrasts with the exhaustive of (43d), which also invokes two absolutes in a simple predication.

- (43) a. Bill likes Suzie  $\{src\{loc\}\}$   $\{abs\}$   
 b. Jojo loves Bill  $\{src\{loc\{abs\}\}\}$   $\{abs\}$   
 c. Bill thinks that Jill has left  $\{abs\{loc\}\}$   $\{abs\}$   
 d. Bob knows that Jill has left  $\{abs\{loc\}\}$   $\{loc\{abs\}\}$

These two states are also expressed by two occurrences of  $\{abs\}$ :  $\{abs\}$  is the only functor feature that can occur twice in a simple predication, such as equatives – *The tall man is the manager*. In (43d) they carry along with them two locatives. Active thinking can be signified by conversion to an agentive  $\{P;N\}$ . Observe too that (43b) has  $\{abs\}$  as a quaternary feature. Moreover, (41f–g) similarly introduced  $\{gol\}$  as a quaternary feature. The status of such *that*-clauses will get some comment later, as, in Part IV, will the valency of these mental main verbs.

When, as in (41f–g), we get involved in combinations of three minor features, we are, I suspect, at the limits of complexity that is reflected in the grammatical expression of English in this area. In the preceding paragraphs we have been working up a hierarchy of relative complexity in categorization. And this is manifested in the relative prominence of the role of a particular categorization in the grammar: the simpler, the more common. The least complex representation is simple absolute, intrinsic emptiness – but anthropocentricity presses for a secondary source to be present, and in subject positions.

One can perhaps put forward a more obvious case in English for the suggestion that absolute and (non-locative) source can be combined asymmetrically, thus with absolute being tertiary to the source or vice versa, as illustrated by the single functors in (44).

- (44) a. Bill works (hard)       $\{src\{abs\}\}$   
 b. The book sells (well)     $\{abs\{src\}\}$   
 c. {P;N/{src{abs}}}  
 d. {P;N/{abs{src}}}  
 e. Dinner is preparing

Here the single participant is both the source of the action and the entity that undergoes it, with the source being dominant in the **intransitive agentive** of (44a) and dominated in the **middle** construction of (44b). And the verbs have the valencies in (44c) and (44d) respectively.

Both holistics and middles are derived. And we come back to the derivation of middles and holistics, first of all in Chapter 26 of Part II. At this point it is perhaps worth observing that the circumstantials in both (44b) and the other derived form in (42a) – *The basement flooded* – are rather more commonly present – even participant-like – than in other instances of non-participants. On the other hand, progressive middles of verbs of achievement, particularly, quite commonly lack a circumstantial. Thus, we find such as (44e) – though perhaps not to everyone’s taste.

The above suggests that in English, at least, (minor) functor features are combined asymmetrically, up to a level of three-feature combinations, at least. More strikingly, in terms of the preceding, it looks as if we need have no recourse to semantic features that only ever have an abstract interpretation. These possible combinations of minor spatially-directionally-based features provide quite a flexible means of differentiating among participants in ways that reflect their syntax and their semantics.

For instance, the association of source as a secondary feature with both ‘agentives’ and ‘experiencers’ correlates with shared semantic properties, such as the preference of ‘agentives’ and ‘experiencers’ for subject complements denoting entities that are for various reasons perceived as high on a hierarchy of humanness, entities that can be treated as human in some respect. And both ‘agentives’ and ‘experiencers’ are preferred subjects, as shown in (40a) and (5a).

- (40) a. Fred read the notice     $\{src\} \{abs\}$

- (5) a. John likes Judy

They are both selected as subject over the other, absolute participant. Of course, humans and other animates do not necessarily complement only these relations, they also undergo processes and occupy states.

As concerns subject, we can establish the hierarchy in (45), which applies to the minor features of the functor.

- (45) *SUBJECT-SELECTION HIERARCHY*  
 2ndary src < abs <

Secondary source participants are preferred to (‘<’) absolutes, and absolutes to the others, as illustrated by (39a) and (39d).

- (39) a. Fog extended from Queensferry to Crail  
       {abs}                {loc{src}}                {loc{gol}}  
       d. It lies in Crail harbour  
           {abs} {loc}

As observed, this reflects anthropocentricity; humans are not usually places. Agents and experiencers are favoured topics; and in their absence the special character and pervasiveness of the neutral/absolute encourages topicality. And these preferences are routinized in the subject-selection hierarchy. Some exceptions to the **subject-selection hierarchy** will occupy us in later chapters, however.

The neutralization involved in subjecthood illustrates the unsurprising susceptibility of functional categories to further functionalization and indeed **rou-tinization** – a weakening in semantic content in favour of a primarily syntactic role. In the present case, subject formation creates an argument of the verb that can contribute to the compactness of syntax, by not necessarily being overtly expressed. For it can be reconstructed from overt occurrences and knowledge of the selection hierarchy and the valency of the verb whose subject is not made overt. Thus, in *Beppo intends to leave the village* we know that *leave* is ‘agentive’ and coreferential with *Beppo*, but this is not made overt. And *Beppo* refers to the same entity as is signalled overtly, on one interpretation, by the non-subject pronoun in *Beppo intends Pippa should leave with him*. Such phenomena will play a significant role in the present account of syntax, particularly, of course, in Part IV.

The various combinations of functor features also provide flexibility. But the set of non-primary functor features, or semantic relations, is, as observed above, itself extremely limited. These features involve only distinctions to do with location and directionality. We have sources, goals, and locatives and a feature that is none of these but may be ‘located’ with respect to them, the absolute, or potential ‘locatee/actional goal’ – as well as ignoring them, as in *Fred shivered*. Such a restrictive theory of the semantic relations carried by functors, based on

locative notions, is one instantiation of what has been called the **localist** theory of case – where ‘case’ is to be understood in the wide sense given to it in some earlier traditions, i.e. as roughly equivalent to functor. These distinctions in location are applied to abstract as well as concrete domains. And localism is but part of the kind of theory of representation adopted here, whereby terms that can be given some concrete interpretation are what are also applied to characterizing the non-concrete, as briefly discussed in Chapter 1 and pursued in Part II.

Locational expressions are a fertile basis for the structuring of abstract domains. This is illustrated by another directional possibility not considered so far. Consider the variety of non-concrete situations that a preposition like *through* helps to articulate (*see it through, think it through, through his help, through no fault of my own, ...*). Some such expressions are idiomatic, but the directionality sense remains transparent. This sense we might label as ‘path’, and we can characterize it in terms of a combination of members of the small set of semantic relations introduced above. (46) provides an illustration of the ternary combination of the two locative features, in this instance symmetrical.

(46) They walked through the wood  $\{src\{abs\}\}$   $\{loc\{src,gol\}\}$

*Through* is a location that is a combination of a goal and a source, locationals that are elsewhere not combined asymmetrically – hence their separation in (46) by a comma rather than a period. Such prepositions are, by redundancy, available as a single argument of any verb with a distinct  $\{loc\{src\}\}$  and  $\{loc\{gol\}\}$  valency, such as that in (39a–b).

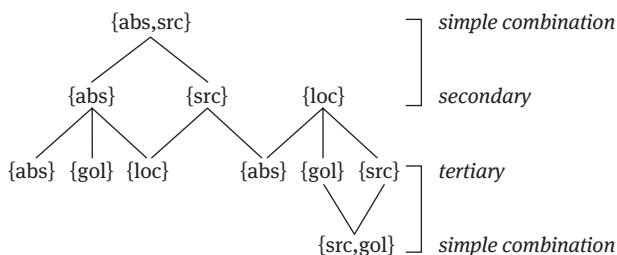
- (39) a. Fog extended from Queensferry to Crail  
 $\{abs\}$   $\{loc\{src\}\}$   $\{loc\{gol\}\}$   
 b.  $\{P;N/\{abs\}\{loc\}\{src\}\}$

The lexicon allows an alternative valency  $\{loc\{src,gol\}\}$  to any verb that has a valency that includes the two spatial directionals. The temporal sequence of  $\{src,gol\}$  is redundant. And this is the only symmetrical combination of three-feature functor representations – this one that involves the two ternary semantic relations that are locational. It is the non-locational features, which can also be combined asymmetrically (intransitive agent vs. middles) that are combined as secondaries in (41g).

(41) g.  $\{P;N/\{abs.src\{loc\{gol\}\}\}\{loc\{src\}\}\}$

However, there is much to be explored concerning functor feature combinations.

We can give some indication of the main combinatory possibilities we have looked at as in Figure III.a, in which the lines connect possible combinations available to any functor.



**Figure III.a:** Minor Functor Feature Combinations

The content of Figure III.a is not necessarily exhaustive in languages (or even just English), though combinatory extensions of those allowed for there are increasingly improbable. But what do not need to be envisaged are further semantic relations.

What we have examined are combinations of the minor features of individual participants and their role in valencies. However, there are also, in terms of valency, restrictions on what functors can co-occur as participants of a single predication. The most obvious of these is the **role criterion**: a simple predication cannot contain more than one instance of each semantic relation at secondary (primary minor) level, except for absolutive – one indication of its special status.

- (47) a. The tall man is her brother  
 b. Her brother is the tall man

Here, where the copula links two secondary absolutives, subject-selection is pragmatic.

But a simple predication can include two locative participants provided they differ in direction or are combined, and a simple predication cannot contain two distinct sources of the action; this would present a cognitive problem unless the ‘two sources’ are coordinated. Sentences with two such sources are necessarily complex: two predications are involved, associated with two different actions. This complexity may be revealed syntactically, as in *He made her drown the cat*, or morphologically, as in Turkish causatives (illustrated in the commentary to this chapter), or it may be covert, as in *Rebecca walked the pony around the paddock*.

But perhaps the most striking restriction on valency structure is the exclusion of a simple predication that has distinct secondary locative and secondary source participants. There seems to be a cognitive basis for this too: the two domains of location and transitive action are conceptually disjoint, and cannot be expressed via a simple predication, unless the agent is also the transitive goal (absolute). *John remained there/Bill went away*. A transitive action cannot be conceived of, representationally, as simultaneously locational; only a circumstantial location can be specified. The absolute in putative predications that are simultaneously transitive-actional and locational would be given incoherent interpretations: it would be assigned actional goalhood and spatial location by a single predicator. Such actional-locational sentences are necessarily complex. They typically take the form of causative locationals, which may be expressed syntactically, as in *He made it go away*, or morphologically, as (again) in Turkish, or covertly, i.e. lexically, as in *They sent the parcel to Budapest*, where *sent* realizes such a complex of verbal categories. We return in Chapter 26 again to the analysis of such and other causatives.

The distribution of the various minor functor features over these two domains, the transitive-actional and the locational, is compactly indicated in Table II, where a distinct absolute participant may appear in either domain, or alone – i.e. in neither.

**Table II: Minor Functor Feature Domains**

actional domain	neither	locational domain
$\{src, abs\}$ $\{src\} + \{abs\}$  $\{src\{abs\}\}$ $\{abs\{src\}\}$	abs	$\{loc, abs\}$ $\{loc\} + \{abs\}$  $\{loc\{abs\}\}$ $\{abs\{loc\}\}$
$\{src\{loc\}\}$ <b>source-dominant</b>  $\{abs.src\{loc\}\}$ $\{src\{abs\} + \{loc\}$		$\{loc\{src\}\}$ <b>location-dominant</b>  $\{loc\{src, gol\}\}$
<b>domain mingling</b>		

Features from the actional and the locational domains do not co-occur as participants of a simple predicator unless combined with the defining relation from the other domain or with **abs** in representing a single functor. We might call this **domain exclusivity**, which is overcome only if a feature is ‘invited into’ the

alien domain by it or *abs* combining as a tertiary with the defining feature of that domain, as in the lower part of Table II, which ignores, however, the contingent role of *gol*.

Domain exclusivity means, for instance, that we can simplify the  $\{\{\text{src}\}\}$  element in the non-redundant representation in (39b) to a  $\{\text{src}\}$ , given that there is a locative in the same predication.

- (39) a. Fog extended from Queensferry to Crail  
 $\{\text{abs}\} \quad \{\text{loc}\{\text{src}\}\} \quad \{\text{loc}\{\text{gol}\}\}$   
 b.  $\{\text{P};\text{N}/\{\text{abs}\}\{\text{loc}\}\{\{\text{src}\}\}\}$   
 c.  $\{\text{P};\text{N}/\{\text{abs}\}\{\text{loc}\{\text{gol}\}\}\{\text{loc}\{\text{src}\}\}\}$

These representations could not be interpreted as agentive.

The role criterion and domain exclusivity are not arbitrary, and I have suggested that there is a simple cognitive basis for them, to do with incoherence of subscenes involving a single clause expressing transitive action and location. This constrains the notion ‘predication’ in terms of its array of participant types.

Membership of the set of semantic features is also highly restricted, in conforming to a **localist criterion**. Thus, the simplicity and generalizability of such notions of semantic relations and their combinatory potential are pleasing in terms of constraining and thus making precise and distinctive this area of the grammar. But it is immediately apparent that, despite the degree of flexibility afforded by the combinatorial potential of the semantic relations, there are further distinctions carried by elements manifesting functors in language – whether adpositional or inflectional – that are not obviously to be allowed for in the terms discussed so far.

We have already associated the property of ‘interiority’ with the preposition *in* in the Latin discussed in the commentary on Chapter 3, but not related in this chapter to our consideration of functors. Similarly, the locative prepositions *at*, *in*, and *on* in English cannot be distinguished in the terms introduced so far in this chapter, except that, whereas *at* normally contrasts, as a simple locative, with the goal locative *to*, the notionally more complex prepositions *in* and *on* may neutralize this distinction. Compare (48a–b) with (48c–d).

- (48) a. The necklace is at the office  
 b. Fred took the necklace to the office  
 c. The necklace is in this box  
 d. Frieda put the necklace in(to) this box



This observation leads us towards an account of what might be going on here.

A starting-point is the suggestion that the goal/non-goal contrast is necessarily marked in English with the conceptually simpler prepositions in (48a–b). But expression of the conceptually more complex prepositions may be identical as goal or simple locative (*in* and *on*), though the complexity may be optionally reflected in the internal structure of the form in (48d), for example. We can associate this complexity with expression of **dimensional** – or, more properly, multi-dimensional – notions, as well as simple location and directionality. The longer form in (48d) separates a dimensional component from a goal marker with the same shape as in (48b), whereas the dimensionally simple locative in (48b) has a simplex realization, with no expression of a dimensional component. We can associate contrasts in dimensionality with functors that have locative as a secondary feature, but dimensionality is a distinctive notion.

Further, (48d) involves only one kind of manifestation of the relative complexity of dimensional prepositions. Consider e.g. (49), where, indeed, the nominality of the diachronic source of one component of the preposition (*-side*) is relatively transparent, and an overt directional component is not even optional.

- (49) a. The necklace is inside this box  
 b. Frieda put the necklace inside this box

Are we to associate the complexity of dimensional functors in general with presence of a dimensional nominal, the natural categorical locus for dimensional differences? We shall now look at other indications of this in a moment, and I shall suggest in Part II, indeed, that *into*, for instance, is a compound of functor and determiner.

Further, there are also prepositional forms that express **orientation**. This is where an entity or scene is related to some reference point, deictic or simply relative. And this complexity too may be suggested by the form of the preposition, as in (50a), though here the components are now somewhat obscured.

- (50) a. The garden is behind the house  
 b. The garden is in front/back of the house  
 c. The garden is (at (the)) back of the house  
 d. The garden is at the front of the house

But in (50b) we have a distinct dimensional preposition as head, and the orientational aspect is expressed by a distinct, apparently nominal word linked to the final determiner phrase by another preposition. In (50c–d) the multidimensional aspect is not expressed but a more complex structure is suggested by the presence

of the *the* preceding *back* (optionally in (50c)), normally associated with presence of a noun.

It looks as if the full form of (50c–d) involves a locative preposition that is accompanied by a complex determiner phrase that includes another prepositional phrase. And (50b) and the short form of (50c) can be seen as a further functionalization, and lexicalization of this. Thus, these constructions suggest that the expression of orientation is basically associated with functor + nominal, and that the examples from (50d) to (50a) show progressive functionalization of nominal-based structures involving both orientation and dimensionality. Further, (50a) involves a nominal that has been converted to a functor, via historical amalgamation, or compounding. Such prepositions are derived functors, based lexically on nominals of some sort.

And the form of the locative in (49a) similarly suggests a complex categorization, with again a dimensional nominal converted to a functor, or, as suggested above, at least diachronically, compounding. With respect to both these kinds of functor, both dimensional and orientational, or both, such a categorially complex structure as just suggested correlates with both their conceptual and their expressional complexity compared with the unidimensional functors. *In* and *on* differ from (49a) only in the opacity of expression of complexity, particularly in the absence of *-to*.

This means that any apparent open-class property of functors illustrated in terms of (49) and (50) simply reflects the commonness of derived functors. And in this respect they resemble the other functional categories, which in general are commonly the goal of lexical derivations from contentive categories, whether marked by their inflectional affixation or not (i.e. by conversion). As illustrated in Chapter 3, affixational exponence of a functional category is illustrated by a derived comparator such as that in (36b). Moreover, in rhotic accents at least, the expression of the comparative comparator ends in the same way as the independent *more*.

- (36) a. Betty is more obese than Billy  
 b. Betty is fatter than Billy

And simple conversion is exemplified by the generic word of (35a), where the noun has been converted to a definite non-partitive (generic) determiner.

- (35) a. Workers are poor

*In* and *on*, however, unlike the short form of (50c), or even (50a), apparently cannot be regarded as based on synchronically manifested nominals; there is no independently attested source for the derivation.

This brings us to an instance of the need for the recognition that the categorial complexity of words need not be reflected in their own shape or by the existence in the lexicon of a source for a conversion. A word may be inherently complex categorially; it may involve more than one primary category, with, in the simplest case, one of them subordinate, as a ‘base’, to another. That is, we have bases that have no independent realization, no synchronic source.

Consider in this regard the medial nouns in (51), with varying evidence of a verbal component.

- (51) a. She is a convert to Cretan wine  
 b. She is a lover of Cretan wine  
 c. She is a student of Cretan wine  
 d. She is a connoisseur/fan of Cretan wine

Phonologically, there is evidence that (51a) does not involve simply a lexical derivation (indeed), since the derivation is signalled accentually; but note that it even preserves as such the *to*-argument of the source verb. Of the rest, only in (51b) is the noun clearly based on a distinctly realized source verb; and the noun bears a still productive affix. The morphological relationship between *student* in (51c) and the verb *study* is less straightforward, or generalizable. And in the case of the relevant nouns in (51d) there is either no obvious independent potential source for a base in English or clearly none at all. But in all these instances the conceptual and categorial complexity of the noun is what licenses the presence of the phrase *to/of Cretan wine*. This phrase corresponds to a participant associated with a verbal category, despite the lack of independent existence of a verbal source in the lexicon in the case of (51d).

Similarly, the categorial complexity of *in* and *on* is only optionally reflected in the alternations *in/into* and *on/onto*. But the simple forms too can be categorially complex, in notionally sharing a dimensionality with the complex and sharing their distribution. We return in Chapter 7 to the precise nature of the complexity. But we can anticipate at this point that what seems to be involved is a complex structure belonging to the overall category functor. The components of the lexical structure of (50a) are made overt in the syntactic structure of (50b), repeated here.

- (50) a. The garden is behind the house  
 b. The garden is in front/back of the house

However, the making explicit of this lexical structure depends on the development of the relevant elements of linguistic structures in general in the immediately following chapters. Then too we should be in a position to have some idea

of the extent to which the lexical structure of complex syntactic categories resembles and fails to resemble syntactic structure itself.

Given some such account as is implied here of the apparent open-endedness of functors, in terms of dimensional and orientational nominals, it seems that the basic functor category can be characterized in terms of combinations of the set of locational and directional distinctions discussed initially in this chapter. I list these members of the closed class of simple functors in (52), where the ‘secondary features’ can also be tertiary.

- (52) *secondary features* absolutive locative source  
       *tertiary features* + goal

These form the basis of a localist account of the minor features of functor. But the ranks of functors is swollen by the many derived forms typically based on {N}.

In the latter part of this chapter our concern thus has been with the presence of further properties in the interpretation of functors, specifically expressions of dimensionality and orientation. These are properties consistent with a localist analysis, in that they have obvious concrete spatial applications; but they cannot be reduced to combinations of the features in (52). And their presence appeared to threaten the closed-class status of functors. Both these additional kinds of property are associated, however, with nominals that in English are the sources of the bases of lexically complex functors, as illustrated in (49)–(50). Similar structural relations to those syntactically expressed there underlie in principle the lexical structure of English dimensional prepositions, such as *in*. And I shall suggest in the commentary to Chapter 7 that they also throw a light on possible co-occurrence of preposition and inflectional case with a single participant or circumstantial in languages like Latin. The structural categories involved are those that link arguments with predicators – i.e. functors and determiners.

In order to express these lexical structures and relationships more explicitly, we must characterize the kind of structural relation that exists between the category of the base of a complex category and the resultant category. We turn in Chapter 5 to the nature of this relation, which is a lexically relevant structural relation that is also manifested in the syntax – as well as in phonology. This common fundamental relation constitutes a further analogy between the planes. We confront it first, however, in the chapter that follows, in relation to syntax, where it has been more familiar. This is followed, in Chapter 6, by a study of the analogical deployment of this relation in the phonology, before we take up the role of the relation in characterizing the lexical phenomena we have encountered in the present chapter.

# Chapter 5

## Dependency and Linearity – Syntax

valency and syntactic dependency – headhood – the configurational module – the linearization module – circumstantials and dependency – subjunction vs. adjunction – finitization, free absolutes, and subject formation – argument-sharing – subjects and routinization – restrictions on tangling – inalterability – the dependency analogy

We now begin to confront the basic structural relation that primarily holds between categories on both planes and in complex forms in the lexicon. This relation was anticipated in the discussion of ‘asymmetric combinations’ and ‘preponderance’ of features in Chapter 3, let alone talk of ‘maximizing dependency’ in phonological structures. Let us look firstly at its syntactic manifestation, where the nature of the relation is perhaps most transparent, or at least more familiar.

Each of the participants in (23) is associated with a functor that satisfies part of the valency of the verb.

(23) Fog extended from Queensferry to Crail

This was expressed in a rough way by the representations in (39), where each of the participants in (39a) corresponds to a valency requirement associated with *extend*, as given in (39b) (as amended in the preceding chapter), or, with redundancies included, (39c); and each element is thereby licensed to occur as a participant.

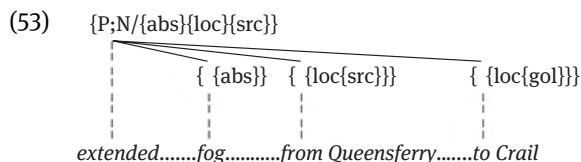
- (39) a. Fog extended from Queensferry to Crail  
      {abs}            {loc{src}}            {loc{gol}}
- b. {P;N/{abs}{loc}{src}}
- c. {P;N/{abs}{loc{gol}}{loc{src}}}

In this way the verb is the relational centre of the predication. Its presence is crucial for the predicational status of the sequence of words in (23).

The consequences of this for syntactic structure can be characterized graphically by attributing to each of the participants a **dependent** relation with respect to the verb, the **head** of the construction, whose presence is **characteristic** of the construction: no predicator, no predication (operative or contentive verbal). These relations are established in the configurational sub-module of the lexico-syntactic interface, upon selection from the lexicon of compatible categorizations, including their valencies.

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This gives a partial representation like (53).



Each continuous line is a dependency arc; it has direction, it is asymmetrical. The higher node in each case is the head in the relation expressed by these graphic means. At the lower ends are the dependents. A predication so represented is a construction headed by a predicator, here the verb *extended*. Each of the categories in (53) is associated with a distinct word form; this is what is indicated by the discontinuous vertical **association lines**. These associations are part of the signs **projected** from the lexicon. The absence in (53) of lines associating *Queensferry* and *Crail* with a distinct category makes it obvious that much is omitted in (53), particularly indication of the relevant categories dependent on the functors. I comment on the horizontal discontinuous lines below.

By virtue of their categorizations a bundle of words from the lexicon may be associated with a hierarchical structure, a dependency tree which is a grammaticalization of **cognitive salience**: this salience is associated with the role of the head in characterizing the kind of sequence it heads and in determining its external syntax. Dependency too is grounded in substance. The presence of this grammaticalized substance characterizes the lexico-syntactic sub-module of **configurationality**. The association of poles in a minimal sign is given in the lexicon, but formation of syntactic structure is based on compatibility of the syntactic categorizations and valencies of each sign in the potential structure. The structure is projected from the individual items in accordance with their requirements. However, there is further re-representation to consider now.

The configuration of categories in (53) is unordered, as indicated by the horizontal discontinuous line; the categories are only potentially linearizable. Linear position in the syntax is determined according to general (largely routinized) rules of the language, supplemented by pragmatic considerations, which in some languages, indeed, may be more dominant. These rules are introduced in a further lexico-syntactic module, the interface sub-module of **linearization**. Linearization grammaticalizes our perception of position in **time**, but the choice of word orders is subject to various factors in different languages. Typically involved in syntactic linearization are topicalization, time or cause iconicity, and the human-hierarchy, but there is also much scope for routinization.

We can associate with basic word order in English a marked and an unmarked variant.

(54) *SYNTACTIC SEQUENCING IN ENGLISH*

*marked word order:* the dependent precedes its head

*unmarked word order:* the dependent follows its head

From this it is clear that linearization presupposes configurationality, just as configurationality presupposes the categorizations that project the configurations. Some linearizational regularities also pre-suppose particular categorizations, as I shall shortly illustrate. Syntactic structure is thus built up cumulatively at the interface by the introduction of successive modules associated with different aspects of substance.

The marked order in (54) occurs in only certain well-defined circumstances. The two locatives in (54) adopt the expected, unmarked order with respect to their head, after it, as in (23)/(39a). And their relative order here shows time iconicity, which is particularly evident on a dynamic (rather than static) reading of the verb. But the absolutive in (23)/(39a) precedes the head: it does not occupy the position apparently attributed to it in (53) – though recall that the elements in (53) are unlinearized.

- (39) a. Fog extended from Queensferry to Crail  
           {*abs*}                    {*loc{src}*}                    {*loc{gol}*}

This participant with a marked order is traditionally called the ‘subject’, selected in accordance with a hierarchy of semantic relations (as introduced in Chapter 4). An account of this instance of marked ordering presupposes the introduction of some other elements of representation. It is only when we have elaborated these that we can look at the mechanism of **subject-formation** that accounts for the marked order in this case. Firstly, however, we must pay attention to circumstantials as well as the participants so far focused on.

A predication may contain circumstantial as well as participant elements. (53) shows the pattern of (8) with participants only – though, of course, there are three rather than the two of (8).

- (8) {P/{X}{Y}}

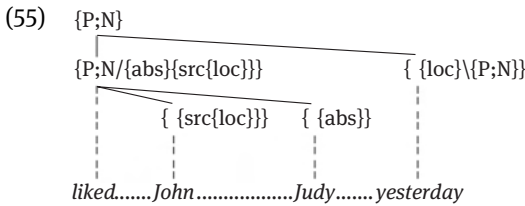
But in Chapter 2 we also allowed elements that do not satisfy the valency of a predicator, but which optionally express circumstances in the scene-type labelled by the predicator. This was illustrated by the last word in (9).

(9) John liked Judy yesterday

The combinatory potentiality of such an element was characterized as in (10), where *yesterday* in (9) corresponds to Z.

(10)  $\{Z \backslash \{P\}\}$

It is an element seeking a head to modify: what follows the back-slash indicates its **adherency** as a modifier. The satisfaction of this need is interpreted structurally as in (55), again without linearization, and indeed this circumstantial could be linearized otherwise, in a marked position, possibly because topical.



Here *yesterday* is interpreted as a locative functor, specifically temporal – but this last is indicated by the nominal part of the structure, which is not included in the partial representation in (55). The backward slash triggers above the basic  $\{P;N\}$  the introduction of a node of the same category as that adhered to. This new  $\{P;N\}$  takes the original as a dependent, as shown in (55).

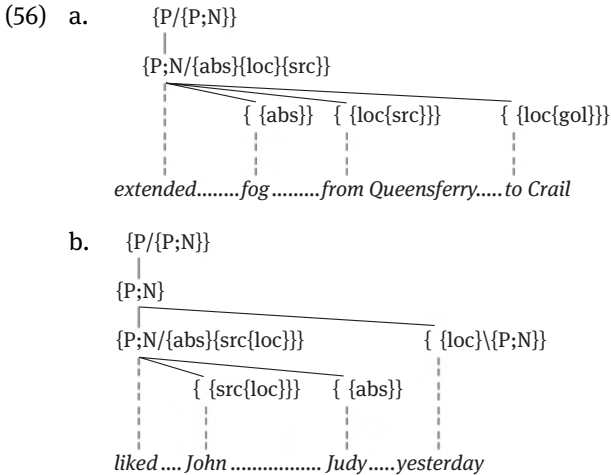
But the dependency between this new head and the dependent  $\{P;N\}$  is not linearizable. The lower  $\{P;N\}$  is **subjoined** to its head; it does not come to occupy a distinct linear place; the two  $\{P;N\}$ s are expounded by the same word form and only that word form. The participants and the circumstantial, on the other hand, are **adjoined**: they must be given a distinct individual linear position, after the predicator in English in the unmarked case, though, as noted, circumstantials may precede, particularly if topical – as can participants, but involving more structuring. And in English the participants are normally closer to the predicator than the circumstantial when they are linearized. We take this up below.

The relation of subjunction can thus be introduced in the syntax in response to the ‘\’ instruction. But subjunction is also the basis for complex, including derivational, relationships given in the lexicon. So that derivation of a noun from a verb can be represented as subjunction of the category verb to the category noun. These subjoined elements are again not linearizable in the syntax. These word-derivational relationships between categories in the lexicon do not involve linearity. This is not to ignore that there are linear relations between, say, roots



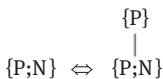
and affixes; but these morphological relationships are distinct from the linearizations of syntax, and are the subject of morphological, so lexical, rules rather than syntactic (as explored in Part III, in particular). Let us now take up the relevance of subjunction to marked linearization, and subject-formation in particular.

Subjecthood also involves subjunction, but subjunction of  $\{P;N\}$  to  $\{P\}$ .



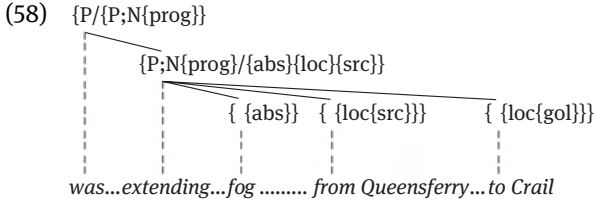
The upper subjunctions in (56) thus show the result of lexical derivation, conversion, not a consequence at the interface of the presence of a circumstantial. This conversion confers finiteness on the verb.

(57) *FINITIZATION*



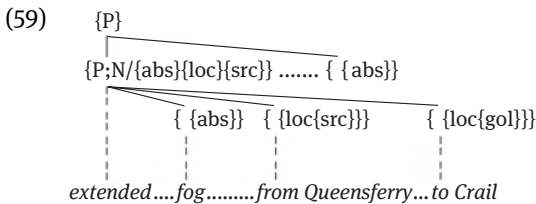
**Finitization** is an optional lexical rule available in principle to all  $\{P;N\}$ s; they thereby can head a potentially independent sentence. Since the upper  $\{P;N\}$  in (56b) is inserted at the interface, the structure illustrates that the construction of syntax at the interface can refer to internal lexical structure – here of a finitized verb.

A finite clause must be headed by  $\{P\}$ . In the case of (56a) the  $\{P\}$  is lexically derived, based on a  $\{P;N\}$ . The derivation satisfies ‘internally’ the valency of  $\{P\}$ , which prototypically involves  $\{P;N\}$ . In *Fog was extending from Queensferry to Crail* there is an independent operative: in (58) we have a simple finite *was* with a distinct  $\{P;N\}$  to satisfy its valency, and eventually adjoined to its right, in accord with unmarked linearization.



The presence of the {P;N}-governing {P} illustrated by (56) and (58) enables us to begin our account of subject-formation.

Crucial here again is the special status of absolutive, the unmarked relation among the semantic relations. For the syntax requires that every predication contain an absolutive; there is always a neutral participant present. This is a general requirement of language associated with the relationality of predication, to the effect that absolutive is a necessary participant; it must be satisfied in the course of configuration-building in the interface. The structure in (58) contains two predications, that headed by {P} and that headed by {P;N}. The former does not contain a lexically required absolutive; its valency does not include absolutive, but only {P;N}. When a predicator lacks an absolutive from its valency, one is introduced at the interface to syntax, in response to the above requirement. Thus (58) should be further expanded as in (59), which in effect remedies a ‘defective’ valency, one lacking absolutive.



The upper absolutive is a **free absolutive**, introduced in the transition to syntactic implementation of the categories given in the lexicon. And we can term its necessary introduction in appropriate circumstances as the **free-absolutive requirement**, which ensures that predicators always have an absolutive dependent in the syntax.

This requirement is based on the relationality of predicators and the special status of absolutive as a functor; to that extent it is cognitively natural. But the requirement itself is a **routinization**, a lexico-syntactic adjustment. As an element not introduced from the lexicon in response to cognitive requirements, a free absolutive does not introduce a distinct semantically-selected participant, however. But, like any functor it has, as a functional category, a valency to be

satisfied. This is satisfied by the sharing of what is identified as the subject participant of the {P;N} in (59).

The lower absolutive, the lexically required participant of *extend* that is highest, in this instance, on the subject-selection hierarchy invoked in Chapter 3, can share its nominal with the free absolutive. Recall (45) from Chapter 4.

(45) *SUBJECT-SELECTION HIERARCHY*  
src < abs <

Indeed, a {P;N} must share its subject with another element if the subject is syntactically overt (rather than incorporated – as we shall see). A prototypical {P;N} is structurally saturated by participants. {P} thus must be satisfied by sharing one of these, specifically the argument of the subject of {P;N}. In this way, in (59) the same element, realized as *fog*, satisfies the requirements of the two absolutives – the free and the lexically prescribed – so that they each can be complemented. *Fog* in (59) should be associated with both absolutives. The free absolutive is parasitic upon the lexically-required subject relation, which in turn seeks a head.

In a sentence like *It rained* the need for a free absolutive is redoubled. The {P;N} also lacks an absolutive, as well as the {P}. *Rain* has no lexically-determined participants; its subject is a free absolutive. Since the {P} also lacks an absolutive in its valency, it too has a dependent free absolutive. There is no semantically relevant participant to occupy subject position. There is only a dummy, or **expletive**, nominal present in the sentence to fill the absolutive positions. And in this case the requirement of the free absolutive – or any functor – that it be associated with a nominal that identifies an entity is satisfied only in this way, i.e. vacuously. Both absolutives in the structure of *It rained* are free; and they share an expletive. However, there are other lexical factors to take into account, as we shall see in Part II.

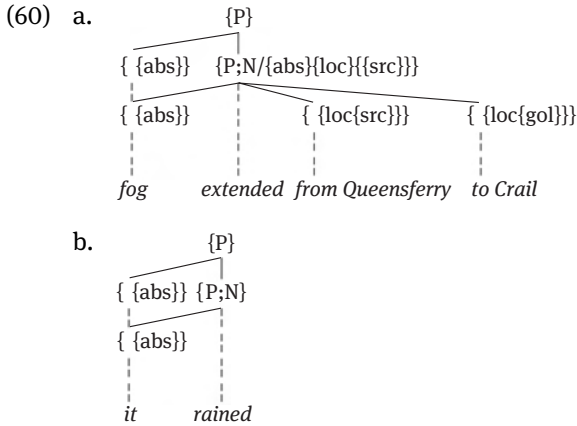
Free absolutives dependent on {P} are linearized to the left of {P} in English; they take the marked option in (55).

(55) *SYNTACTIC SEQUENCING IN ENGLISH*  
*marked word order*: the dependent precedes its head  
*unmarked word order*: the dependent follows its head

This is another distinctive property of (free) absolutives in English. And this positioning overrides the post-head position that *fog* would otherwise occupy as a dependent of {P;N}. Subject position is a routinized residue of topicality of the

particular argument of the {P;N}. Agentives and experiencers are preferred subjects, if present, because their topicality is typical; but this preference is routinized and reinforced by the default status of absolutive in subject selection (45); and subjects need not be topical.

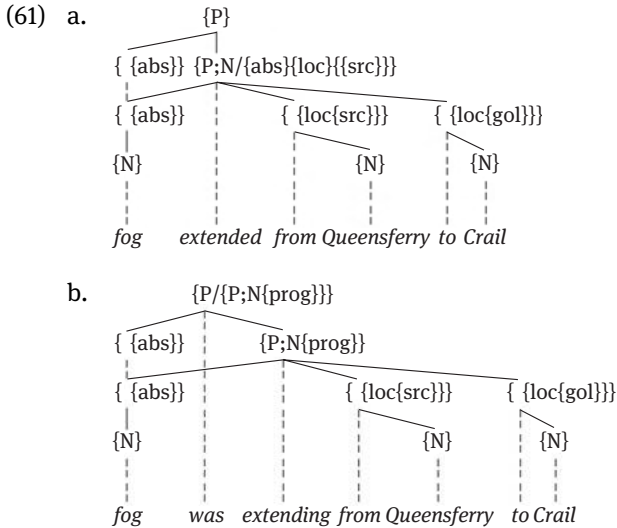
So we have the linearized structure in (60a).



The two absolutives are associated with the same word; we have **argument-sharing**. In *It rained* in (60b) there are also two sharing absolutives, but, unlike in (60a), both are free, so only the expletive is available as an argument. Let us now, indeed, look at the character of arguments, the dependents of functors, which, for simplicity, are missing from (60), in order to complete, among other things, this picture of subject-formation.

The unmarked dependent of a functor is a {N}. In order to be (part of) a semantic-relation-bearing argument in a predication, a noun, {N;P}, must have a determiner, {N}, as its head. Functors take {N}s as complements, not {N;P}s. This {N} may be either a syntactically distinct one or one acquired by lexical conversion of a noun. Thus, in the case of *fog* in (60a) the mass noun has been converted into a (non-generic, indefinite) determiner, to acquire argument status, and this category has in turn been converted into a functor, in order, in this instance, to satisfy the valency of *extended*. We have a double conversion, from noun to determiner and from determiner to functor. (I'm ignoring at this point the behaviour of names and pronouns, but this again involves {N} in such circumstances.)

(60a) should thus be extended as in (61a), which, however, still omits the details of the {N}-headed structures resulting from conversion.



Subject-formation accordingly involves argument-sharing between a free absolutive of  $\{P\}$  and the potential subject functor of a dependent predicator, as in (61a), and it is the marked positioning of the free absolutive that determines the placement of the shared argument, *fog* in this case.

Compare (61a) with (61b), the linearized version of (58b), where there is an operative as a distinct word from the verb. (58b) showed the *was* as an operative with the valency  $\{P;N\{prog\}\}$ , i.e. it requires a  $\{P;N\}$  which has the progressive secondary feature, and that exhausts its valency. It thus, of course, takes a free absolutive, and the same mechanism of argument-sharing is involved even though in (61b) the  $\{P;N\}$  is adjoined to the  $\{P\}$  rather than involving lexical subjunction, as in (61a).

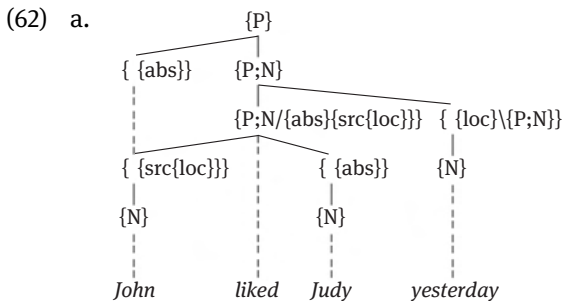
Subject-formation involves a further stage in grammaticalization; it is not just a representation of cognition in grammatical form. We have again conventionalization, or what I have called routinization: it is a syntactic regularity that reflects any basis in substance only indirectly. Subject-formation makes reference to the array of semantic relations in a predication (and they of course are semantically based); but selection of subject is fixed by the hierarchy, it is not subject to other semantic factors. It does not, for instance, reflect a necessarily topical status for the subject selected. It is the result of atrophy of the natural selection of topic resulting from preference for non-locatives and particularly agents/'experiencers' as topics. This selection has been further grammaticalized; selection is now automatic, not based on topicality. Such routinization is a feature of cultural arte-

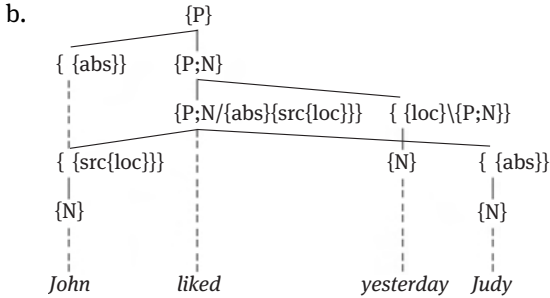
facts like language: use leads to the development of formulae. But the existence in languages of routinizations should not be allowed to obscure the substantive basis of syntax. Indeed, the subject can still be described as the unmarked topic slot. The availability of different constructions for the representation of a scene often allows choice of construction so as to ensure that the topic occupies the subject role.

Argument-sharing provides the basis for a relatively simple account of subject-formation that recognizes the latter's association with finiteness, in the unmarked case; and it allows for the participant status of *fog* with respect to its {P;N} as well as its deviant positioning with respect to it. And we shall find that argument-sharing has a similar, but not identical, role in sentences involving {P;N}s that are subordinate to other {P;N}s such as *She tends to like new flavours*, where *she* is clearly a participant in the *like* predication, again despite its positioning. But this argument is shared with the free absolutive of the *tend* verb, whose valency includes only {P;N}, and of the {P} into which the *tend* {P;N} is converted. Subject-formation is a special case of the argument-sharing that is traditionally labelled as 'raising', and that is illustrated in this sentence.

But argument-sharing is a potentially powerful mechanism which could allow for possible sharings that are not found in the syntax of natural language, or at least English. For argument-sharing permits **tangling**, or non-projectivity: for instance, in (61) and (62) an association line intersects a dependency arc. The projection is not a proper tree. A syntactic tree with tangling violates a characteristic of the most restrictive kind of tree graph. Unmarked syntactic structures in English otherwise avoid tangling, though there are other specific circumstances in which it is permitted.

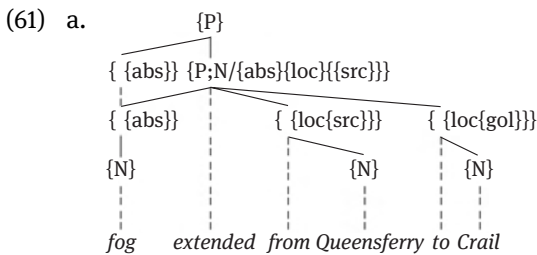
Thus, normally in English the tangling, for instance, that would be involved if a circumstantial precedes a participant is avoided. Compare with the normal (62a) the tangled (62b), which is normally avoided.





Such tangling is permitted in such a case only in response to pragmatic requirements or if it enhances parsing, particularly by post-posing of a complex non-subject participant, as in *John liked yesterday the song he disdained the day before*. And we shall look in some detail later at the varied positioning of circumstantials, particularly adverbials. Restriction of systematic argument-sharing to particular well-attested circumstances such as this, or where a superordinate free absolutive is involved (as in (61) above), limits this otherwise unwelcome potential of argument-sharing and circumstantial variable positioning, if not restricted, for predicting as unmarked, a range of structures that are minimally attested. We take this up again especially in Part IV.

But what of the sequence of the other, non-subject participants of e.g. (61a)?



The post-verbal sequence could be reversed, for pragmatic reasons, but, as observed, that in (61a) is unmarked. And it is so, because, as anticipated, it iconizes the time-place priority, even if (61a) is interpreted statively, descriptive of the result of the movement. Observe too that even non-subjective absolutive normally precedes other post-verbal participants, as in *Bill turned his gaze from left to right*, traditionally distinguished as ‘object’.

The same relations of dependency and linearization, and indeed an analogue of argument-sharing, also characterize phonology, as will be illustrated in the chapter that immediately follows. This constitutes another important analogy between the planes. We can observe too that there is also a partial phonological

analogy to the free-absolutive requirement. This syntactic requirement arguably implements what is a specialization, a routinization, ultimately of a cognitive necessity, the mutual dependence (not dependency) of predicate and unmarked argument. In the phonology, which instead reflects phonic preferences, the analogical status of onsets involves only a preferential presence: consonant + vowel syllables are unmarked; a vowel prefers to have a dependent onset.

The analogical presence of non-linear dependency in both planes has another manifestation in the asymmetrical relations in (24) and Table I of Chapter 3.

(24) {V}          {V;C}          {C;V}          {C}  
          vowels    sonorants    fricatives    plosives

**Table I:** Primary Syntactic Categories

Functional		Contentive	
Operative	{P/}	Verb	{P;N}
Comparator	{P.N/}	Adjective	{P;N}
Determiner	{N/}	Noun	{N;P}
Functor	{ / }		

The ‘;’ relation is another instance of dependency, with head, by convention, on the left of the semi-colon; it is the head whose substance preponderates, and which is syntactically more significant. Likewise, the primary/secondary distinction among features can be so described, as involving dependency; it is the primary category that determines the syntax of the element concerned, and indeed gives non-primary features access to the syntax. However, for clarity and compactness of presentation I do not adopt for these intra-categorial dependencies the graphic-tree-notation by which inter-categorial dependencies are expressed. Thus, I shall retain here the semi-colon and bracketing notations in these cases.

The relations of dependency and relative linearity are not only in common between both planes, but also once-assigned, they are **inalterable**, another fundamental restriction on the power of the grammar. Structures created at the interface may not be deformed by removing dependency arcs or changing the attachment or position of elements, or removing them. This requirement, eliminating structural mutations, is an important restriction on the character of linguistic structures; it outlaws – appropriately, it seems – a whole range of powerful operations that might be invoked in the description of the assignment of linguistic structure, thus allowing a more restrictive characterization of this structure.

The insistence, in this and the following chapter, on the centrality of dependency structure to all of syntax, phonology, and lexicon distinguishes the rep-



representational approach from accounts based partially or wholly on constituency. Dependency makes a more restrictive claim about the nature of linguistic structure than unadorned constituency – i.e. constituency unsupplemented by additional stipulations such as are embodied in the X-bar theory of syntax. Constituency is derivable from dependency (but not vice versa without special conventions). In terms of dependency structures, a determiner phrase is everything subordinate to a determiner, where subordination is the transitive closure of dependency.

A disadvantage of such a characterization might seem to be that this means that {N} in isolation is apparently ambiguous: is it to be interpreted as a word with category {N} or a phrase with head of category {N}? This is resolved in terms of the natural principle embodied in the **head convention**, which applies in the syntax and suprasegmental phonology. This has been formulated as (63).

(63) *HEAD CONVENTION*

Any regularity mentioning category X is to be interpreted as applying to a construction headed by X unless a subordinate of X is mentioned in the same regularity, in which case the element manifesting X is referred to. Anderson (1992: 17)

We have begun to establish further analogies between the planes, and we shall encounter more in the succeeding chapters. These illustrate the application of the same representational capacities to perceived similarities between the two planes. Their existence reflects the substantive basis of both these capacities and the structural dimensions displayed by the planes themselves.

However, from the point of view of much of the rest of the present book, perhaps a more important result that emerges in outline from this chapter is the idea that, internal to language, the erection of basic syntactic structure, in particular, is determined at the lexico-syntactic interface by the categorizations of the component words that combine to form sentences, as well as relying on knowledge of the context. The categorizations of these words must be mutually compatible, so that, in the case of predication, for instance, all potential participants must satisfy a valency requirement of a predicator, and circumstantials must be able to identify a suitable head to be adjoined to among the potential elements of the sentence. Bundles of words may thus be associated with a hierarchical structure, and this in turn with a linearization. We shall find that this determination of syntax by lexical categorization is also true with respect to more complex structures such as we look at in Parts III and IV of this work. It is partly the existence of such complex structures, with at most only partial phonological analogies, that means that the main concern of these Parts is indeed the relationship between lexical and syntactic structure, and what they share.

# Chapter 6

## Dependency and Linearization – Phonology

the representation of complements and modifiers in phonology – sonority and linearization in the syllable – rhymes – onsets and their maximization – dependency maximization – absence of phonological tangling – dependency and timing

In the previous chapter we looked at basic aspects of the structure of simple clauses. Similarly, I shall focus here on syllable structure only, mainly leaving aside more inclusive constructions for the moment.

We saw in Chapter 2 that there are word-forms in English that contain vowels that must be followed by a consonant, unless they are pre-accentual, as in (64a), where the [bɪ-] has no coda, or they are independent ‘weak forms’, as in the first syllable of (64b).

- (64) a. behind  
b. mi’ aunt

And there the weak form is proclitic in origin; it behaves as if it is part of a polysyllabic word with final stress. The normal restriction was illustrated with (19).

- (19) a. [bɪd] = *bid*  
b. \*[bɪ]

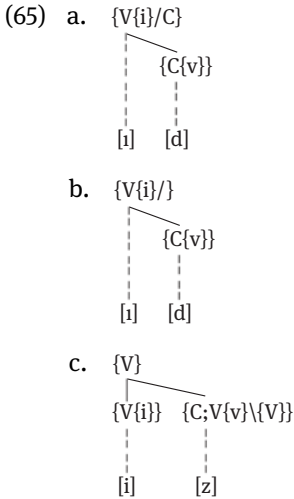
Not all vowels are transitive in this way. Recall (21), where we have an intransitive vowel.

- (21) [bɪ(d)] = *bee/bead*

Once again, this property, i.e. transitivity, is much more elaborately developed in the syntax in allowing for there to be several participants. But in English there is a phonological analogy at its core. And in the phonology we can associate with this analogy structural consequences that are analogical to the structural distinctions that were associated with syntax in the immediately preceding chapter. The configurational sub-module of phonology can manifest a distinction between complement and modifier – though this is much less common in the phonology of languages than in the syntax, and, as we shall see, it lacks the sequence-determining role of the distinction in the syntax.

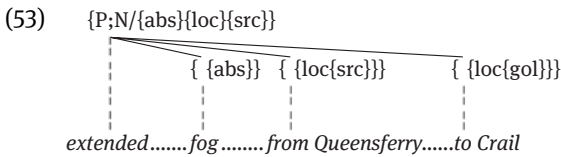
In English a transitive vowel like that in (19), characterized categorially in this respect as in (20), projects a dependency structure such as that in (65a), where I have substituted unbracketed ‘C’, designating any consonant, for the temporary ‘place-holder’ ‘{X}’ of (20).

(20) {V/{X}}



Indeed, since {V} can be complemented only by the immediately following consonant, we can remove even the ‘C’ specification from individual items, giving (65b) here.

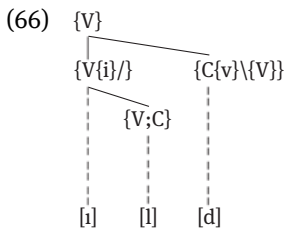
The projected structure in (65a–b) is analogous to the syntactic substructures of (53) in Chapter 5.



Of course, (53), as well as showing more complements, is unserialized at that point, whereas sequencing in (65) is assigned independently of configurationality, but in accord with relative sonority and language-particular routinizations. The vowel in (21), on the other hand, is not transitive; so the structure associated with the rhyme in *ease* is as in (65c). Here [z] is analogous to a circumstantial; it is a modifier. It is specified as modifying a vowel head, which it is adjoined to a higher

replica of that head. Most consonants have this property, so it can be added to their categorization by a lexical redundancy rule. But there are exceptions: [h] does not occur in such a rhymal configuration. Nor can it satisfy (20), i.e. occur as a complement: it is an onset consonant, as in (64a); and it is restricted in other ways.

(65b) makes it clear that it is transitivity that is contrastive, not the identity of the complement segment; serialization has priority. It is also evident from the representation in (65) that the distinction between [ɹ] and [ɹ̥] is transitive vs. intransitive. We find both kinds of regular consonant categorization in (66), associated with the last part of *build*.



These configurations are determined by the colligations. But what counts as the complement of the vowel is apparently determined by the sequence of consonants, rather than vice versa, as in syntax. There is a different relation between the configurational and the serializing modules in the phonology.

In syllabic phonology configuration presupposes linearity and categorization, specifically (in)transitivity. And the basic sequencing of elements in both onset and rhyme results from relative sonority (recall Chapter 3), involving a substantive property specific to phonology; this property largely determines linearization within the syllable. Within the syllable, neither the dependency relations nor linearization needs to be marked in the lexical entry; they are lexically redundant. What is contrastive is categorization and the relative sonority that, among other things, the categorization expresses. This again reflects the phonology's closer tie with extragrammatical implementation as sound, with transmission via articulation and aural reception.

In general, then, sequencing in the syllable, or rather within the onset and rhyme, correlates with relative sonority, as discussed in Chapter 3, and illustrated by (15), originally cited in Chapter 2.

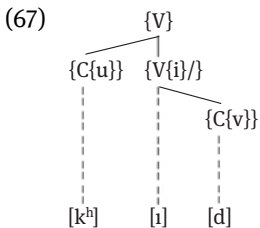
- (15) a. [fri] = free  
 b. [bɪld] = build

In (15b) the sonorant, which has a preponderance of **V**, as {V;C}, occurs closer to the syllable peak than does the voiced obstruent {C{v}}. And the sonorant accordingly fills the complement slot associated with this vowel, whereas in (19a) the complement was the obstruent that occurs alone after the vowel.

(19) a. [k<sup>h</sup>ɪd] = *kid*

Again, this aspect of linearity, at least, is predictable, but on a different basis from in the syntax, which lacks the intrusion of perception and physical requirements that underlies what we perceive as sonority. Optimal syllables are preferably formed on a smooth sonority curve, consistently increasing and then decreasing. The same role of sonority is illustrated in (15a), but this form also reminds us of an aspect of syllable structure we have neglected thus far, the status of consonants or clusters of consonants that are syllable-initial, onsets.

The transitivity interaction suggests that the coda is more closely integrated with the syllabic than the onset. There is thus a major division between onset and rhyme, and the latter divides into syllabic and coda. Apparently, any {V} supplied by the lexicon is obligatorily subjoined to another {V} in the phonology, giving a **syllable head**, rather than simply a **rhyme** head. This is shown in the fuller representation for (19a) given in (67).



Here, for relative completeness of representation, I have associated [k] with the perceptual feature correlating with occlusion at the velum and compact gravity {u}, and with aspiration rather than voicing, as with the final consonant, {v} – but the secondary features of consonants are not our concern at this point (see further Chapters 11–12). I have also represented the initial consonant as dependent on the higher (syllabic) vowel. So we must add to the categorization of the consonant or vowel what it is that motivates this dependency. What kind of relation does the consonant of the onset bear to the vowel?

The presence of a contrastive onset is not obligatory in English. But there is clearly a preference for filled onsets, so that the onset of a syllable claims as

much as possible of an intervocalic cluster. We have **onset maximization**. Thus both interlude consonants in the forms in (68) are part of the onset to the second syllable, as indicated by the bracketing in the rough transcriptions, which here indicates syllable boundaries, initial and final.

- (68) a. [e[prɪl] = April  
 b. [a[krɪd] = acrid

I have not indicated the latter bound of the first syllables in (68), and indeed they differ in the two examples. The first (accented) vowel in (68a) can constitute a syllable on its own; it is potentially an independent monosyllable. The vowel is intransitive. But the corresponding vowel in (68b) is transitive, it must have a complementing consonant. So that the terminations of the first syllables are respectively as in the skeleton transcriptions of (69).

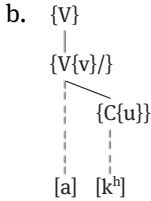
- (69) a. [e][prɪl] = April  
 b. [a[k]rɪd] = acrid

[k] is shared between the two syllables in (69b). We have an approximate analogy to argument-sharing in the syntax. But, consistent (once more) with physical restrictions on the phonetic implementation of phonological elements, sharing does not involve tangling in this instance: the shared element is at the boundary between the two constructions that share it. Such a consonant can depend only on the most adjacent vowels. And there are other restrictions on such sharing, or **ambisyllabicity**, as illustrated by (69). Here the accented second syllable does not share its onset with the proclitic. Ambisyllabicity is foot internal.

But let us return to the status of onsets in general. Onset consonants, as we have observed, are not obligatory in English, as is illustrated by the first syllables in (68)/(69). So that the relation between [k<sup>h</sup>] and [i] in (67) is not transitivity. Rather, we have (70a) as a more precise representation, where the onset is a simple adjoined modifier.

- (70) a.
- 
- ```

graph TD
    V["{V}"] --- C1["{C{u}\{V}}"]
    V --- V2["{V{i}/}"]
    C1 -.-> k["[kh]"]
    V2 --- C2["{C{v}}"]
    V2 --- I["[ɪ]"]
    C2 -.-> d["[d]"]
  
```



And we can apparently have a higher (syllabic)  $\{V\}$  without the presence of an onset, as illustrated by (70b), representing the first syllable of *acid*. But such is the desirability of a filled onset that there are varieties of English and other languages where a lexically empty onset position in a word form is filled by the analogue of a syntactic expletive, typically a glottal stop.

The situation in such varieties brings us even closer to an analogy with free absolutive. If we pursue this, and generalize it to other varieties, then we can say that the phonological equivalent to the insertion of free absolutes would be the assigning to the transition from lexicon to phonology the introduction of not just a syllable head but also an onset, where a lexical onset is lacking. This free onset would optionally be filled by an expletive, or be filled by capturing the final consonant of a preceding form in the pre-utterance phonology – but in some varieties it would remain phonologically contentless – just as an expletive *it* lacks any independent notional content. The presence of the word-initial syllable head is associated with the necessary presence of an onset, on this view.

Even laying this scenario aside, onset maximization suggests that onset position is the unmarked position for a consonant. And this seems to be confirmed by the commonness of ‘CV-languages’, languages lacking codas or showing only minimal ones. This suggests that we should take onset consonants to be the norm. That is, in a word like *kilt*, only the coda consonants need have their sequence relative to the vowel specified lexically, as in (71b), where ‘+’ signals sequencing, and is the only sequence restriction to be included in a lexical expression pole that would otherwise be simply (71a).

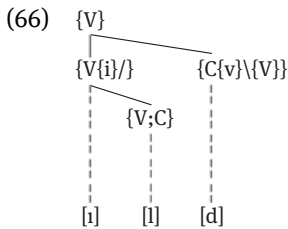
- (71) a. segments (unordered):  $l, t, k^h$   
 b. rhyme segments:  $l + l, t$   
 c. unordered lexical representation:  $[k^h[t, l, l]]$

The position of  $[k^h]$  is the default; and the relative sequencing of  $[l]$  and  $[t]$  (and  $[l]$ ) is determined by the sonority hierarchy. Segments lexically ordered with respect to the vowel are by definition coda segments. On the basis of this, and as a first approximation, we can describe the syllabic distribution of English  $[h]$  in terms

of its rejection of lexical sequencing with respect to the vowel; it is necessarily an onset, in the default position. There are other restrictions we shall look at below.

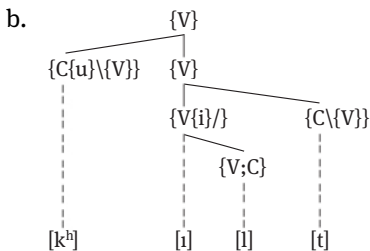
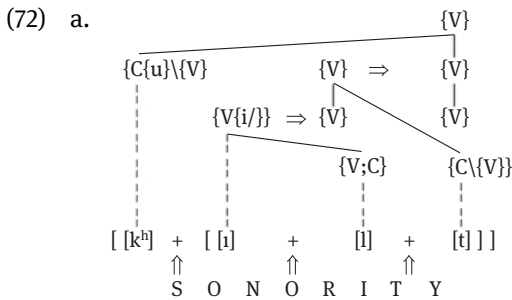
However, there is another way in which we can represent the onset/coda distinction lexically. This is embodied in the representation in (71c), which recognizes an inner and an outer set of unordered segments rather than a subset of ordered segments. Ordering with respect to the vowel will be derived in all cases.

The segments in the inner grouping are part of the **rhyme** and they, upon being linearized in accordance with relative sonority, are attached to the basic vowel if transitive and otherwise to a vowel to which the latter is subjoined – as in (66).



We have a rhyme and a super-rhyme.

With the introduction of the syllable head, onset segment(s) can be linearized and adjoined. This overall interface construction is represented schematically in (72a), where ‘ $\Rightarrow$ ’ indicates super-junction, and the ‘ $\Uparrow$ ’ sonority-based linearization.





This results in the serialized configuration in (72b).

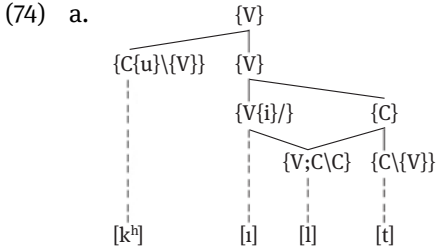
In terms of this conception of phonological structure within the lexicon, [h] in English can then be characterized in one respect as simply never occurring in the inner group of the rhyme. Evidence for the onset-rhyme division includes the commonly attested interaction between vowels and following consonants, notably transitivity, whereas restrictions between onset and vowel are marginal. The rhyme is more crucial for determining the weight of syllables and, of course, it participates in rhyming. The onset alone, including empty onsets, is relevant to alliteration. The highest and lowest {V}s in (52b) are obligatory, but the presence of the intermediate one is associated with adjunction of the final rhymal segment. In the absence of such a non-complement the intermediate {V} is lacking.

The notion ‘consonant cluster’ is not captured by such as (72), however: there is no direct relation shown between [l] and [t] in *kilt*. And this is unfortunate, given the many correlations between the positions within a cluster. For instance, though we have *build* and *bulb*, with [-ld] and [-lb], these are not paralleled by [-lg]. More strikingly, and systematically, coda nasals generally agree with following voiceless obstruents in ‘place of articulation’ (in traditional terms), as exemplified by (73a–c).

- (73) a. bump, bumf  
 b. runt, rinse, plinth  
 c. [bʌŋk] = bunk  
 d. list, aft, asp

Fricative + plosive clusters normally agree in voicing, and are typically voiceless, as in (73d). These correlations bind together the members of a unit ‘consonant cluster’. Such clusters are constructions, and, on the basis of the restriction concerning linguistic structure adopted here, constructions have heads.

I take the head of a consonant cluster to be the least sonorous element, the one that is most consonantal, that contrasts most with the vowel, increasing the perceptual salience of syntagmatic contrast. In a cluster, this contrasting consonant will, of course, tend to be the most peripheral in terms of sequencing, in accord with sonority. So that in the monosyllable represented in (72), the liquid will depend in adjunction on the following plosive, as in (74a).



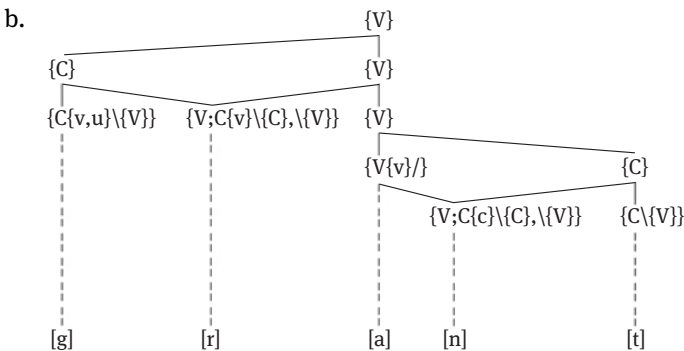
b.  $C_i$  is adjoined to  $C_j$  if  $C_i$  is adjacent to and higher in sonority than  $C_j$

The inter-consonantal dependency, as involving [l] as a modifier, introduces a new {C} to which the following stop is subjoined. (74b) requires that a consonant depends on any adjacent consonant that is lower in sonority. An **adjacency requirement** again ensures that there is no tangling.

However, in most of what follows I shall, for simplicity, reduce such a representation of the coda as in (72b) plus an arc between the consonants. I shall maintain this representational economy, unless this obscures what is being discussed – as it would in the coda to Chapter 42, in particular – as we shall see.

Similarly, in the initial cluster in *grant*, with (abbreviated) lexical representation as in (75a), the first, plosive consonant is the head of the onset, to which the sonorant is adjoined, as represented in (75b), where the rhotic sonorant has secondary {v}, and the nasal has {c}, while the initial obstruent is voiced and ‘grave’.

(75) a. [g,r,[t,n,a]]



However, as a consonant that is not a complement, the [r] is also eligible to depend as a modifier on the vowel, giving two syllable-levels. This is a manifes-

tation of **maximization of the dependency relations among segments**. But recall that the representations like that in (75b) will be simplified in what follows, both in the coda and the onset: the complexity of the equivalents of [g] and [t] will be ignored, in lacking the result of adjunction.

Again the initial and final clusters in (75b) exhibit restrictive correlations between their members (\*[gn-], \*[-mt]), as exemplified further in (76), with favoured and disfavoured combinations.

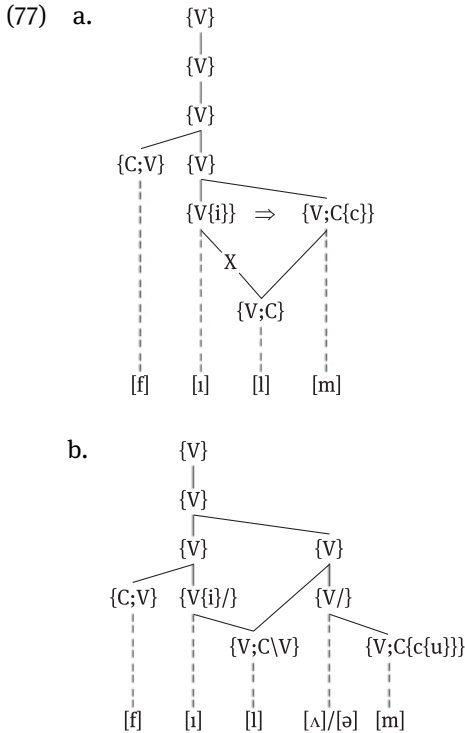
- (76) a. free, flee  
 b. three, \*[θl-]  
 c. \*[sr-], sleep

(76b–c) illustrate a complementary distribution of onset [s] and [θ] with respect to the liquids, whereas the [f] of (76a) occurs before both of them. Initial [ʃ] patterns with [θ], as in *shrewd*, *shred*; [ʃl-] is associated with loans. This is a manifestation of the polystemicity of phonological contrasts in different environments, which will concern us as such in later chapters.

The onset cluster obeys the same restrictions on head selection as in the coda, but sonority ensures that the head is to the left rather than the right; the sequencing of [g] and [r] is determined by relative sonority. And this in turn determines the level at which they are attached to the vowel. If [r] were attached above [g], tangling would result.

What is illustrated in (75b), in particular, is that syllable structure maximizes dependency relations consistent with there being no tangling. These various dependencies between segments are important in maintaining **timing** relations between them. And the possible diachronic loss of dependency results in change in the relative timing of segments. This is most apparent in clusters whose components are minimally different. Thus, in some varieties of English, liquid + nasal codas such as *film* and *turn* have developed an ‘intrusive vowel’. I suggest this shows loss of dependency within the rhyme and thus of timing. (Alternatively in the latter the liquid is vocalized.)

We can represent *film*, and the diachronic arc loss and drifting of segments, roughly as (77a), which includes ictus and tonic nodes, but, more appositely at this point, has the anticipated simplified syllable structure and reformation based on drifting of the vowel after loss of dependency by the lateral.



(77b) shows a diachronic restoration of connectedness compatible with the distribution of vocalicness. Otherwise, the representation is minimally different from (77a), except by filling in minor features (in anticipation of later proposals), so that labials are  $\{\{u\}\}$ . Such a development can go on to result in historical metathesis, as apparently in the later history of Old English *þuruh*, Modern English ‘through’, for which one finds spellings like *þuruh*, *þoruʒ* in Middle English. But most relevant in this case are the weakness of the final consonant and the vocalicness of [r].

What emerges from these last two chapters on the construction of syntax and phonology is, in the first place, that syntax and phonology are both structured by the dependency and sequencing relations. In the instances we have looked at, these constitute additional substantively-based dimensions projected from the categorizations provided by the lexicon. However, the modules of the interface from the lexicon have different priorities: in syntax configuration has priority over serialization, which is not the case in phonology, which prioritizes serialization based on sonority.

Further, syntax and phonology both show sharing of an element, i.e. an element that is dependent on two different heads. But in syntax, unlike in the phonology, this may be associated with tangling, though only in specific circumstances. In the preceding chapter we examined the role of free absolutes in argument-sharing and the tangling of dependency and association lines that can result. In phonology, however, tangling is eschewed, but rather dependency relations between segments are maximized to an extent compatible with the avoidance of tangling. This last restriction is associated with closeness to temporal implementation of phonological representations. And the maximization itself may be connected with the ensuring of timing relation between the phonological elements related by dependency. Just as subjunction ensures co-occurrence, sequencing depends on the maintenance of adjunction.

# Chapter 7

## Complex Categories, and Complex Parts of Speech

arguments as participants and circumstantials – complex functors and dimensional nominals – grammaticalization and conversion – adverbs as complex functors – part of speech vs. primary category – specifiers – conjunctions as functors – localist analysis of circumstantials

Within predications, functors act as complements and modifiers, notionally participants and circumstantials; and they themselves, as belonging to a functional category, take complements. We can refer to the complements of functors as constituting the **arguments** of a predication. Arguments identify the participants and circumstantials associated with an instance of a particular predicator. The unmarked argument is a phrase headed by {N}, the nominal functional category, determiner. Determiners allow an argument status to other categories, particularly nouns, names, and pronouns – but also {P/}, as we shall see.

Before we look in the chapter that follows at other aspects of the structure of such determiner phrases, let us recall a possibility we have already encountered but left at that point rather incompletely characterized. I refer to the role of {N} in the structure of complex functors, as discussed in Chapter 4. There it was suggested that prepositions like *in(to)* and *on(to)* are complex in involving not just a functor but also a nominal of some sort; and the nominal is associated with orientation or marked dimensionality. The dimensionally and orientationally simple *at* and *to* do not include a nominal in their internal structure. It is an appropriate time, given what has been presented in some intervening chapters, to describe these nominals more explicitly.

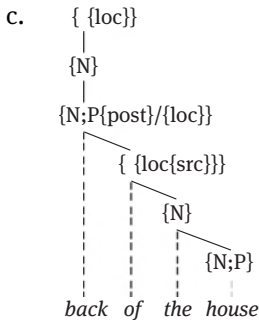
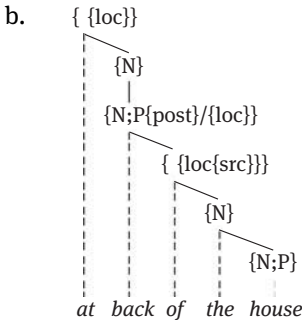
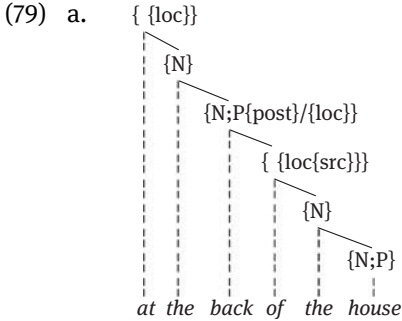
We must first distinguish complex functors from the constructions also mentioned in Chapter 4 that involve an independent relational noun such as that in (78a).

- (78) a. The shed is at the back of the house  
b. The shed is at back of the house  
c. The shed is back of the house

Indeed, as observed in Chapter 4, the representation of the latter provides some insight into the internal structure of complex prepositions, as well as raising questions concerning the variety and the appropriate differentiation of functor-headed constructions.

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After the copula in (78a) we have a sequence one sense of which we might represent in outline as in (79a), which omits details such as the full structure of the (definite) {N}-phrases, which is taken up in what follows.



Here each dependent satisfies the valency of the preceding head: the unmarked complement for a functor is a determiner, for a determiner a noun; and *back* belongs to the set of non-prototypical ‘relational’ nouns, in this case orientational, that take a complement, a locative specifying the entity with respect to which they are oriented. ‘Post’ in (79a) is a rough cover term for the appropriate orientational specification in (78a). In another interpretation of (78a) reference is

to the back part of the house, in representing which we might replace  $\{\text{loc}\{\text{src}\}\}$  with simple  $\{\text{src}\}$  (partitive).

We can thus contrast locative relational nominals, expressing dimensionality and/or orientation, with partitive relationals associated with entities that are understood as typically part of another entity: *the gable of the house*, *the top of the hill*. *Of* in these cases realizes a partitive, expressed by a secondary source. Partitive is a secondary source that connects nominals, determiners and nouns (and determiners and pronouns and names); and, as the default functor in this situation, it will be prominent in what follows below. But our concern here is with dimensional/orientational expressions.

In the locative phrase in (78b) there is no overt expression of the upper determiner vs. noun distinction. This is unsurprising, given the salience-reducing non-contrastiveness of definite in this context: *\*The shed is at a back of the house*. (79b) shows the relational noun as converted into a determiner in the lexicon; the subjunction path headed by the upper determiner is a lexical unit. And in turn the determiner has been converted to a functor in (78c), as shown in (79c). Here the subjunction path headed by the locative is a lexical unit. In moving from (78a) through (78b) to (78c), we have progressive lexicalization of the dimensional structure. But (79b) and (79c) show how the categorization of the nominal remains available to the syntax; at least the valency of the upper  $\{\text{N};\text{P}\}$  still needs to be satisfied by the *of*-phrase.

Contrast these ultimately-noun-based conversions, and particularly that in (78c/79c) involving a complex functor, with the complex functors in (80), also involving, as discussed in Chapter 4, either orientation with respect to some reference point, as in (78)/(79), or multi-dimensionality.

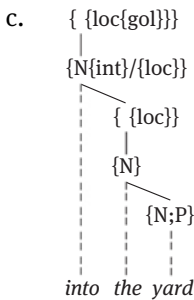
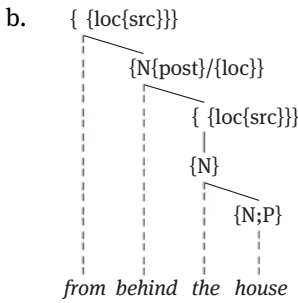
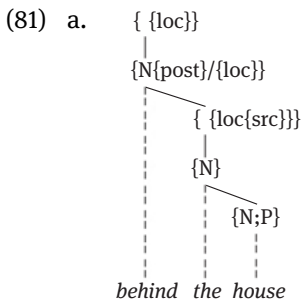
- (80) a. The shed is behind the house  
 b. The shed is in the yard  
 c. The ball rolled into the yard/in the doorway  
 d. He laid it on the floor  
 e. He laid it on(to) the turntable  
 f. The ball rolled out (of) the house  
 g. The ball rolled from behind the house

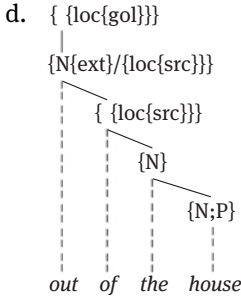
In (80) there is no sign of a noun base, except in some cases etymologically, as in the orientational examples (80a,g); and the morphological complexity shown in many of (80) suggests a somewhat different sort of categorial complexity from what has been attributed to *back* in (79c). The locative phrases in (80) are still complex, but this complexity is not necessarily spelled out morphologically – or syntactically, except in (80g) – and optionally in (80f). A functor phrase with a noun in it



that immediately contains a similar functor phrase, as in *the father of a/the genius*, normally contains an overt functor governing the second noun. This is lacking in (80), except in (80f), again optionally. I am suggesting that the functor expressions in (80) are more functionalized even than (79c), in that what links the two functors in such orientational and dimensional expressions is a {N} rather than {N;P}. And the second functor is normally lexically rather than syntactically realized.

Consider how we might represent the locative in (80a), as an illustration of the general pattern of (80). (80a) is again an orientational expression, but as represented in (81a), it is composed entirely of functional categories, where, as we shall see, the configuration realized as *behind* is otherwise associated with adverbs.





The valency of the verb is satisfied by the secondary feature of the functor, and orientation is expressed by the {N}: the orientational nominal has been functionalized. The orientational {N} occurs independently in (80f), which we can represent as in (81b). The upper {N} in the corresponding representation of (80b) would of course have a dimensional rather than an orientational {N}. (80c) differs from it in being directional, as is (80d), which differs dimensionally, but antonymically, involving exterior rather than interior, as well as showing no sign of structure in expression. *Into* in (80c) is a candidate for compound status on the grounds to be discussed in Chapter 30. The elements realized by *behind* and *in(to)* are entirely functional in categorial composition. And the internal functor has the lower (definite) {N} subjoined to it. This {N} has also been converted into a functor.

The head functor in (80e–f) is a (locational) source. In (80f), represented in (81b), the presence of an independent source is required to ensure a contrast with the corresponding goal orientational, which is an alternative interpretation for (80a), and where the functor is not independently expressed. But what about (80e)? (81d) regards it as a directional negatively oriented expression, where the optionally expressed source is a relic of the negativity of earlier *of* usage – but this is confessedly speculative. Indeed, this whole orientation/dimension domain is contentious; and, equally indeed, even more than generally, different users or uses of English may place different interpretations from each other on this range of expressions.

As anticipated in Chapter 4, the relevant structures in (81) assume that it is the functional category {N} that is multi-dimensional in their case, rather than a full noun. And I have assumed that orientationalals like *behind* are structured in the same way; the noun-source of *-hind* is now rather opaque and not independently salient in a relevant sense (though it occurs as a component of *hind-most* and, of course the noun *behind*). The assumption is that both {N} and {N;P} can be associated with dimensionality and orientation.

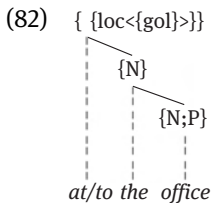
Such sharing of semantic distinctions between a functional and a contentive category is not uncommon. Thus the ‘ability’ sense of the adjective in *She is*

*able to swim* may also be carried by the operative of *She can swim* – though, of course, in this case I’m not suggesting a diachronic relationship between the two expressions such as that we can associate with the history of *behind*. A somewhat closer parallel to the nominal developments we have been looking at is provided by the history of *have*, involving the development of expression of a {P} element from a contentive verb. In each case of such ‘functionalization’, the construction involving the functional category is overtly less complex syntactically than the ‘corresponding’ contentive one. This compactness is an iconic indication of the functional and often other notional specialization associated with purely functional categories. We shall reconsider these analyses in Chapter 21, in the light of intervening structural suggestions.

The English non-dimensional/orientational locatives of (46) are even more simply expressed, in that their internal representation lacks an indication of dimensionality or orientation.

- (46) a. Fred is at the office  
 b. Fred went to the office

This is shown in (82).



As before, the locative valencies of the verbs (simply locative or goal locative) are satisfied by the preposition, *at* or *to*, and its valency is satisfied immediately by the determiner introducing the noun. Contrast the representation for the complex functors in (81), where location with respect to the noun is indirect, via a dimension or point of orientation. It emerges that many functors are inherently major-categorially complex, but this is not a necessary characteristic of the functor.

As anticipated above, we can add to the conversions to functor that characterize complex prepositions the further common complex functors that constitute adverbs. Indeed, I suggest that adverbs are always complex, even where there is no indication of derivation. This is the case with *now*, for instance, with a location functor governing a temporal {N}. Thus, the adverb is not a category that was included in the set of simple syntactic categories offered in Table I in Chapter 3.

And it is indeed not one that need be added to that set. The term ‘adverb’ distinguishes a word class or **part of speech**: a set of lexical items with a distinct meaning, membership, and distribution. But the basic distribution is that of the head of the categorial complex that characterizes adverbs, i.e. a functor. The adverb involves a functor, but one whose valency is necessarily satisfied ‘internally’ and thus part of a complex part of speech, unlike the categories we have looked at before, including functors. The latter are all categorially simple parts of speech.

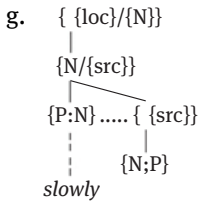
Not all the parts of speech, then, are associated with a simple primary categorization. In the present instance, not even what we might think of as prototypical adverbs are categorially simplex. For though the distribution of the core of those items traditionally labelled as ‘adverb’ implies that of a functor, in the case of the adverb it is a functor necessarily without a syntactically overt complement. Adverbs are lexical complexes with a functor as head. However, because of their monolexical character they can diverge in detail from the distribution of overtly complemented functors. Contrast in this respect the sentences compared by (83a–c) illustrating the distribution of adverbs with provisional representations of some adverbs in (83d–f), all with a necessary subjoined category.

- (83) a. He then/\*after dinner fell asleep  
 b. (Slowly) Mary (slowly) pushed the bottle (slowly) towards us (slowly)  
 c. They turned the table sideways

d.     { \{P;N\} }  
        |  
        {P;N}  
        |  
        *slowly*

e.     { {loc} }  
        |  
        {N}  
        |  
        {N;P}  
        |  
        *sideways*

f.     { {loc} }  
        |  
        {N}  
        |  
        *now*



This illustrates one consequence of the important syntactic distinction between part of speech and primary category.

Let us look now at the basic types of adverbial structure we can distinguish and their distribution in comparison with functor phrases. There is a sub-type of adverb that is normally transparently derived from adjectives, notably marked by the suffix *-ly*, as in (43d) – though, as is familiar, the same suffix may mark adjectives derived from nouns (such as *lovely*). This kind of adverb is exemplified by (83b), which illustrates the main positional possibilities for such adverbs. As well as suffixed adverbs like *slowly*, we find apparent conversions like *fast* that nevertheless require a similar internal categorial structure. Less commonly, such adverbs are based on nouns, such as in the case of *partly*. And there are other noun-based adverbs showing distinct suffixes, particularly *-ways/wise*, as exemplified in (83c); there the adverb occupies the position of a locative functor participant rather than a circumstantial.

We can provisionally represent *slowly* as in (83d), wherein it is characterized as a circumstantial, but lacking a secondary feature; and *sideways* is represented in (83e) as basically a participant locative of some sort, based ultimately on a noun. This difference in function between the two correlates with their distribution. *Sideways* occupies the position you'd expect of a participant locative, whereas the positions occupied by *slowly* is that of a circumstantial functor phrase such as *in great haste* or *in the morning* – though the medial positions are more commonly associated with non-phrasal circumstantials. Thus, such a functor phrase as these can occupy the same positions as *slowly* in (83b), except that in the position following the subject it would normally be set off intonationally. And *sideways* can also occur as a circumstantial but with a more limited distribution than *slowly*, on account of the demands of its specific orientational semantics.

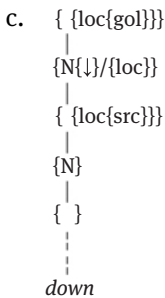
Let us add the morphologically simple adverb *now* as (83f). *Sideways* and *now* are structurally rather similar, with a determiner subjoined to a locative functor. But *slowly* seems to stand apart. It may be, however, that there is more derivational homogeneity here than I have suggested. For instance, the locative + determiner pattern is achieved with *slowly* if we treat it as based on an adjective

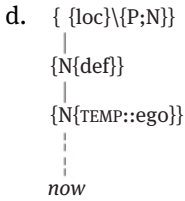
that is a noun attributive in complex determiner structures terminating in a noun and thus subjoined to {N}, as in (83g) – which anticipates attributive structure as expressed in *in great haste*, discussed in the chapter that follows. (83g) is then a lexicalization of such phrases. The horizontal discontinuous line indicates, as in Chapter 5, absence of linearity. However, unlike in syntax, where linearity of different minimal lexical items is established in the lexico-syntactic interface, the lexical non-linearity in (83f) is not linearized in the syntax; it is inherently lexical, not a lexico-syntactic configuration created at the interface. Of course, some of the components may be signalled morphologically, as in *slow-ly*, the suffix marks a derived manner adverb. The locative governing this particular lexical structure is redundantly verb-modifying.

This analysis would regularize the status of the base of *slowly* as an argument, arguments being normally determiner-headed; so too *sideways* requires a {N} intervening between the functor and noun. *Slowly* would then be a monolexical equivalent of *at a slow pace* and the like, with the configuration expounded by its suffix corresponding to *at a pace* or *in a manner* – with the latter being more appropriate with such *-ly* adverbs. The functor head accounts for the basic distribution, that of a circumstantial functor phrase, and the monolexicality for its greater flexibility in medial positions. *Slowly* is a slightly more ‘abstract’ locative whose domain is that of manner, not concrete place or time. Manners as such are not typical participants. But again we have an application of localism, and in particular a sub-clause of that theory that limits circumstantials in general to a locative function, concrete or abstract.

Given their base, the *-ly* and *-ways* adverbs might be termed **contentive-based adverbs**. Other adverbs are locative functors with subjoined pronouns of different sorts, entirely **functional adverbs** – as in the case of the last forms in each of (84a,b).

- (84) a. Bill fell down  
b. She lives in Barcelona now





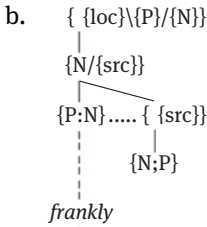
The adverb in (84a) is a complex directional functor oriented with respect to an unspecified pronominal, as represented in (84c), and that in (84b) involves a temporal deictic pronoun, with structure, much abbreviated, as in (84d). I have represented the adverb in the latter as, like *slowly*, a circumstantial. This neglects, as non-typical, *Now is the time* and the like – such equatives, nevertheless, being widely available – where the adverb has been nominalized. In (84d) a temporal is oriented with respect to the time of speech, or the tense of a narrative (*Now/then she returned to his book*). Adverbs are then basically complex functionals not contentive, though they may, like other instances of functional categories, have contentive-sourced bases, as in *slowly*. They are thus, again like other functional categories, reluctant to serve themselves as bases for morphological derivation. Some apparent exceptions to this generalization are addressed in Chapter 22.

(84) again illustrate that one should not associate ‘adverb’ with a too particular syntactic function. *Now* is a locative adverb that is typically circumstantial, but *down* is a locative adverb that is typically participant. Many notional types of adverb are centrally circumstantials, but there are others that are not. ‘Adverbial’ is best restricted, for clarity, to use as a term descriptive of a part of speech, and not (also) a syntactic function, as, unfortunately, is not uncommon practise. Expressions are ‘adverbial’ only if they have an adverb configuration as a complex head.

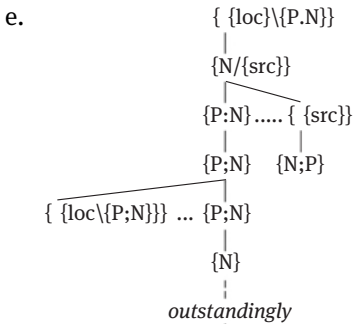
In other instances, pronominal circumstantial adverbs are derived in still other ways, as with *afterwards*, which has an internal, morphological structure; and it seems to show the component that is also manifested in the preposition *towards*, expressing a proximate relational {N}. The types of categorial representation in (84c–d), though provisional, are again appropriate, however. For further discussion of pronouns see Chapter 9, and of adverbs, see Chapters 22–24.

Other items that typically share the *-ly* suffixation and have been called ‘sentence adverbs’ modify {P} rather than {P;N}, as in (85a), and they are typically set off at either end of the sentence but may also occur medially, focusing on some aspect of the sentence that the assertion (or other mood or modality) is most pertinently applied to, as shown there.

(85) a. (Frankly/Actually,) Isabella (frankly/actually) performed the sonata  
(, frankly/actually,) outstandingly (, frankly/actually)



c. Isabella is extraordinarily/outstandingly wealthy  
d. Isabella is wealthy to an extraordinary/outstanding degree



The {P}-modifying adverb, in this instance, could also occur before *outstandingly*, if set off intonationally, as is indicated in (85a). *Frankly* qualifies the assertion, or whatever other speech act may be involved, rather than providing circumstances amplifying the basic proposition. Other sentence adverbs have more of a modal function, as with *actually*, *evidently*, or *possibly*. Others still, such as *therefore* or *further*, serve a discourse function. We can compare with these sentence adverbs {P}-modifying functor phrases such as *in confidence* or *on the whole* or *on the other hand*. The sentence adverbs might be provisionally represented as in (85b). We shall return briefly in Chapter 15 to the characterization of the sub-types.

There is an overlap between {P}-modifying adverbs and {P;N} modifiers – as indeed in the case of *frankly* (cf. *He spoke to her quite frankly*) – though it cannot easily occur initially. These ambivalent adverbs are specified as ‘\{P>’ – i.e. as modifying a category with a predominance of P. But otherwise they show similar internal categorial complexes, as contentive adverbs: compare (85e) with (85b).

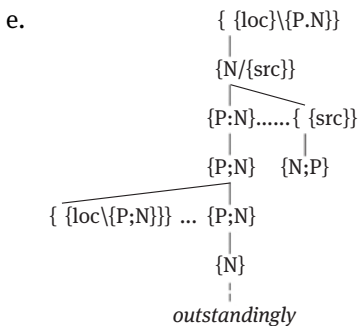
(85c) illustrates that other traditional adverbs modify adjectives, and again show an overlap in membership with verb-modifiers (cf. *She performed outstandingly*). Such ambivalent adverbs apparently modify ‘P;N’ – i.e. ‘{P;N}’, verb, and



{P;N}&{N;P}', adjective. This means that the term 'adverb', sometimes abused as a term because some of those labelled thus modify adjectives and so are not necessarily adjoined to verbs, has after all some claim to appropriateness. What unites adverbs, and accounts for the overlap in membership of different types, is their status as modifiers of categories which contain the combination **P;N**, where such a representation includes {P:N}, as well as their shared internal distinctive functor-headed structures. An adverb for which such a categorization would be appropriate is *entirely* (*disappeared/ innocent*). To allow for the trivalent *truly* we need only **P>**, which again does not necessarily exhaust the categorization.

Compare now, however, adjective-modifying adverbs with modifying functor phrases such as those in (85d).

- (85) c. Isabella is extraordinarily/outstandingly wealthy  
d. Isabella is wealthy to an extraordinary/outstanding degree



We can represent the adverbs of (85c) as in (85e), for the moment. The structure is based on a compound of a locational adverb and a verb, and the various components will be realized by sequenced formatives. But such an adverb, as well as having a distinctive position preceding the adjective modified, also modifies a rather specific category; it is indeed a 'sign' of the category of **gradient** adjectives. This is a role we can associate with the underived *very*, which has sometimes been distinguished as a **specifier** of that category of adjective, whose sense it intensifies. The adverb of (85e) seems to take the position of a specifier, and indeed serve the same function as *very*, often singled out as such: it is apparently a derived specifier of gradient adjectives. This specifier status goes some way to removing, in another way, the apparent anomaly of something called 'adverb' being a modifier of adjectives. It is only indirectly so via status as a specifier. We can compare the adverb *precisely* in *precisely at that moment/then*, which has been converted to a functor specifier: compare the apparently underived *right* (*at that moment/then*). There is also a set of *-ly*-forms that serve as **generalized**

**specifiers.** These include *merely* and *only*, which may occur modifying different categories, preposed and with some postposed. *She has (only) two tickets (only)*. Compare underived *just*.

‘Specifier’ introduces another consideration in our account of categories: though their function is simply one of (rather specific) modification, *very*, for instance, has a distinctive distribution, one which derived forms like *outstandingly* can come to share. As a result, such adjective-modifiers, in particular, highlight that adjective modifiers in general differ from verb-modifiers in lacking in the former function the positional flexibility associated with the latter.

However, it seems that it is not only gradient adjectives, as in (85e), that allow adverb modification: consider e.g. *frequently absent/typically American* though the latter has perhaps been converted to a gradient, as too in *very American*. Moreover, *frequently* is a temporal adverb that cannot be said to approximate in its role to *very*. On the other hand, adjective-modifying adverbs can themselves be specified by *very*, as in *very frequently absent*. Much remains to be confronted here, and particularly the status of the term ‘specifier’. We return to specifiers in the Conclusion to Part I, however, when our survey of parts of speech has otherwise been concluded.

Finally here, since we have been looking at the non-necessity of recognizing a basic category of adverb, I want to note a further traditional part of speech that is not a simple category – though its role in the syntax will not concern us much until the discussion of complex syntax structures in Part IV – though this is anticipated in the final two chapters of this Part. I refer to the ‘conjunction’. Many so-called ‘subordinating conjunctions’ are apparently again a type of complex functor. This is rather obvious in the case of conjunctions such as that in *She left before you arrived*, given the existence of the preposition in *She left before ten*. The external distribution of the two constructions headed by *before* is typically that of a circumstantial functor, again most plausibly locative, and transparently temporal; *before* is a complex locative functor that lexically governs a temporal orientational {N}. The complex functor is apparently complemented syntactically by either a point of time {N} or a sentence.

The complexity of the conjunction is not so obvious in the case of, say, *if*, but I shall suggest in Chapter 16 that this status – of locative functor complex – should be assigned to it and many other conjunctions. ‘Complementizer’ *that*, often labelled as a ‘conjunction’, is rather a special case – as this recent special designation suggests – and we shall return to it in Chapters 14–16: there, further consideration of the syntax of ‘complementizer’ *that* also leads us to question the status of other ‘conjunctions’, given its optional occurrence in phrasal expressions of ‘conjunction’ such as *on condition (that)*. Special too are so-called ‘co-ordinating

conjunctions', though not in the sense usually associated with 'co-ordination' – as will emerge in Chapter 17.

I have been proposing that adverbs and many conjunctions are lexical complexes headed by a functor, and possibly all specifically locative, and in many cases circumstantial. This coupling of locative with circumstantial should not be unexpected. It will emerge in the course of our discussions that, as I have suggested above, circumstantials are indeed plausibly to be interpreted as uniformly locatives. This is a sub-clause in the localist hypothesis: **circumstantials are locative**. Not only can the set of semantic relations be reduced to that suggested in Chapter 4, viz. {abs}, {src}, {loc}, and {gol}, but in the representation of circumstantials only functors whose secondary feature is locative need and should be deployed. This will become most evident in what remains of this Part and in the course of Part IV.

As concerns parts of speech, we can recognize in adverbs and conjunctions two parts of speech, each of them involving a set of items that share a distinctive meaning and distribution. But at least these two of the traditional set of parts of speech seem to be potentially dispensable as designations of simple categories. Adverbs are monolexical locative functor-headed complexes. Conjunctions are typically complex locative functors that govern a clause. However, we shall find, in Chapter 16 in particular, that the latter formulation is very much of a simplification.

# Chapter 8

## Determiners and Attributives

definite and partitive determiners – plural and singular determiners – non-definite non-specific determiners – the partitive source – predicate-marking determiners – nouns as complex – and denotative sets – determinerization, partitivization, and functorization – attributives, pre-posed and post-posed – paratactic and hypotactic apposition – attributives vs. participants and circumstantials – nouns as leaves

The immediately preceding chapter has illustrated, among other things, the role of the determiner in completing the description of functors given in Chapter 4. We now turn to the roles of the determiner in the syntax of arguments themselves. The unmarked argument is introduced by a determiner; it is the determiner that in the unmarked case satisfies the valencies of functors, and which accords to the construction that it heads a full referential status. Use of a determiner involves the assumption that there is a referent for the argument, though it may not be definite, i.e. assumed by the speaker to be identifiable by the addressee. Compare the role of the operative in providing a speech-act context for the scenario-type expressed by the dependent contentive.

The optional definite-reference property of {N} was introduced in Chapter 3, along with the {N} with a partitive-functor valency, which prototypically introduces a specific subset of the denotata of the contentive category or categories governed by the determiner. Recall (34), also from Chapter 3.

- (34) a. The workers were poor  
b. Some workers protested

The subject of (34b) is partitive: the determiner introduces as a referent a specific, but not definite, subset of the set denoted by the noun. The subject of (34a) is both definite and partitive: it introduces a subset of the set denoted by the noun, which subset is assumed to be identifiable.

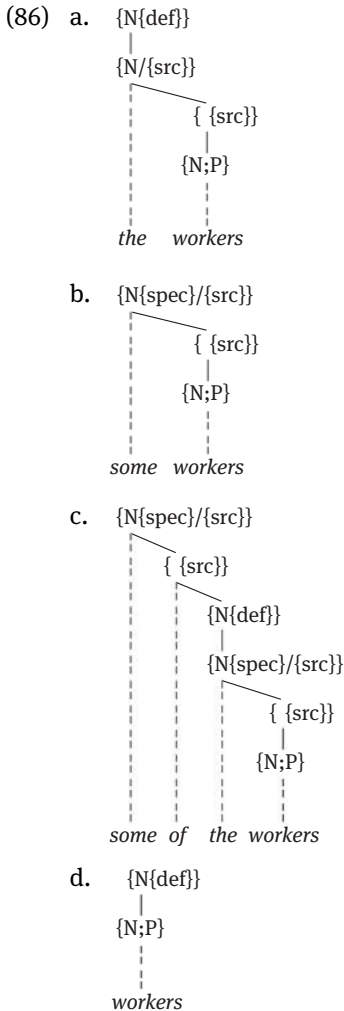
(34) involves independent determiners. In (35), however, the noun has been converted lexically into a determiner, which is not given independent expression, unlike the analytic determiners in (34).

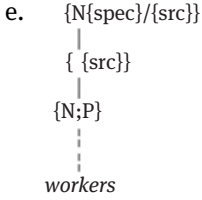
- (35) a. Workers are poor  
b. Workers protested

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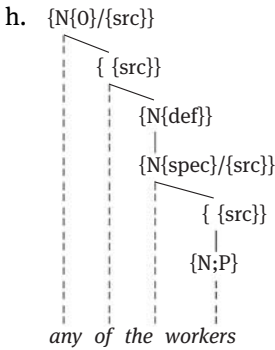
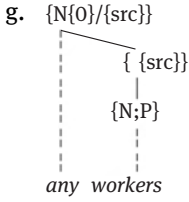
In (35a) the noun is usually interpreted as not partitive; it refers to the whole set of its denotata. But it is therefore definite, since it can be assumed that the addressee can identify the referents; they are indeed the set of denotata of the noun. In (35b), on the other hand, the noun would usually be interpreted as partitive; a subset is involved, a specific subset that is not definite, but indefinite. Let us look at how these distinctions might be represented structurally.

The determiner phrases in (34) can be given the representations in (86a–b), where in (86a) the definite and the partitive functions of {N}s are kept distinct and in (86b) specificity of the partitives.

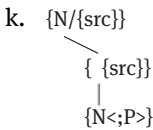
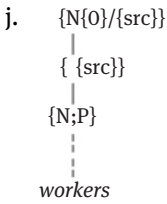




f. Did any (of the) workers protest?

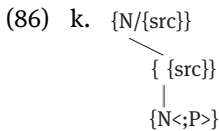


i. Did workers protest?



The difference between (86a) and (b) is the presence vs. the absence of the {N} with the secondary feature of definiteness. Indefiniteness is interpreted as com-

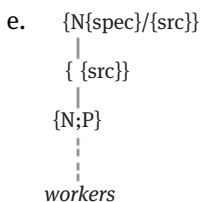
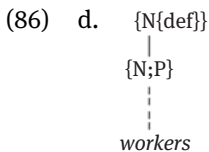
plementation of a {N} by a source functor, the **partitive source**: in nominal structures, such a source functor introduces the set from which the specific subset designated by the head is drawn. In both of (86a–b) the valency of the determiner is satisfied by a dependent source functor that a noun has been converted to. Inter-nominal sources but not other functors apparently allow {N;P} as a complement. I have also marked the partitive {N} in (86b) as {spec(ific)}, since, as we shall see in a moment, there can also be non-specific partitives – but not subjoined to a {N{def}}, where, for the moment, specificity is taken to be redundant, as in (86a). In (86c) the upper source functor is a simple one; it is not associated with a conversion but appears as an independent element. It is present because a definite determiner cannot be converted to a partitive functor. But an overt partitive source cannot be adjoined to an **article**, where this subcategory includes *every* or *no* as well as the traditional two, definite and indefinite. All articles can appear only in the configuration given provisionally in (86k), which, as we shall see, imposes further restrictions on their distribution compared with other determiners.



(86k) is subjoined to {N{def}} to allow for the definite article.

In (35), repeated above, both subjects are complex determiners, the nouns have been converted to determiner, **determinerized**. This is shown in the representations in (86d–e), which again ignore any functor that governs this determiner.

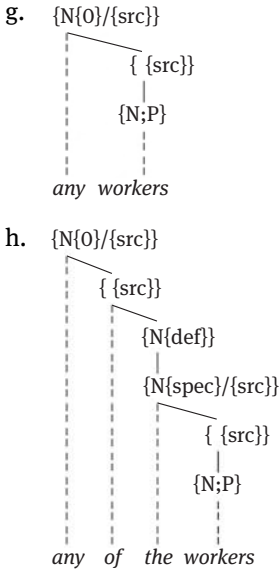
(86d) and (86e) differ once more in the presence vs. the absence of a definite {N}, but also in this case in the absence vs. the presence of specific partitivity.



Their expression is neutralized: the same expression can be definite non-partitive (generic) or non-definite partitive.

These representations in (86a–e) are thus taken to illustrate the following possibilities: definiteness and partitivity (86a); specific partitivity alone, i.e. indefiniteness (86b,c,e); definiteness alone, i.e. non-partitive or generic definiteness (86d). So far there is no overt {N} lacking both definiteness and specific partitivity. This is filled by determiner phrases with *any*, such as that in (86f), whose subject, in the short version, can be represented as in (86g).

(86) f. Did any (of the) workers protest?

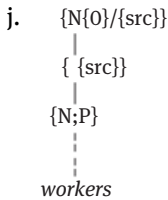


Here the presence of *any* insists on the non-specificity, not merely specific indefiniteness, of the referents. The speaker is not committed to the existence of any particular subset of the set denoted by the noun; but such a phrase also does not necessarily refer to the entire set, but unspecified members of it. The reference is to unspecifiable entities conforming to the sense associated with the noun: they are **non-definite**, indicated by {0}. The longer version of (86f), with a subordinate definite, must have an intervening functor, as in (86h).

*Any* provides a dedicated marker of non-specific partitive {N}s, non-definites. However, in the same kind of environment non-specificity can also be expressed, but with less insistence, by the 'bare' plural subject of (86i), as represented in (86j).



(86) i. Did workers protest?



Non-specifics introduce non-specific individuation of whole sets, which is notionally more appropriate in certain circumstances. I have illustrated them in (86f,i) with non-specific plurals in interrogative expressions; and non-specifics are available more generally in what have been called ‘affective’ or marked-factuality (with negation/interrogation) and modal contexts, in particular. But often in other contexts in English presence of *any* is necessary to differentiate such an interpretation from plural, so definite, generics. Singular *some* is weakly specific, as illustrated below.

In terms of expression, in English the situation is that non-definite partitivity may be expressed analytically or not (cf. (86e) vs. (86b)), but a partitive definite is normally expressed analytically (as in (85a)) while a non-partitive definite, or generic, determiner (as in (86d)) is not usually expressed independently, unlike in many other languages. This means that in English nouns may be determinerized, converted into definite determiners, or into partitive determiners via sources, but not into a determiner that is both. And, as we shall look at below, the relation between determiner and noun is even more complicated. As a prelude to exploring these, there are some obvious ‘loose-ends’ in the preceding that should be tied or tidied up.

It looks at first as if not all singular ‘generics’ are definite, as well as ‘genericness’ being marked overtly in this case. We have (87b) as well as (87a).

- (87) a. The dodo is extinct  
 b. A cat is a wily animal  
 c. Any cat is a wily animal  
 d. The cat is a wily animal  
 e. A cat comes to our garden  
 f. Some cat has pissed all over it

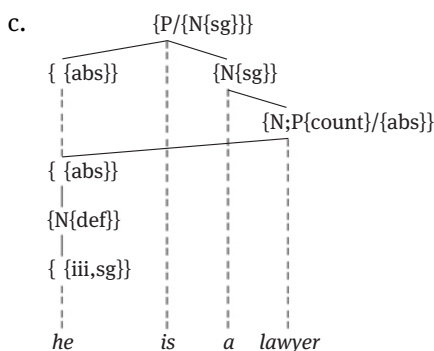
The subject of (87a) is definite and non-partitive: it refers to the whole set denoted by ‘dodo’. Is the subject of (87b) also ‘generic’ in some sense? I suggest, in the light of the discussion of plurals that, rather, it is again neither definite

nor specific, but simply singular non-specific; as a result, it refers to entities with the sense associated with the set denoted by 'cat' but individually. Non-specificity may again be insisted on by use of *any*, as in (87c). Contrast the truly generic, singular, and definite subject in (87d), in the same kind of predication as in (87b-c). As with the plurals, the expression of non-definite singulars neutralizes the distinction between specific, in (87e), and non-specific, (87b), both with *a*. Again *any* insists on non-specificity. The unmarked possibility for *a(n)* is specificity. And its lexical plural equivalent is specific, given the more restricted distribution of the non-specifics; and I shall often omit the specific feature in representations where the distinction is not in focus. Singular *some* in (87f) weakens the specificity of specific *a(n)*: if the latter is specific but not specified, the former may be unspecifiable, on the way to such as *someone* or *other*.

Thus the distribution of singular determiners in English is rather different from the expression of plural or mass status; mass shows the same patterning as plurals. Overt plural determiner slots that are optionally filled by *some* or *any* are necessarily filled if singular, as is the singular definite generic.

Further, the indefinite article of (87b) has spread to predicative position in English, as a marker of singular, so the dependent noun is count rather than mass. Compare (88a) with (88b).

- (88) a. He is a lawyer  
b. This is poison



But *a(n)* in predicative position is not merely non-definite, non-specific, and non-partitive, it is non-referential. The *a(n)* in (88a) is an exception to the interpretative redundancy associating determiners with referentiality, which applies even in the case of the *a* of the subject of (87b). We look at pronouns like *he* in the next chapter.

I have referred to *a(n)* as ‘the indefinite article’. This noun label groups it with *the*, *every*, and *no*, none of which can take an overt partitive. The term ‘article’ is also a recognition of the status of certain items as minimal determiners, occurring in certain circumstances in the absence of a more contentful determiner. Such determiners as *this*, for instance, offer definite reference and indeed usually overt identification by deixis; but the definite article *the* only introduces definite reference that is not typically accompanied by overt deixis.

It is worth observing that in predicative position at least it seems to be necessary to attribute a valency to a noun, as in (88c), and even that it is usually limited to absolutive. In their unmarked position within a determiner phrase, nouns, as leaves in the tree associated with determiner phrases, are syntactically inert, as will be argued in what follows. And I shall question, in Chapter 21 of Part II, the valency of even predicative nouns, including ‘relational nouns’, often analysed as taking more than one complement, as we shall see.

Thus far we have concentrated on definiteness, specificity, and partitivity as properties of determiners. But there is another pair of determiner features that have been invoked in the discussion: singular and plural. Whereas count vs. mass is a distinction relevant to the classification of nouns, this is not typically true of the category of number, whose features, singular and plural are elective, not inherent. But we normally associate number with count nouns, on which it is normally expressed overtly. But choice of number involves reference, which is associated notionally with determiners, and expressed on most of them. Nouns, on the contrary, have sense and denote: they do not refer. In English, however, unlike in some other languages, number is more consistently reflected in the morphology of the noun than that of the determiner. With *the*-phrases, for instance, it is the noun that differentiates the number in *the cat* vs. *the cats*; cf. too *some cat* vs. *some cats* – though not just number is involved here. Nevertheless, the more complex numeral and demonstrative determiners show number – cf. e.g. *this* vs. *those* and *that* vs. *those* – even in the absence of a noun, as do personal pronouns. The demonstratives and *some/any* can be **pronominal**, with the prototypical valency of {N} satisfied ‘internally’, as, for the latter instances, {N/{src/{ }}}

 (Chapter 9). Even when number is signalled only on the noun, I assume this is in agreement with the possibly covert number on the (referential) determiner.

We can allow for this situation involving number and noun if the conversion of noun to determiner is generalized and occurs even in the presence of an overt determiner, and before further conversions; the noun is thereby subjoined to a {N} that can bear **number agreement**, even when the expression of this is neutralized in the expression of the head of the containing determiner phrase. This suggestion receives some further support in Chapter 14, particularly in the discus-

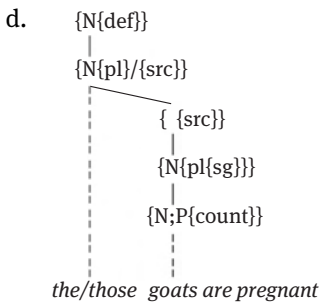
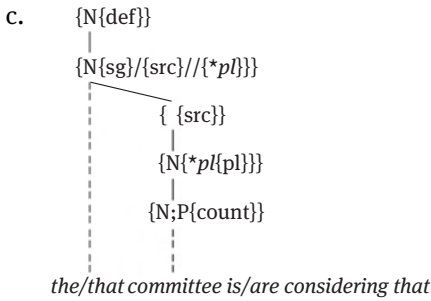
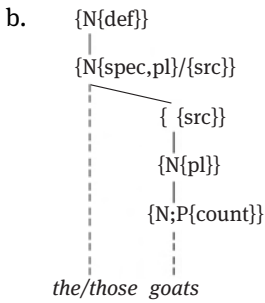
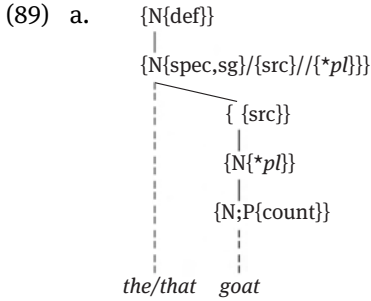
sion of gender in English and other languages in the notes to that chapter. (Some other differences between English and other languages are illustrated by one of the Tables in the Commentary on the present chapter.) Referentiality includes number, and so the latter is carried by determiners, whether distinct or the result of conversion; if both these types of determiner are present in the same simple determiner phrase or, usually, in equatives they must agree in number expression; cf. *a cow* vs. *some cows*. By ‘simple determiner phrase’ I understand one that lacks an internal overt {*src*}, *of*.

Nouns do not refer, but they have a denotation, and I have spoken of structures involving reference to the denotation set of a noun. But, like simple reference, denotation, unlike (language-internal) sense, involves relation to the extralinguistic. Reference is associated with {*N*}. But the {*N*} that {*N*;P} must be converted to is what legitimizes the denotational relation, as well as mediating the intralinguistic relation of agreement, for instance. Let us look more closely at denotation.

If a noun is necessarily subjoined to a {*N*} to secure denotational capacity, noun may be added to the set of inherently complex parts of speech. Say that the {*N*} to which a {*N*;P} is immediately subjoined designates the **potential denotative set** of the noun – even if the noun is inflected as singular. The {*N*;P} itself is the repository of the sense to which the members of the set denoted by the {*N*} to which the noun is subjoined are perceived to conform. However, the complexity of the noun is distinct from that of the adverb, in that, unlike the latter, one of the categories of the complex is on its own a distinctive component of the part of speech: no other part of speech is characterized as (containing) {*N*;P}. That the syntax of the noun demands subjunction to a determiner does not compromise this.

The notion ‘denotative set’ is rather more difficult to apply to verbals. With prototypical nouns we have concepts of sets of discrete, stable entities; prototypical verbs, however, are relational and transient, with their particular participants, circumstantials, time and place favouring uniqueness. {*P*;N} is not the prototypical argument of {*N*} but of {*P*}, which, as a root, designates not a set of events or whatever but a mood. The determiner of {*P*} introduced in Chapter 16 below is the head of a subordinate {*P*} structure signifying a potential proposition. Even to talk about sets of what is designated by verbs involves recourse to nouns – ‘events, processes, movements, changes, actions’. Given this difference, I shall talk of **designation** or **signification** rather than denotation in relation to verbs. Verbs are associated extralinguistically with the core of relational scenes, not sets of discrete entities. And reference to these scenes involves nominalization.

Consequences of the universal {N;P}-to-{N} conversion are illustrated in (89).



The definite partitive phrases in (89) as a whole illustrate the role of number. The {N}s in a nominal chain agree in number if they inflect for it, but expression of number is neutralized when the head is a definite article. Number is marked only on count nouns, of course, and only plurality is overt; absence of inflection is ambivalent between (count) singular and mass. Routinely, the unmarked count noun, unlike a personal name, is plural and only a singular, prosodic determiner cancels expression of the plural of count nouns, indicated in (89a) by  $\{ *pl \}$ , which blocks the redundancy introducing  $\{ pl \}$  to the denotational  $\{ N \}$ .

With **group** nouns such as *committee* a singular determiner may bear a tertiary plural, whose presence is reflected in the verb, as in (89c). Also tertiary singular and plural may combine in the representation of singular group nouns given a **distributive** interpretation. This is the case with one interpretation of *The committee disagree*, that on which they disagree with each other rather than with some other body or person: the valency of the subjoining determiner here is as in  $\{ N / \{ *pl \} \{ pl \{ sg \} \} \}$ , where the  $\{ sg \}$  marks distributive. And plural determiners may take a tertiary singular feature, introducing a distributive interpretation, as in (89d): the pregnancy is attributed to the individuals within a group. This also applies to many generic or non-specific plurals. Compare (35a) with *Dodos are extinct*.

(35) a. Workers are poor

Plural generics and non-specifics, indeed, typically involve individual members; in that case, they are interpreted distributively, represented again as  $\{ pl \{ sg \} \}$ .

The above representations in (89) of the noun complex with overt definite determiners also illustrate the conversion of a determiner into a partitive functor and other conversions involving nominals. Let look now at representations of other types involving determiners and nouns, without trying to be exhaustive – though we shall look at further possibilities in the syntax of determiners in Part IV, in particular. Here we look in (90) at ultimate heads other than definite partitives, where the various plurals may or may not be distributive (as included in the representation in (90a)).

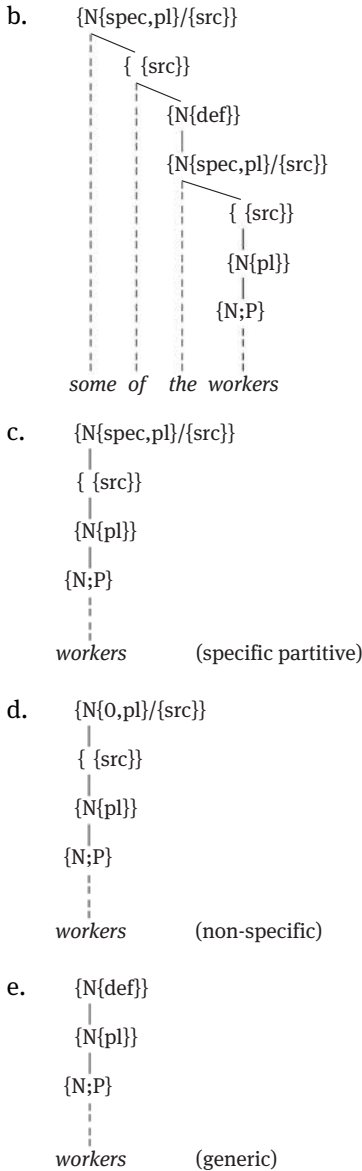
(90) a.  $\{ N \{ spec, pl \} / \{ src \} \}$

{ {src} }

{N{pl<{sg>}}}

{N;P}

some workers



These representations all assume again that lexically a noun absorbs, or is converted to, a {N}. Notice that the singularity of the determiner in *one of the workers* does not cross the overt functor to its subordinates: there is no agreement, but necessarily disagreement. (89) and (90) together replace the characterizations in

(86), partly in the light of that assumption. The unmarked number for a {N} that govern the ‘leaf’ {N;P} is plural; so all the {pl} on these {N}s in (90) are redundant.

In all of the representations in (89) and (90) that contain a {N{def}} there is a {N} subjoined to it, either {N/{src}} (90b), where the subjoined {N} is partitive, or a {N} that lacks that valency, as in (90e), the denotational {N}. I suggest this is regular. It seems that etymologically, the definite article is the weak form of a demonstrative, and the indefinite of a number. A number bears an overt relation to a following demonstrative, which requires it to be plural, as in *one of those men*; a number that depends on a preceding demonstrative requires it to agree in number, as in *that one woman*. The latter adjunction is changed to a subjunction in the case of the weak (article) forms, giving the relevant representations from (89)-(90). This keeps separate definite reference and the relational structure of the determiner phrase. An indefinite or non-definite form can have a definite form subordinate to it only via an overt partitive {src}, and the indefinite article is excluded from that; rather, we have *one of the women*.

All of the representations in (89)-(90) also involve (91a), which is obligatory, as shown by the unidirectionality of the arrow, and if the noun is count, then the subjoining {N} will bear a {pl} feature, unless the determiner is singular.

(91) a. *DETERMINERIZATION*

$$\begin{array}{c} \{N\} \\ | \\ \{N;P\} \Rightarrow \{N;P\} \end{array}$$

b. *FUNCTORIZATION*

$$\begin{array}{c} \{ /\} \\ | \\ \{N\} \Leftrightarrow \{N\} \end{array}$$

c. *PARTITIVIZATION*

$$\begin{array}{c} \{N/{src}\} \\ | \\ \{ \{src\} \} \Leftrightarrow \{ \{src\} \} \\ | \qquad | \\ \{N\} \qquad \{N\} \end{array}$$

d. *DEFINITIVIZATION*

$$\begin{array}{c} \{N\{def\}\} \\ | \\ \{N\} \Leftrightarrow \{N\} \end{array}$$

e.  $\{ \{src\} \} \vee \{N/{src}\} \vee \{N\{def\}\} \vee \{N\{pl}\}$



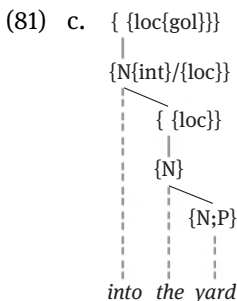
## f. REFERENTIALITY HIERARCHY

|          |   |                  |   |              |   |                   |   |              |
|----------|---|------------------|---|--------------|---|-------------------|---|--------------|
| {N{def}} | < | {N{spec}/{src}}  | < | {N/{src}}    | < | {N/{N;P}}         | < | {N;P}        |
| definite |   | indefinite       |   | non-specific |   | bare              |   | noun         |
|          |   | <i>reference</i> |   |              |   | <i>denotation</i> |   | <i>sense</i> |

The presence of the derived {N} category in (91a) is evidenced by the overt distribution of the variety of determiner phrase structures, including predicatives, and by the variation in number with count nouns. (91b) allows for a {N} to convert to a functor, including the partitive {src} that depends on a governing (other) {N}. Such optionality is, of course, normal with conversions. In subsequent representations I shall sometimes omit the {N} of (91a), along with other details, if it is not relevant to what is being illustrated.

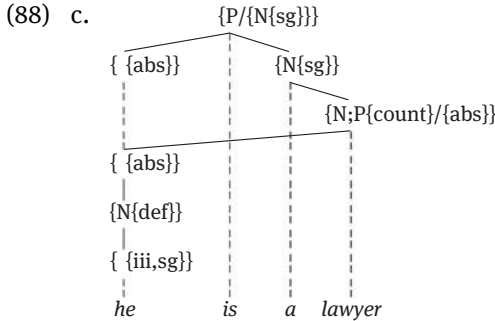
**Partitivization** (91c) allows for structures such as (90c), where the source is subjoined to an independent {N/}. The partitive functor in (91c) is allowed for by (91b), which subjoins {N} to any functor, including when it is acting as the argument of a predicator. In **definitivization** (91d), a {N}, partitive or not, may be converted to a definite {N}. Subjunctions of nouns must be headed by one of the alternatives in (91e), each of which can also occur independently. We find outcomes of all the redundancies in (91e) independently in a prenominal sequence terminating in a non-generic definite, *one of the boys*, but this {N/{src}} is a numeral rather than an article. The examples in (90) correlate with the **referentiality hierarchy** in (91f), where its strength declines from left to right, from definite reference to non-referentiality.

Thus, the lexical structures created by (91a–b) may be complements of independent determiners. But ultimately in the syntax the chain of nominals normally complements a functor, either an independent one or by virtue of conversion, as mediated by (91b). The latter occurs in (81) in Chapter 7. Recall e.g. (81c), where, though the representation can now be seen to be incomplete, there are indeed two subjunctions of {N} to a functor, given the presence of the dimensional {N}.



Indeed, the earlier proposed structures of determiner can now be seen to be under-characterized in obvious ways, given the preceding discussion in this chapter.

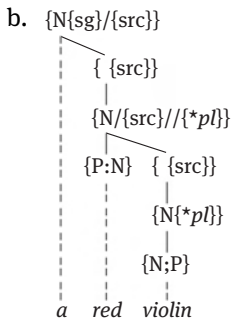
Let us turn our attention now to other aspects of the status of determiners and nouns. Prototypical nouns do not take complements when the noun is part of an argument, though when predicative it appears that they often have an absolutive, at least, in their valency – as assumed in (88c) above.

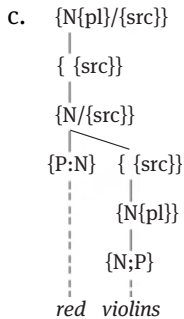


The absolutive of the noun is apparently crucial in satisfying the free absolutive of the copula. But complements are absent with referential (non-predicative) nouns, unless derived. See again Chapters 19–20, however, where apparent exceptions are considered.

We shall now find that, despite a longstanding view to the contrary, nouns also do not accept ‘modifiers’. Take a phrase such as that in (92a).

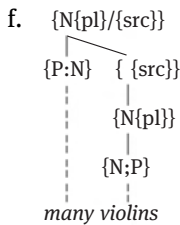
(92) a. a red violin





d. (very) many (of the) violins

e. (the) (very) many violins/The reasons for this are many



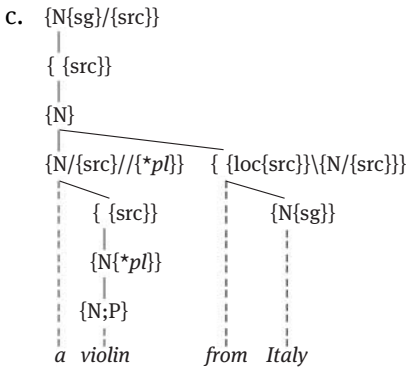
The adjective *red* is often described as a ‘noun modifier’. But rather, in (92a), for instance, it designates a subset of the set denoted by the noun, a subset a member of which the determiner *a* is referring to. We have a further partitive relation, introduced by a  $\{N\}$  signifying an attribute of the denotata of the noun: an **attributive**. I thus represent the structure of (92a) as in (92b). In (92b) the adjective has been converted into a partitive  $\{N\}$ ; and the source dependent on that  $\{N\}$  takes the complex noun as a complement. In accord with the unmarked serialization possibility in English, the head precedes its dependent. The determiner phrase in (92c) apparently has the converted adjective as its head but the attributive  $\{N\}$  itself has been converted to a partitive  $\{N\}$  and its  $\{ \{src\} \}$  (assuming a non-generic interpretation). The only available complement of a pre-nominal attributive is a  $\{ \{src\} \}$ . I note again that the  $\{N\}$  to which is subjoined a count noun is redundantly plural in the absence of an *a* or other singular governing the source on which the  $\{N\}$  depends. Agreement is carried or suppressed at the denotational  $\{N\}$ s.

Basic determiners precede attributives: *\*red a violin*, *\*red some violins*. This is also apparently true of the quantifier in (92d), *\*red many violins* (though we return to such as *many a violin* in Part IV, Fit III). The quantifier of (92d) behaves like a non-article determiner in taking an overt or covert partitive. So too for

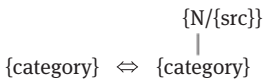
deictic determiners such as *that*, whose internal structure we look at in the following chapter. The quantifier is adjective-based, however; and the *very* in (92d) specifies the gradient adjective base, and (92e) illustrates the distribution of the adjective, which appears in attributive and predicative position. (92f) represents the complex determiner resulting from the conversion of the quantificational adjective.

Various categories can be converted into attributives, as shown in (93a), but they do not form a part of speech, since they do not characterize a distinct set of lexical items.

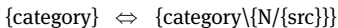
- (93) a. an old violin (*adjective*), a stone wall (*noun*), a dying swan (*verb*)  
 b. a violin from Italy, a violin (that) you made, a violin playing the theme



- d. *PRENOMINAL ATTRIBUTIVIZATION*



- e. *POSTNOMINAL ATTRIBUTIVIZATION*



The conversion is formulated in (93d); the results of such conversions are (restrictive) **attributives**. The attributives in (93a) thus conform to the pattern of (92b-c). This attributivization is an alternative determinerization for a wider range of categories. These are all **prenominal attributives**.

In the case of noun attributives, which are already subjoined to  $\{N\}$  by (91a), only  $\{/src\}$  need be added to this  $\{N\}$  to form an attributive. This means, of course, that the attributive  $\{N\}$  does not denote the whole set to which we can associate the sense of the noun that terminates the attributive structure, the leaf,

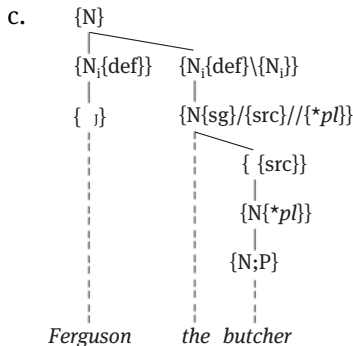
but only the subset of these that can be attributed to the attributive noun, if this particular subset-set is a notionally plausible one.

The attributive categories in (93b) follow the noun, however. This is associated with the observation that they are themselves overtly complemented; they introduce syntactic structures that have themselves a following dependent. (This may not be obvious in the case of the finite post-nominal, but we shall take up the structure of subordinate finites below.) Contrast those in (93a), which can only be extended by another governing attributive, and optionally by addition of true ‘pre-modifiers’, such as the specifier in *a very old violin* or the verbal modifier/circumstantial in *a slowly dying swan*, or by listing or overt coordination (*old (and) worn carpet*).

That the complemented categories in (93b) are postposed to the noun is apparently counter to the unmarked order determined by the dependency relation between them, if we assume a configurational structure for all attributives like that given in (93d) for prenominal attributives. This would give us such as *\*a from Italy violin*, *\*a (that) you made violin*. However, suppose that postnominal attributives have a rather different relation to the partitive determiner: only non-complex categories undergo (93d). Specifically, I suggest that post-nominal attributivization involves the modification of a partitive {N} in the nominal structure by categories that have a following dependent complement. This relation is what is shown in (93c): the attributive category seeks a partitive determiner. The latter is introduced by a specialization of (91c) where the {N/{src}} is required by a post-nominal modifier.

We must distinguish such postnominal attributive from **paratactic apposition**, as illustrated in (94a–b), and the hypotactic apposition we encounter in the next chapter.

- (94) a. Bertha has gone to see her lawyer, Mr. Scott  
b. I met Ferguson, the butcher



Here, the sequences preceding *Mr. Scott* and *the butcher* are structurally complete in the sense intended; and the latter are co-referential with *her lawyer* and *Ferguson*, respectively. The apposed items may or may not be essential to the identification of the referent; they are possibly non-restrictive. Paratactic apposition is represented in (94c). It is not interpreted as involving attributivization but a possible differentiation of the reference of a {N}, by virtue of coreference. We shall encounter further instances of such structures and of hypotactic apposition, in Chapters 9 & 15.

The adjective and other categories in (93a) have undergone attributivization, however, characterized as in (93d); and the attributives in (93b) are associated with the alternative in (93e), giving postnominal structures such as (93c). This difference in the character of postnominal attributivization from the prenominal variety may be related to the facilitating of parsing, as the complemented and thus necessarily internally complex structures in (93b) thereby avoid centre-embedding. The postponing of complex attributives found in (93b) is a routinization of a tendency, based again on ease of processing: the avoidance of marked serialization has the effect of delaying complex internal structures until the end of their containing constructions.

Compare and contrast the variation in (95), where (95a) exemplifies the unmarked post-verbal word order, with absolutive before locative goal.

- (95) a. She sent the money to John  
 b. She sent to John the proceeds of her investment  
 c. She sent the proceeds of her investment to John  
 d. ?\*She sent to John the money

But (95b), with complex absolutive, is often preferred to (95c). (95d) is decidedly odd compared with (95a), since the absolutive is 'light', though context may promote the order. Here the role of complexity is more obvious, if difficult to be precise about.

In both (93d) and (93e) a category acquires a {N} either by conversion or by becoming a modifier of {N}. But unlike the conversions (91), the base category in (93d) does not satisfy the valency of the derived form.

- (91) a. DETERMINERIZATION

$$\begin{array}{ccc} & & \{N\} \\ & & | \\ \{N;P\} & \Rightarrow & \{N;P\} \end{array}$$

b. *FUNCTORIZATION*

$$\{N\} \Leftrightarrow \begin{array}{c} \{ /\} \\ | \\ \{N\} \end{array}$$

c. *PARTITIVIZATION*

$$\begin{array}{c} \{ \{src\} \} \\ | \\ \{N\} \end{array} \Leftrightarrow \begin{array}{c} \{N/\{src\}\} \\ | \\ \{ \{src\} \} \\ | \\ \{N\} \end{array}$$

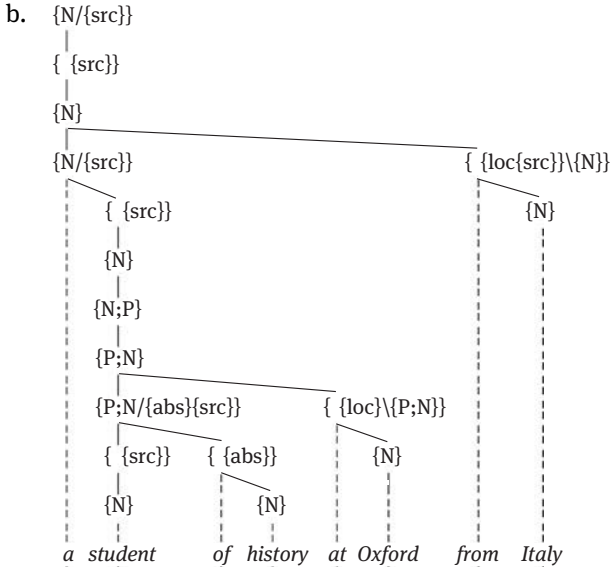
d. *DEFINITIVIZATION*

$$\{N\} \Leftrightarrow \begin{array}{c} \{N\{def\}\} \\ | \\ \{N\} \end{array}$$

The  $\{N\}$  in both (93d) and (93e) still requires a separate source to complement it. The valency of the derived categories in (91) is **saturated** by the conversion, but not in attributivization. Subjunction of a category to a  $\{N\{src\}\}$  limits the class that can be designated by the category: those designated are drawn from the set denoted by the subordinate noun; it is not the full set of significata of the base of the attributive. And this effect is cumulative, as attributives satisfy other attributives. The extensibility of the sequence of prenominal attributives is familiar, a minor extension being *some familiar fat multinational tourists*. Factors determining the order are complex, but include the precedence of the contingent; and in general, in such complex determiner phrases, we move rightwards from quantifier to canonical (adjective-like) attributive to classifier (noun-like). We pursue this in Part IV, Fit III again.

What characterizes postnominal attributivization, on the other hand, is modification by a category of a normal product of determinerization and partitivization, (91a) and (91b). Such attributives need to be sharply distinguished from other apparent ‘noun modifiers’ that are instead dependents of the verbal components of a derived noun. Thus, (96a) contains a verbal participant, a verbal circumstantial, and an attributive, as represented in (96b), where I ignore number.

(96) a. a student of history at Oxford from Italy



Here the phrase *a student from Italy* is complicated by the presence of dependents of the verbal category that the noun is derived from. *Of history* is semantically the absolutive participant argument of the base verb, the lower  $\{P;N\}$  in (96b); and *at Oxford* is the circumstantial argument of the verb, which, as elsewhere, depends on a higher  $\{P;N\}$ . The agentive argument of the verb is incorporated as a consequence of the lexical derivation.

(96b) simplifies somewhat. In particular, the appropriate structure should involve further apposition. What is shown as a participant of the verb should be represented as in apposition to the incorporated absolutive participant, which together with the agentive participant is subjoined lexically to the verb. Just as contentives can be converted into functional categories, so too, lexically, contentives may incorporate functional categories. The presence of these is sometimes reflected in inflectional morphology, as with incorporated pronouns signalling ‘verb concord’, for instance. In the present instance, the incorporated agentive pronoun affects the shape of the nominalizing suffix *-ent*, while there is no reflex of the incorporated absolutive, which corefers with the apposed *of history*. Appositional structures are explored a little further in the chapter that follows, but the type of (96b) awaits the discussion in Part II for a fuller account such as is anticipated here. Even so, the representation in (96b) illustrates something of the importance of lexical structure for an understanding of syntax. Another sign that the core of syntax is lexical categorization.

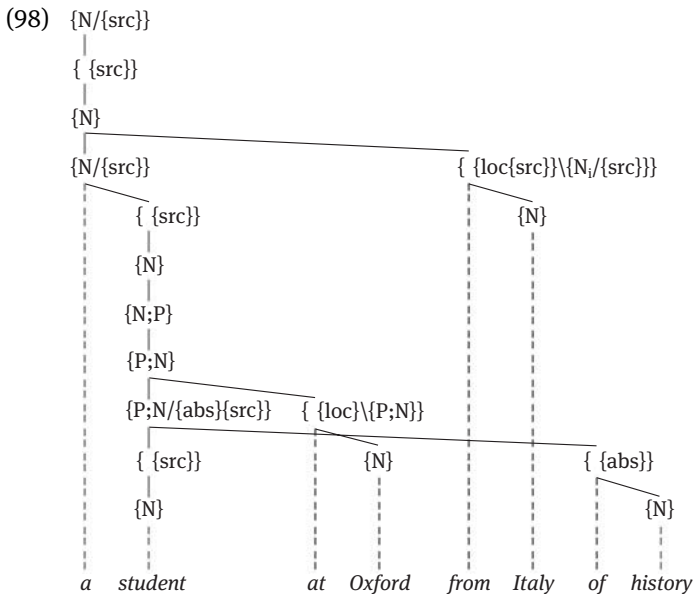


Various combinations of pre- and post-positionals are possible, of varying awkwardness.

- (97) a. an Italian Oxford history student
- b. an Italian history student at Oxford
- c. an Oxford history student from Italy
- d. an Italian student of history at Oxford
- e. an Oxford student of history from Italy
- f. a history student at Oxford from Italy
- g. a student of history at Oxford from Italy

But in sequences on the same side of the noun, the ‘participant’ is normally closest to the noun, with the ‘circumstantial’ having the next priority for proximity. So that if all three are on the same side we have attributive + circumstantial + participant in pre-position, as in (97a), and the reverse in the post-position, as in (97g).

This ensures that in English there is no tangling in this case. Compare with (97g) one result of infringing these orderings.



To avoid this, the participant must be pre-posed, as in (97f), or positioned immediately after *student*, as in (97a,e), as well as (97g). As observed above, these phe-

nomena illustrate further the relevance of internal, derivational categorization to the syntax of a derived form.

Of course, of these ‘modifiers’, only attributives occur with simple prototypical nouns. Thus, unlike *a student of history*, *a dog of history* does not (outside of fantasy) involve *history* as a participant, and, indeed, is difficult to parse at all – except perhaps as a dog to which is attributed a significant historical role. Nor is *a dog at Oxford* a circumstantial, but merely attributive, as is *a dog from Italy*. And only derived nouns show the ambiguity we can associate with such as (99a).

- (99) a. She is a beautiful singer  
 b. She is a beautiful dog  
 c. He married his former victim  
 d. He victimized his former wife

*Beautiful* here can either be ‘circumstantial’ – specifically a ‘manner circumstantial’ – equivalent to the adverb in *She sings beautifully*, or it is an attributive, and the entity is being said to be beautiful as such. Only the latter, attributive, reading applies to (99b) – laying aside reference to someone pretending to be or acting as a dog, and the like.

However, it appears that is not only overtly derived nouns that give evidence of an internal structure that includes a non-nominal element. Not all ‘simple’ nouns are prototypical. Thus the noun in (99c) is based on a verbal structure that includes an agentive – manifested as *his* – and, crucially, an absolutive (incorporated), and is modified by a temporal circumstantial. The temporal may not be a sign of a verbal base, however. Many ‘relational’ nouns, which apparently have a valency even when not predicative, can be interpreted as contingent, and so can take temporal circumstantials, as in (99d). In Chapter 12 I associate the non-prototypicality of ‘relational’ nouns with the presence of the secondary feature {p}, i.e. the secondary congener of the predicativity primary feature {P}. *Wife* here, with a lexical argument identical to the phrasal head and a distinct circumstantial, exploits its secondary {p} feature to license participants and a circumstantial, even though it is not itself predicative in this sentence. But we shall return to this area of putative ‘arguments’ of nouns in subsequent chapters.

Since participant and circumstantial ‘noun modifiers’ are otherwise present by virtue of a verbal base for the noun concerned, and attributives take nouns as complements, it seems that not only does the prototypical noun lack complementation except perhaps when predicative, but it also lacks ‘modification’; it does not take modifiers. The prototypical non-predicative noun is a **leaf**: the syntactic tree branches no further. In the next chapter we encounter further appositive structures in syntax, specifically involving nominals. But a consideration of these

does not alter this picture of the syntactic isolation of the noun, its leaf status. The nominal category that is relational is the determiner, which as a functional category is necessarily so. And it is a variety of determinerization that provides attributives. We look now, in Chapter 9, at the role of the determiner and of definiteness in the syntax of names and pronouns. And in Part II we return to the syntactic isolation of nouns, including predicative and even ‘relational’ nouns.

# Chapter 9

## Names and Pronouns

names, pronouns, and determiner phrases – definiteness and determiners – nomination and hypotactic apposition – the onomasticon and inactive vs. active names – entitatives– and gender – names and definiteness: Greek vs. English – personal pronouns – deixis – partitive (indefinite) pronouns – categories and parts of speech – names as leaves – definiteness and vocatives – the pronoun of address

We focus here on what have been called ‘names’ and ‘pronouns’, which have often been regarded as ‘kinds of noun’. This might be argued to be built into the morphology of the term *pronoun*, and is presupposed in such terminology as ‘proper (vs. common) name/noun’. In the case of names, at least, this view seems to be partly based on the common etymological connections between names and nouns: names typically derive historically from contentive words, and particularly nouns. But, also, both signify entities in some way. But otherwise both semantically and syntactically names are quite unlike nouns.

Semantically, nouns denote sets of individuals to which can be attributed particular properties, and nouns participate in sense relations, such as hyponymy. Personal names in particular typically **identify** and thus can be used to refer to individuals, and they do not denote sets of individuals, unless they are family or tribal names; and the different individuals that can typically be identified by a personal name have in common only their gender (in a wide sense), though there may be social traditions in assigning names, at most; but they are, even more than pronouns, impoverished in sense. Names in general display at most gender in the wide sense; thus they may be associated particularly with places. Pronouns differentiate person and number, as well as gender.

Syntactically in English names and pronouns do not share the distribution of nouns; their core distribution is rather that of a determiner phrase. So, unlike nouns, prototypical names in English are not dependent on overt determiners, including determiners derived by attributivization (and other traditional ‘noun-modifiers’).

Apparent counter-examples such as those in (100a–c) involve names converted to nouns (a–b), or attributives that are part of the name (c).

- (100) a. the Bill I used to know  
b. I know two Bills  
c. Old Joe  
d. poor John  
e. poor me

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If the initial capitalization in (100c) is simply there to signal sentence-initial position, (100c) is either a name converted to a noun that is being contrasted with a not old Joe or the adjective preceding the name is non-restrictive, not a necessary part of the identification, and there may not be a relevant ‘young Joe’. (100d) also typically involves a non-restrictive modifier, not an attributive (on which status there is more to follow). (100e) shows the same phenomenon with an instance of personal pronouns, which, as just noted, share with the names the distribution of a determiner phrase and involve reference and only minimal sense – in this instance, number, and person, and with some other pronouns gender.

Personal names in their normal use are also like personal pronouns in having definite reference. If both names and personal pronouns have the distribution of determiner phrases, are they then uncomplemented definite determiners? But this seems to be in conflict with the status of determiner as a functional category: unlike names and pronouns apparently, functional categories are complemented. This is resolved if names and personal pronouns are derived determiners, determiners whose valency is satisfied internally, as provisionally represented in (101).

$$(101) \quad \begin{array}{c} \{N\{\text{def}\}\} \\ | \\ \{X\} \end{array}$$

In (101) the determiner is specified as definite: the speaker assumes the addressee can identify the referent. Names and personal pronouns, like nouns, can undergo a form of determinerization. We must look now at whether there are independent motivations for such an analysis of names and pronouns as is embodied in (101), and consider some of the evidence for the identity of ‘X’. Let us look firstly at the case of names, with a continuing focus on the prototypical name, the personal name.

Relevant here is the observation that there are circumstances where names do not involve definite reference. Neither are such names like indefinite pronouns, such as *someone*, in these circumstances; they do not introduce an indefinite member or subset of the set of humans, for instance. We can note particularly the names in a speech act of **nomination** such as is embodied in (102a).

(102) a. I name this child Ferdinand

b.     { }  
       ⋮  
       Ferdinand

In (102a) the name is not definite. At least ritually, the speaker is not assuming that hearers can already identify by the name the individual that is being referred to by the demonstrative. Until the act of nomination, of which (102a) exemplifies only one type, the name cannot be used to refer to the individual to be named. The individual (usually) passively involved in nomination is referred to by **deixis** (via the determiner in *this child*), and this individual is assigned the name by the act. Deixis, I should again mention here, I shall take to be the contribution to identification of a referent that may be made by invoking its relation to the speech situation and particularly its participants.

The name assigned by nomination thereby comes to identify the individual, as intended by the representation in (102b), where the subscripted capital is associated with an individual, and replaces the 'X' of (101). This name can thenceforth be used to refer to or address the individual by people who now have the identification in their lexicon. In many circumstances, an individual may have his or her name identified for someone not by a ritual like a baptism, or **performative** nomination, such as in (102), but by a **didactic** nomination. In this case the speaker and no doubt others know who is identified by the name and s/he 'teaches' the identification to another who may not, as in (103a–b), where (103a) involves a description of a performance.

- (103) a. They called the child Neville  
 b. This/that/the woman over there is Jezebel  
 c. Jezebel is this/that/the woman over there  
 d. Jezebel lived here

The sequence in (103b) is ambiguous, however.

It might also be an equative, rather than a nomination, an interpretation that is perhaps more salient in (103c). In didactic nomination, both the actual individual and its name are unfamiliar to the addressees, as often in 'introductions'. But, alternatively in (103b-c), the speaker points out to the audience someone who already has a name in both or all their lexicons, and is thus already familiar to the addressee(s), but not 'in person'. As in (103d), the speaker provides further encyclopaedic knowledge concerning an individual – though in (103b) of a distinctive character, involving 'actualization'. Such 'actualization is not always possible. In many instances, indeed, we continue to refer by name to individuals who have only been described to us, in language or in images (as, if they are dead, or acknowledged to be fictional, is necessarily the case). In such circumstances, only didactic nomination or equation is normally possible.

The name that is given by nomination has itself no sense beyond often differentiating **gender**, in a wide sense, including animate vs. place, 'human' vs. not,

usually ‘masc’ vs. ‘fem’ – though individual speakers may have different attitudes to the gender associated with specific names. Gender features can combine in relation to some entities, as with the noun *werwolf*. So too {fem,masc}, as with ‘hermaphroditic’; and the features may be combined asymmetrically in characterizing some usages, as {fem;masc}, {masc;fem}. Some names are given to artefacts among non-animates, or to domesticated animals.

The nomination does not otherwise add sense to the name, but a way of identifying an individual – which we treat as such, despite the existence with the same name of other people (and of ships, dogs etc., rather than a dog-specific one like *Fido*). Nomination typically depends on the existence for users of the language concerned of an **onomasticon** of names that can be given to different kinds of entity, individuals of different genders, though namers can be perverse (I know a cat called ‘Fido’). The onomasticon of personal names in particular is usually more or less easily extensible, and by various mechanisms to be found in different languages and stages of a language. Onomastica within a speech community are variable and changeable, as with other aspects of language. This extensibility of the set of names is again difficult to reconcile with the notion that names are inherent determiners, members of a functional category – though we have already (in the preceding chapter) had to acknowledge numerals as a special case, if they are indeed functional.

As members of the onomasticon, personal names have no content beyond ‘gender’. In view of this notional emptiness, we can suggest as the prenomination value of the ‘X’ of (101) such categorizations as that in (104a), which is the representation for an **inactive** name, as an element in the onomasticon.

- (104) a.     { {masc} }
- ⋮
- Ferdinand*
- b.     { <sub>I</sub>{masc} }
- ⋮
- Ferdinand*

After nomination we have (104b), which represents an **active name**. Names do not belong in either the system of contentive categories (they are empty of primary features) or in the functional set (they do not govern).

But names share with prototypical nouns, and pronouns, the lack of this capacity to govern; they are all prototypically leaves. This is what unites syntactically the cross-class of **entitatives**, non-functional categories that denote or identify entities. This cross-class can be specified as in (105a), where the desig-

nation ‘category\*/’ – i.e. a category that does not govern – is true of prototypical members of the category.

- (105) a. {category\*/}  
 b. {N>}  
 c. {N> ∨ \*/}  
 d.     {N}  
        |  
        <{N;P}>  
 e.     {N}  
        |  
        <{X}>

It is particularly this shared property that underlies the observation that names are often converted from nouns (though not uniquely from them in many languages), and which might be taken to motivate identifying names and nouns categorially. But the cross-classification in (105a) scarcely justifies regarding names as a kind of noun: like any other cross-classification, (105a) merely specifies an aspect they have in common, not a shared major categorization.

The specification in (105a) also makes it clear that names are the basic, minimal entitative: in their case the ‘category’ in (105a) is most simply instantiated; it is empty. This is reflected in first-language acquisition, in that the development of nouns involves the generalization of the individual identification associated with names to permit a category of nouns, associated with non-individuality, denotation, instead, leading to stages in development where, say, any adult male is addressed as *Daddy*. But, equally, this ontogenetic relationship doesn’t make nouns a kind of name in adult language.

As we have observed, the syntax of the two word-classes is quite distinct, and their respective core semantics are incompatible. The distribution that they both – and pronouns – have in common is a function of the determiner that, if they are to be arguments, they must be governed by. Names and pronouns have the distribution of determiner phrases, not nouns. Semantically, nouns, in common with other contentive categories, signify a wide range of sets whose members share a sense; personal names, as indicated, identify individuals, and impose at most minimal sense. As again I have observed, prototypical names show only distinctions in ‘extended gender’, involving secondary features such as {masc}, {fem}, {loc(ative)}. And names do not denote; when active they identify individuals and thus may be converted to definite determiners, and thereby refer. Only determiners refer extra-linguistically. By virtue of names identifying several entities of the same gender, they might be said to denote this group of



entities, but only trivially: the entities share this property, the name, but that is all, non-encyclopaedically, and the property is not unique to them. Nouns have sense and denote (and the latter by virtue of lexical subjunction to the denotational determiner); they do not refer extralinguistically, except by dependency on a determiner, syntactically or by conversion.

What the members of the cross-class of names and nouns have in common notionally is a relationship of some sort with entities, and their classification, though the latter is minimal in the case of names. But entitatives do share the secondary category of (natural) gender. (105a) sums up the syntactic consequence of this shared relation to entities: semantically, prototypical entities are discrete, so syntactically they lack complements.

However, determiners also ‘have a relationship of some sort with entities’, in that they refer to entities, definitely or indefinitely, i.e. merely specifically, or non-definitely/-specifically, and they indeed enable nouns (and names, via the conversion that gives (101)) to refer.

$$(101) \begin{array}{c} \{N\{\text{def}\}\} \\ | \\ \{X\} \end{array}$$

And they also share with nouns the characterization in (105b): **N** predominates in the categorization of both. But, as functional categories, determiners do not conform to the characterization of entitative in (105a). The best we can do to include them is only in terms of the disjunction in (105c), indicated by the ‘either’ sign ‘ $\vee$ ’. (105c) unites (105a) and a provision for determiners, as a complement-taking category that contains a preponderance of **N** (‘**N**>’), given in (105b). The latter property unites nouns and determiners, while that in (105a) unites names and nouns. Nouns fulfil both parts of the disjunction in (105c); they are what unifies it. However, there is a characterization that does unite some instances of nouns and determiners with pronouns and names functioning as arguments – specified as in (105e), where ‘**X**’ is a variable over nouns, names and pronouns.

$$(105) \text{ e. } \begin{array}{c} \{N\} \\ | \\ \langle\{X\}\rangle \end{array}$$

Nouns may be subjoined to  $\{N\}$  – and I have suggested that we should generalize this as a requirement. Argumental names and pronouns also must be so converted, but specifically to a definite  $\{N\}$ . Thus,  $\{N\}$  may have any of these categories subjoined to it. We can then say that an entitative cross- or hyper-category

in a wider sense – let’s call it **superentitative** – is a possibly unitary complex headed by {N} – which also includes attributives.

(105d), on the other hand, spells out the various components of a referring superentitative construction other than attributives that are not nouns.

- (105) d.     {N}  
              |  
           <{N;P}>

Here we have government, subjunctive or adjunctive, and **N;P** is optional. I am anticipating that pronouns are like names in lacking a primary category.

Let us return to our focus on names, however. As an element in the onomastic, i.e. inactive, a name can refer, but metalinguistically, to itself, as in (106).

- (106) a. I don’t like ‘Ferdinand’  
      b. I don’t like the name (of) Ferdinand

We can represent the non-phonological pole of this *Ferdinand* as in (107), where, of course, {*masc*} merely exemplifies the normal association of a name with a gender.

- (107)     {N{def}}  
           |  
          { {*masc*} }  
          ⋮  
      *Ferdinand*

An inactive name can undergo the redundancy in (108a), to enable it to refer in this way.

- (108) a. *INACTIVE NAME DETERMINERIZATION*

$$\{ \{ \text{GENDER} \} \} \Leftrightarrow \begin{array}{c} \{ \text{N} \{ \text{def} \} \} \\ | \\ \{ \{ \text{GENDER} \} \} \end{array}$$

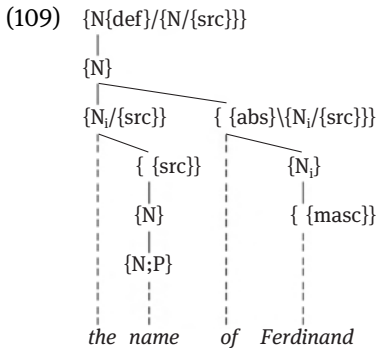
- b. *ACTIVE NAME DETERMINERIZATION*

$$\{ \text{x} \{ \text{GENDER} \} \} \Leftrightarrow \begin{array}{c} \{ \text{N} \{ \text{def} \} \} \\ | \\ \{ \text{x} \{ \text{GENDER} \} \} \end{array}$$

It does not refer to an identified individual distinct from the name. As we shall see, or rather have already anticipated, determinerization with active names differs only in the presence of an identifying subscript, as in (108b); but this is

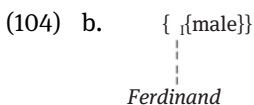
crucial. However, consider further here the structure of the post-verbal in (106b), which will throw some light on the syntax of nomination.

*The name (of) Ferdinand* in (106b) represents not an ordinary attributive structure. The functor governing *Ferdinand* has indeed undergone attributivization, but, further, *Ferdinand* is coreferential with the whole determiner phrase whose structure it is part of. We can represent the structure as in (109).



The inactive name is thus part of a **hypotactic apposition**: it is specifically an attributive that contains a  $\{N\}$  coreferential with the  $\{N\}$  it modifies: the subscripted lower-case ‘i’ is a variable over the set of indexes set up in the particular speech situation, where the reference may be definite or indefinite. The attributive is an instance of the neutral functor that governs the coreferential  $\{N\}$ . With such hypotactic apposition as that in (106b) the apposing element is integrated into the structure whose head it co-refers with, as indicated in (109). As I have suggested, this is the basis for an understanding of the nature of nomination, to which we now proceed.

What nomination confers on a name is the capacity to identify an individual. The identified name can then be entered in the lexicon proper, not just the onomasticon, perhaps replacing temporary ‘pro-names’ such as *Baby*. The individual can then also be associated with alternative forms of the same name (*William/Willie/Billy/Bill* etc.) And it can also be associated with other new names, many noun-/adjective-based (*Slim/Speedy/Doc* etc.). The result of nomination is the categorization that was represented as in (104b), which adds to the characterization in (104a) an identifying subscript.



But how exactly do nominations perform this function of supplying a name with an identity, i.e. with making it active?

Consider again the performative nomination in (102).

(102) I name this child Ferdinand

The verb in (102) is derived from the noun *name*. We thus get a syntactically more overt version of the structural relations involved if we look rather at (110), containing (109).

(110) I give this child the name (of) Ferdinand

(110) makes it clearer that what is involved is the bringing about of a child's acquisition of a name, and thus of a place in the lexicons of witnesses to the nomination. We thus have an agentive, *I*, a recipient, viz. {src{loc{gol}}}, *this child*, and an absolutive, *the name (of) Ferdinand*. What is of particular interest is again the internal structure of this last phrase, the name in which has undergone (108b), and its relation to *this child*.

Prior to the nomination, the latter is not registered lexically as identifiable with *Ferdinand*. We might represent this roughly as in (111a), the starting point for nomination, wherein only the name *Ferdinand* and *the name* are coreferential, and (111b) might give a rough idea of the lexicalized version.

(111) a. [[I] give [this child] [the<sub>i</sub> name (of) [Ferdinand<sub>i</sub>]]]

b. [[I] name [this child][Ferdinand<sub>i</sub>]]  
 |  
 {P;N/{src}}  
 |  
 {P;N/{src{loc{gol}}}}  
 |  
 {N<sub>i</sub>{def}}  
 |  
 {N;P}

The nomination in (110) is a transfer from onomasticon to individual: the effect of making the nomination in (111) is that the child comes into possession of something, the name – just as in the performance represented by *I gave the child a lollipop* the child acquires a lollipop, if true. The name acquired is the child's ID in the lexicon: the child can now be identified by using the name.

To give a something a name, as in (111), is to confer on it, via determinerization, a stable substitute for deixis (*this child*, in (111)), or description (*Mary's son*) as a means of identification of a referent. Conversely, the name Ferdinand has

acquired a role in a particular identification; it is active, and can be represented as in (104b), with an identificatory subscript. It may, however, not be the only subscript associated with Ferdinand in a particular lexicon: there may be more than one Ferdinand. Contextualization, including encyclopaedic knowledge, is important, as usual, if reference is to be successful.

By virtue of being active, as represented in (104b), the consequence of determinerization for a name in (108b), is rather different from the inactive in (108a). We might, nevertheless, amalgamate them as (112).

(112) (ACTIVE) NAME DETERMINERIZATION

$$\{ \langle x \rangle \{ \text{GENDER} \} \} \leftrightarrow \begin{array}{c} \{ \text{N} \{ \text{def} \} \} \\ | \\ \{ \langle x \rangle \{ \text{GENDER} \} \} \end{array}$$

The name is again converted to a definite determiner, and the achieving of definiteness is assured internally, but, given the optional index, not necessarily metalinguistically, as in (108a). Ordinary, ‘non-meta’ definite reference is successful if the derived {N} on the right of (112) is based on a name with an identity. The name is not limited to metalinguistic reference, but it is by virtue of being an identified element in the lexicon distinct from the name itself, in the onomasticon, that it can undergo the full expansion of (112) rather than (108a). And the name can thereby also satisfy the valency of functors and participate in predications as a definite argument representing a distinct entity that can be identified.

Personal pronouns are normally absent from the onomasticon, and they lack a subscript such as ‘*x*’ or ‘*i*’, indicating unique identification, conferred in the transition from onomasticon to lexicon engineered by nomination. They are differentiated in English only by (natural) gender (traditionally, feminine/masculine/gender-free) and number (singular/plural), and by speech act status (speaker/addressee/neither); they are therefore less numerous than names. Their capacity to identify is tied to the immediate context, and in the case of ‘third persons’, the speech act identification is purely negative in the absence of deixis. These pronominal categories too require to be subjoined to a definite determiner in order to be arguments in a predication. Their lexical categorization is thus inherently complex; they are complex determiners. They constitute another word class, like adverbs (Chapter 7) and nouns (Chapter 8), that is categorially complex. But, unlike adverbs, and like nouns, they are characterized by the unique primary categorization of the base of the complex determiner, as { }, a ‘temporary, shifting name’ without an identifying index – as anticipated in some of the representations in Chapter 7.

I have suggested, then, that nouns and pronouns and active names are categorially complex, but the dependent category in the complex is unique to that complex; it identifies each of them as a word class: {N;P}, { }, { }<sub>i</sub>. The same is not true of adverbs. Pronouns, however, appear to belong to the same category as inactive names. But the latter are not necessarily complex: they are subjoined to a determiner when used metalinguistically, but not in nominations or in address. But pronouns are necessarily complex, like nouns and adverbs.

With personal pronouns, once we incorporate secondary features, except functor relations, we have, for example, the lexical representations in (113).

- (113) a.  $\begin{array}{c} \{N\{\text{def}\}\} \\ | \\ \{\{\text{fem}\}\} \\ \vdots \\ \textit{she} \end{array}$       b.  $\begin{array}{c} \{N\{\text{def}\}\} \\ | \\ \{\{\text{ego}\}\} \\ \vdots \\ \textit{I} \end{array}$

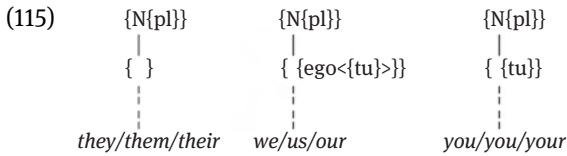
(‘ego’ is, of course, the speaker, ‘fem’ is traditionally feminine). As with argumental names, these are all subjoined to a definite {N}, as is shown in (113). The reference of first-person *I* is determined by the situation; it is identified with reference to the speaker. The reference of *she* in (113a) may also be determined within the speech situation, **deictically**; but it may also be co-referential with some name or determined noun in the utterance(s) occurring within the situation. The categorization in (113b) is the basis for further explicitly deictic pronouns/determiners involving location in relation to the speaker, proximal or distal, expressed by *this* or *that*. And these determiners in turn occupy a crucial place in the structure of locative adverbs associated with different dimensions, such as *here* and *there* and *now* and *then*. The situation is further complicated by traditional figurative uses of *she*, for instance.

Expanding on (113), we can distinguish the inflected members of the singular system of personal, definite pronouns in English as in (114), where ‘tu’, to be sure, marks the ‘addressee’.

- (114)  $\begin{array}{ccccc} \{N\{\text{def}\}\} & \{N\{\text{def}\}\} & \{N\{\text{def}\}\} & \{N\{\text{def}\}\} & \{N\{\text{def}\}\} \\ | & | & | & | & | \\ \{\{\text{fem,iii}\}\} & \{\{\text{masc,iii}\}\} & \{\{\text{,iii}\}\} & \{\{\text{ego}\}\} & \{\{\text{tu}\}\} \\ \vdots & \vdots & \vdots & \vdots & \vdots \\ \textit{she/her/her} & \textit{he/him/his} & \textit{it/it/its} & \textit{I/me/my} & \textit{you/you/you} \end{array}$

I have merely listed the functor variants under each: nominative/accusative/genitive.

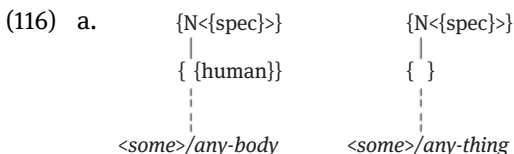
The plurals (115) also show some complication.

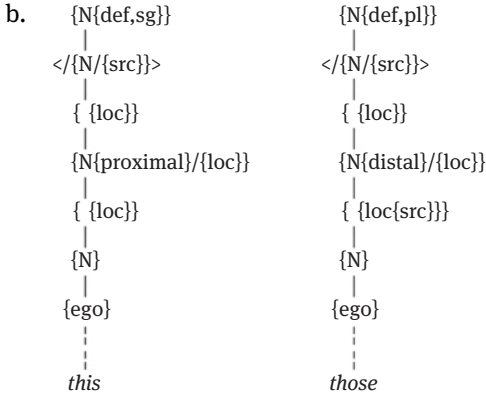


In the plural, we may include the addressee with the speaker ('inclusive we'); **ego** and **tu** may also be individually simply subjoined to a {N} that is **pl**, where we have a joint speaker and a joint addressee; but it may be that, in addition or instead, **ego** or **tu** or **ego,tu** may each combine with a distinct third person or persons. There is a variety of 'exclusivenesses'; different languages distinguish the expression of some of these possibilities. The primacy of the speaker in the speech act is reflected in the fact that **tu** is subordinate in combination with **ego** and the combination is realized as *we*. Non-SAP pronouns are redundantly third person, as are nouns and names: that is, all non-SAP entitatives.

Personal pronouns are in a sense defective names – or, less negatively, all-purpose names, not fixed to any individual; as identifiers, they are what have been called 'shifters'. In use names are assumed to have a constant identity unless this is signalled otherwise. SAP pronouns change reference in an obvious overt way. Identification with non-SAP pronouns depends on the constantly varying value of {N<sub>i</sub>} in discourse, possibly via deixis; but they also exhibit anaphora that may vary within a discourse. Similarly, as we have seen, nouns lack the capacity to uniquely identify an individual. They denote sets of entities – and they do not even as such refer to specific individualized sets of entities. Their content as nouns can be more detailed than that of pronouns, but in order to refer they too must be dependent on a determiner, though not necessarily a definite one.

Pronouns also need not be definite, of course; there are also pronouns that are merely specific or not, indefinites or non-definites, or negatives, or universals. Their relative markedness as pronouns seems to be reflected in their exponence. Consider particularly *somebody/someone* and *something*. These and the others invite the provisional representations in (116a), where the pronominal elements in these representations incorporate further morphologized nominals, forming indeed **compound pronouns** where the second component is often etymologically a noun (though *-one* is an alternative to *-body*).





And the *some* of the components in (116a) are also components in locative formations of various sorts, such as *nowhere/ somewhere/someplace, sometime*, and also the manner compounds *some/any/no-how* and ‘specifier’ *somewhat* (as in, say, *somewhat dilatory*).

(116b) exhibits two examples of deictic pronouns/determiners. A dependent partitive  $\{N\}$  is optional, as in the second-top line, to allow for determiner rather than pronominal use. One of the illustrative examples in (116b) is singular and located somewhere near to the speaker, the other plural and located away from the speaker. The deictic orientation can also be expressed independently of the determiner in kinds of English having *this here/that there* + noun. The orientation may also, of course, be metaphorical (most obviously temporal or discursal) rather than simply concrete spatial.

Only the core speech-act participants and other deictics are like names in being able by themselves to uniquely identify an individual. But with deictics the identification can differ from moment to moment even in the same situation, by exchange of speech-act roles or topic. But of all categories they most resemble names in their syntax and in their capacity for identification without recourse to co-reference or description.

The category shared by pronouns in general and names in general is the cross-category  $\{ \}$ , which I shall refer to as that of **nominator**, but active names are categorially distinctive by virtue of their stable identificatory role and paucity of secondary categories, as well as its distinctive vocabulary. We can now complete Table I, listing and grouping syntactic categories, as Table V.

Names and pronouns are non-functional and non-relational, but also non-contentive, hence their isolation in the table. Nominators, including pronouns, are, like nouns, leaves; they terminate branches. But they are even more inactive



**Table V:** Primary Syntactic Categories (completed)

| Functional |        | Contentive  |                            |
|------------|--------|-------------|----------------------------|
| Operative  | {P/}   | Verb        | {P;N}                      |
| Comparator | {P.N/} | Adjective   | {P:N}                      |
| Determiner | {N/}   | Noun        | {N;P}                      |
| Functor    | {/}    | Name { <A>} | Pronoun { } <b>Neither</b> |

syntactically than nouns, in, for example, not being predicative – as well as in ideally not requiring attributives.

Pronouns are inherently derived determiners, definite or partitive, so complex. However, in the lexicon they are apparently ‘defective’ names, { }, without fixed identification. But they differ from inactive names in having to be determinerized and by the range of secondary categories they support. However, I have not added them as such only tentatively to the set of categories; they are necessarily determinerized, complex parts of speech, unlike non-active names.

One from Lily’s list of ‘declined’ parts of speech, ‘pronoun’, is thus replaced by ‘name’, and given a rather special status.

| Declined   | Undeclared   |
|------------|--------------|
| Noun       | Adverb       |
| Pronoun    | Conjunction  |
| Verb       | Preposition  |
| Participle | Interjection |

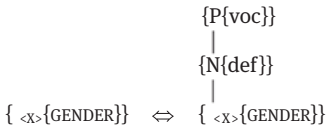
I have also substituted the label ‘functor’ for ‘preposition’; the latter is over-parochial. However, all the other functional categories are additions to the parts of speech recognized by Lily. At least one from his ‘undeclared’ list is inherently complex and is identified, as adverb, by that particular complexity: it is a complex part of speech. I have already anticipated the functor or adverbial status of many conjunctions; however that story will continue in Chapter 16. To compensate for the absence of adverb and possibly conjunction as simple categories, we have added the adjective to the set of categorially simple parts of speech. However, there is no case to make for the ‘participle’ as a distinctive part of speech: forms so described are either a form of verb or a derived adjective. So, ‘adjective’ indeed replaces ‘participle’. We shall come back to categories and parts of speech when we look at the interjection, in Chapter 15. Let us here return to names.

In order to participate as arguments, and refer, members of the simple category of name are converted to {N}s. Active names, those that have undergone

nomination, and acquired an upper-case subscript ‘i’, i.e. an identificatory capacity, have entries in the lexicon, not merely in the onomasticon. In English active names can be converted to definite determiners. Names are not definite in nominations (except metalinguistically), they are inactive, but they acquire the capacity to be non-metalinguistically definite by virtue of the nomination.

Names, though active, are also not definite as ‘vocatives’, which in some languages are distinguished morphologically, by a vocative case inflection. English examples of vocatives, with typical distributions, are given in (117a–b).

- (117) a. You! George!  
 b. Come here, you! Come here George  
 c. (ACTIVE) NAME VOCATIVIZATION



The name is not expressed as definite here, because it is not part of a declarative act or question wherein reference is made to an entity that the speaker assumes the addressee can self-identify. We have rather a speech act of address, not, say, a declarative with a sub-act of reference; traditionally, vocatives are said to be ‘terms of address’ not ‘terms of reference’, which also include titles (*Nurse!*). So, the assumption of definiteness is irrelevant here. Via use of vocativization, abbreviated in (117c), identity (of the addressee) is assigned not merely assumed. We return to different speech acts and their relation to finiteness in Chapter 15. And again this does not involve definiteness of *you* in (117): the addressee is identified by a deictic act, not referred to as assumed to be identifiable. Similarly, *Nurse!* is a variable, distinguished by the act of address.

Let us note finally here that, in desperation, identification and drawing the attention of the addressee may, after all, be conveyed by overt ‘terms of reference’, as illustrated in (118a–b).

- (118) a. Come here, the boy who threw the paper dart!  
 b. Help me, someone!

‘Terms of reference’, definite (but non-deictic) or indefinite, can occur as ‘provocatives’ when there is a failure to identify the addressee directly, because the speaker cannot or will not do so. In (118a) the description provided may be the only identification available; in (118b) the speaker has given up selecting an identity.

*You*, as the pronoun of address, is thus a distinctive element, in that its part of speech is ambivalent: it is either a simple pronoun – a complex definite determiner – or a derived ‘vocative’, specifically the deictically identified addressee. Names are similarly ambivalent, as we have seen; but they also occur simply as { }, when inactive, as in nomination.

Names belong to the part of speech represented { }, though they may be converted in two ultimately different ways, thus providing for their syntax outside nominations and metalinguistic expressions. Pronouns belong to a complex part of speech; but *you* belongs to two, one governed by determiner, the other by ‘vocative’ – corresponding to the goals of the conversions that typically affect names. We take up the treatment of ‘vocatives’ also in Chapter 15. The above scare quotes around the term are an admission that much remains to be clarified in this area.

# Chapter 10

## Substance and Modularity – Syntax

planes – syntax, phonology, and lexicon as modules – exponence again – onomatopoeia and iconicity – sub-modules in syntax: dependency, linearization, and intonation – lexical vs. utterance syntax – re-representation as cumulative – priority among the sub-modules

The planes of language, syntax and phonology, are substantively distinct levels of representation that conform to different regularities, though with many analogies. These regularities constitute linguistic **modules** that build cumulatively the structures of members of the planes: as such, they constitute two distinct sets of structural generalizations, and they are based on substantively distinct elements, being respectively notionally vs. phonically grounded. ‘Notionally’ involves cognitive distinctions, ‘phonically’ distinctions in perception of sound.

The lexicon is also a distinct module: its generalizations hold, however, over pairs of representations each pole of which is based on one of the sets of elements, one involving semantic distinctions, the other phonic. These pairs are lexical **signs**. Since it is not based on substantively distinct elements unique to it, the lexicon is a module that does not support a distinct plane. It is nevertheless substantively based, in relating the notionally-based with the phonically-based. Even the morphological structures of the lexicon do not introduce a different substance, as we shall see in Parts II–III.

As anticipated in Chapters 5 and 6, the planar modules themselves are composed of **sub-modules**, distinct subsets of constitutive generalizations based on substantive differences in the mode of representation that they successively introduce. Before looking further, and more explicitly, at these, however, let us consider more closely the relationship between the planes that is mediated by the lexicon.

The poles of the lexical sign are related by **exponence**. This is an essentially asymmetrical relation: it associates substantively different poles with different functions. But which uses or is used by the other depends on whether one views them from a speaker or a hearer viewpoint. The categorization appropriate to specifying the sign’s role on the syntactic plane is not dependent on its phonological representation, nor does the syntactic categorization affect the phonological shape of the sign as such. One or the other of these claims might be called into question by such pairs in English as *pérmit*, noun, and *permít*, verb, but *relief*, noun, and *relieve*, verb. But these distinctions in phonological shape reflect phenomena associated with the lexical derivation of one sign from another. Other phonological differences between related forms may be the result of juxtaposition

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of particular **morphological formatives** (the basic sequential units of morphology). This may also involve accent placement, for instance, so that the suffixal formative *-ic* assigns accent to the preceding syllable, as illustrated in Part III; but here compare *atom* and *atómic*. As concerns phonological shape and syntactic category, what triggers what depends on speaker/addressee orientation. But pairing an instance of a syntactic category with a phonological shape itself suggests an imparity: communicatively the **signifiant** is the servant of the **signifié**.

Selection of the poles to be united by exponence is also typically arbitrary, unmotivated. There is no obvious non-arbitrary connection between the content of the phonological pole we can represent as, say, [plant] and that of the content pole.

However, phenomena such as **onomatopoeia** and indeed lexical **iconicity** in general do involve some interaction between the two poles, and, more generally, between expression and what is expressed. Occurrence of onomatopoeia means that some signs are indeed perceived as more motivated, less arbitrary, even though different languages, largely for individual systemic reasons, show somewhat different phonological representations for the content pole of the sign for the ‘same phenomenon’, as with English *bow-wow* or *woof-woof* vs. Greek *γav-γav*, from the latter of which is derived the verb of *γavvizi* ‘it barks/is barking’.

An instance like *cuckoo* and similar forms in other languages combine onomatopoeia with metonymy, in denoting the animal that makes the noise represented. Onomatopoeia involves direct ‘sound-iconicity’. But iconicity can involve other aspects of representation. It can be associated even with non-minimal signs that have syntactic structure: the structure itself is iconic, as with the use of repetition in many languages to express intensity. For fuller illustration, however, let us look briefly at a slightly more complex, but familiar, instance of iconicity of expression.

Most contentive verbals that take an infinitival verb complement have it marked with *to*, as in (119a), whereas operatives are typically associated with the ‘bare infinitive’ complement of (119b).

- (119) a. She intends to leave/I expect her to leave  
 b. She may leave  
 c. I saw her leave  
 d. She was seen to leave  
 e. She appeared to leave

But the verb of ‘direct perception’ in (119c) takes a bare infinitive, unless it is passive, as in (119d). The starting point for understanding what is going on here is the question ‘why is there the infinitival alternation illustrated by (119c/d)?’ I

shall not pursue at this point the construction in (119b), but focus on the complements following contentive verbals.

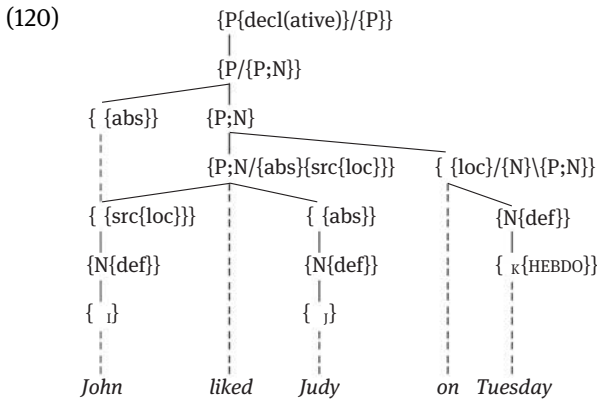
As a verb of ‘direct perception’, *see* is normally interpreted as representing a perception that is contemporaneous with the scene perceived, in (119c/d) ‘her leaving’. This is not the case with the mental activity represented in (119a). But what has this contemporaneity to do with the alternation in (119c/d)? The absence of *to* in (119c) allows the sequence *saw her leave* to mirror the immediacy of the perception: ‘seeing’ is juxtaposed immediately with ‘her’, which is juxtaposed immediately with ‘leave’. This unit encapsulates the notion of ‘direct perception’. Such iconicity is frustrated in the passive (119d), for one effect of passivization is to place the representation of the perceived entity in a position other than between the representations of ‘seeing’ and ‘leaving’. Iconicity is not possible, so the normal infinitive construction with *to* is used. Similarly, in the case of the intransitive ‘direct perception verb’ in (119e), iconicity cannot be achieved, again because the representation of the perceived entity is not appropriately placed. And again the ‘*to*-infinitive’ is used. It would appear that the *to* is absent in (119c) in order to achieve iconicity, however.

The existence of such phenomena, as well as of the even more elusive property of ‘phonetic expressiveness’, does not obscure the arbitrariness of most sign relations. But it must temper any conception of modularity that involves total isolation of the modules. As we have seen, the planes and, crucially, their categorization are not isolated from extralinguistic substance. And even intra-linguistically modular encapsulation of the planes is not absolute. Modules ‘leak’: expression and content may to some extent co-select their relationship. The sign relationship may be motivated by some perceived similarity. I shall take up iconicity and the possibility of ‘cooperation’ between the major modules in Part III, particularly in Chapter 33. We turn now to modularization within the planar modules.

Within the interfaces between modules at which construction of the planes takes place, what we find is a succession of sub-modular re-representations that involve, from the point of view of the speaker, the progressive introduction of grammaticalized properties that contribute cumulatively to the expression of a scene as something auditorily perceptible, correlating with a stretch of perceived sound. Each re-representation involves introduction of a different grammaticalized substance the structure of whose representation obeys distinct principles of organization. Fed by the lexicon, we have as a lexico-syntactic interface a series of sub-modules each of which ‘fills in’ a particular aspect of structure on the basis of the representation(s) provided by preceding sub-modules. Let us look at how this works, for the speaker, in the building of syntax in the interface. In doing so we shall further unpack some of the discussion of Chapters 1 & 5. The repetition involved may be helpful, however.

A selection of items from the lexicon, considered appropriate to the context, will form an independent predication headed by a {P} if they can be combined in a way that satisfies, as well as the context, their own lexical requirements, particularly the valencies and modification expectations – including the appositional. A dependency structure can be erected on the basis of these requirements. This structure introduces a distinct substantively based kind of representation, a representation based on perceived relational salience, particularly that of verbals and functors. The representation embodies a perceived representational unit expressing a cognitive scene; the unit is a predication, and it may represent a proposition, a command, a wish, and so on – a mood that grammaticalizes the act of speech performed (as we shall return to below). Hierarchical relations are established between the lexical items that reflect degree of cognitive salience based on relationality, their relative power to form a construction. This is embodied in the categorizations of the items and expressed in a hierarchy of dependency relations between the items. Locally this salience is realized in individual dependency relations, where the relational head is what characterizes the (sub-) construction, expressed as a dependency tree.

Consider again the predication represented in (63a), except that I have added a mood {P}, and, for variety of structure, I have substituted *on Tuesday* for *yesterday* in the form of representation that is given in (120), which thereby contains a more complex circumstantial, with a ‘weekly-cyclic temporal name’ rather than a simple deictic.



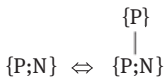
The representation in (120) combines via dependency relations the lexical components in (121) in accordance with their contents and relevant interface regularities.

- (121) a.  $\{P\{\text{decl}\}/\{P\}\}$   
            $\{P/\{P;N\}\}$   
            $\{P;N/\{\text{abs}\}\{\text{src}\{\text{loc}\}\}\}$   
           ⋮  
           *liked*
- b.  $\{ \{\text{loc}\}/\{N\}\{P;N\}\}$   
    ⋮  
    *on*
- c.  $\{N\{\text{def}\}\}$   
     $\{ \kappa\{\text{HEBDO}\}\}$   
    ⋮  
    *Tuesday*
- d.        $\{ \{\text{src}\{\text{loc}\}\}\}$         $\{ \{\text{abs}\}\}$   
            $\{N\{\text{def}\}\}$             $\{N\{\text{def}\}\}$   
            $\{ \text{ }_i\{\text{masc}\}\}$         $\{ \text{ }_j\{\text{fem}\}\}$   
           ⋮                         ⋮  
           *John*                   *Judy*

I ignore here any internal ('dimensional') structure of *on*.

*Liked* is based on a verb that has been converted in the lexicon into an operative, i.e. it is finite; it can constitute the head of a potentially independent predication that can express mood if it is a root. There is no subordination of this {P} in the present instance, so the lexicon can provide a mood-marked superjoined {P} rather than just a simple finite. The lower {P}, as is general with such {P}s, takes a dependent {P;N}, in this case supplied in the lexicon not the syntax (cf. *John may like Judy*). Recall finitization (57).

(57) FINITIZATION



In (120) we also see the results of lexical mood-formation, where I have assumed (120) is declarative (rather than, say, intonationally-expressed interrogative).



(122) MOOD-FORMATION

$$\begin{array}{ccc} * & & \{P\{\text{MOOD::decl/etc.}\}\} \\ | & & | \\ \{P\} & \Rightarrow & \{P\} \end{array}$$

Redundancy (122) assigns a mood {P} to what would otherwise be a root (ungoverned) {P}. But mood will be a major interest of Chapter 15, where we shall confirm, for instance, that the mood {P} is not subject to introduction of a free absolutive. And the motivation for this should become clear in the fuller account given in Part IV.

As part of the categorization of *liked* in (121a) are certain valency requirements that will normally have to be satisfied if {P;N} is to head a predication. Before we consider the valency of {P;N} any further, let's look at *on* in (121b), however.

*On* is a locative functor that, as such, can serve to introduce a circumstantial as well as satisfying the requirement of a valency. And in (121b) it has undergone the lexical redundancy that adds an indication of the category that, as a circumstantial, it seeks to modify. This requirement is satisfied by the {P;N} of *liked*, and so the lexico-syntactic interface can insert a dependency line between *on*, as the dependent, and a major-categorial replica of {P;N} that has the 'original' {P;N} subjoined to it, again in the interface, not the lexicon. This 'new' {P;N} does not require a free absolutive, and it is transparent to any requirements imposed from above on the 'original' {P;N}, – though this does not arise in the present case, except in the satisfaction of the lower {P}. Finally, as is the unmarked option with functors, *on* takes a determiner as a complement: this requirement is introduced by redundancy in the lexicon (where we continue to ignore any dimensionality, namely the internal structure of *on*). This valency is satisfied by the determinerized name *Tuesday*. So the interface to the syntax can make it dependent on *on*.

The 'original' {P;N} requires an absolutive argument and an 'experiencer', {src[loc]}, argument. In the lexicon, nouns and names can be converted to {N}s, and they can thereby serve as arguments; the names in (120) are definite. {N}s can be converted to functors – quite generally to { {abs} } and to the functor that is highest on the subject-selection hierarchy. Conversion to secondary locatives is normally associated with {N}s based on certain classes of nominal, such as temporal (e.g. *yesterday*). But here conversion has not occurred with *Tuesday*. The names in (121c–d) have been converted to determiners, and those in (121d) have in turn been converted into functors.

This involves respectively the lexical redundancies in the second half of (112) and (91b), the former being a specialization of the determinerization available to entitatives in general.

## (112) ACTIVE NAME DETERMINERIZATION

$$\{ \text{{GENDER}} \} \Leftrightarrow \begin{array}{c} \{N\{\text{def}\}\} \\ | \\ \{ \text{{GENDER}} \} \end{array}$$

## (91) b. FUNCTORIZATION

$$\{N\} \Leftrightarrow \begin{array}{c} \{ / \} \\ | \\ \{N\} \end{array}$$

As we have seen, the determinerized name in (121c) satisfies the complementation requirements of the functor *on*, and is thus adjoined to it in the syntax. The functorized forms in (121d) satisfy the valency of the basic {P;N}, and they can be adjoined to the latter in the building of syntax.

The predication in (120) subordinate to the upper {P;N} is well-formed. But the entire sentence in (120) is in addition potentially independent: the predicator is finite. As we have observed, conversion to {P}, finiteness, is allowed for in the lexicon, as is the conversion of the latter to a mood {P}. However, in lacking an absolutive in its valency, i.e. lexically, the lower {P} in (121a) cannot constitute the head of a well-formed potentially independent predication; the sentence would lack a syntactic subject. This is remedied in the transition from lexicon to syntax by the introduction of a free absolutive as a dependent of such a syntactically defective predicator.

## (123) FREE-ABSOLUTIVE

$$\begin{array}{cc} \text{lexicon} & \text{syntax} \\ P/*\text{abs} \Rightarrow & P \\ & \swarrow \\ & \{ \{\text{abs}\} \} \end{array}$$

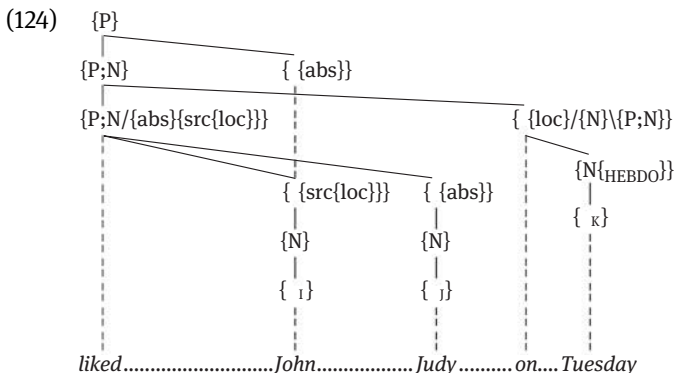
The consequence of this is also incorporated into the structure in (120). (120) also shows that this absolutive, which, like all functors, is relational and normally takes a {N} as dependent, has this requirement satisfied by sharing the argument of the participant in the basic {P;N} predication that is highest on the subject-selection hierarchy. This is indicated in (120) by the association line linking the two functors.

(123) does not apply to a mood {P}, and indeed this {P} does not fully express the nature of mood, which we shall not be in a position to explore fully until Part IV; until then it is a ‘place-holder’, and I shall largely ignore it in what follows here.

The graph in (120) that represents the syntactic instantiation of the combination of lexical entries in (121), is a tree, but, at the point we have reached in

building the structure, i.e. as a result of the establishment of syntactic dependencies, and nothing else, it is a ‘wild tree’ (as described in Chapter 5). The apparent linearization in (120) is misleading, premature; linearization introduces a further stage. This appearance is a product of the limitations of graphic representation. On the basis of the establishment of syntactic dependencies, the tree is not linearized, but only potentially so.

We could attempt to make this status graphically more overt by substituting (124) for the misleading (120), as a representation of the present stage in re-representation, where the linking associations indicated by the dotted lines between the expounding poles and elsewhere are intended to remind us of the absence of linearization, and, as anticipated, I’ve ignore the mood node, as well as definiteness.



Here every potentially adjoined, i.e. syntactic, dependent is ranged conventionally to the right of its head (as in Chapter 5), and, as indicated, I have expressed the absence of concatenation, rather than simply separateness, by the associations between the realizations. This is merely to remind us, given the limitations of graphic representation, that the **sub-module of dependency assignment** creates ‘wild trees’. Linearization involves another substance-based sub-module involving distinct principles. Together, such sub-modules provide the interface between lexicon and syntax.

Linearization introduces re-representation as trees whose nodes are sequenced. This involves a further substantive property ultimately based on our perception of time. And it is a further step in accommodating linguistic representations to eventual realization in time, as sound or some graphic equivalent. As such, linearity provides a means of making overt, of signalling, relations within syntactic structure. Thus, the unmarked position for the subject, the realization of the argument

hosted by the free absolutive of {P} in English, is before the predicator. This position constitutes a structural default that is salient in the parsing of English.

Within the **linearization sub-module**, sequencing is determined on the basis of the dependency relations and aspects of the categorization. The role of dependency in English linearization is illustrated by the sequencing rules introduced in Chapter 5.

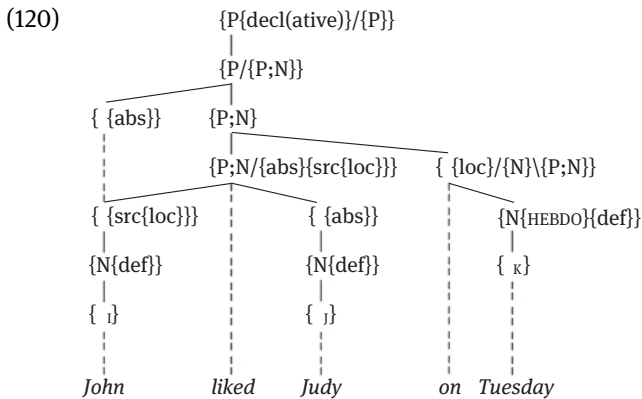
(55) *SYNTACTIC SEQUENCING IN ENGLISH*

*marked word order:* the dependent precedes its head

*unmarked word order:* the dependent follows its head

As we anticipated in Chapter 5, most of the adjoined dependents in a representation like (124) will follow their heads; they adopt the unmarked word order. Sequencing follows dependency. But, as noted, a particular categorization can override this. The free absolutive is exceptional in preceding {P}, and in ‘taking with it’, as it were, the associated functor whose argument it shares. Position for this categorial complex is determined by the marked requirement of the free absolutive to precede its head. This characterizes, however, unmarked subject position in English.

The linearity sub-module assigns the linearity relations given graphic form by the left-to-right ordering in (120), repeated here.



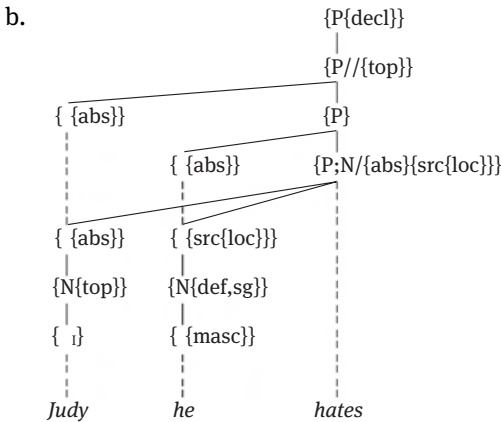
With linearization, we can finally attribute to (120) the sequencing implied by the graphic notation.

Thus, most linearity relations between words in English are assigned in accordance with categorization and the dependency relations that are themselves assigned on the basis of the categorizations derived from the lexicon. Even

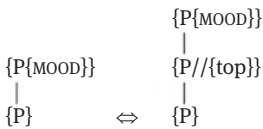
such pragmatically salient functions as **topicalization** can be grammaticalized as a lexical categorization that is re-represented with a position within the linearization sub-module we have been looking at. Unsurprisingly, in the case of topicalization the serialization is iconic, however – though in a weaker way serialization in general could be said to iconize the dependency relations between categories.

But, as concerns topics, consider, for example, the marked topicalization exhibited by (125a), as represented in (125b), which ignores familiar unmarked valencies.

(125) a. Judy he hates



c. TOPICALIZATION



By virtue of the redundancy in (125c), the verb in (125a) has not just been converted to yet another operative but the result has been insertion of an operative bearing a long-distance valency requirement, indicated by `//{top}`, with the feature `{top(ic)}` that marks the resulting predication as having a marked topic. Lexically, this topic-introducing `{P}` is, of course, subjoined to a mood; the mood will typically be declarative. We also should provide for ‘indirect’ or reported speech that involves a topic, as in *His mother affirmed that Judy he hates*, where *affirm* is `{P;N{decl}}//{top}`, introducing a reported topic.

The topic feature in (125b-c) is part of the valency of the medial {P}; but the ‘//’ notation indicates that **top** is not a feature to be found in a functor phrase dependent on that {P}, but merely one that must appear within a subordinate argument of the predicator. In order for ‘//{top}’ to be satisfied, the free absolutive of the {P//{top}} must share with a functor subordinate to the {P} that introduces an argument containing {top}. And this is what we see in (125b): the {N} that the free absolutive shares with an argument of the {P;N} contains {top}. The valency of the topical {P} is satisfied. The lower free absolutive does not require a topical argument, and so takes the unmarked option of sharing the subject of {P;N}. Both free absolutives appear on the left of their predicators, with the topicalized one coming first, a natural topic position as well as thus avoiding tangling between the arcs terminating in the two absolutives.

However, not all sequential arrangements seem to be determined by syntactic category or dependency. Other considerations, once more indeed to do with the pragmatic situation of the utterance, or with factors of style, including rhythm, have a role, a role that does not appear to have been grammaticalized as syntactic categorization. Consider the set of sentences in (126), for instance.

- (126) a. It slowly rolled down the hill  
 b. It rolled slowly down the hill  
 c. It rolled down the hill slowly  
 d. Slowly it rolled down the hill

The placement of *slowly* in these – except perhaps in (126d), where it may be topical, and in (126c) it may be emphatic – does not appear to mark some distinction in syntactic category projected from the lexicon. Here the tree projected by the categories remains partly ‘wild’; and situational, including stylistic factors are decisive in finalizing the sequence. In some languages, notably those with a well-developed morphology, such ‘wildness’ is more common; and the marking of structural relations (like subject) is often signalled otherwise than by position.

Consider too the examples in (127).

- (127) a. He turned his head from side to side  
 b. He turned from side to side his ever-watchful head  
 c. ..., turning from side to side his head, ...

(127a) illustrates the normal position of the *his head* phrase in such a structure. But if the corresponding phrase is ‘heavy’, structurally complex, the position in (127b) may be preferred; and this is syntactically normal. Nevertheless, a stylistic

function may reinforce this factor in the clause in (127c) from Chapter XIII of *The Talisman* by Walter Scott, where, in my understanding, the delaying of the ‘object’ iconizes deliberation. More factors than simply lexically encoded categorizations are involved in the positioning of elements. As well as lexically determined syntax we have immediately pre-utterance syntax, which introduces extra-grammatical factors.

There is yet another perceptual medium involved in the representation of the syntactic consequences of syntactic categories taken, in a context, from the lexicon. This involves the grammaticalization of our perception of intonation, which is superimposed on the linearized trees we have been contemplating so far. We have another interface stage in the cumulative expression-oriented re-representation of syntactic structure. And it brings us yet closer to eventual phonetic implementation. The grammaticalized substance correlates with sound; in this sense the mental substance can be said to be directly manifested, or implemented, in sound. Let us now look at the representational consequences of this further re-representation.

We can associate with the predications realized as in (128) the expression of **interrogative** mood.

- (128) a. Gordon is leaving?  
 b. Is Gordon leaving?

Interrogative, like declarative, is a secondary feature of an uppermost {P} that bears moods (in a very wide sense, as I have suggested, and not limited to categories having morphological expression). The representational distinctiveness of the core moods we shall look at, as I have noted, in Chapter 15, in a preliminary way, but more fully in Part IV. We have already recognized that they are grammaticalizations of speech acts, such as questions vs. statements or propositions, but mood also interacts with other pragmatic distinctions, involving topicalization and contrast/emphasis. For the moment, these ‘moods’ are all associated with secondary features of an upper {P}. In the absence of a higher {P} bearing a marked mood, the ‘basic’ {P} is interpreted as subjoined to a simple declarative, as in (120) above.

In (128a) the presence of the interrogative feature on the mood {P} is signalled not by an aspect of linearization, as does topic in (125). There may indeed be linear expression of this feature, i.e. by so-called ‘inversion’, different linearization of subject and {P}, as in (128b). But in (128a) expression is solely by the presence of a particular intonation contour, represented graphically here by the mark of interrogation ‘?’. The basic contrastive aspect of intonation, the contrastive tone, is typically, in the unmarked case, concentrated on the realization of the final

contentive category. Marked placement of the tone is also contrastive, of course. At this point I do not pursue this, nor do I examine what otherwise differentiates (128a) and (b), specifically ‘inversion’. So that it is only later that I shall be in a position to present even the interrogative equivalents of (120).

Notional **contrastiveness** or ‘contradictiveness’ of a predication may or may not be combined with interrogation, as illustrated by (129a–b), where the contrastiveness of the predication is again signalled by the intonation contour, here with its nucleus on the copula, as is crudely indicated graphically by double underlining.

- (129) a. She is leaving  
 b. She is leaving?  
 c.
- 
- d. *CONTRAST*
- 

Again, in this case the **con(trast)** feature is associated with a {P}, as shown in the representation of (129a) in (129c). Contrastive intonation borne by *leaving*, for instance, involves non-predicational contrast. The syntactically contrastive sub-configuration is allowed for, provisionally, by the redundancy in (129d), which also introduces a higher {P} to require the feature. In this example the contrastive lower operative is subcategorized for **prog(ressive)**.

We also come back to a more articulated look at the representation of contrast in Chapter 15, including its combination with interrogation, as in (129b). What is most apposite at this juncture, however, is that again we have a syntactic category re-represented as an intonational contour and its placement, as a consequence of application of the **intonational sub-module**. Neither of the intonational representations of mood illustrated by (128a) and (129a) involves ‘inversion’ or other special placement of words – though one further distinctive feature of the latter



construction – shared with (128b) – is that the **predicational contrast** feature must be carried by an operative.

Collectively, the sub-modules we have looked at, together with pragmatic input, constitute the lexico-syntactic interface. Each of the sub-modules we have looked at expounds, in a particular perceptually-based medium, aspects of the categorization of the lexical items involved. Their effect is cumulative. But they are also ordered presuppositionally among themselves in their expounding. Linearization is sensitive to dependency, and intonation to both. And they also are hierarchized in terms of their closeness to ultimate phonological exponence. Intonation comes closest in introducing part of the grammaticalized substance that constitutes what is grammaticalized by the phonological plane. Utterance phonology emerges from the accommodation to the pre-utterance phonology of the sequence of individual signs taken from the lexicon to the result of the syntactic sub-modules we have been looking at. In the chapter that immediately follows, we shall touch on the joint role of phonology in expounding both lexical items and, as here, sentences, and ultimately, pre-utterances.

We return later in more detail to both this last topic, and to the status of ‘inversion’, particularly the motivation for the placement of the apparent subject after {P} – though it precedes {P;N} – rather than (unmarkedly) preceding it, as is the case even in the presence of topicalization.

(125) a. Judy he hates

Compare: \**Judy does he hate*, unless it is also interrogative.

As we proceed, we shall also be concerned further with the interaction of the three substantively-based sub-modules, and with their role in the greater structural complexity demanded by the syntactic plane compared with the phonological. And the latter is broached in the later chapters of Part I. But our immediate concern now is with modularity in the phonology, and with trying to achieve greater explicitness in our account of the projection of phonological structure.

# Chapter 11

## Substance and Modularity – Phonology

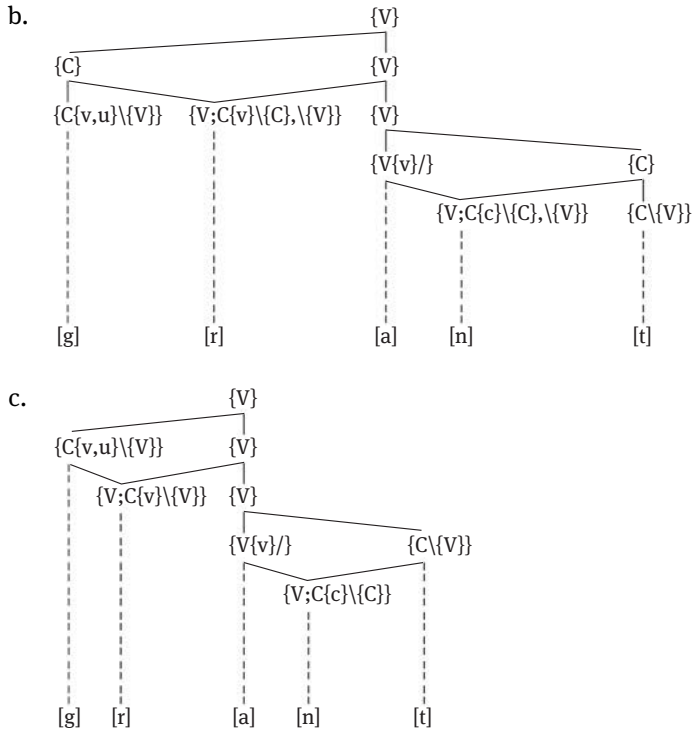
sub-modules in phonology – sonority again – specifiers in phonology and syntax – constraints on onsets and codas: apparent exceptions – the role therein of specifiers – the role of morphology and markedness – prosody – relations between sub-modules – ambisyllabicity – lexical vs. pre-utterance phonology

In the preceding chapter I associated with the lexico-syntactic interface the sub-modules that provide cumulative re-representations. These involve hierarchization or dependency, linearization, and phonologization, specifically internationally. As anticipated in Chapter 6, the phonological plane shows analogous re-representations to those encountered in the syntax, except, of course, that the phonological module is phonically based in the lexicon, rather than phonic representation being limited to introduction by a sub-module of the interface, as with the intonational expression of syntactic distinctions. The phonology also differs in the presuppositional relations among the sub-modules, their order of application.

The elements of the phonological module are based on perception of speech sounds. In Chapter 12 we shall consider further in some detail the nature of these elements, and the phonological parts of speech they define, in the context of the present survey of expressional modularity and the substances introduced in re-representations that build phonological structure within the lexicon-phonology interface. In the meantime, perhaps use of familiar informal segmental transcriptions, though without systematic status, will be of help to the reader in this further exploration of modularity in the erection of lexical phonological structures, and comparison with the syntactic sub-modules of the preceding chapter.

As we saw in Chapter 6, the lexical representation for the phonological pole of *grant* abbreviated in (75a) has linearization assigned and dependency relations added as in (75b), given that segment [a] is transitive.

(75) a. [g,r,[t,n,a]]



Recall that the full consonant to consonant dependency configurations shown in (75b), is simplified elsewhere, unless the full structure is under discussion. I have added a (75c) to illustrate the results of simplification, basically the omitting of the indications of consonant-to-consonant adjunction acknowledged in (75b).

Unlike in syntax, the dependency relations are established on the basis of the categorization and the sequence of the segments, and the role of valency is minimal. The first module in the interface to re-represent what is given in the lexicon, such as (75a), is that of **linearization** within the syllable, in accordance with **sonority** and a few other more and less general restrictions. Typically, the consonants that are less like vowels are placed further from the vowel that is the syllabic head: so, for instance, we have the sequence for the form in (75) abbreviated in  $\{C\} + \{V;C\} + \{V\} + \{V;C\} + \{C\}$ . The sequence of syllabics is given in the lexicon.

The consonant immediately following a transitive vowel is then made its complement, by virtue of sub-module two, which assigns **dependencies** between the consonants and between them and the vowel head. These other dependencies are adjunctions, based on relative sonority in the case of two consonants: the more sonorous of adjacent consonants depends on the other. The redundancies medi-

ating between the lexicon and phonology that permit the various adjunctions of modifiers in (75b) can therefore be formulated as in (130).

(130) *ADJUNCTION OF CONSONANT MODIFIERS*

- a. To C  
 $C_i \Rightarrow C_i \setminus C_j$ , where  $C_i$  and  $C_j$  are adjacent, and  $C_i > C_j$  in sonority
- b. To V  
 $C \Rightarrow C \setminus \{V\}$

Thus, starting from the lexical representation in (75a) above, [r] is eligible for (130a) with respect to [g], as is [n] with respect to [t]. These consonant-to-consonant dependencies are homogeneous; there is no need to differentiate between complement and adjunct here. All the consonants in (75b/c) show the results of eligibility for (130b). But, as typically in the syntax, satisfying a valency takes priority over invoking a capacity for modifier adjunction; and the transitivity of [a] is satisfied by [n] – in preference to modification of [a]. As we have seen, the complement is the coda consonant closest to the {V}. As indicated, given that these adjunction relations, apart from transitivity, are regulated by (130), I shall for simplicity omit their complexity, as shown in (75b), from syllable representation wherever they are irrelevant to the discussion.

Unlike in the syntax, the operation of (130) already makes it clear that linearization within the syllable at least does not accord with dependency in any simple way. As we saw in Ch. 6, the most important factors are the hierarchical grouping of segments into onset and rhyme, as illustrated by (75a), and relative sonority, as illustrated in detail by the sequencing in (75b/c). For fuller illustration, (131a) extracts the sequence of segments from (75c) and omits the modification requirements, which follow from linearity and (130), where is represented in sequence a voiced grave/velar consonant, a rhotic sonorant, a low vowel, an unmarked nasal (coronal) and a voiceless unmarked plosive (also coronal).

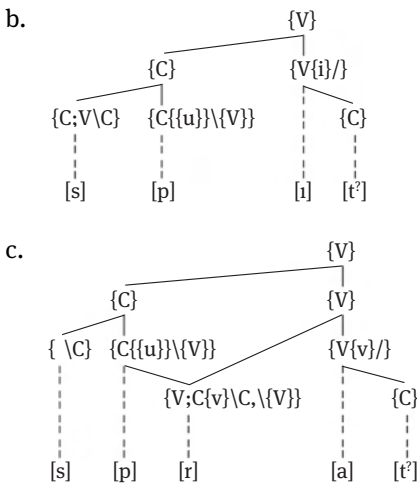
- (131) a.  $\{C\{v,u\}\} + \{V;C\{v\}\} + \{V\{v\}\} + \{V;C\{c\}\} + \{C\}$   
 b.  $\{C\} + \{V\{v\}\} + \{C\{u\}\} + \{C\}$

The proportion of **V** rises from left to right until we reach the maximum with the {V}, and then it falls. In the case of a syllable like that represented by *apt* or *tact*, there is at least no rise in the sonority of the coda; and, indeed, in both cases the penultimate consonant has a ‘vocalic’ (more sonorous) secondary feature lacking in the final (unmarked) one, illustrated for *tact* in (131b), with grave pre-final.

Moreover, the selection of the consonant that is to complement a transitive vowel is determined by sequence, and this is determined basically by sonority. [n] is placed immediately after the transitive vowel in (75a) in accordance with sonority, giving, along with other sonority-based placements, the sequence in [grant]. It is thus in the position to serve as complement of the vowel, which takes the closest following consonant. Linearization precedes dependency assignment, unlike in the construction of syntax. The priority in the lexicon-phonology interface of this grammaticalization of time can be seen as reflecting the closeness of phonology to temporal implementation.

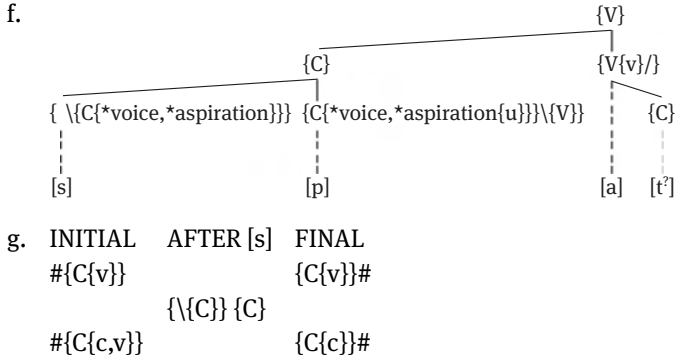
There are language-particular fine-tunings of this sonority-based pattern and indeed exceptions, as in English *sp(r)at*, which begin with a decline in sonority. This onset-initial [s] is exceptional in English and many other languages in preceding the less sonorous consonant it depends on, as expressed in the provisional sequencing rule in (132a), which places onset [s], the unmarked sibilant before any other onset consonant – though we should acknowledge unnaturalized ‘foreign’ exceptions such as the word initials in *psephology*, *tsetse*, and *Xerxes*, unless they can be viewed as affricates, like [tʃ] – though the clusters are commonly ‘naturalized’ as a simple sibilant.

(132) a. onset {C;V} precedes C, but {C} precedes V



d. onset {\C} precedes C

e. {\C{\*VOICE,\*ASPIRATION}} is onset initial



The more general pattern follows the exception that begins (132a).

The requirement in (132a) gives re-representations like that in (132b). This [s] is the only consonant that can occur in this position. And, though the redundant categorization of this [s] in (132a) conforms to the dependency requirement (130a), the sequencing violates sonority. This is avoided if we remove in the lexicon the feature specification of [s] in (132b) in favour of simply specifying this unique role, as in (132c). And (132d), which applies to the unspecified consonant that modifies any onset consonant, can be substituted for (132a). Relative sonority is irrelevant to the categorization of (132d).

However, in the case of *snow* and *slow*, for instance, both (132a) and (132d) duplicate the sonority requirement; each of these formulations is over-inclusive, but harmlessly. Moreover, after onset-initial [s] the contrast between voiced unaspirated plosive and voiceless aspirated plosive is **neutralized**: the plosives in (132b-c) are only voiceless unaspirated; there is no voiceless aspirated vs. voiced unaspirated contrast. We can represent the neutralization in terms of the absence of the voicing/aspiration contrast that we find in initial position (with e.g. *pin* vs. *bin*). With plosives in final position, voicing contrasts with glottally reinforced/unreleased.

Such onsets are not simply a case of voicing ‘agreement’ in an obstruent cluster (cf. the final sequences in *sift(s)* vs. *sieved/s*, *griefs* vs. *greaves*, *twelfths* vs. *twelves*, etc. – and morphophonology is not at issue at this point): voiced equivalents of such *s*-initiated onsets are missing. (Moreover, initially, morphologically simple, but ‘foreign’ *svelte* violates ‘agreement’, unlike ‘foreign’ forms like *pse-phology*.) So that for (132d) we can substitute (132e), and revise (132b) as (132f). Both sequence and adjunction of onset [s] are consequences of what I shall now refer to as ‘specifier’ status, as explicated below.

Before we look at this, the neutralization expressed in (132g) requires some comment in relation to the nature of phonological representation. Often local con-

trasts, i.e. the contrasts associated with a particular position can be amalgamated with at least a subset of the contrasts found elsewhere. So six plosives in English ([p, t, k, b, d, g]) occur contrastively both word-initially and word-finally; they fall into pairs made at the same place of articulation. [p,b], [t,d], and [k,g], which, despite varying phonetic differences between the initial and final occurrences, have been regarded as constituting the same contrastive pairs, each member of a pair belonging to a single contrastive unit manifested in other plosive pairs. The contrast is **polytopical**.

For instance, though [b] is voiced, {v}, initially and finally, initial [p] is aspirated, {c,v}, and final [p] has glottal reinforcement, {c} (or it may be unreleased), though they are both voiceless, lacking simple {v}. Each initial can be grouped with the final at the same ‘place of articulation’ as members of a single contrastive unit; they are ‘allophones’ in ‘phonemic’ terms – except that contrastive units are not necessarily ‘phonemes’, as with the onset pre-plosive [s], which is in opposition only to its absence and occurs in no other context. And we have a polytopical contrast of the members of pairs of plosives, but the contrast is absent after onset [s], as expressed in (132g). There are only three plosives after initial [s], and each is neither voiced nor aspirated or reinforced; we have **neutralization**. Each is a unique, **monotopical**, contrastive unit. Indeed, they cannot be grouped with other segments even redundantly.

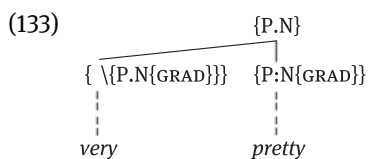
This is, however, unlike onset pre-plosive [s], spelled out fully in (132e) as contrastively { \C{\*VOICE,\*ASPIRATION}}, which at least can be grouped, redundantly, with other instances of [s] as part of the interface to or from implementation (pronunciation or recognition) of utterances. And there are other neutralizations where one of the members of an elsewhere-contrastive pair appears to the exclusion of the other. Thus, [ʃr-] occurs to the exclusion of [sr-] and [sl-] to the exclusion of [ʃl-] (except in loanwords), as does [s] in many other potential [ʃ] combinations; but there is contrast in *sip* vs. *ship*. The neutralizing segment type is contrastive elsewhere and may be grouped for implementation. So too with the post fricative [l] and [r] (cf. *flan* vs. *Fran*). Recall too the contrast-reduction in the codas in *griefs/greaves*. Even apart from neutralizations there are different contrasts at different places in items. As we shall see, some of these phenomena involve ‘Firthian’ prosodies.

Each monotopical contrastive element is a distinctive contrastive unit. Grouping of monotopically contrastive segment-types with other such on the basis of phonetic similarity is not part of the grammar, unless the same contrasts are involved. It is, however, such groupings that are basic to the construction of an alphabetic orthography.

Further, contrastively, the onset- initial segment {/{C}} and the neutralizations it specifies are all different in the same way from many segment tokens in

English, despite the distinctive polytypical contrastive roles that may be attributed to some [s]s. Recall, however, that pre-plosive initial [s] involves not even a usual monotopic paradigmatic contrast, except with its absence: no other segment-type occurs in the same context; it is a ‘special’ type of monotopical contrast.

I am now suggesting that the unique member onset pre-plosive [s] is the analogue of the syntactic **specifiers**, mentioned briefly towards the end of Chapter 5. It is distinguished lexically by its modification of the very specific class of voiceless unaspirated plosives. Similarly, as we saw in that chapter, in the syntax a word like *very* can be distinguished by its modification of specifically **gradient** adjectives.



A specifier seeks to modify a much more specific class than most modifiers in the same plane: in (133) the class is a gradient adjective, in (132e–f) it is a voicing-and-aspiration-free plosive. And in both these cases it intensifies the head in some way. The gradient adjective is moved up the relevant semantic scale or gradient; and the plosive is deprived of aspiration, intensifying the suppression of (harmonic or non-harmonic) energy associated with oral stops, while its specifier ‘compensates’ with a lot of noise. On balance, it is the onset as a whole that is most obviously positively intensified. And the phonological specifier introduces a neutralization, not a property of syntactic specifiers, indeed not a phenomenon relevant to syntactic categories, rather than their expression – though syntactic specifiers do select a particular subset to specify.

Notice further it seems that in both planes the specifier precedes its head in English. This is one respect in which linearity in the two planes apparently conforms to similar principles. And in the case of specifier [s] it is categorization that determines sequence, as expressed in (132d–e). Indeed, here a very specific categorization by valency replaces placement by sonority – though it could be said that this specifier, contrastively empty, has no sonority at all. We shall, however, find evidence that specification is not necessarily unidirectional in either plane – as will immediately emerge with respect to the phonology. The analogy persists, to the extent that position of specifier relative to its specified varies in both planes.

As is familiar, there are also in English coda sequences that infringe sonority, particularly at the end of words. Like the [s-] cluster of (132), some of these are also associated with violation of the prototypical **onset-coda size**: the restric-



tion of onsets and codas to two syllabic/rhyme-dependent segments each that is manifest otherwise. The sonority-infringing or also size-infringing coda clusters terminate in a **coronal obstruent** or **obstruents**. These, or some of them, have sometimes been referred to as ‘appendices’ to the syllable. This, however, simply labels the absence of any attempt at explanation or analogy.

(134a) introduces examples that violate only the sonority hierarchy; in such a coda a less sonorous consonant is closer to the vowel, so that a plosive precedes a coronal fricative, but though the first four forms have codas that are mirror images of the onset specifier clusters, the rest of (134a) introduce ‘non-mirrors’, though all ending in coronals, as well as potential morphological complexity, despite some opacity in the forms.

- (134) a. tax, apse, tips, sex, glitz, lids, ribs, rigs, adze, width, breadth  
 b. glimpse, pimps, acts, text, taxed, rinsed, widths, breadths, sixth  
 c. sixths, texts, twelfths

Both aspects of departure from the prototypical coda are illustrated in the rest of (134), where (134b) introduces three-member codas and each of (134c) involves four-members – but, in the latter case, only if they are accompanied by (even double) morphological complexity, unlike the word-final clusters in *glimpse* and *text* in (134b). Such exceptional clusters in general are common in English only by virtue of morphological complexity; other morphologically simple examples are few, apart from clusters like [-ks] and [-ps] in (134a): single-consonant suffixes are extrametrical.

All of the examples in (134) involve transitive vowels: the initial coda consonant is a complement. With intransitive vowels, already the two-member codas, exemplified in (135a), whose second member is not a coronal obstruent are exceptional, and found with only some (particularly diphthongal) intransitives, the last three with morphological complexity.

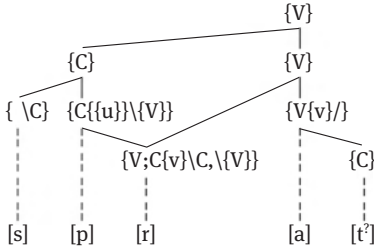
- (135) a. bind, point, hound, ounce, wound, fiend, feint, pined, pines, loaned  
 b. binds, points, ninths, wounds, fiends, feints

And all the three-member codas in (135b) involve sequences with morphological structure. Given this, the size generalization that is violated by clusters terminating in coronal obstruents seems to be as follows: in codas what is restricted is more than one consonant that is modifier to the vowel; complements don’t count. The ‘weight’ of intransitives is equivalent to transitive plus complement.

If we look at onsets for comparison, we see that they allow two modifiers to the vowel, as in (75c), but also a specifier, as modifier of a particular kind of

otherwise outermost modifier of the vowel, the voice/aspiration-free plosive. The three-member onset doesn't violate the restriction to two of dependents of the vowel, by virtue of the outermost consonant being a dependent of only the following consonant – as is shown in (132b-c): [s] is adjoined only a subordinate of the vowel, not a dependent.

(132) c.



This last observation concerning onsets gives a clue as to what is happening with some of these apparently deviant codas. There is something more systematic going on than simply, apparently ad hoc, violation of the size restriction by a particular set of consonants – though the set can at least be recognized as coronal and, as such, all potentially morphologically important, given especially the inflectional system of English.

Let us take the morphologically simplex forms *tax*, *glimpse*, and *text*. Say that the status of the [s] in these with respect to the preceding stop is similar to that of the specifier [s] of the onset: it is indeed the mirror-image. The [s] in these modifies by specification of the preceding voiceless plosives which are released into them, but it introduces a different kind of intensification. Its placement is again contrary to the normal sonority requirement of (130a), however, in that the ostensibly more sonorous coda consonant is further from the syllabic.

(130) *ADJUNCTION OF CONSONANT MODIFIERS*

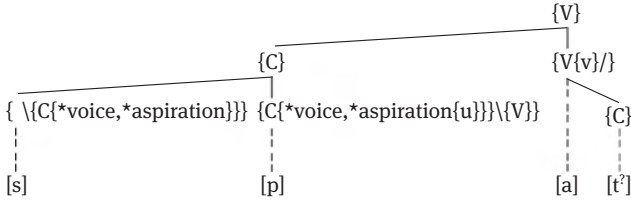
a. To C

$C_i \Rightarrow C_i \setminus C_j$ , where  $C_i$  and  $C_j$  are adjacent, and  $C_i > C_j$  in sonority

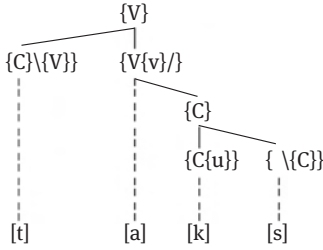
Is it that we have again specification? Let us consider the possibility of this as a first stab at the pattern of coronals in codas.

This specification relation is represented by the structure in (136a), configurationally almost the mirror-image of (132f), with both showing the onset-rhyme linearity discrepancy.

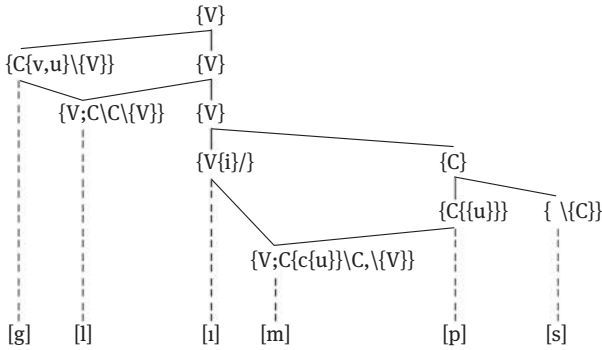
(132) f.



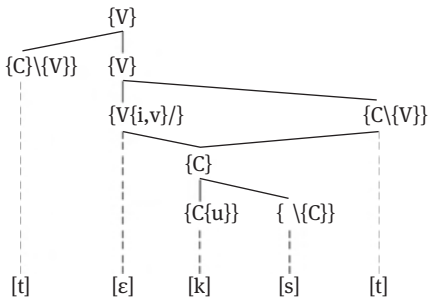
(136) a.

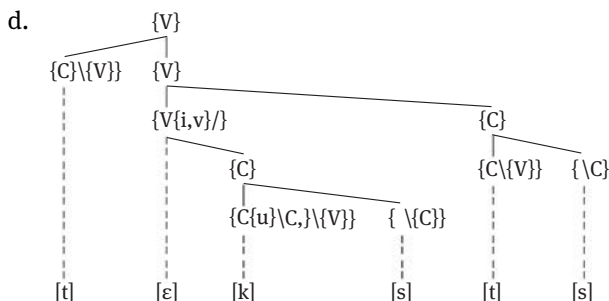


b.



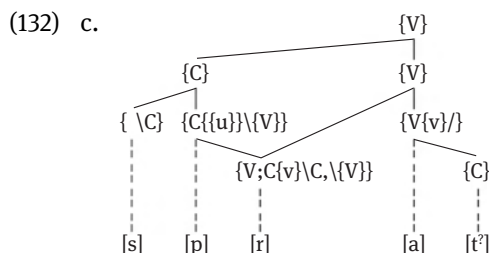
c.





As with the onset in (132f), the position of [s] in (134a) is again associated with its special status, as needing to depend only on a certain consonant type, in this case voiceless plosive, and as being outside the normal coda and violating sonority (though the coda size is not problematical).

(136b) is also close to the mirror image of the [st-] type of onset shown in (132c), which adds another regular consonantal modification – the [r] of *sprat* – to that in (132f), as does the [m] of the coda cluster configuration in the *glimpse* of (136b).



In rhotic varieties, we have a closer mirror-image to (132c) in words like *turps* or *corpse*. But in all these cases the coda size is not violated: only one non-complementary coda consonant depends on the rhyme-head. So too in (136c–d). Even in rhotic varieties there would still be no size violation in e.g. *corpse* if the final [s] is a specifier.

However, if we compare *pyx* and *skip* we encounter a more serious respect in which the situation in codas is rather different. Here voicing ‘agreement’, however formulated, between adjacent obstruents is operative, and we have voiced analogues to the clusters [-ts], [-ps], and [-ks]: *adze*, *Higgs*, *Gibbs*, *ribs*, *rigs* – though the last two are morphologically complex, as are most examples of these types. *Abs* for *absolutive* and the name *Mags* are, if anything, even less well established than *adze*. But this means, apparently, that, although the onset

intensifier specifies a plosive without a voice contrast, that in the coda specifies a specifically voiceless one; as shown in (136a) – or either voiceless or a voiced one with a specified plosive of the same voicing: *axe* vs. *adze*. In considering this the morphological examples are instructive.

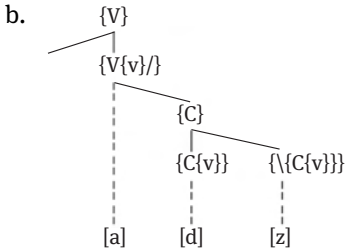
It is a familiar observation that the genitive and predominant noun plural sibilant agree with the voicing of the preceding segment: *bricks* vs. *brigs*, *bridges*. We shall look at this morphophonological regularity below in this chapter and in Part III. Suppose here, however, that, even in the absence of morphological structure, the voicing of the coda sibilant is determined by that of the preceding segment: so, *axe* but *adze*. If this is the case then the specifier, onset and coda, has the voicing distinction introduced in agreement with that of the specificee. Both the onset and the putative coda specifier can be represented as { \{C\} }, but they intensify the specificee in different ways in the onset and coda. In the former there is intensification of non-harmonic noise, and the coda has the voicing of the specificee spread to the specifier, intensifying the voicing type of the specificee. The specifier involves some kind of neutralization, however, with either only the specifier + voiceless/aspiration-less realization in onsets but, in the coda, a voiced or a voiceless plosive + specifier sequence, apparently determined by specificee value.

So far we seem to have a close-to-mirror-image relation between onset codas involving specifier [s] and the coda [s] cases. However, in (136c), though the [s] can be taken to specify the preceding plosive, the specifier in turn has a [t] to its right. But [k] is regularly dependent on it, in being more sonorous, by virtue of its minor feature. And the sequence [kst] does not violate coda size, as shown in (136c), where the vowel has only two dependents in the coda, and one of those is a complement. Moreover, in all the above cases the coda [s] modifies voiceless stops to its left. And (136d) adds another, final (inflectional) specifier, so that it is still only two of the coda consonants [ksts] that are dependent on the vowel, one of them again a complement. There is still no violation of coda size. The special role of the specifier in relation to a specificee, dedicated to dependency on an adjacent plosive excludes participation in dependency maximization.

However, the sequencing of [s] and its head in (136a–b) means that, if the anomalous [s] of the coda is again a specifier, so overriding normal placement by consonant adjunction of modifiers, phonological specifiers are apparently unlike those in the syntax. Unlike syntactic specification, phonological specification, if we associate this status with the behaviour in both onset and coda of some instances of [s], does not have a fixed sequencing with respect to the specificee; but we have here too the onset/coda mirror-image pattern. We can associate (132e) with a more general companion (137a), and involving voicelessness ‘agreement’.

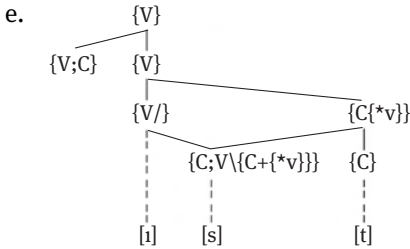
(132) e.  $\{ \setminus C\{*\text{VOICE},*\text{ASPIRATION}\} \}$  is onset initial

(137) a. coda  $\{C;V^{<*>\{v\}}\}$  precedes  $\{C^{<*>\{v\}}\}$



c. mist, bask, cusp, drift, aft, act, apt

d.  $\{V;C\{c\{u\}\}\}$   $\{\{V\{i\}\}\}$   $\{C;V\{<*\text{v}\>_i\}\}$   $\{\{C\{<*\text{v}\>_i\}\}\}$



The modifyees also differ here, however. This means that, though the onset specifier is consistently followed by its specificee, a neutralized plosive, the coda specifier is preceded by voiceless or voiced plosives, with which the specifier agrees in voicing.

A consequence of recognizing coda [s] specifiers seems then to be that [z] can also be a coda specifier, though not well-attested unless morphology is involved. And this is indeed allowed for by (137a). Which specifier, [s] or [z], is selected depends on the voice of the preceding specified plosive, in accordance with obstruent voicing ‘agreement’, giving (137b). Final [-dz, -bz, -gz] sequences are much more widely evidenced when the final segment is an affix, a plural/genitive inflection on nouns or 3rd person singular on finite verbs. And sequencing in *adze* is associated with an exceptional ‘specifier’ status for [z], perhaps ‘leaked’ from its morphological occurrence.

And this is also true of most of the other apparently overlong codas we haven’t examined so far. Other suffixes involved are the past inflection on weak verbs and the monosegmental derivational affix  $-\{\theta\}$ , as in *breadth* and *sixth*, which do not violate coda length – though the latter, derivational suffix lacks ‘agreement’

in occurring after either a voiced or a voiceless obstruent. All of these suffixes belong, as recognized, to the least marked consonant ‘place’, coronal.

Before we look further at suffixation, let us consider more carefully the status of voicing ‘agreement’ in obstruent clusters in general, illustrated by the unremarkable codas in (137c), which, however, lack voiced equivalents. Thus far I have associated non-primary features with the segment, which seems to be appropriate very generally in English (though this is not the case with intonation). But with the examples in (137c) lack of voicing is a feature of the obstruent cluster, if there is no motivation for according primacy to one of the segments. Thus we might abbreviate the phonological pole of *mist* as in (137d), where for clarity I have separated the onset, nucleus, and coda. Absence of voice is represented as a property of the coda; it is a lexical **prosody**. The prosody is outside the set of coda segments and is attached to their common head, not to the segment as such – as indicated by the rhyme in (137e), triggered by the lexical representation of the phonological pole in (137d). The coda cluster in *adze* displays the (presence of) a voicing prosody. Overall, such prosodies illustrate another variety of neutralization.

Since aspects of the present phenomena also invoke suffixation, I anticipate now the later discussion of morphology in Part III in particular with a brief look at the role of morphophonology in the assignment of dependency relations in the syllable, particularly when the formatives involved are suffixes composed of a single consonant. The morphological structure is given in the lexicon but such suffixes present a potential problem in reconciling their presence with the syllable structure they are attached to. A past such as *taxed*, with final [-t] does not violate coda size: compare the *text* of (136b). But *rinsed* and *pined* do, the first with a complement and two adjuncts, the latter with an intransitive vowel and two adjuncts. Similar is *pinés*.

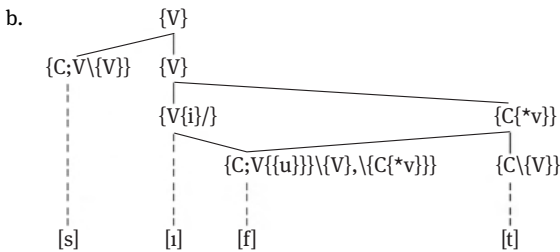
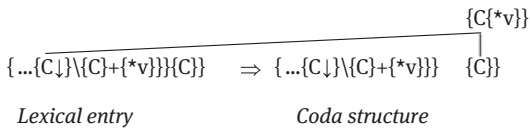
We can associate these ‘anomalies’ with historical interaction between juxtaposed morphological units described more fully in Chapter 29, under the rubric of ‘frotting’. The [z] that expounds nominal plurality (*lids* in (134a)) and genitive in *lid’s/lids’*, as well as verbal third-person singular in *rids/rides*, is a variant of a morphological affix whose form is partially determined by the phonological context; cf. *tips*, with [s] after the voiceless consonant, and the syllabic terminations of *britches/bridges* and *hisses/buzzes* after affricates and sibilant fricatives. I suggest that the special status of the single-segment variants, even when they are not problematical for the coda size or the sonority hierarchy, be recognized by taking them to be morphologically determined specifiers. The sibilant specifier shares this property with the single segment variants of the [t/d/əd] verbal inflection. Morphophonology as such is not our concern here, but it provides a plau-

sible motivation for the extra segment: we have a morphophonologically-driven specification.

But does this alleged type of specifier show any analogues to recurrent properties of (other) specifiers? The latter select some specific subclass to specify: the prototypical example is the initial [s] that specifies onset plosives that lack the voice/aspiration categories. It looks as if the most we can say about the coda specifier is that, except in morphologically simple instances like *glimpse*, it specifies only a coda-type that lies over a formative boundary. Specifiers are also associated with intensification; indeed, I was inclined to prefer the term ‘intensifier’ in relation to most syntactic instances. A rhyme specifier, morphologically simple or not, certainly enhances the prominence of the rhymal structure, precisely because it permits ‘violation’ of the coda size restriction, as well as prolonging the voicing type of the preceding segment.

We have seen that these morphophonological and phonological regularities can also participate in a prosody, such as that determining the voicelessness of sets of coda obstruents, where the coda-head is normally the most consonantal segment and final, as roughly formulated and exemplified in (138), where the downward arrow in (138a) indicates the lesser consonantalness/greater sonority of the first element in this sequence.

(138) a. Prosodic re-representation of the voicelessness of obstruent codas



Compare the voiced inflection of *sieved*, morphologically [ [s] [i] [v] ] [d] ], with the inflection [d] between two ] ] morphological brackets.

But, to return to specification: we should now observe that violation of the sonority requirement of (130a) is also involved with the  $[-\theta]$ -clusters in *twelfth(s)* (from (134)) and *ninth(s)* (135), whereas in *breadth(s)* and *width(s)* of (134) the



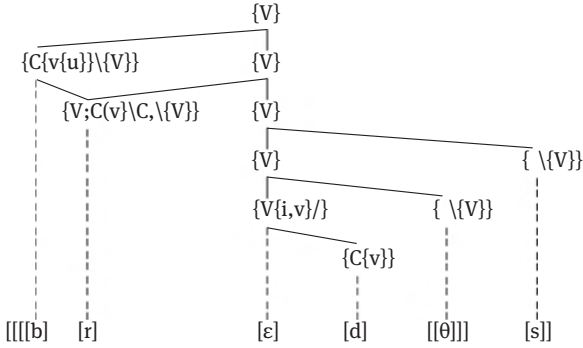
vowel of the base has also conveniently shortened by ‘frotting’ in its history, removing any size violation (any final [s] is a rhyme specifier). Including suffixal {θ} under the specifier umbrella would extend potential specifier status to all suffixal coronals except [ð] – but the occurrence of the latter, especially in final position, in even morphologically simple words, is limited anyway; and, more relevantly, it does not express a suffix. But [θ] does, though it lacks voicing ‘agreement’ and is derivational rather than inflectional. This means that it can precede (other) rhyme specifiers that are inflectional. This potential duplication of such specifiers does not argue against their status as such. In this way, we might be able to associate the idiosyncrasies of coda composition with the same phenomenon as occurs in onsets, the presence of a specifier, though the occurrence of those in non-morphophonological environments, outside the canonical [s] specifier, is rather sporadic. And in the present case, the noun-deriving *-th*-suffix is not markedly productive (non-jocularly).

[θ], then, if it is a specifier, again ‘specifies’ to its left, but only over a morphological boundary (the rhyme in the morphologically simple *plinth* accords with relative sonority), and then in only isolated examples. But even in examples where no violation would occur if the [θ] were not a specifier, specifier status might be assumed, as with (extrametrical) inflectional [s]: they specify the rhyme. The status as ‘specifier’ of {θ}, however, is to be interpreted as an exceptional feature of a moribund affix that is part of certain words. This allows the [θ] of the affix not just to occur after a sonorant or sibilant but also after a plosive complement – indeed a voiced one (as in *breadth*) – to the vowel. We now look at how this ‘morphological specifier’ {-θ} behaves, including its interaction with inflectional {-s}.

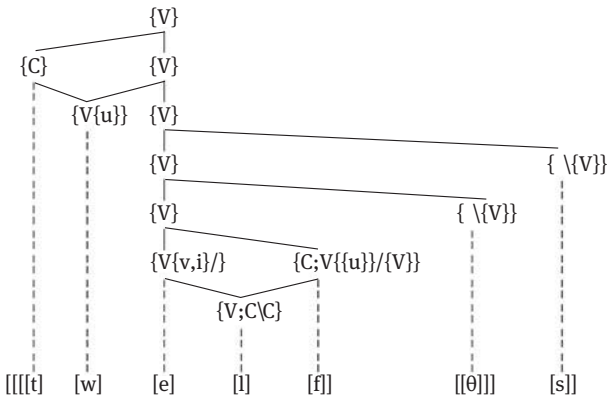
If we pursue the association of phonological specification with violation of the size restriction on codas, and/or with deviant positioning (in terms of sonority), then we can again account for the clusters involving [θ] in (134a–b) in terms of both the rhyme-specifier status of inflectional [s] and that of the other morphophonological specifier [θ]. I propose that the following representations are appropriate in these terms.

In (139a) I highlight the view that specifier [θ] is distinguished from specifier [s] by its different morphological status, derivative rather than inflectional or simple – indicated, for the moment, by the extra internal morphological brackets around ‘θ’ (our concern in Chapters 27–28).

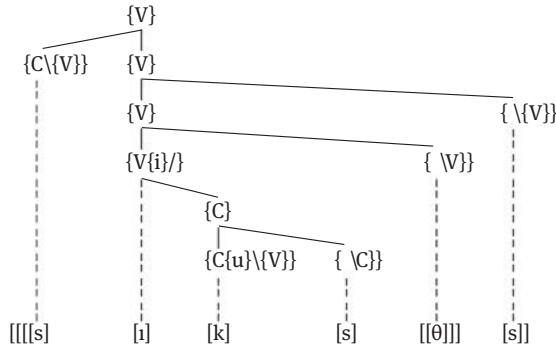
(139) a.

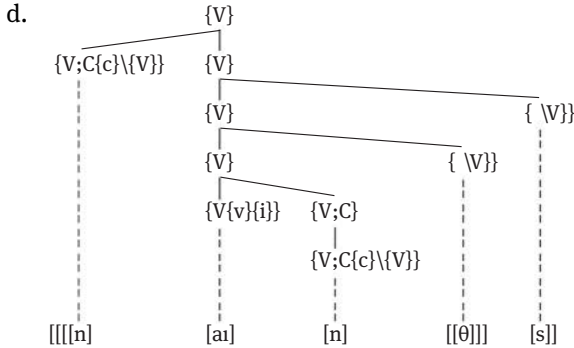


b.



c.





I have omitted consonant secondary features where they are irrelevant. Affixal [θ] and [s] in (139a) are **rhyme specifiers**, and the voicing of the plural [s] is determined by inflectional morphophonology. (139a–b) illustrate that [θ] does not determine the voicing of preceding obstruents, and there is no voicing agreement in the codas in (139c–d), though in the latter the [θ] is preceded by a sonorant. These exceptional sequences are associated with morphological complexity.

Even these morphologically-complex sequences conform to the restriction of coda modifiers of the vowel to one only, given the presence of specifiers. They require deployment of both a canonical specifier [s] as well as a rhyme specifier in (139c), as well as a morphologically determined rhyme-specifier (139a–b), and of the presence of [θ] as a rhyme specifier. But, except in morphological terms, the alternative notion ‘appendix’, as I have observed, does not seem to be particularly revealing as the description of such phonological structures, as well as of the previously examined morphologically simple ones that also appear to violate the restrictions on codas.

The forms with an intransitive vowel among those in (135) also seemed to infringe the restriction on codas.

- (135) a. bind, point, hound, ounce, wound, fiend, wild, feint, pined, pines,  
loaned  
b. binds, points, ninths, wounds, fiends, feints, fields

However, the specifier notion is also relevant here, as shown in (139d). Again (139d) both illustrates that the second of these apparently supernumerary vowel modifiers is specifier [s]; and the first is again not just a coronal obstruent, but specifically ‘morphological’ [θ]. Where there is such morphological complexity, we can again associate the exceptionality with this particular affix. Similarly, the affixes [s/z] and [t/d] introduce an apparent second rhyme modifier. But this, again,

is apparently associated with their morphological status. We return to this in Chapter 27, devoted, of course, to inflectional morphology.

However, the codas after certain intransitives violate the coda constraint to one modifier of the vowel even in simple forms. Consider *bind*, *point*, and *hound* from (135a), with an intransitive vowel followed, it appears with two modifiers. However, these and other examples involve coronal nasal or lateral + final coronal obstruent of different kinds: [t] (*bolt*), [d] (*yield*), [s] (*ounce*), [dʒ] (*change*). Not all of these are found with all of the intransitives, with [dʒ] being not common; and the situation with coda [r] is, of course, variable. These clusters in (135a) are unified by homorganicity, another prosody, and in many cases, they terminate with the least marked segment, the voiceless coronal plosive. In this respect these exceptionalities too do not seem to be arbitrary. Notice too that the labial coda in *climb* and the like has lost its final homorganic plosive, and conforms to coda size.

Does that mean that [t/d] here are also specifiers? Like many instances of [s], they too are often inflectional, as just observed, and as exemplified in *dined*; and in such an example and many others, they are apparently supernumerary. And when there is a morphological boundary, violation of the rhyme constraint is not limited to stems containing just some intransitive vowels. Certainly affix status encourages occurrence of the putative ‘specifier’. But there are other possibilities, particularly for morphologically simple forms.

Many of the forms in question contain intransitive vowels whose intransitivity is the result of historical detransitivization before homorganic clusters with the initial nasal and lateral sonorants: such are *bind*, *ground*, *child*. The detransitivization and maintenance of the intransitivity of the vowel, may be associated with a phonologically compound or prosodic status for the cluster. Compare the affricates, which are treated as a single element, though compounded: thus *bulge* [bʌldʒ] does not violate coda length; [dʒ] is a unit. Similarly, coda [nd], for instance, is perhaps a unit, and *bind* thus has only one modifier, unified by a **homorganic prosody**. Certainly, this implies that *lounge*, for instance, involves a compound within a compound; and the distribution of the inner compound ([dʒ]) also occurs in onset, while [nt] etc. occur only in codas. But this doesn’t seem to be any less plausible than taking [dʒ] to be some sort of specifier, or this coda as a whole as simply an unmotivated irregularity. The binding by a prosody of homorganicity is suggestive at least.

We have, in any case, strayed rather far from the notion of specifier suggested for onsets (not to mention syntax), but perhaps far enough to show its appropriateness to at least some of the rhymes in question. The placement and the subset-selecting role of the coda ‘specifiers’ are rather different, but it is also an intensifier that lies outside the normal constraints on size of onset and coda. Moreover, as

specifiers, both of onset and of rhyme, these segments share ‘non-integration’ with the other segments in these constructions. And this non-integration, of course, is combined with the suffixal status of many of the coda specifiers.

In Chapter 28 I shall suggest that these suffixes are themselves morphologically non-integrative with respect to accent placement: they are **extrametrical** with respect to accent placement. Also, as far as the metric for rhyme size is concerned, any supernumerary specifier can be said to be extrametrical; and this is a property that will be shown, in that same chapter, to also be appropriate in general to the morphophonology. And indeed the different instantiations of extrametricality will be seen to often correlate. Even this seems to be more revealing than talk of ‘appendices’.

The main focus in what precedes has been on syllable structure and different kinds of modification, and the constraints on them. This is intended to contribute to a study of the interaction between the phonological sub-modules of dependency and linearization, and the relation of both of them to the sonority aspect of categorization and the restrictions on syllable size. As we have seen, dependency is determined by the relative sonority of segments: the most sonorous, the vowel, is the head of syllables; within onsets and codas the more sonorous depends on the less, unless a specifier is involved. Sequencing within the syllable also reflects relative sonority: sonority declines towards the edges of the syllable, except again with specifiers. And which consonant is the complement of a transitive vowel depends on sequence, rather than the reverse, as in syntax. Other aspects of categorization than sonority also have a role in assigning dependency and sequence. Categorization as specifiers plays such a role. But categorization other than that which determines sonority ranking has much less of a part in determining linearization than in the syntax, and dependency has none at all.

Phonology thus differs rather markedly from syntax in the respective roles of the interface sub-modules. In common in phonology and syntax is the fundamental role of the basic sequential unit and its categorization, but in phonology the aspect of categorization that has to do with ranking in relative sonority is most salient. Any analogue of this dimension in the syntax is not reflected directly in linearization but in other aspects of syntactic behaviour. One perhaps analogous dimension in syntax is that of ‘nouniness’, measured by the proportion of **N** in the representation of a category; and this correlates with level of acceptability in different constructions. But in syntax, dependency, as well as categorization, determines linearization; whereas in phonology the sonority ranking built into categorization assigns linearity and the result of this determines selection of the complement to the vowel if it is transitive. And, though linearization reflects categorization, dependency is directly determined by them both. Categorization determines both linearity and dependency, but the former has priority.

The role of dependency in phonology is less fundamental, more derivative. Recall the assignments of dependency formulated in (130).

(130) *ADJUNCTION OF CONSONANT MODIFIERS*

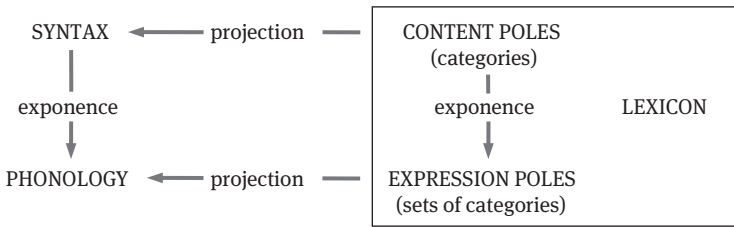
- a. To C
  - $C_i \Rightarrow C_i \setminus C_j$ , where  $C_i$  and  $C_j$  are adjacent, and  $C_i > C_j$  in sonority
- b. To V
  - $C \Rightarrow C \setminus \{V\}$

Further, the linearization of syllables is given in the sign in the lexicon, independently of the lexical phonology. And this reminds us that the expounding by phonology is determined both at the lexicon (including morphology) interface with phonology and at the syntax-phonology interface (giving, together with lexicon phonologies, pre-utterance phonology).

This means that the overall pattern of re-representation in the two planes differs not just in that more of sonic representation is given in the lexicon rather than being sub-modular in building phonological structure. But also, as we have observed, whereas serialization in syntax presupposes dependency as well as categorization, this does not seem to be the case in phonology. Thus, something like the modular layouts in Figure IV, from the commentary to Chapter 5, seems indeed to be appropriate.

Figure IV includes a brace on the left that groups together the modules that constitute the **lexico-syntactic interface** and one on the right that includes those that constitute the **lexico-phonological interface**, while the left-to-right arrow at the bottom and the final downward arrow on the right together establish the representation that enters the **interface to the pre-utterance**. Part of this is the dependence of pre-utterance structure on both lexical phonology and the syntactic triggers of intonational patterns that form one aspect of representation within the syntax.

Despite the more subordinate role of the dependency sub-module in lexical phonology, it is dependency that articulates the suprasegmental structure both there and in the pre-utterance representation. One aspect of this is its contribution in English to regulating the preferred placing, or timing, of ictus and tonics, and in general in timing phenomena. And we found above that the formulation of limitations on syllable size and apparent exceptions to the norm invokes dependency relations, including that of the specifier. And many segmental phenomena invoke a syllabic structure defined by dependency – such as those associated with ambisyllabicity. Thus, a word such as *petrol*, with initial accent, has a medial plosive that is both aspirated, manifested as devoicing of the following liquid, as with syllable initial voiceless stops, and shows glottal reinforcement, as with



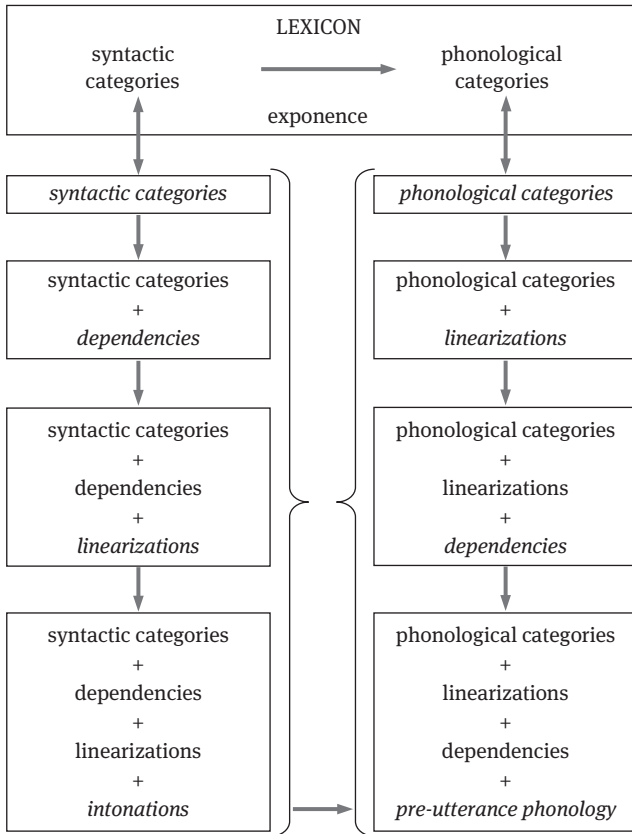
**Figure II:** Rough Guide to the Grammar

syllable-final stops. This stop finishes the first syllable, and satisfies the transitivity of its vowel; but it also initiates the final syllable. It depends to its left and to its right.

Given its importance in the interaction among the sub-modules in constructing syllable structure the main segmental concern in this chapter has thus been with sonority. But it is now time to explain more carefully some of the segmental representations, particularly the minor features, that have been invoked in the representations of the modular phenomena, but often almost silently passed over in favour of informal segment symbols. Accordingly, the following chapter focuses in general on the categorizations that are appropriate to English phonology in the representation of segmental contrasts.

I recall finally in this chapter a further sub-modularization in phonology: the division between those phonological principles that govern the structure of items from the lexicon, minimal signs, and those that determine the phonological representation of utterances – **lexical vs. pre-utterance phonology**. These arise from the status of phonology as focused on in Figure II of Chapter 1, and assumed in Figure IV below.

Phonology is the target of both what is projected from the phonological poles of the signs in the lexicon and of the exponence of signs as combined into complex signs in the syntax, which includes discourse considerations as well as what is lexically determined. The figure oversimplifies the input from the lexicon, which also includes morphological structure: particular signs with particular categorizations may be associated with morphological bracketing, which can affect accent placement, for instance, as well as licensing rhymal specifiers. We can thus distinguish in both phonology and syntax between the phonological and syntactic structure determined by the categorizations provided by the lexicon and those structures associated with utterance. Syntax, however, is a single level of representation, fed by the lexicon and the context, while phonology expounds distinctly both, most immediately, individual words from the lexicon, and, structures fed by the syntax and context.



**Figure IV:** Substance, Modules, and Re-representation

As we shall see more explicitly in Chapter 13, the representations associated with the two levels of representation of phonology – associated with the lexicon and with utterance – are, of course, in both cases phonically-based, but also the same hierarchization of rhyme-head, syllabic (syllable-head), ictus, (the head of the foot!), and tonic or accent (head of the tone unit) is involved. But, aside from the difference in what is expounded or projected – minimal vs. non-minimal signs – the two levels of representation partly differ in those aspects of phonic substance that they invoke. And it is this substantive difference that motivates regarding the two sets of principles determining lexical vs. pre-utterance phonology as belonging to distinct sub-modules. The pre-utterance phonological sub-module unites, with representations, a sequence of lexical-phonological representations, and it focuses on contrasts in the tone of the tonic, or tone-bearing element, as well as the placement of the tonic within the utterance. These differ-



ences in tone and tone placement primarily expound the secondary features of mood and focus.

The lexico-phonological interface (including morphophonology) establishes basic rhyme and syllable and foot and tonic structure within words – and the placement of the tonic in the word is susceptible to various factors, so that it may differ, for example, in accordance with the primary syntactic category of the word. In pre-utterance phonology, which is the result of unifying individual lexical representations, as well as expounding syntactic structure, a lexical tonic may be re-represented as a pre-utterance ictus only and lexical items whose phonological structure is incomplete may be integrated into the pre-utterance structure. These associations are made by a sub-module that converts a sentence with individually expounded words into what can be implemented as (part of) an utterance – what we might call, rather clumsily, the sub-module of **pre-utterancization**. Chapter 13 offers a more extended though still succinct discussion of such phenomena involving the relationship between the two levels of phonological representation.

The chapter that immediately follows the present one, as indicated, looks at the basic elements of the phonology. It is high time that the minor features, in particular, were subject to more systematic scrutiny.

# Chapter 12

## Contrast and the Segment

contrast, lexical and syntactic – the contrastive segments and features – minimal specification – system-dependence – unity of the set of non-primary categories – polysystemicity – prosodies – part of speech and category – overlap of primary and secondary features – and in syntax: {n} and {p} – vowel length

Sequence within English syllables is not **contrastive**: once the segments and their sub-groupings (onset vs. rhyme) are known, their sequencing is determined by sonority and affiliation with either rhyme or onset, and, exceptionally, other aspects of categorization than what is reflected in relative sonority. This last determinant of sequence is illustrated by the specifier [s] of Chapter 11, whose placement is apparently contrary to sonority principles. I say ‘apparently’, because once the exceptional role of this [s] is recognized, its internal categorization can be represented as empty except for its valency, it is ‘{ \\{C} }’. Contrastively it has minimal sonority. We also found morphophonologically activated specifiers whose presence, along with { \\{C} }, accounts for apparently exceptional coda sequences. Overall, then, because of this general determinacy, sequence within the syllable cannot be used, except via onset vs. coda affiliation, to signal differences in the semantic content of signs; i.e. it is non-contrastive.

Though linearization is thus largely redundant within the syllable, in language use non-contrastive values may be appealed to directly. This is because linearity within lexical items is typically also stored, whether redundant or not. The role of non-contrastive distinctions is particularly evident with **associative contrast**, between segment-types in the same position (as discussed below) rather than the limited **syntagmatic contrasts** (such as onset vs. coda location) we have looked at. In a linguistic exchange, a redundant sonic aspect may, together with context, give a clue to the identity of a sign, perhaps recognized holistically, but only identification of the contrastive features is decisive. And the redundancies, as a potential part of our knowledge of language, and specifically about implementation, can be used to assess prospective words and in naturalization of loans, for instance.

The order of syllables is not determined in the same way as intrasyllabic sequence, however. In principle, change of order may be contrastive, may signal content differences. In English, however, this is not straightforward to illustrate, because of differences between the varieties of English, because placement of a syllable interacts with accent-placement, and because the identity of a syllable may be obscured by ambisyllabicity at its edges. But for some speakers of English the forms *degree* and *greedy*, for instance, to the extent that they differ only in

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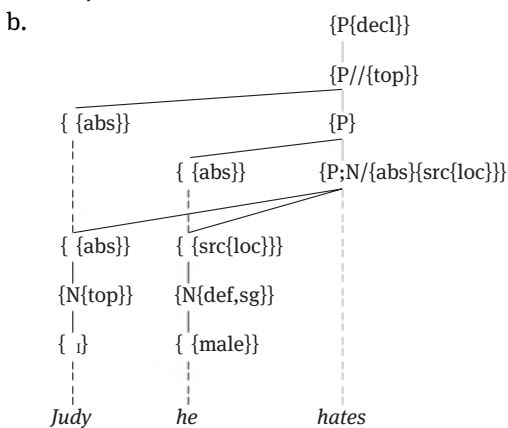
syllable sequence, can come close to being a **minimal pair** in this respect – though the latter is also transparently complex morphologically. The difference in notional content is expounded phonologically by sequence of the syllables alone. More obviously, perhaps, placement in onset vs. rhyme, as observed, can be contrastive, where membership of the two overlaps – as with *mix* vs. *skim*, where the onset and coda can be inverted, keeping the specifier outermost on serialization.

As we have seen, differences in the placement of accent may also be contrastive. The primary phonological difference between the identical spelling-forms *content* ‘happy’ and *content* ‘what’s inside’ is the accent placement. The vowel-reduction in the unaccented syllables can even be undone for exegetical purposes, so that both syllables are prominent, but they may also be even more strongly differentiated by accent: *I said con-tént, not cón-tent!* Accent placement in this case correlates with adjective vs. noun categorization and is associated with other notional differences. We have syntactico-phonological exponence.

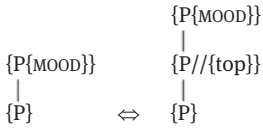
The other examples we have looked at all involve simple **lexical contrast**, and contrast is signalled by sequentiality, syntagmatically, but only restrictedly. We can distinguish them, in the first place, from instances of **syntactic contrast**, where relative sequence is contrastively fundamental. In the first place, the syntactic parts of speech are distinguished by relative sequence, though their identification is notional, and it is the notional character of their prototypical members that accounts for the sequencing. Variations in the sequence of categories can also be contrastive in a more familiar form.

The unmarked sequence in indicatives such as *He hates Judy* is in contrast with that in (125a), which expresses a marked topic, as represented in (125b).

(125) a. Judy he hates



## c. TOPICALIZATION



(125c) is available as an extension of the basic {P} in contexts thought to be appropriate for it.

We have seen too that placement of particular tonics can signal pragmatic contrastivity, as in (129a).

(129) a. She is leaving

And the contrastivity can be attached to items other than a {P}, to mark the contrastivity of what it signifies, as in She is leaving – which is in syntagmatic contrast with (129a). However, (129a) is in **associative contrast** with simple *She is leaving*. Other tone distinctions can participate in such, as illustrated by (128a), where the question mark is a crude indication of a tonal difference from simple *Gordon is leaving*.

(128) a. Gordon is leaving?

Here the question mark is a graphic signal of a particular semantically contrastive tone on *leaving*. And it is this tone that expounds the interrogative mood feature associated with the {P} that ultimately heads the sentence. In its absence, a different mood is signalled.

Syntax also exhibits associative contrasts that are not expressed by tone but by the form of subcategories, as in (140) (which might explain why Gordon could be leaving).

(140) a. Gordon saw her throttling him  
 b. Gordon saw her throttle him

Here we have an associative contrast expressing progressiveness vs. perfectivity (presumably not habitual in this instance).

Having drawn this distinction between lexical and syntactic contrast, and syntagmatic vs. associative within syntax, we turn now again to lexical contrast, and concern with the most salient exemplar of associative contrast in phonology. This is constituted by the individual segments that are grouped into syllables etc.

It is they who provide the familiar *kit* vs. *tit* vs. *pit* minimal pairs and triples that are taken to confirm their status as contrastive units. These provide associative contrast, to set beside (and dwarf) the syntagmatic contrast of syllable position: recall *degree* vs. *greedy*. The major concern of this chapter will be with outlining the representation of these contrastive units, and thereby introducing the set of universally-available substantively-based categories by means of which they may be distinguished. This set of contrastive features and the categories they belong to that are needed in English involves a subset of the set of phonological categories available to language in general. As we have seen, some of these are more perceptually salient than others, as well as being more easily articulated; and they may be more or less widely contrastive in different positions, as well as being present in many languages.

The primary categories of phonology were displayed in (24) of Chapter 3, where they are differentiated by combinations of features **V** and **C**.

|      |        |           |            |          |
|------|--------|-----------|------------|----------|
| (24) | {V}    | {V;C}     | {C;V}      | {C}      |
|      | vowels | sonorants | fricatives | plosives |

For expository convenience I shall continue to deploy traditional articulatory or acoustic class labels, while reminding the reader that these have no systematic status, unlike the categorizations they gloss.

When a representative of each of the categories in (24) is present in the same rhyme they obviously do not contrast with each other associatively; and indeed often only presence of a specifier allows such a sequential phenomenon, as in (*cl*)umps. As with the syntactic parts of speech their relative sequence distinguishes them, and they are identified by their substance, crucially its relative sonority. And this will underlie our eventual characterization of phonological parts of speech. It is only when they can occupy the same position that consonantal categories are in associative contrast, as in ‘minimal pairs’.

Vowels (as syllable heads) are in syntagmatic contrast with other syllabics – though, as observed above, other factors interfere with potential examples. Syntagmaticity also arises once it is registered that different sets of features contrast at different positions in structure, such as simplex onset vs. simplex coda: [h] and the velar nasal are never in associative contrast, for instance. This will be of some interest in later discussion here. But, for the moment, let us look at the overall set of segment types that are potentially contrastive in some position, i.e. associatively.

Voice in obstruents has been distinguished here by a secondary **v**, correlating with somewhat greater sonority for the segment concerned.

- |      |              |                 |                |                   |
|------|--------------|-----------------|----------------|-------------------|
| (26) | {C;V{v}}     | {C;V}           | {C{v}}         | {C}               |
|      | voiced fric. | voiceless fric. | voiced plosive | voiceless plosive |

We shall encounter shortly other representations where all the minor distinctions involve presence vs. absence of a secondary feature that has a primary congener, involving *c*; both of the major/minor pairs are generally attested: *V – v* and *C – c*.

In previous accounts in this area, however, I have also appealed to various other secondary and tertiary features, involving distinctions in features of a more conventional kind, though again interpreted as perceptual, despite the feature names used again being implementational. Contrastive English obstruents, i.e. obstruents that contrast in some position(s), need something like the further set of distinctions in (141a–b), illustrated for the voiceless obstruents.

- |       |                       |                    |                  |              |
|-------|-----------------------|--------------------|------------------|--------------|
| (141) | a. PLOSIVES           | {C{{u}}            | {C{i}}           | {C{u}}       |
|       |                       | labial: [p]        | coronal: [t]     | velar: [k]   |
|       | b. FRICATIVES         | {C;V{{u}}          | {C;V{i}}         | {C;V{i,u}}   |
|       |                       | labial: [f]        | coronal: [s]     | palatal: [ʃ] |
|       | c. CORONAL FRICATIVES | {C;V{i}}           | {C;V{i,u}}       |              |
|       |                       | strident fric: [s] | mellow fric: [θ] |              |

Coronals have the feature *i*, correlating with acoustic diffuseness and lack of gravity in the spectrum; but they are contrastively unmarked, as are others of the representations in (141); (141), however, tries to show relationships overtly, as suitable for implementation, rather than allowing for underspecification. Labials and velars in (141a) share the feature *u*, but the *u* in the representation for a labial is a secondary minor, or tertiary, feature, so that [p] is represented there as {C{{u}} – in alternative notation {C{ ;u}}. *u* (secondary or tertiary) correlates with gravity, but in the case of the labial it is not concentrated, or compact.

The palatal – more accurately, palato-alveolar – of (141b) shows a combination of the acuteness feature *i* and *u*. As indicated in (26), the voiced obstruents contrast with those in (141) by virtue of the presence of secondary *v*, as in {C;V{i,v}} for [z]. Where there is a contrast between strident and mellow fricatives, among the coronals, with dental as well as alveolar varieties, we can differentiate the more marked mellow/dental as in (142c). This brings out their perceptual non-saliency as mellow fricatives, and their similarity to labials, as manifested by trans-dialectal alternations such as occur in varieties of English with the initial segment in *thing* and *thanks*.

As already observed, the representations in (141) are overspecified. This is illustrated by the distribution of *i*. Its presence or absence with the tongue-body

obstruent depends on whether it is fricative or plosive, and the **i** is unnecessary in the representation of the coronals, which simply lack **i** contrastively; they contrast by lacking **u**, since they do not involve a closure peripheral to the upper vocal tract. So, eliminating redundancies, we can substitute (142) for (141).

|       |            |             |              |               |
|-------|------------|-------------|--------------|---------------|
| (142) | PLOSIVES   | {C{u}}      | {C}          | {C{u}}        |
|       |            | labial: [p] | coronal: [t] | velar: [k]    |
|       | FRICATIVES | {C;V{u}}    | {C;V{u}}     | {C;V}         |
|       |            | labial: [f] | coronal      | palatal: [ʃ]  |
|       |            |             | mellow: [θ]  | strident: [s] |

As observed, the tongue body obstruents are more concentratedly grave than the labial, indicated by the bracketing as secondary vs. tertiary. I've ignored here the voiceless velar fricative found in some varieties. The lexical representations in (142) embody **minimal specification**, including non-specification, as of coronals – thus maximizing expression of contrast. Lexically, coronals bear no distinguishing non-primary feature, they are unspecified – a notion we have already encountered in the syntax, in relation to both the major categories ‘name’ and ‘functor’.

I note finally here that English contrastive obstruents also include the compound consonants of (143a), the affricates initially and finally in *church* and *George* respectively.

|       |               |                |               |
|-------|---------------|----------------|---------------|
| (143) | COMPOUNDS     |                |               |
|       | a. AFFRICATES | {{C}{C;V}}     | {{C}{C;V}{v}} |
|       |               | [tʃ]           | [dʒ]          |
|       | b. AFFRICATES | { , }          | { , {v}}      |
|       | c. SONOBS     | {{V;C}{C<;V>}} | {{V;}{ }}     |

The two affricates differ in voicing. They are sequenced internally by redundancy, and similarly the fricative component could be made dependent on the stop (in accordance with counter-sonority), but I'm not clear what the motivations would be. However, as the only traditional primary-category compounds, they need no primary categorization – as represented in (143b). However, I suggested in the previous chapter that homorganic nasal/lateral + obstruent sequences might be treated as compounds, as represented in (143c), with redundant and underspecified representations – though the individual ‘place’ types will also need to be differentiated. Such ‘compounds’ are limited to codas, whereas affricates can occur in both onset and coda; they are the unmarked compounds. The extent to which ‘phonological compounds’ of major categories are analogous to compounds of major syntactic categories is pursued in Part III.

The various sonorant consonants were distinguished in terms of the secondary features **v** and **c** in Chapter 3, as in (27).

- (27) {V;C{v}}    {V;C}    {V;C{c}}  
           rhotic    lateral    nasal

Only one each of lateral and rhotic is contrastive in English, but nasals, the most consonantal of the sonorants, are differentiated as in (144a), where the simple combination in the velar is in contrast with the dependency in the labial.

- (144) a. NASALS            {V;C{c{u}}}    {V;C{c}}            {V;C{c.u}}  
                                   labial: [m]    coronal: [n]        velar: [ŋ]  
       b. SEMI-VOWELS    {V{u}\{V}}                    {V{i}\{V}}  
                                   labial: [w]                                    palatal: [j]

Perhaps the necessity of a contrastive simple combination of secondary features in the case of [ŋ] is associated with its eccentric behaviour compared with the other nasals: e.g. \*[#ŋ], \*intransitive {V} + [ŋ] (except in vaguely onomatopoeic *boing*) – though this distribution is historically motivated. Voicing and stridency are not relevant to sonorants in English in a contrastive capacity, but they have a redundant {v} (voice), to which morphophonological regularities are sensitive. So too with the ‘semi-vowels’ (and ‘full’ vowels). The semi-vowels [w] and [j] can be lexically represented as simply {V{u}} and {V{i}}: they are vowels that occur in the onset not the rhyme, as in *yell* and *well*. We can also differentiate between them and the corresponding vowels as in (144b) – i.e. by the presence of their overt modification of {V}. And that completes the set of sonorants in English that are contrastive in some position(s).

We can draw these potentially contrastive representations together as in Table VI.

**Table VI:** Classification of English Consonants

|               | LABIAL      | CORONAL    | TONGUE BODY | MAJOR |
|---------------|-------------|------------|-------------|-------|
| PLOSIVE       | {u}: [p]    | {t}: [t]   | {u}: [k]    | {C}   |
| voiced        | {v{u}}: [b] | {v}: [d]   | {u,v}: [g]  | {C}   |
| FRICATIVE     | {u}: [f]    | {s}: [s]   | {u}: [ʃ]    | {C;V} |
| mellow        |             | {c}: [θ]   |             | {C;V} |
| voiced        | {v{u}}: [v] | {v}: [z]   | {u,v}: [ʒ]  | {C;V} |
| voiced mellow |             | {v,c}: [ð] |             | {C;V} |



|             | LABIAL        | CORONAL             | TONGUE BODY  | MAJOR    |
|-------------|---------------|---------------------|--------------|----------|
| AFFRICATE   |               | { } : [tʃ]          |              | {{ } { } |
|             | voiced        | {v} : [dʒ]          |              | {{ } { } |
| SONOB       | <{{u}}: [mp]> | { } : [ld/nd/nt/ns] | <{u}: [ŋk]>  | {{V}{C}} |
| NASAL       | {c{u}}: [m]   | {c}: [n]            | {c.u}: [ŋ]   | {V;C}    |
| LATERAL     |               | { } : [l]           |              | {V;C}    |
| RHOTIC      |               | {v}: [r]            |              | {V;C}    |
| SEMI-VOWELS | {u}\{V}: [w]  |                     | {i}\{V}: [j] | {V}      |

SONOB CORONAL – coronal sonorant + obstruent – collapses various contrasting homorganic possibilities that we can recognize here as united by the homorganic **prosody** of the coda, a prosody that it may please the reader to formulate, on the model given below as part of forming phonological structure on the basis of (75a). The labial and velar sonobs, however, which, though they conform to the prosody, normally follow transitive vowels, do not violate coda size, and, strictly, should not be included in this set. The least complex fricatives, i.e. strident coronal and palatal, and affricates, are **sibilants**.

Table VI omits [h], which can be interpreted as lacking major categorization but being a minor fricative, not in contrast with sonorant, as represented in (145a).

But as a primary { } segment, it is in contrast only with its absence, and so the representation can be simplified lexically as in (145b), i.e. ‘{{ } }’. We can associate its distribution in English – basically only as the onset of certain kinds of syllables (word or foot initial, as in *joboba*, where its audibility is enhanced) – with this unique characterization. The glottal stop, where present in a contrastive system, can be characterized as the minor stop equivalent of the aspirate, i.e. {{c}}.

- (145)
- |             |            |       |
|-------------|------------|-------|
|             | MINOR      | MAJOR |
| a. ASPIRATE | {c,v}: [h] | { }   |
|             | MINOR      | MAJOR |
| b. ASPIRATE | { } : [h]  | { }   |

The distribution of [h] reminds us that what we have differentiated above is the membership of the maximal system of consonants. This system is reduced at various points in structure. Thus, for instance, as an extreme case, and as illustrated in the preceding chapter, the [s] represented as {\{C}} is the only possibility as a pre-dependent of an onset plosive, whose presence signals that the stop is

voiceless unaspirated: [s] here is a different contrastive unit from [s] elsewhere. This means also that in this environment the contrast between the aspirated voiceless and the unaspirated voiced plosives is lost in favour of an addition to the set of contrastive segments of an unaspirated voiceless plosive. We have another kind of contrast reduction, a **neutralization** of the two sets of plosives. Elsewhere, onset plosives contrast as {C{v}} vs. C{c,v}.

There are different sets of contrasts, then, at different positions, or might I say different ‘phonological parts of speech’. Each position is associated with a different **part of speech**. This is not recognized in Table VI, which ignores, for instance, the multifunctionality of [s], and the existence of neutralized plosives. Many contrasts are polytopical, found in different positions, or parts of speech, but not all. In default of recognizing a distinct monotopical neutralized unit in the case of onset plosives after [s], we would have to arbitrarily assign the plosives following syllable-initial [s] to one or other of the syllable-initial (or other non-initial) plosive classes. This [s] is also characterized by its unique position as belonging to a distinctive part of speech, whose members are {C} and its absence.

There are thus members of parts of speech whose categoriality is not acknowledged in Table VI. Contrastive representations are **polysystemic**: different systems of contrast are active at different positions, involving different parts of speech; the representation of alleged ‘allophones’ may have different contrastive features, though they show phonic similarity. Among non-nuclear segments, we can recognize the parts of speech **specifier, onset, post-onset, pre-coda, coda**, each associated with a particular relative place, and where one might suppose that post-onset and pre-coda presuppose the presence of onset and coda respectively. Cutting across this is the transitive vs. intransitive vocalic parts of speech, which differ in membership. Also, intransitives typically lack pre-codas.

A further kind of complexity is illustrated by the distribution of [h]. Its limitation to word or foot initial position means that the contrastive systems in these suprasyllabic positions is different from any other system. This suggests that the [h], or ‘rough breathing’ lies outside the systems of segments; it is a **prosody** of the word that is preferably realized foot initially, and if there is no foot-initial place that is free (unoccupied), it is word-initial even if the first syllable is unstressed. *Jobba* again illustrates both possibilities. In modern English the aspirate rejects post-onsets except the semi-vowels [j] (*huge*) and (in some varieties) [w] (*when*), which necessarily immediately precede the nucleus (see further below).

Ascribing complementary distribution to phonically similar segments contrasting at different places (polytopicality, or ‘allophony’) is somewhat more limited than is often assumed: these segments may contrast in different respects with the other members of their parts of speech, and thus not share a contrastive specification. The sibilants in *sit* and *spit* are an extreme case of this. More subtly,

the sibilants in *shoe* and *shrew* belong to different systems, in that the former is in contrast with the onset in *sue*, whereas [sr] is not a normal pre-nuclear sequence. In this context [ʃ] is the unmarked sibilant, {C;V}. Before [l] and nasals and vowels (as onset) it is [s]. The reader may derive some entertainment in verifying how different are the contrasts in different parts of speech and in different segmental contexts. This is one reason why I have avoided employing the term ‘phoneme’ (and its offsprings, also of doubtful legitimacy).

In simple CVC forms (onset-nucleus-coda), the initial and final systems are so minimally different – no final [h], no initial [ŋ], no final semi-vowels – that aligning (other) complementaries seems to be well-motivated, but this is not typical. And asymmetries have been created as a result of, for instance, the vocalization of post-nuclear liquids in some varieties; and the absence of [#dl-] and [#tl-] in many more; and any complication of this simple syllable structure drastically cuts down straightforward matches. Contrasts within the onset and post-onset when both are present are much reduced compared with within a simple onset, for instance. And this is unsurprising, given sonority requirements.

Consider again, for example, the consonant system after initial [s], but not just the plosives, where [s] is specifier. We might list the members of the systems as in (146), along with that for [#f-], and where the roundbracketed symbols are from doubtful forms, usually obviously foreign and unnaturalized, and [r] is present after #s only if a neutralized plosive is, and nasals are present only if [s] is the onset.

|       |                        |                 |                       |
|-------|------------------------|-----------------|-----------------------|
| (146) | <i>SPECIFIER/ONSET</i> | <i>ONSET</i>    | <i>POST ONSET</i>     |
|       | #s-                    | <π τ κ>         | j w <r> l             |
|       |                        | f (θ) (v) ≈ m n |                       |
|       | #f-                    |                 | (w) r (l) (m) (n) (τ) |

The lists in (146) are of course not definitive (whatever that term might mean in these circumstances); they are merely a sample dragged from my own mental lexicon. For the unaspirated voiceless stops I have used the letters from the Greek alphabet that represent the close-to-appropriate sounds in that language. These are not the only problem here in aligning the subsystem involved with other subsystems. In another respect, is the [ʃ] preceding the bracketed, and so marginal, segments like [n] – i.e. that associated with unassimilated ‘copy-words’ *schnapps*, *schnorrer*, and the like – simply to be equated with the [ʃ] of *shrive* or *shoe*? This is complicated by the fact, as we have touched on, that [ʃ] and [s] are neutralized before liquids and nasals – if we ignore loans such as *schlock* and *schmuck*. [s] cannot immediately precede post-onset [r]. We cannot say that one is an ‘allophone’ of the other, even though [ʃ] is otherwise marginal before post onsets – as shown in the last line in

(146). The two fricatives contrast if no consonant follows – as in *ship/sip*, but [ʃ] occurs before [r] and [s] before [l]. Where they don't contrast, we have a neutralized category – which only arbitrarily can be paired with one or other of the contrastive [s] and [ʃ] that is appropriate. [s] and [ʃ] are contrastive units (CUs): they contrast in at least one position, but not as members of at least one part of speech, the onset, when it precedes certain members of a post-onset. Table VI and (145) enumerate unneutralized CUs, but say nothing about either parts of speech or local contrast reduction. Moreover, the marginality of [ɾ] following [ʃ] suggests that the latter, when pre-nuclear, is only ever an onset, whereas [s] is a specifier when preceding plosives. We return to the relationships among parts of speech below.

A rather different, but also familiar, system reduction occurs in onsets that precede [l]. Here the unmarked plosives [t] and [d] are lacking in most varieties of English. \*[#tl/dl]. In others a different plosive pair is lacking in this environment. In the majority variety of English, [t] and [d] are absent from the onset part of speech before post-onset [l], but on the basis of their distribution elsewhere they are CUs, nevertheless. However, the set of contrastive plosives is different in this environment and the set of contrasting features distinct from elsewhere, so that [p] can be unmarked and [b] its voiced equivalent. The unmarked plosive is different in different environments.

[l], once more, but post-vocally, where it is 'dark', compact/grave, tends to vocalize in this environment; and even in rhotic dialects, where [r] is retained in such an environment, [l] before [m] has disappeared in *balm, palm, psalm, alms*. Contrast the situation with the non-compact non-grave vowels in *film* and *elm*, with retained [l]. There has also been 'rounding' of the vowel in *bald, scald, malt, salt, mall* (*asphalt* and *gestalt* are 'loans'). [r] and [l] are of course CUs, but their distribution in parts of speech is varied. Such phenomena complicate both the consonant and the vowel system, adding to the variety of different sub-systems. And they are not uncommon.

Another factor in the description of sub-systems is also familiar. In a coda containing a nasal and an obstruent the 'place of articulation' is shared: it is a secondary property of the cluster. Such a cluster we looked at in Chapter 11, where the lexical structure of the syllable containing it was given the shorthand representation in (75a).

(75) a. [g,r,[t,n,a]]

In view of the shared status of 'place of articulation', we can perhaps expand the unordered transcribed rhyme of (75a) as {{C}{V;C{c}}{V{v}}}, where the absence of a {u} with the plosive (recall Table VI) must be shared by redundancy with the nasal. We have a form of rection, or indeed a prosody. Alternatively, or also, we can take

these post-vocalic sequences to be compounds, as in Table VI (SONOB). This might correlate with their presence after intransitive vowels such as those in *point* and *round*, where otherwise we have an over-long rhyme.

Perhaps a syntactic analogue to phonological prosodies lies in the distribution of gender in determiner phrases, whereby the gender of the noun is attached to superordinate {N}, and is blocked at the beginning of the phrase. I formulate this tentatively as in {N;P{GENDER::x}}\{N{GENDER::x}}, where 'x' is a variable over genders. More local would be the gender prosody with pronouns and names: I suggest { {GENDER::x}\{N{GENDER::x}}}, where the {N} governs the { }.

The existence of subsystems means, among other things, that we can attribute to phonology a distinction between 'parts of speech' and categories rather different from what seems to be appropriate in syntax, but sharing with syntax the syntagmaticity and substance-dependence of a part of speech. For instance, we have seen that onset [ʃ] is absent before [l] and [s] is absent before [r]. Also rejected before [l] is [θ]. We have a distinctive member of the initial part of speech in the environment of a following liquid, a member we can categorize as {C;V}. This categorization is shared with the initial [s] in *sip*, but the pre-liquid segment is a distinctive member of the part of speech when preceding post-onset liquids, with variant realizations, [s] and [ʃ]. This neutralized member contrasts, as far as strident fricatives are concerned, with {C;V{u}}, [f], which occurs before both liquids. The post-{C;V} liquids too belong to a neutralized member of their part of speech (post-onset) from those in *plop* and *prop*, and the neutralized liquid has a variant realization, either variant 'agrees with' one of the fricatives. There are parts of speech where only one of an elsewhere contrastive pair appears, a distinct variety of neutralization from the neutralized plosives following specifier [s]. No neutralization is involved with [fr/fl], *free*, *flee*.

Further, I have suggested that onset [s] before a plosive belongs indeed to a different part of speech, specifier, from the [s] of *sip*, with a very different contrastive categorization, { \{C} }, and only redundantly sharing {C;V} with the fricative in *sip* as a CU. And the plosives following { \{C} } have different contrastive categories from those of the plosives in, for example, those in *bit* and *pit* in the case of *spit*. Moreover, a member of this post-{ \{C} } set of categories is not even to be identified redundantly with either of the initial segments in *bit* and *pit*. In this respect, the representations for plosives in Table VI are misleading. In *pit* and *bit* there is a contrast between aspiration and voice, {C{c,v}} and {C{v}}, or minimally, eliminating redundancy, {C{c}} vs. {C{v}}: the contrast is equipollent; and the neutralized plosives following { \{C} } are distinct CUs, {C}. This {C} may be equated redundantly, in the labial instance, with the final consonant in *snip*, allowing for differences contingent upon coda vs. onset position, whereby the latter contrasts with *snib* simply in terms of voiceless vs. voiced.

But such an identification is phonologically irrelevant – though it simplifies an orthography.

Table VI plus the representations of aspirates and specifier [s] – which might both be grouped as variants of a contrasting segment – list those segments that contrast at some place in structure, as a member of some part(s) of speech, as a CU, but they do not reveal the full pattern of contrast characteristic of English. Such a table must be supplemented by a listing of the members of the phonological parts of speech and the interaction between co-present parts of speech. Phonological parts of speech (onset, nucleus, coda, etc.) share with the syntactic (noun, verb, adverb, etc.) differentiation based on position, even though in the phonology the position is determined by simple redundancy, in particular based on relative sonority. Nevertheless, phonological and syntactic parts of speech are both manifested syntagmatically and correlate with substance.

Another question that arises in connection with phonological parts of speech is whether any of the non-nuclear ones are obligatory. The simple answer might seem to be ‘no’. However, this leads on to a further question, skipped over above: if, for instance, there is only one pre-nuclear segment (for instance) present, does it necessarily count as an onset rather a post-onset, or could it be either depending on whether the segment-type is typically an onset or a post-onset when both parts of speech are present? Thus, on the latter assumption, implied in the preceding discussion, the [l] in *lip* would be a post-onset that lacks an onset, given *slip*, *flip*, *clip*, *blip*. The part of speech would then correlate very directly with content, on account of the typicality of sequencing in accord with relative sonority. However, in analogy with syntax, suppose that the [l] in *lip* appears in onset position only by conversion. Onset [l] belongs to a complex part of speech. I return to this view after we formulate more precisely the basic parts of speech.

We might illustrate the non-nuclear general approximate pattern, in these terms, in (147a), where the parts of speech are distinguished by italicization.

(147) a. *PART OF SPEECH*

|          |          |           |            |          |            |          |          |
|----------|----------|-----------|------------|----------|------------|----------|----------|
| <i>S</i> | <i>O</i> | <i>PO</i> | <i>PrN</i> | <i>N</i> | <i>PrC</i> | <i>C</i> | <i>S</i> |
| {\}      | {C>}     | {V>}      | {V\{V}}    | {V}      | C          | {C>}     | {\}      |
| {<V,C>}  |          |           |            |          |            |          |          |

b.

|      |     |           |    |
|------|-----|-----------|----|
|      | {O} |           |    |
| {PO} | ↔   | {PO}/*{O} | __ |

$$c. \quad \{PrN\} \Leftrightarrow \begin{array}{c} \{O\} \\ | \\ \{PrN\}/*\{O\}\_ \end{array}$$

They are distinguished by sequence, though the post-nuclear specifier, apparently, may also precede the coda. The line of categorial representations below is intended to indicate the typical pattern of membership of the part of speech concerned; it recognizes the diversity of possibilities. Recall that 'X>' is to be interpreted as 'has a predominance of X', while 'X' is anything containing X, and {<X,Y>} as 'some combination of X and Y, including the null'. The category sequence is subject to the relative-sonority hierarchy, but it ignores morphological extensions, particularly in the coda and pre-coda and in the coda distribution of the specifier. But this patterning and the pervasiveness of neutralization begin to illustrate how incomplete and inaccurate 'phoneme' theories are as accounts of phonology. What requires much attention is the content of parts of speech.

This returns us to the status of [l] when it does not follow a distinct onset. I suggested above that such post onsets occur in onset position by conversion, which we can now formulate as in (147b). This assumes that post-onset presupposes onset, and a post-onset segment can occupy onset position only by conversion to an onset. A post-onset segment is a marked onset, with a less optimal consonant, in less marked contrast to the nucleus. However, the significance (if any more than this) of this proposal awaits investigation. Similarly, by (147c) the pre-nuclear semi-vowels may be converted to onset; and there may be a similar situation in the coda.

There is an interesting discrepancy between pre-nuclear and post-nuclear parts of speech. In the case of the former, the onset part typically comprises obstruents and the post onset sonorants, including semi-vowels, whose combinatory possibilities are very limited and variety-dependant. Following the nucleus, though there is a general conformity to the relative sonority hierarchy, the sonority differential is often slight, between adjacent positions. It is not just that, even ignoring the distortions associated with specification, there occur [-kt] and [-pt] and such fricative + plosive sequences as we find latterly in *aft*, *cusps*, *whist*, *swift*, and *cast*, and others due to the morphology (*cached*, *lurched*, *moved*, etc.); their onset inverses are lacking or uncommon. Also there are sonorant sequences whose sonority differential depends on a minor feature or features, as in *film*, *kiln*, and (in rhotic varieties) *churn*, *earl* – though often, as noted, these sonorant clusters attract an intervening [ə] or vocalize.

It is often possible to establish 'allophones', phonically similar locally contrastive elements associated with different parts of speech whose only differences can plausibly be accounted for by their context. But such activity is marginal to the function of phonology, and prepares a transition to implementation and possi-

bly orthographicization. And such ‘allophones’ will typically be in contrast with a different set of segments in each part of speech, and thus may have a different representation appropriate to discriminate it from the co-members of its part of speech.

For a further familiar example, the two onset and post-onset nasals can be distinguished in both parts of speech as {V;C{c,u} and {V;C{c}}, but in the coda there are three contrasting nasals, which are distinguished in Table VI. In the pre-coda there is only one, neutralized nasal, which ‘agrees’ in ‘place’ with a following obstruent, but only [n] occurs with a following voiced plosive or non-inflectional voiceless fricative, involving an alternative kind of neutralization. In the onset there is no need to differentiate between the labial and a velar, so the representation of the former in this part of speech can be simplified as above. This gives us a complex pattern of contrastive content at the different parts of speech.

The function of phonology as the exponential part of a sign is to identify the sign or signs, holistically. ‘Allophony’ – better, being identifiable as a member of multiple parts of speech – anticipates implementation, as I have insisted – and otherwise is primarily of interest when devising and using a writing system or transcription, especially an alphabetic one. But standardized alphabetical systems often over time come to reflect etymology rather than synchronic content – as with the now over-familiar *divine/divinity* pairs. Synchronically, the alternations associated with such pairs have a morphological function – for those users of English who have a knowledge of them and their relatedness.

We turn finally to focus on vowels, which occur in the nucleus, their principal part of speech, but there are also two that can also be assigned to the pre-nucleus and onset. They are all categorized as {V}, but accentable vowels are differentiated into transitives and intransitives, the bifurcation of the part of speech categorized as respectively {V/} vs. {V}. Transitivity is not relevant to unaccentable vowels, which can be either, and are differentiated by an optional /, i.e. {V</>}, [-ə]. As discussed above, semi-vowels are {V\} and occur in the prenucleus.

I take as an exemplar of English vowels the much-described system of RP and related accents, while acknowledging that still other varieties show systems that diverge from this to varying degrees. We are not concerned here with variety as such, but at this point, for consistency and simplicity, a selection of a reference variety must be made. And RP has not only been extensively studied, but also at least has a larger inventory than some other familiar varieties (even if we ignore non-rhoticity) – and I can’t be accused, in this instance, of ‘my-accent/variety-ism’ (Me belong talk no-same-as RP).

I address firstly the most extended vowel system, that which is exhibited in syllables that can bear a full (tonic) or a secondary (ictus) accent. A word like *nightingale* contains a sequence of fully accented (with superordinate tonic), unaccented, and secondarily accented syllables. The system we shall mainly look at consists



of this **accentable** set. The **unaccentable**, or ‘reduced’, system obviously consists of vowels that occur only in unaccented syllables, and are produced with reduced prominence, most obviously in the case of [ə]. The accentable system of vowels of accented syllables includes the system associated with the **transitive-vowel** sub-part of speech ({V/}), which consists of six members, as in the top box Table VII.

**Table VII:** Classification of Vowels of Accentable Syllables

|                                |       |                |          |                 |                 |                |
|--------------------------------|-------|----------------|----------|-----------------|-----------------|----------------|
| TRANSITIVE {V/}                |       |                |          |                 |                 |                |
| {i}                            | [i]   | <i>pit</i>     |          | {u}             | [ʊ] <i>put</i>  |                |
|                                | {i,v} | [ɛ] <i>pet</i> | {}       | [ʌ] <i>putt</i> | {u,v}           | [ɒ] <i>pot</i> |
|                                |       |                | {v}      | [a] <i>pat</i>  |                 |                |
| INTRANSITIVE {V}               |       |                |          |                 |                 |                |
| {i}                            | [i]   | <i>pea</i>     |          | {u}             | [u] <i>pooh</i> |                |
|                                | {i,v} | [e] <i>pay</i> |          | {u,v}           | [o] <i>po</i>   |                |
|                                |       |                | {v;u}    | [ɔ] <i>paw</i>  |                 |                |
|                                |       |                | {v}      | [a] <i>pa</i>   |                 |                |
| COMPLEX INTRANSITIVE {V{x}{y}} |       |                |          |                 |                 |                |
| {v}{i}                         | [ai]  | <i>buy</i>     | {u,v}{i} | [ɔi]            | <i>boy</i>      |                |
|                                |       |                | {v}{u}   | [aʊ]            | <i>bough</i>    |                |

Within the transitive set in Table VII, in some varieties of English, both cis- and trans-atlantic, the contrastive unit [ɒ] is absent. Others, especially Scottish, lack it and both [ʊ] and [a] – or rather the contrasts [ɒ≠ɔ], [ʊ≠u], [a≠ɑ]. Other, Northern English, for example, varieties lack the [ʌ] vowel that, as an isolated central vowel between two other mid vowels, I have represented as a transitive unspecified by minor features. More generally, a transitive vowel that immediately precedes the beginning of a foot, as in the first syllables of *ability* and *medallion* and *illegible*, does not have its transitivity satisfied, and may be reduced.

In the middle box, the tabulation offered here, of the simple **intransitives**, also six-membered, omits variation in vowel system occasioned by differences in the fate of historical coda [r] and what immediately precedes it (despite my confessed model), since non-rhotic systems don’t generalize very much to other varieties. We touch on this below, however. This **non-complex**, or monophthongal, intransitive subset also includes vowels that are realized as diphthongs in many varieties of English, as suggested by some of the (italicized) alphabetic transcriptions in Table VII. I nevertheless include them in the present set, given their non-generality and the frequently marked difference in character between them and those vowels that regularly involve **complex** secondary features, i.e. those in the following set in the table. The former diphthongs are narrow, with short glides, the latter are typically wide, as well as being long-established.

As with the primary categorization of the affricates, the secondary components of the complex intransitives are sequenced and could have (pro-sonority) dependency attributed by redundancies – but again I’m not sure of the motivations for this, apart from generalizing dependency. If the complex contains a **v**, the element in the complex containing it precedes (and possibly) governs – a not unusual situation in languages. The rhyme in *few*, however, lacks a simple **v**, and, again unlike the others, its first element depends on the second, or is shared with or even belongs to the onset; some such status has been represented by the common transcription [ju]. However, [j] can precede (other) vowels as apparently their onset, exemplified by *yes*, with initial [j] – as can [w], as in *we*. Recall the treatment of semi-vowels proposed above.

The monophthongal intransitive set in Table VII is rather asymmetrical (partially concealed by the layout), a not unusual situation in language systems. And the complex set of intransitives below it in the table has a {V{u,v}{i}} vowel, i.e. [ɔɪ], but not a complex {V{i,v}{u}} vowel, and, as observed, the [ju] ‘vowel’ is markedly different from all three others. Adopting minimal specification, we might represent the anomalous complex [ɔɪ] as {i,u,v}, a simple combination of all the secondary features, which is ‘structured’ by redundancy (148a).

- (148) a. {i,u,v} ⇒ {u,v}{i}  
 b. {}{i} [aɪ]    {,u}{i} [ɔɪ]    {}{u} [aʊ]  
 c. {v}{i} [aɪ]    {i,u,v} [ɔɪ]    {v}{u} [aʊ]  
 d. {} ⇒ {v}

But the **v** in all three of these ‘rising’ (in height) complexes is redundant, so that we might represent the secondary specification of them all as in (148b). Redundancy (148d) gives us the system in (148c), with **v** introduced to fill any blank, including a partial one, as in the representation for [ɔɪ].

And the asymmetry of the simple intransitive system is resolved if we recognize that [ɔ] is the odd one out. It is the non-low intransitive vowel that lacks a front unrounded congenener. If it is unspecified, we get the picture in Table VIII rather than that in Table VII.

**Table VIII:** Alternative, Underspecified Simple Intransitive Vowel System

| INTRANSITIVE {V} |     |                |  |       |                 |
|------------------|-----|----------------|--|-------|-----------------|
| {i}              | [i] | <i>pea</i>     |  | {u}   | [u] <i>pooh</i> |
| {i,v}            | [e] | <i>pay</i>     |  | {u,v} | [o] <i>po</i>   |
|                  | { } | [ɔ] <i>paw</i> |  |       |                 |
|                  | {v} | [a] <i>pa</i>  |  |       |                 |

The value of { } will be filled in by redundancy as {v;u}, giving the derived asymmetry, which also necessitates derived asymmetry in the representation of *po* – {u;v}. The system in Table VIII is identical to the transitive system of contrasts. Fuller specification disguises the identity of the system of contrasts.

Phonological contrast is concentrated in the minimal specified categorization that, along with the categorization of the content pole of a sign, is expressed redundantly by the fully-specified phonological representation that is suitable for articulatory implementation or as a basis for interpretation of the sound of speech. Compared with implementation, minimum specification is an idealization of course; but it captures contrastive status in the grammar that is intended to represent our potential knowledge of language. Particular mental lexicons harbour redundancies and routinizations, and in general we can often perceive and utilize (in recognition, for instance) non-contrastive distinctions. And the proposed representational system is well-equipped to express such more extended representations, given its capacity for increasingly complex combinations.

However, minimum specification expresses the maximum systematicity that can be associated with a lexical representation. In these terms, the lexical representation of members of the system shows minimal – including absence of – specification, and is expanded by redundancies that apply generally in the lexical items in the language, in preparation for the interface with implementation. At both levels, underspecified and not, as we have seen, the contrastive representations, are also system-dependent. In another language, or variety of the ‘same language’, the representation of phonetically similar segments may differ from how they are represented in the language of our current concern. Moreover, the system is polysystemic: different systems may occur in different circumstances within a particular language variety. Table VII already differentiates subsystems in accordance with transitivity. And other factors introduce systemic variation of this sort, indeed more drastic differences.

In all varieties of English there is a general reduced system in some unaccented syllables; there occur in the reduced unaccented set only two vowels, one of them, the most common, again mid central. If we assume that these can be paired non-contrastively with members of the full system, we can represent these reduced vowels as in {V{ }<{C\{V}}>} and {V{i}<{C\{V}}>}, with optional (< >) modifiers: the latter contrasts with its absence. The former occurs in the first syllable of *phonetic*, and the latter in its final syllable and that of *funny*. The members of the system contrast with the main system in rejecting the possibility of an ictus. But they are frequently ‘in free variation’ (a term which conceals various differentiating factors) with a ‘full’ vowel, as a ‘weak’ variant, as with the vowel of the pronoun in *my father/dad*. Accentable {V{i}</>} and ‘reduced’ {V{i}<{C\{V}}>} are implemented by similar sounds, however; so that the status of the vowel with a coda in the last

syllable in *phonetic* is questionable. In such a case it is only necessary to invoke reduction if there is other evidence for a weak form, as in the last syllable of *She was singin'*, where the unmarked nasal is substituted for the more complex velar. We shall return to the 'weak form' phenomenon in the final chapter.

In non-rhotic varieties there is added, along with the intransitive [ɜ], various diphthongal intransitives in [-ə], with first elements similar to transitive vowels; the number of these vowels is often reduced by mergers and monophthongizations. The realization of these additions is complicated by the replacement, partial or total, by [r], of this central vowel, before another vowel, as illustrated by *steer* (no [r]) vs. *steering* (with medial [r]). This phenomenon distinguishes this particular variety-specific subsystem from other, 'normal' intransitive vowels. Many instances of this [ə] were followed by a historical [r], but not all. I shall not dwell on this widely discussed phenomenon.

The overall part-of-speech system of lexical segments of (147) makes crucial reference to the primary categorial features. Phonological segments are partitioned categorially by the following primary dimensions: the nucleus filled by {V} vs. every other part of speech and its categorizations; the other parts of speech correlate with groupings of the primary categorial dimensions among semi-vowels and non-vowels of sonorant to aspirate, involving simple and asymmetrical combinations; simplex vs. compound; transitive vs. intransitive among vowels. And the further description of the system deploys a universally available set of minor features, consisting of **v,c,i,u**. The set is in common between vowels and consonants – though in English we need not appeal contrastively to voiceless vowels, i.e. the combination {V{c}}.

This sharing of minor features between vowel and consonant is only partially replicated in the syntax: those minor features that have primary congeners, notably **p** and **n**, are supplemented by a diverse range of other features only some of which belong to each of verb, nouns, or adjectives or pairs of these. We can associate a very non-prototypical verb like *exist* with presence of the minor category {n}, and relational nouns such as *back* with the presence of {p}. Similarly, we can relate the unmarked adjective sequence in *tall Dutch sailor* with the greater nouniness of *Dutch*, so {P:N{n}}, rather than simple {P:N}. And relational adjectives like *afraid (of)* may be {P:N{p}}. Stative verbs such as *know* could be {p.n}. Otherwise, however, the minor features of syntax are mostly primary-category specific, and much more varied than in phonology.

And this has to do again with the greater structural and categorial complexity of the syntax that we have already encountered, and shall start to explore further in Chapter 14, as a prelude to the concerns of the subsequent Parts. However, we shall find not only that the phonological major and minor phonological features may show even more overlap than we have seen so far, but also that many sug-

gested syntactic minor features can be decomposed into structures that articulate their content.

There is another concept even more in focus in the present chapter than the overlap between major and minor features that raises questions concerning analogy. This is the notion of contrast. We have seen that signs may be distinguished by differences in syntagmatic arrangement of their exponents or by the associative contrast among the basic units illustrated by minimal pairs (*pat* vs. *bat*, etc.). And the phonological parts of speech contrast in sequence; [ti] vs. [it]. We have also seen that syntactic constructions can be differentiated by associatively contrasting intonational contrasts that constitute part of the phonological sub-module of syntax, as in (128a).

- (128) a. Gordon is leaving? Gordon is leaving  
 b. Is Gordon leaving?

Moreover, they may be differentiated by syntactic sequence, as with ‘inversion’ interrogatives vs. declaratives, as in (128b). These constructions vs. their simple indicative congener differentiate alternative features of {P}: they are contrastive. Contrast is a property of both planes.

But certain important differences must be observed. Despite recognition of polysystemicity, there are situations where it is appropriate to suggest **complementary distribution** for allotopical variants of a common contrastive unit: there are recurrent subsystems where the realizations of (some of) the members of the part of speech may be in common but vary according to (sub) systemic context. The absence of [h] from English codas – indeed from every position except word or foot initial – does not throw into question the large number of complementarities between the two sets in CVC syllables. These are alternative realizations of the same contrastive unit defined in the different contexts by a large overlap in the set of contrasts. The same set of contrasts may be said to turn up in different environments provided there are allowed minimal adjustments in the realizations. But recognition of polytopicality is merely a preparation for implementation.

Canonical here are redundancies that apply or don’t apply depending on the context. In some languages voiced fricatives are representationally optional expansions of voiced plosives in certain (particularly intervocalic) environments. Thus, [d] alternates with [ð], {C{v}} vs. {C;V{v}}. However, what we have here is neutralization of the fricative/plosive contrast among voiced obstruents: the plosive and the fricative are alternative manifestation of a single polytopical CU. Similarly, but differently, the aspiration of the plosive in *pill* that is lacking in that in *lip* can be associated with presence or absence of a {c;v}, i.e. {C{c;v{u}}}

{C{{u}}}. But there is nothing in the position [#s-] to complement them, nothing in contrast with a voiced plosive. Here complementarity breaks down. Nevertheless it is not uncommon in phonology, though it is an economy that is of marginal phonological interest, except for the orthographer.

Such a notion is not appropriate to the characterizing of the syntactic parts of speech, however. They are differentiated precisely as classes of lexical items that are in complementary distribution in structure with all other such classes; the latter are different parts of speech. Of course, there can be distributional overlaps, such that particularly a non-prototypical shared member of two classes might in terms of its syntax be assigned to either class, as in *They are American(s)*, with morphologically differentiated predicative noun or adjective. The plural ending distinguishes noun from adjective, as does presence of an article in the singular. Other apparent distributional overlaps are on investigation more clearly not such. This can be illustrated by *He looked very angry/angrily*. Here the adjective is predicative complement to an intransitive verb and the adverb is a manner circumstantial to a transitive verb. However, this is just one strand in our ongoing concern with the nature of ‘part of speech’.

The preceding brief survey of the segmental system of English lexical phonology, whose main purpose was to illustrate the properties of the system of representation, was triggered at this point by the need to explicate aspects of the representations that were given in the preceding chapter in particular. In that chapter we were concerned with the sub-modules of phonology and their interaction. We saw that, as in syntax, we can recognize a sub-module concerned with dependency relations and one concerned with linearization. But, unlike in the syntax, linearization is not largely determined by the dependency relations assigned in the other sub-module; unlike in syntax, linearization is not in a derived re-representational relationship with dependency relations. Rather, sequencing of segments refers intimately to the grammaticalized substance of the segments themselves, specifically their relative sonority, as well as whether the segments belong to the inner set that with the vowel forms the rhyme. Thus, for instance, the sonority-determined sequencing of the rhyme determines which segment is the complement of transitive vowels. And the dependency relations themselves reflect sonority, so that consonants depend, directly or indirectly, on a vowel, or counter-sonority, so that more sonorous consonants depend on adjacent less sonorous.

We saw too that because of the relationship of phonology, to both syntax and lexicon, the plane shows a further distinction between **lexical** and **pre-utterance phonology**. Phonology expounds not just the items taken from the lexicon but also the syntactic structure projected by the non-phonological categorizations of these items and stylistic and other variations on these structures. We have two

interacting sub-modules structuring these different domains phonologically – lexical items and the syntactic structure of utterances. We look at the nature of this interaction, in the context of a brief consideration, in the next chapter of Part I, of phonological structure above the syllable. In providing representations for the segmental basis of much of suprasegmental structure, the present chapter serves as a bridge between the concerns of the previous chapter and those of the following. It does this via the observation that both syntax and phonology have a lexically-based and a sentence-based sub-module. In the case of syntax, recall, pre-utterance structure is built not just on the basis of the categorization of lexical items but also on awareness of the context of utterance, as well as the encyclopaedic knowledge attached to lexical items.

In Chapters 13 and 14 taken together suprasegmental phonological structure is contrasted in general terms with structures involving syntactic categories, and substantive motivations for the discrepancies between the two planes are offered in a preliminary way. The discussion in Chapter 13 is a prelude to looking more exactly at how, in Chapter 14, these different motivations relate to the existence of more complex syntactic structures than we have contemplated so far, which will be a major concern of Parts II and (particularly) IV. We shall find some further analogies between the two planes, but also a marked difference in the elaboration of structure associated with them.

Let us not leave this chapter, however, without emphasizing the importance of establishing what is contrastive, which, for instance, cannot be equated simply with what is stored. Everyone's lexicon is a repository of much redundant information, information that may but need not be invoked in language use. Contrastive information is the minimum that must be used, and this involves the recognition of both parts of speech and polysystemicity. The importance of identifying where contrast lies in languages is perhaps most obvious in relation to phonological representation, both lexically and syntactically based. This is because in its case there is no other systematic phonic level of representation. Phonetic representations are often described as more or less 'narrow' or 'broad'; and they usually take the form of orthography-based 'transcriptions'. But such descriptive labels are themselves more or less arbitrary, as well as perception of them being language-/speaker-particular. The cut-off point for discrimination of non-contrastive phonetic distinctions varies from speaker to speaker and language to language.

The recognition of contrast can be disrupted by foreign intrusions, and particularly by the equation of phonological units with optimal orthographic representations of the sounds of a language. 'Optimal' involves, orthographically, the requirement that the number of graphs be minimalized. This means that the initial segments in *sit* and *spit* must be spelled in the same way (as they traditionally are), even though, as we have seen, they enter into almost totally different

patterns of associative contrast associated with distinct parts of speech. Similarly, in an optimal orthography the second segment in *spit* must be equated with the first segment in either *bit* or *pit*, even though the relevant segment in *spit* neutralizes the distinction between the latter two segments and is even unlike both. But such concerns with economy are not relevant to phonological representation. Associating phonology with such (crypto-)orthographic concerns is a taint of the littera framework and, more recently, traditional ‘phonemic theory’ that I’ve endeavoured to avoid.

At the same time, it is confusing to equate phonological units with the expression of morphophonological relations or morphophonological units. The first syllables in the derivationally related forms *sign* and *signal*, or *moron/moronic* – or indeed the paradigmatically related *find/found* and *mouse/mice* – do not contain the same vowel phonologically, but the vowels are in synchronic alternation, with selection depending on the morpho(phono)logical context. And *vice* vs. *vicious* show both this and, in the derived form, the morphophonological expounding of the segments each side of the morphological boundary as a single phonological segment, an instance of what I have called ‘frotting’. Such phenomena will be a major concern of Part III. But remarking on their exclusion from the phonological plane seemed appropriate at this point, in clarifying the status of contrastive phonological representations as envisaged here. The results of ‘frotting’ are the concern of the morphophonological interface.

A final (repetitive) word on polytopical contrastive units, CUs, that are differentiated by the same contrasts in different positions, or parts of speech. Perhaps the most striking consequence of recognizing polysystemicity based on the phonological parts of speech is that the set of polytopical contrastive units is much more restricted in number than often assumed. As we have seen, this is because potential polytopical variants (‘allophones’) will require different contrastive characterizations if in different positions they are in contrast with different groups of contrastive units. Table VI, for instance, recognizes three nasal units which are in contrast in at least one position. Thus we can distinguish in codas the three represented there as {c{u}}: [m], {c}: [n], and {c.u}: [ŋ]. However, there are only two nasals in (post-)onset position, informally transcribed as [m] and [n]. It is therefore unnecessary to distinguish [m] from [ŋ] there; so that [m] can be represented contrastively as {c,u} (some combination of **c** and **u**), in the lack of a {{c{u}}} (where **u** is subordinate to **c**) vs. {c.u} (**c** and **u** are equipollent) contrast. I have suggested that the reader may derive some distraction via establishing how few cases of ‘allophony’ can be substantiated, given the presence of differences in contrastive specification.



# Chapter 13

## Restrictions on Phonological Structure

substance and structural complexity – planar discrepancies in categorization – the {c,v} hypothesis – monosyllabic signs and phonological autonomy – polysyllabics and the role of the lexicon – vowel-reduction – ambisyllabicity – more on lexical vs. pre-utterance phonology – substantive constraints on phonological structure – complementary distribution

Parts II–IV of this book will be largely concerned with the further complications to the content plane that have to be attributed to the lexicon and syntax in addition to the basic aspects introduced in this Part. We shall also be concerned with the motivations for these elaborations in representation, which essentially come from the need to represent complex cognitive scenes. We need to be able, for instance, to represent ‘scenes within scenes’, and ‘scenes viewed as entities’, and ‘scenes defined by participation of a type of entity’ and vice versa. We have already begun to encounter some of this in examining derivational relationships, whereby a noun, say, is based on a verb and inherits some of its verbal characteristics; it is ‘an entity defined by its participation in a scene’ – as with *student*, where the content of the noun is largely determined by (ostensible) participation in an occupation. But there are also more properly syntactic means of accommodating such complexity. I shall elaborate on these a little in Chapter 14.

We can contrast these elaborations with the more limited structural properties that need to be and can be associated with phonological representations. This discrepancy is in part to do with the relative homogeneity of the domain grammaticalized by the phonology, and by the limitations imposed by its association with physical implementation. Thus, it is phonetically implausible to posit phonological (as opposed to morphological) relationships that involve change of, or acquisition of a new, phonological category, rather than simply the addition of redundant categorization. It makes no sense to derive synchronically a plosive from a fricative, for instance. There can be no phonological motivation for positing such an imperceptible relationship. But the sonority-based restrictions on sequence within the syllable are required by the physical formation of the implemented syllable, as a wave of air pressure funnelled into the vocal tract. Change of sound is diachronic. A complication here is introduced by the suggestion made in the preceding chapter that a category can acquire a new phonological part of speech, as in (147b-c); and accommodating the sequence of lexical phonological representations to representation that may be implemented in utterance often involves changes in the suprasyllabic structure of individual signs, as we shall examine below.

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Other limitations of phonological representation reflect also the motivations for the double articulation of language. In terms of this articulation an indefinitely extensible set of minimal signs can be represented phonologically by combinations of a small number of contrastive units. This breaks through the barrier to the elaboration of a linguistically adequate semiotic system based on expression poles that are all atomic and distinct. Such a limited semiotic system is illustrated by systems of traffic lights, even those in which two values (colours) can coincide. An adequate vocabulary cannot be built on signs differentiated by individual members of the set of perceptibly different speech sounds. The possible categories of phonology are small in number, but combination of these to form the expression pole of minimal signs is a very accommodating medium based on such restricted resources.

We have already seen that the primary features necessary to the phonology of English require fewer combinatory possibilities than the corresponding syntactic features. The combinations differentiating primary syntactic categories are not only a little more extensive, as shown by Table V of Chapter 9 vs. (24) from Chapter 3, but they also involve an important distinction between functional and contentive categories, not to mention names.

**Table V:** Primary Syntactic Categories (completed)

| Functional |        | Contentive  |             |                |
|------------|--------|-------------|-------------|----------------|
| Operative  | {P/}   | Verb        | {P;N}       |                |
| Comparator | {P.N/} | Adjective   | {P;N}       |                |
| Determiner | {N/}   | Noun        | {N;P}       |                |
| Functor    | {/}    | Name { <A>} | Pronoun { } | <b>Neither</b> |

(24) {V}      {V;C}      {C;V}      {C}  
          vowels   sonorants   fricatives   plosives

This is not greatly affected by the suggestion in Chapter 12 that aspirates lack a primary feature, i.e. are { }, as in (145), whether or not minor features are also contrastively absent.

(145) a.                      MINOR   MAJOR  
          ASPIRATE {c,v}: [h]   { }  
        b.                      MINOR   MAJOR  
          ASPIRATE { } : [h]   { }

But the difference between the planes becomes even more striking when we compare their minor features.

The syntactic minor features appealed to in different linguistic systems can vary widely, much more so than the phonological minor features, which belong to a small universally available set. This is revealed even just by a consideration of the distinctions made by the gender systems associated with various languages. These can vary from the minimal – which English comes close to – to systems involving more than twenty classes. There is also a difficulty in establishing what distinctions in class are indeed relevant to the particular language system – e.g. in the case of gender, in so far as gender distinctions are involved in agreement – and what are simply idiosyncratic properties associated with the relevant signs, not invoked by linguistic generalizations. There is again an extensibility not found with the minor features of the phonology, whether in a single language or in a range of languages.

We have already observed, too, that the secondary features of e.g. verbs and nouns are prototypically very distinct, and reflect the notional differences between the primary categories. Thus tense and aspect are prototypically associated with the prototypically dynamic category of verbal; and though nouns in some languages may bear a tense inflection, this is very untypical, and usually doesn't involve notional 'tensing' of the noun itself. So, in Kwakw'ala, as well as the simple possessed-noun form in (149a), we find such a tensed form as is shown in (149b).

- (149) a. *χən χ<sup>w</sup>ak<sup>w</sup>əna* 'my canoe'  
 b. *χən χ<sup>w</sup>ak<sup>w</sup>ənxde* 'my past canoe'

But though it is the noun form that bears the inflection, it is apparently the 'possessing' of the entity referred to that is tensed. A (nominalized) verbal must be part of the representation, as discussed more generally in Part II. Secondary features in syntax are major-feature-specific – with the exception of {p} and {n}. This may be obscured in particular languages by agreement between the basic category and other categories with respect to 'possession' of a particular feature. This is characteristic of the entitative feature of gender, for instance, which may also be marked on adjectives, including predicatives, by virtue of its **N;P** component. The {N} features person and number typically participate in verb concord, expounded by a verbal inflection (though often etymologically pronominal).

In phonology the minor features overlap substantially with the major features **C** and **V**. In Chapter 12 the non-primary features invoked consisted of **v,c,i,u**.

It is possible and plausible to reduce this set even further to just **v,c**, i.e. the same as the alphabet of primary features, if we so interpret the distinction between e.g. the low vowel and the high as **v** vs. **c**, and, similarly, **u** and **i**, i.e. **u = v** and **i = c**. This introduces a **CV system of representation** that is in common between the primary and secondary phonological features and shares the same perceptual values. This system gives vocalic representations like those in (150a) for a full ‘three-vowel-height’ system of contrasts. [i] and [u] are represented as {c} against the {v} of [a], and contrast themselves in terms of a secondary contrast between **c** and **v**, since [u] involves the equivalents of both gravity and flatness, both of them ‘formant lowerers’, more sonorous.

(150) a. CV AND A CANONICAL THREE-HEIGHT VOWEL SYSTEM

|               |                 |               |
|---------------|-----------------|---------------|
| {c{c}}: [i]   | {c{c,v}}: [y]   | {c{v}}: [u]   |
| {c,v{c}}: [e] | {c,v{c,v}}: [ø] | {c,v{v}}: [o] |
|               | {v}: [a]        |               |

b. CV AND SONORANTS

|              |          |          |
|--------------|----------|----------|
| {c}: [m,n,ŋ] | { }: [l] | {v}: [r] |
| nasal        | lateral  | rhotic   |

c. CV AND NASALS

|                  |               |                  |
|------------------|---------------|------------------|
| {V;C{c{c}}}: [m] | {V;C{c}}: [n] | {V;C{c{v}}}: [ŋ] |
| labial           | coronal       | tongue body      |

Terms that lack any of the combinations in (150a) are central vowels. The English reduced vowel system of [i] and [ə] are contrastively {V{c}</>} vs. {V{c/>} respectively. Larger systems require preponderance differences like {V{c;v{c}}} vs. {V{v;c{v}}} instead of {V{v,c{c}}} and {V{v,c{v}}}; and a further level would involve {V{c.v{c}}} vs. {V{c.v{v}}}.

(150b) expresses the sonorant system in CV terms, where the lateral lacks both of the two features that differentiate rhotic segments from nasal. And the nasals are differentiated in (150c). the two c’s of the labial correspond to nasality and labiality – the former contrasting with the **v** of rhotics, which are represented as {V;C{v}}, the latter with the **v** of the velar nasal [ŋ] and the absence of both with the coronal nasal, which has only the secondary, or primary minor, {c} of nasality. Thus, **c** is associated with weakness of energy compared with **v**, and absence of both in three-way contrasts indicates the unmarkedness of the median. In this notation, the redundant voice of vowels and sonorants is characterized by a subsidiary {v}. Only {V{c}} can be a semi-vowel, within this system, with [j] and [w] being {V{c{c}}} and {V{c{v}}} respectively, though they contrast anyway with full vowels positionally, in part of speech, and the secondary **c** is redundant.

Table IX gives lexical representations in such terms for the English obstruents that are contrastive in some position, with the exception of the affricates and aspirates.

**Table IX:** English Obstruents in CV Representation

|             | Labial                          | Coronal                      | Tongue Body                     |                   |
|-------------|---------------------------------|------------------------------|---------------------------------|-------------------|
| Anti-voiced | {c<,v>{c}}: [p <sup>h/ʔ</sup> ] | {c<,v>}: [t <sup>h/ʔ</sup> ] | {c<,v>{v}}: [k <sup>h/ʔ</sup> ] | <i>Plosives</i>   |
| Neutralized | {c}: [κ]                        | { }: [τ]                     | {v}: [κ]                        | {C}               |
| Voiced      | {v{c}}: [b]                     | {v}: [d]                     | {v{v}}: [g]                     |                   |
| Voiceless   | {c{c}}: [f]                     | { }: [s]                     | {c{v}}: [ʃ]                     | <i>Fricatives</i> |
| Mellow      |                                 | { {c:v} }. [θ]               |                                 | {C;V}             |
| Voiced      | {v{c}}: [v]                     | {v}: [z]                     | {v{v}}: [ʒ]                     |                   |
| Mellow      |                                 | {v{c,v}}: [ð]                |                                 |                   |

Here the primary minor feature belongs to the voice system and the secondary to the ‘place’, and where [t] etc. are taken to be in contrast with [p] etc. and [k] etc. merely in lacking a feature, while the latter two contrast as {c} vs. {v}. [k], like [ŋ], has {v} on account of its combination of the equivalents of compactness and gravity. Anti-voiced plosives are aspirated initially, **c,v**, and typically glottalized or unreleased finally, **c**. Mellow fricatives are differentiated as secondary {c,v}. The table includes the neutralized plosives that occur after {{C}}, i.e. in the context ‘#s\_\_\_’, which are in complementary distribution with both the voiced and the anti-voiced (aspirated/glottalized) plosives.

The representations in Table IX are minimally specified. In a language with a contrast between velar and palatal, palatals, lacking gravity, would be represented as {c.v} against velar {v}. Moreover, neutralization subsystems other than that involving plosives after word-initial [s] are not included; other obvious neutralizations are instantiated by one of the neutralizees. Moreover, the reader warrants some mercy in this regard. Nevertheless, I now want to look at another way of organizing these representations that throws further light, I think, on the **v-c** distinction.

Table X tries to clarify how the distribution of **c** and **v** correlates with strength in two perceptual dimensions, involving degrees of vocality and gravity, each going from **c** to **v**, low to high, while the first line in the first box in the table shows the substantively related **V-C** dimension: **c** and **v** are relative, so that their values may be different in different contexts, as well as different varieties. The {c} of [p/t/k] in Table X, for instance, is typically aspirated initially but not finally, as we have seen. The CV notation must be supplemented with such information as is provided by Table IX plus other reduced systems, if an accurate picture of

what is contrastive and where is to emerge. The third possibility in the first line distinguishes reduced vowels, which lack the capacity to be subordinated in subjunction to an ictus, {V<sub>3</sub>}.

**Table X:** Vocalicness and Gravity

|             |               |     |                     |     |                    |
|-------------|---------------|-----|---------------------|-----|--------------------|
| <b>V</b>    |               |     |                     |     |                    |
| Vocalicness | {V} (intrans) | vs. | {V/C} (transitives) | vs. | *{V <sub>3</sub> } |
| Vocalicness | {v} [a]       | vs. | {c,v} [e/o]         | vs. | {V<C>}             |
|             |               |     | { } [ə]             |     |                    |
| Gravity     | {c{v}} [u]    | vs. | {c,v{v}} [o]        | vs. | {c,v{c}} [e]       |
|             |               |     |                     | vs. | {c{c}} [i]         |
| <b>V;C</b>  |               |     |                     |     |                    |
| Vocalicness | {v} [r]       | vs. | { } [l]             | vs. | {c} [m/n/ŋ]        |
| Gravity     | {c{v}} [ŋ]    | vs. | {c} [n]             | vs. | {c{c}} [m]         |
| <b>C;V</b>  |               |     |                     |     |                    |
| Vocalicness | {v} [v/z/ð/ʒ] | vs. | {c} [f,s,θ,j]       |     |                    |
| Gravity     | {v{v}} [ʒ]    | vs. | {v} [z]             | vs. | {v{c}} [v]         |
|             |               |     | {v{c,v}} [ð]        |     |                    |
| Gravity     | {c{v}} [ʃ]    | vs. | {c} [s]             | vs. | {c{c}} [f]         |
|             |               |     | {c{c,v}} [θ]        |     |                    |
| <b>C</b>    |               |     |                     |     |                    |
| Vocalicness | {v} [b/d/g]   | vs. | { } [π/τ/κ]         | vs. | {c} [p/t/k]        |
| Gravity     | {v{v}} [g]    | vs. | {v} [d]             | vs. | {v{c}} [b]         |
|             | { {v}} [κ]    | vs. | { } [τ]             | vs. | { {c}} [π]         |
|             | {c{v}} [k]    | vs. | {c} [t]             | vs. | {c{c}} [p]         |

Neither of the tables includes neutralizations other than those involving foot-initial [s] + plosive. Remember, for example, the neutralization of [s] and [ʃ] before sonorants, *slow, snow* but *shrew*, where the groupings are in accord with relative place on the CV dimensions: the highly vocalic [r] goes with the highly grave [ʃ] in most varieties.

These dimensions depicted in the tables also interact with diachronic notions of fortition/lenition. Thus, for instance in some varieties of English, historical [θ], {c{c,v}}, has lost its gravity particularly in (traditionally strong) word-initial position, and falls together with [f], {c{c}} – so *fings* rather than *things*. As I have alluded to, in many languages voiced stops ‘become’ fricative intervocally, a prime lenition position. {C{v}}, for instance, ‘becomes’ {C;V{v}}, as with [b] is replaced by [β]. Strong positions discourage **V** and **v**; **V** and **v** favour lenition.

These representations may, as has been argued, also express analogies between differently manifested dimensions, and may appropriately express

contrasts in a way that reflects natural classes, as well as relative markedness and other scalar relations, but I concede that they are not particularly readable, whether or not redundancies are eliminated, and neutralizations included. However, here my primary motivation for introducing such an account is merely thereby to emphasize the extreme representational economy of the phonological system of English, in particular, in comparison with the system of secondary features in syntax, which are not just more numerous but also basically specific to particular primary categories, except for the minor replicas of the primary features {p}, {n}, which are analogous to the phonological minor features. In principle, the element-set of phonology is economical in the extreme. However, for transparency I shall also have recourse in what follows to the non-CV notation of Chapter 12.

The CV representations illustrate rather forcibly the system-dependency of the interpretation of category labels. Just as a language without adjectives gives a different signification to {N;P} and {P;N} from a language which also contains {P;N}, so within the sub-systems of English consonants represented above different interpretations are given to **c** and **v**. With the obstruents of Table IX the secondary minor features have to do with ‘place of articulation’, in articulatory terms (and voicing is primary). The primary **c** and **v** of the sonorants of (150b) are rather concerned with ‘manner’ (and the secondaries again correspond to ‘place’, and voicing is redundant). Vowels (and semi-vowels) involve quite different distinctions (though again voicing, in English, is redundant). The perceptual correspondences between these different dimensions are more apparent in acoustic terms, so that **v** is assigned to more harmonic, more sonorous segment-types, as in Table X.

The discrepancies in the size and complexity of the two substantive alphabets of phonology and syntax are indicative of a more general representational discrepancy between the planes. In the following chapter we shall look at the kinds of elaborations of the content structures of lexicon and syntax necessitated by the demands of representing complex cognitive scenes, before considering them each in more detail in the succeeding Parts of this volume. But first we need to do a little more justice to phonological structure by at least indicating what form it might take ‘beyond the syllable’. Much of this may be redundant phonologically, but in many cases this extended, ‘whole-meal’ phonology is basic to the expression of distinctions made in the lexicon and in the content plane in general, in terms of accent placement, choice of tone and its placement, etc. And phonological suprasyllabic as well as syllable-internal distinctions are obviously crucial in the formulating of morphophonological generalizations.

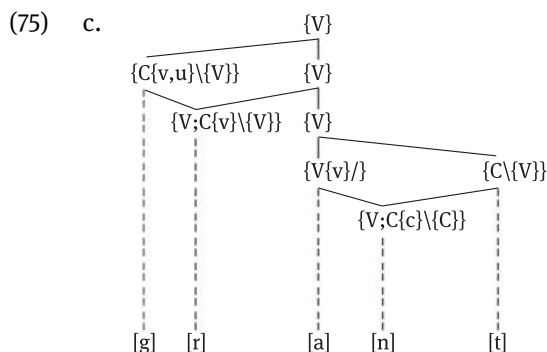
The phonological regularities we looked at in Chapter 12 were all illustrated with monosyllabic signs. They applied to lexical poles such as are abbreviated as

in (75a) from Chapter 6, with an inner and an outer grouping of segments, which we can now represent more explicitly, and retaining redundancies, in terms of the notations developed here, as in (151), where the square brackets enclose syllable (outer pair of brackets) and rhyme (inner), and prosodies are ignored.

(75) a. [g,r,[t,n,a]]

(151) a.  $\{[C\{v,u\} \quad \{V;C\{v\} \quad \{[C] \quad \{V;C\{c\} \quad \{V\{v\}\}]\}$   
 b.  $\{[C\{v\{v\}\} \quad \{V;C\{v\} \quad \{[C]\} \quad \{V;C\{c\} \quad \{V\{v\}\}]\}$

For continuity (and perhaps clarity or confusion), (151) gives both the notation for minor categories of Chapter 11, in (a), as well as that discussed in this chapter (b). On the basis of these categorizations linearized syllabic structures can be erected, in this case as was offered in the simplified (75c) (which of course retains the non-CV categorizations of previous chapters).



Linearity respects relative sonority, and the various attachments are triggered by the transitivity of the vowel and the adjunctions formulated in Chapter 11 as (130).

(130) *ADJUNCTION OF CONSONANT MODIFIERS*

- a. To C  
 $C_i \Rightarrow C_i C_j$ , where  $C_i$  and  $C_j$  are adjacent, and  $C_i > C_j$  in sonority
- b. To V  
 $C \Rightarrow C\{V\}$

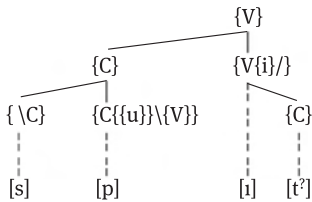
The consonants of the inner grouping in (151) have thereby priority in being adjoined to a vowel, but only that closest to a transitive vowel, the complement, is adjoined to the basic vowel. Other consonantal members of the inner grouping,



the modifiers, are adjoined to projected vowels to which the basic vowel is (ultimately) subjoined. And the members of the outer set, the onset, in (151) are made dependent on further projections.

Apart from the role of affixal [θ] and the person-number affixes, and the number/gender affixes, the rules expressing the pattern of the syllable structure of the monosyllables in Chapter 11 are phonological rules proper, including the counter-sonority placing of specifier [s] in (132c) and the like.

(132) c.

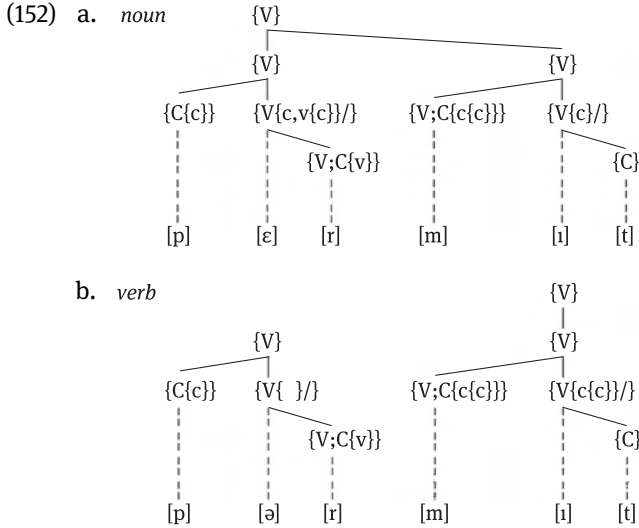


What is meant by ‘phonological rules proper’ is that the regularities are determined by purely phonological factors, without appeal to syntactic category or morphological structure; they are **autonomous** in this sense. They do not refer to other aspects of the lexical entries of signs.

There are some complications, with final sonorants that follow obstruents, for instance, as in *gentle*, *tussle*, *bottle*, *button*, *bosom*. Sometimes the spelling suggests that the consonants are separated by a vocalic nucleus, and it is often the case that a reduced vowel occurs in this position. But the liquid may also be syllabic, particularly after fricatives, and possibly glottal(ized) or unreleased stops. In either case the words cited are disyllabic.

Moreover, a consideration of polysyllabic signs introduces further factors dependent on syntactic-categorial information. Part of their representation is thus expressed by phonological rules that are sensitive to other lexical information. These would be intra-lexical rules of the **syntactico-phonological interface**. Disyllabic items immediately introduce the question: which syllable bears the accent? Further, is this also given by a general phonological rule? We have already noted (most recently in Chapter 12) that placement of the accent is sensitive to syntactic category. So, *pérmit* is a noun, and *perμίt* is a verb. Accent-placement here is lexical, not assigned autonomously. This is not to say that assignment of all aspects of accentuation is non-autonomous. In the noun *cínema*, for example, the structures of the syllables push the accent on to the antepenult, as compared with *veránda*.

As a first approximation, we can represent, to ictus level and in CV notation, the two versions of *permit*, in a Scottish (rhotic) variety, as in (152), omitting adjunction-marking valency etc. on the consonantal categories.



In (152a) an ictus has been inserted above the first syllabic, given categorization of the sign as a noun; this is represented by a further {V} that has this syllabic subjoined to it. And this ictus has adjoined to it a following syllabic that is not itself the basis for a foot. The foot itself involves dependencies between {V}s, not between {V} and consonants or between consonants or inserted by consonant-to-vowel adjunction. In (152b), representing the phonological pole of a verbal sign, the final syllabic acquires an ictus, and the first syllable lacks an ictus to its left to adjoin to. The first syllable is therefore a ‘stray syllable’, not integrated at this level. And they remain so when the tonic {V} is added to the sole ictus in each form.

The differences between these structures express syntactic-categorial differences: we have syntactico-phonological variation. This involves a different kind of contrast from that usually associated with differences in sequence of syllables. Different syllable sequences can differentiate individual signs (recall *greedy* vs. *degree*). But the varying ictus placements in (152) distinguish primary syntactic categories, not merely a different sign. The phonological differences between *greedy* and *degree* are not a direct expression of their difference in syntactic category.

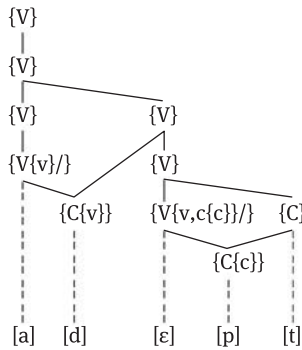
Syllabics not dependent on an ictus normally cannot support distinctions in transitivity; the {V} is transitive, and otherwise-inherent transitives may reduce to transitive [ə] and [i], as is indicated in (152). In such syllables as the initial in (152b) there is no transitive/intransitive contrast; and in other circumstances [ə] and [i] may have unsatisfied transitivity. Thus, in a word like *betray*, with unaccented first syllabic, the medial rhotic is devoiced, in accordance with its position following the initial voiceless plosive in the accented syllable, and the plosive lacks glottal rein-

forcement. In the absence of any dependency by it on the first syllabic, it is foot-initial, so there is no ambisyllabicity: [be[tray]]. The latter does not occur over foot boundaries. The foot-medial stop in *putrid* is ambisyllabic; ambisyllabicity is foot-internal.

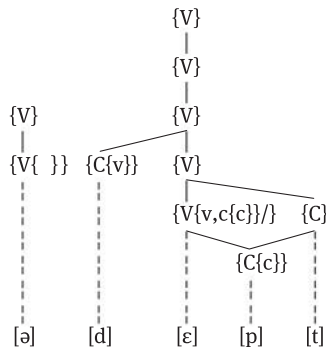
In the examples in (152) the vowel of the first syllable is different depending on whether or not it is under stress: we have secondary features {c,v{c}}/ (a) vs. { }/ (b). So too the second vowel varies. I have assumed here the conservative Scottish system that lacks neutralization of the transitive vowels before [r] in such as (152a). This illustrates another aspect of morphophonological expression: where this involves different accent placement then the vowel system at the same places in related words may differ. (152b) shows **vowel-reduction** in the first syllable. Similarly, *adept* the adjective may emerge as [ədɛpt], while the noun is [ádept]. The latter also illustrates that the (second) syllable that lacks the primary accent in its case is nevertheless ictus-bearing, lacking vowel reduction.

I represent this situation with the noun, in CV notation, as in (153a), where onset maximization with the second syllable is compromised by the transitivity of the first (accented) vowel and thus ambisyllabicity, though there is no reduction in this heavy final syllable.

(153) a. *noun*



b. *adjective*

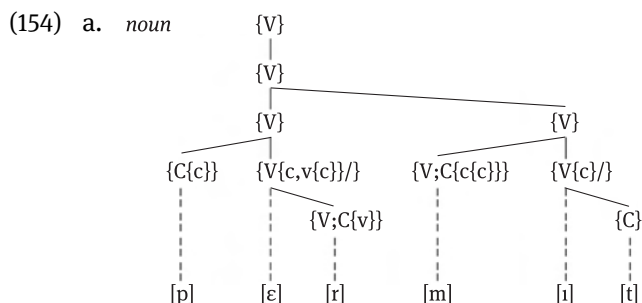


The case for ambisyllabicity is less strong in such as *mental*, i.e. [men[t]al], given particularly that the plosive is not a complement but would be merely a modifier of the first vowel. This is also the case with (152a). On the other hand, such an analysis would be in line with the maximalization of simple connectedness that seems to be associated with phonological structures. ‘Connection’ in syntax largely depends on mediation by functional categories, absent from phonology.

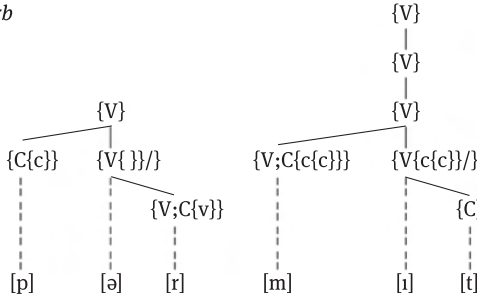
(153a) contrasts with the adjective in (153b), where the medial consonant, beginning a foot, belongs only to the second syllable, and the first one is ‘stray’ and often reduced. The highest {V} in each of (153) is associated with the primary accent; as tonics, they bear the tone when the word is spoken in isolation. Tonics take (adjoined) dependents – adjoined ictus – to the left, and ictus take adjunctions to the right, as in (153a); within the foot a single segment is shared, as shown there. In (153b), where the [ə] is a ‘stray syllable’, there is no distinct ictus for the tonic to take as a dependent.

The syllable in (153b) that cannot accept an ictus contains a vowel that can otherwise be transitive, as in (152), but in the former syllable it has no complement. Their distribution reflects a general phonological rule affecting syllables that are not under an ictus, but the assignment of primary accent is lexically restricted in being sensitive to syntactic-categorial information. This means, nevertheless, that the difference in category is signalled by a difference in the initial vowel, as well as in the placement of the accent. The two *permit*’s and the two *adept*’s will each have an individual entry in the lexicon, with an associated stored vowel alternation signalling the derivational relation. These entries will contain whatever accentual and vocalic differences there are. So whatever ‘determination’ of phonological differences there might be by the syntactic category is ‘post-hoc’, synchronically. Nevertheless, the accessibility of at least some of these generalizations over related lexical entries is manifested in conforming innovations.

The structures in (153b), with ambisyllabicity, and in (154b), are not proper trees, even if we complete (152) as in (154), with tonics added.



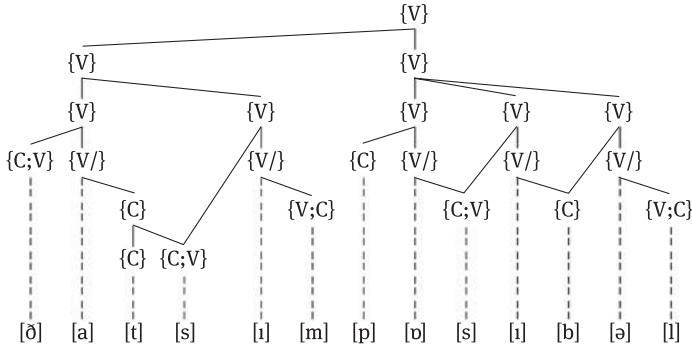
b. *verb*



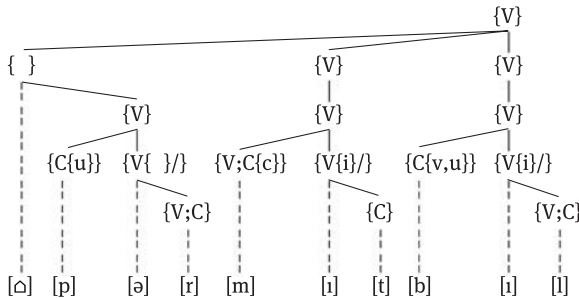
Of these full representations, only (154a) is a tree – though one with initial unary branching.

In interactions that create pre-utterance phonology, various ‘stray syllables’ and ‘stray feet’ will find heads to depend on outside the lexical item to which they belong. This is shown in the categorially simplified pre-utterance representation in (155a), which omits minor features.

(155) a.



b.

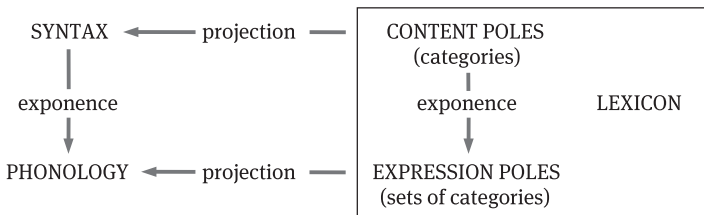


In (155a) the pre-utterance tonic falls on the third syllabic, [ɒ], the same syllable as the lexical tonic of the adjective; and the head of the first foot, [a], is adjoined to the left of the pre-utterance tonic. This [a] has another syllabic, [ɪ], adjoined to its right. The latter thereby ceases to be the head of a ‘stray syllable’. The second foot, which bears the tonic, has two syllabics adjoined to its right – as in a simpler example such as *cinema*. This representation ignores the special status of the [s] of *that’s* that results from historical cliticization. We shall return to its synchronic status in Part IV.

Other ‘stray syllables’ attach themselves to an **unvocalized ictus**, one that is realized only as a perceived reinforced chest pulse, as occurs initially in (155b), represented there as [ɔ̄]. (155b) bears non-CV minor features. Some lexical tonics, on the other hand, will be matched only with an ictus in the pre-utterance. Thus, in the utterance *permit Bill* of (155b), not only does the initial syllable attach to an unvocalized ictus to its left, but also the second syllable, *-mit*, which is the lexical tonic, is in the pre-utterance an ictus attached to the pre-utterance tonic of the final syllable, *Bill*. This is part of the interface negotiations whereby the sequence of lexical representations is mapped on to the representation in the pre-utterance module.

The provision of an unvocalized ictus in the transition from lexical to pre-utterance phonology might be seen as analogous to the introduction of a free absolutive in the transition from lexicon to syntax. They are both ‘repairs’ to what is provided by the lexicon. And, as we have in part already seen, the free absolutive, in particular, provides a number of functions in syntactic structure.

From the speaker’s point of view, the distribution of pre-utterance tonics is determined by the syntactic structure, the other outside determinant, apart from the lexicon, of parts of phonological structure included in Figure II of Chapters 1 & 11.



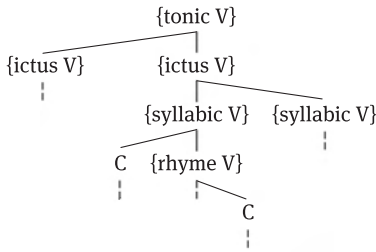
**Figure II:** Rough Guide to the Grammar

Alongside lexical phonology, then, we also have pre-utterance phonology, as well as a pre-utterance syntax, the interfaces to both of which, together with context of

utterance, establishes discourse-appropriate pre-utterance structure on the basis of lexically-determined syntax and phonology, in their context.

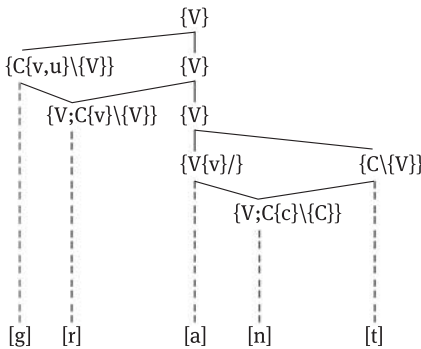
The representations in (153–5) conform to the general pattern of (156).

(156) SCHEMA OF PHONOLOGICAL STRUCTURE

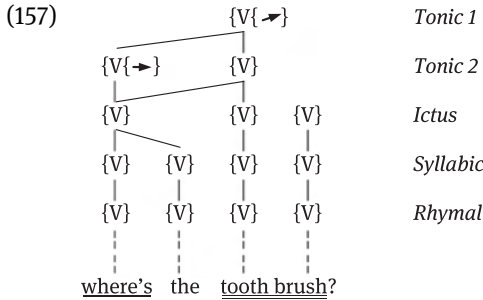


At each level the direction of adjunction to {V} reverses. And in lexical phonology there may be more than one rhyme level, as in the second syllable in (153b). (75c) also has more than one syllable level and more than one rhyme level.

(75) c.



In terms of tonics, the main possible addition to such a structure as (155) is the possibility of a tonic being adjoined to a tonic in pre-utterance phonology; we have a sequence of dependent tonic, or **pre-tonic**, + tonic. This is illustrated schematically by the simple, indeed crude, example in (157), where a high pre-tonic on the first syllable, marked there by single underlining, might be followed by a high-rise tonic (highlighted by double underlining) on the penultimate.



Such tonic dependency can recur in response to the requirements of syntax and/or context. Successive tonics, as in (157), may be linked tonically, with one (pre-tonic) anticipating the other (full tonic). However, this does not disturb the hierarchical pattern involved in (156), which exhausts these distinct possibilities, allowing for limited repetitions of the nuclear {V}. Indeed, extension of phonological structure is very limited.

There are at least the following restrictions to conform to, each of which reflects some aspect of the physical realization of phonological constructions.

(158) *RESTRICTIONS ON SUPRASEGMENTAL PHONOLOGICAL STRUCTURE*

- (a) prototypical linearization within the syllable is based on relative sonority
- (b) consonant-to-consonant dependency is prototypically counter-sonority
- (c) consonants do not govern vowels, and another consonant only adjunctively
- (d) supra-rhyme structure conforms to the schema in (156), and only it
- (e) the rhyme and syllabic levels may each recur in such a schema, determined by the number of adjuncts
- (f) a pre-utterance tonic may have a dependent pretonic
- (g) there may be foot-medial ambisyllabicity

Restrictions (158a–c), supplemented in particular by language-particular exceptional clusters, establish a determinate intrasyllabic positioning for segments. And overall, despite dependency maximization, there is allowed only a very restricted hierarchy of dependency relations. And in both respects this contrasts with the possibilities we can associate with the syntax. The phonological restrictions – such as the necessarily foot-initial position of the ictus – are largely dictated by the requirements of the physical manifestation of phonological representations – in this case marking the beginning of a heavier air wave. The



beginning of the syllable, the onset, initiating the syllable pulse, is a ‘strengthening’ environment.

By contrast with these restrictions, the needs of cognitive representations demand a range of elaborations of structure much beyond even what has so far been contemplated in Part I. We begin to look at the motivations for this in the chapter that follows, and, more incidentally, in those following in this Part, as a prelude to the more detailed examinations in Parts II and IV.

I trust it has been clear in the preceding, however, that despite the limitations of phonological structure, even lexical phonology involves much more than simply establishing a set of contrastive segments that are suitable as the basis for an alphabetic writing system, while, at the same time, phonology lacks the complexity that results from incorporating of phonetics or morphophonological relationships into its scope in the form of the synchronicization of diachronic mutations.

# Chapter 14

## Demands on Syntactic Structure

direct and indirect recursion – the absence of indirect recursion in phonology – recursion in the lexicon – incorporation and derivation – indirect recursion in syntax – direct recursion in syntax and its limits – ‘raising’ – the role of functors – determiners, definite vs. partitive – tree-structure, double-motherhood, and tangling – mood – sequencing and ectopicity

The previous two chapters looked, in the first place, at the parsimony of the system of categories necessary to English phonology, in contrast with syntactic categorization. This difference is substantively based. And difference in substance is also the fundamental reason why syntactic structure is more elaborate than phonological. It emerged in Chapter 13 that there are also restrictions on **recursion** within suprasegmental structure that are substantively-based, and which accordingly need not be applicable to the syntax of the language for the same reason, i.e. the nature of the correlation of phonology with a substance that can be directly implemented physically. Indeed, the substance grammaticalized by syntax encourages, instead, extensive recursion of different types. This is necessary to allow for the representation of ‘scenes within scenes’, ‘scenes presented as entities’, and the like, as well as, especially, extended circumstantial modification and multiple attributives both pre- and post-nominal.

The set of restrictions on phonological structure formulated at the end of that chapter as (158) provides a useful basis of comparison here.

(158) *RESTRICTIONS ON SUPRASEGMENTAL PHONOLOGICAL STRUCTURE*

- (a) prototypical linearization within the syllable is based on relative sonority
- (b) consonant-to-consonant dependency is prototypically counter-sonority
- (c) consonants do not govern vowels, and another consonant only adjunctively
- (d) supra-rhyme structure conforms to the schema in (156), and only it
- (e) the rhyme and syllabic levels may each recur in such a schema, determined by the number of adjuncts
- (f) a pre-utterance tonic may have a dependent pretonic
- (g) there may be foot-medial ambisyllabicity

As well as these restrictions on what we perceive as phonological structure, mainly attributable to the requirements of the physical implementation of the substance of phonological representations, another factor is the absence of moti-

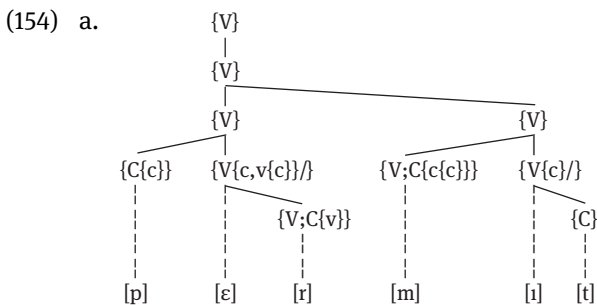
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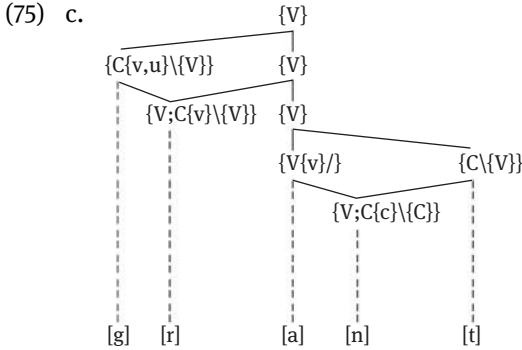
variations for further expressivity. There are no obvious syntactic analogues to most of (158); such restrictions are in the main not pertinent to syntax, though, as we have observed, prototypical valencies are specific and limited in number. Thus, functional categories other than functors are complemented by the corresponding contentive; but determiners are the prototypical complement of functors. Their relationship marks the transition from ‘scene’ to ‘entity’. But the representation of cognitive scenes, in particular, and the identification of referents require ‘elaborations’ even beyond those we have encountered so far. We shall find not just that syntactically-driven structure is more extended than the purely phonological structures we have looked at, but also that syntactic categories and structures are more highly differentiated and detailed.

Parts II–IV, particularly Part IV, will be concerned with these ‘elaborations’. Now, in these final chapters of Part I, I offer some preliminary remarks on the motivations for them. Consider in detail the restrictions listed in (158). With respect to syntactic categories there are no equivalents to (158a–b); the hierarchical phenomena in syntax that might be said to be analogous to sonority (‘nouniness’ and the like) are not associated directly with restrictions on linearization. The most obvious analogue in syntax to (158c), namely the failure of nouns to govern, does not have the same general consequences as (158c). This is because of the presence of functional categories that do govern, so as to allow verbs, for instance, to both govern and depend on functors – as I shall illustrate below. This is one indication of the crucial difference made by the distinguishing in the syntax of a functional class of categories.

Clauses (158d–f) are further properties which start from assumption (158b) and impose further restrictions. One effect of the conjunction of these is to eliminate **indirect recursion**. {V} cannot occur as a dependent of C, only of {V}. We have in phonology **direct recursion** of each of {V} and C, and this is of a limited extent, and the latter is unremarkable, in simply allowing limited clusters.

(154a), for instance, shows direct recursion of {V}, both in subjunction and adjunction, and (75c) (preserved here in its original notation) shows Cs dependent on Cs, in adjunction.

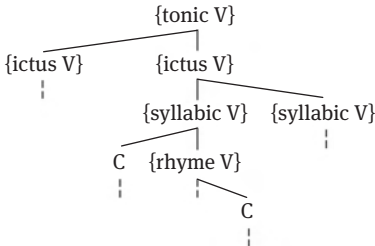




{V} depends on {V} and C on C, or on {V}.

Likewise, specifically (158d) again has no universally manifested syntactic analogue. The reversions of directionality as we ascend the subjunction path in (156), which itself cannot recur as a whole, are associated with the formation of the various phonological constructions, and indeed identifies them, and this limits the structural possibilities in a way that is not necessary, and indeed is undesirable, in the more extended recursions of syntax.

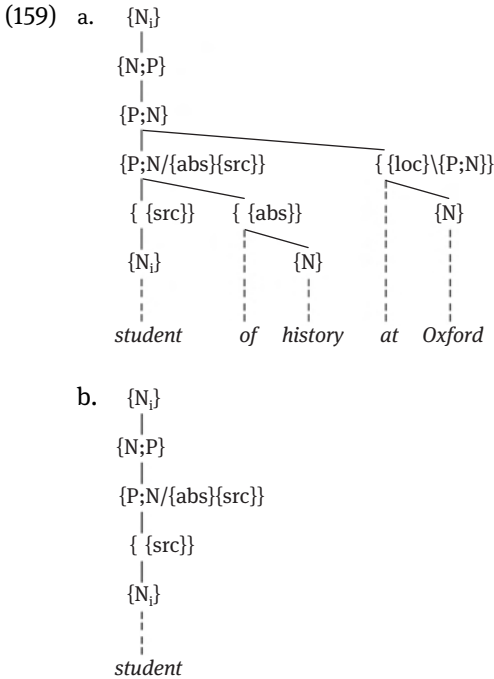
(156) *SCHEMA OF PHONOLOGICAL STRUCTURE*



The minor recursions of (158e–f) are extremely limited compared with what we find in the syntax. It must be conceded, however, that the tonological structure of utterances with even simplex syntactic structure, in particular, remains contentious. But it can at least be said that pre-utterance tonological structure is partially dependent on syntax.

In relation to violation of (158c), we saw already in Chapter 1 that, within the lexicon, nouns may be derived from verbs, and this is subsequently characterized by the positing of general lexical redundancies allowing verbs to be subjoined to nouns. Thus, though syntactically nouns do not govern, this is not imposed by any analogous lexical restriction. {N;P} can govern in a lexical path of subjunction.

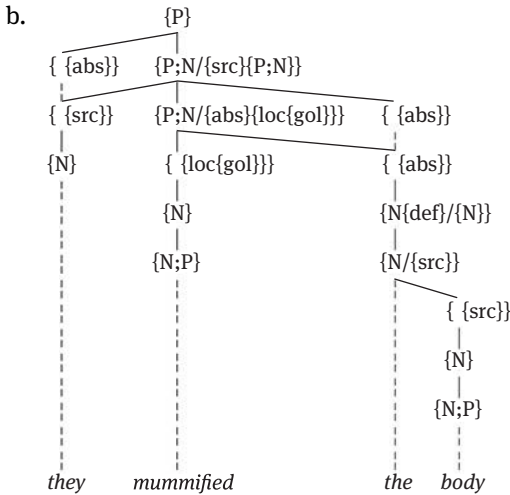
tions. Accordingly, the noun *student* in (94a) may be characterized as in (159a), extracted from (95b) by omitting, for simplicity, the characterization of the attributive *from Italy*.



Here the analysis of nouns as inherently complex (as governed by a denotational  $\{N\}$ ) is assumed – and we shall find reasons to render it even more complex. And the  $\{N\}$  above the  $\{N;P\}$  is co-indexed with the incorporated source of the  $\{P;N\}$ . The arguments in (159a) are of course added in the syntax, as is the upper  $\{P;N\}$ , which is inserted in response to the requirements of the circumstantial argument. What the lexicon offers to the syntax is essentially the representation in (159b): this highlights that what we have is an agentive noun, whose status as such is reflected in the presence of the agentive-nominalizing suffix.

Conversely, the verb in (160a) is based lexically on a noun, which is indirectly subjoined to it via a functor, just as, syntactically, the noun *body* in the same sentence is indirectly adjoined to the verb in the sentence, as represented in (the simplified) (160b).

(160) a. They mummified the body



c. {P;N/{src}{P;N}}

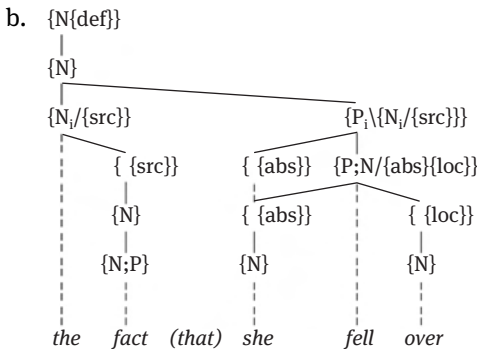
Both the upper absolutes – those associated with {P} and with the higher {P;N} – are not subcategorized-for, i.e. they are free. The first of these shares with the subject of the upper {P;N}; and the free absolute of the latter, as is normal in such English causatives, follows its {P;N} and shares an argument with the subcategorized-for absolute of the lower {P;N}. (160b) constitutes a causative construction, where the causative predicator, with valency in (160c), has subjoined to it an ‘abstract’, ‘state-change’ directional predicator conferring a new, additional classification on the referent – to which we shall return in Part II. The whole lexical subjunction path of the finite verb, involving direct recursion of {P;N}, is based on a noun. Here too there is lacking a characterization of the ‘change’ interpretation of the directional.

In this and other ways nouns can be directly or indirectly dependent on verbs and verbs can depend on nouns and other nominals. Such dependency relations between categories allow for depths of alternating embedding of one structure of a particular type within another type and vice versa that is unparalleled in phonology, which is limited by (158c). And even (158e–f) allow only shallow **direct recursion** of {V}s. We shall find, however, that quite extended subjunction paths of {P}s, in particular can be motivated, as with {V}, the phonological equivalent. This is another partial structural analogy, subjunctional recursion of the ‘root’ category.

Let us pause for me to comment on the term ‘incorporation’ used in relation to part of the lexical structure in (159b). Thus far we have encountered **derivational** structures in the lexicon, whereby a base has conferred on it a new category, the change/addition being marked by overt morphology or merely involving conversion. In such instances, of course, the base is associated with the lower category in the subjunction path. But the relationship in (159b) between the {P;N} and what is subjoined to it is not one of derivation: the {P;N}, the upper element, is the base. The source argument has undergone lexical **incorporation**. This may or may not be marked morphologically, but is reflected in the syntax. However, in (159b) the presence of such an incorporee affects the shape of the nominalizing suffix. And incorporation as well as derivation may be reflected indirectly in the inflectional morphology, as we shall investigate below. We thus need to distinguish these two kinds of lexical subjunction, derivation, where the base is the lower element, and incorporation, where the base is the upper element; (159) involves both incorporation of an argument of the verb and derivation of the verb to noun. Further, we shall find that verbals, in particular, can incorporate features of superordinate operatives, such as a tense {P}, marked by inflections (as explored in Part III).

(159) and (160) involve indirect recursion in lexical structures – i.e. in subjunctions – that are unparalleled in the phonology. Consonants are not derived from vowels or vice versa; nor are there incorporations of primary categories. Even more striking are the indirect recursions within the syntax, where we mainly have to do with adjunction, of course. Thus, although {P} is the head of sentences, in the determiner phrase that is the subject of (161a) a finite clause is **apposed** to the determiner, and so is dependent on a partial replica of it, i.e. a nominal category. This is roughly indicated in the partial representation in (161b), which ignores at this point the status of the optional *that*.

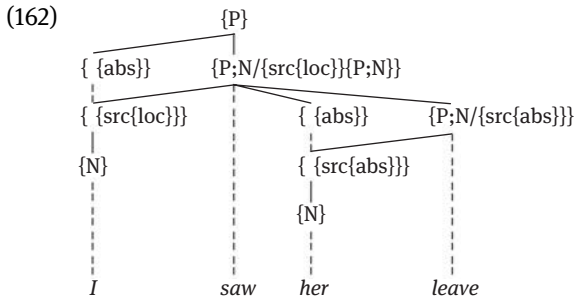
(161) a. The fact (that) she fell over came as no surprise



We are not concerned here with the precise valency of the {P;N} or the particular character of its locative, but merely with the dependency of {P} on {N}. The {P} is marked as a modifier – indeed, as in apposition. That the modification is one of apposition is signalled by the co-indexing subscripts on {N} and {P}. Overall, this illustrates the role of functional categories in articulating syntax, in particular in permitting indefinitely extensible indirect recursion. In this case a scene is interpreted as an entity and the nominal is obviously part of another structure eventually headed by a {P} (unless it's elliptical).

But all this does not mean that syntactic hierarchies do not have their own restrictions. So that in syntax contentive categories are normally linked via functional categories, involving another aspect of the distinction, functional vs. contentive, absent from the phonology. However, also, verbs, the most relational contentive category can, on the contrary, exceptionally, be adjoined directly to each other, as illustrated by (119c) from Chapter 10, which we can represent as in (162).

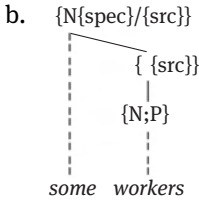
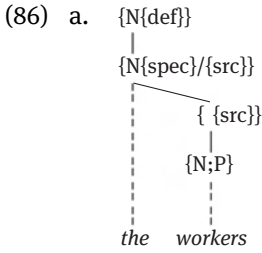
(119) c. I saw her leave



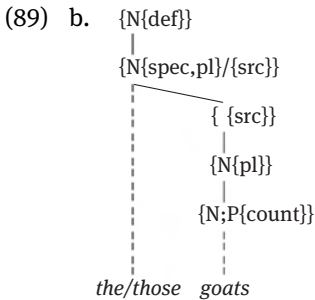
We are not concerned here with the precise valencies of the verbals, except that which allows the lower {P;N} to depend on the upper; but both of the simple absolutes in (162) are free absolutes. In a later chapter we return to the role of such absolutes in the ‘raising’ of elements like *her* – and, indeed, of *the body* in (160). But what is relevant here is the relation between the two {P;N}s, where, exceptionally in syntax, we apparently have direct adjunctive recursion of a category. And we shall return to this.

There are also detailed restrictions on the distribution of functional categories. So that, for instance, the prototypical complement of a functor is {N}. And non-predicative nouns, for instance, require a {N} to enable them to have eventually a semantic relation. In Chapter 8 we encountered apparent exceptions to this. This was illustrated by (86a–b), where {N;P} depends directly on the partitive functor, { {src} }.

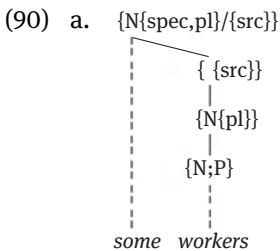




In (86a) there are separate definite and partitive {N}s, as argued in that chapter, where partitivity is not associated with the definite article and demonstrative {N}. And the similar phrase in (89b) introduces a denotational {N} above the {N;P}.



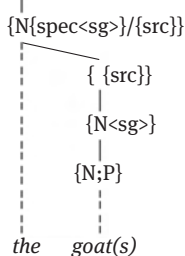
So too we replaced (86b) by (90a).



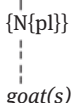
This accords with the assumption that reference and other extralinguistic connections involve {N} and not nouns. The original partitive-taking {N}s in (86b), for instance, refers to a subset of the partitive-satisfying {N} in (90a) that represents the denotational set of *workers*. Recall that nouns are plural unless the subjunction path they terminate is adjoined to a singular {N}; so that the {pl} feature on the {N} in (90a) to which the {N;P} is subjoined is redundant.

Another nominal restriction is that {N{def}} has a {N} complement, either partitive or denotational, but not a noun. This is illustrated in (163), where the redundant valency is included.

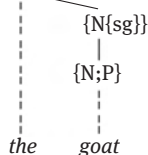
(163) a. {N{def}/{N}} *partitive*



b. {N{def}/{N}} *generic*



c. {N{def}/{N}} *generic*



The generics of (163b–c) are illustrated in (164a–b) respectively.

- (164) a. Goats eat anything green  
 b. The goat is not extinct

Here the noun in (163c)/(164b) has an inherently singular denotation; it denotes a single set, the set of goats. It therefore doesn't require an overt determiner marked for singular. (Alternatively, the noun here is treated as mass.)

{N} in general hosts the number feature – naturally so since it is normally a referential property; but it is also expressed on the nouns that terminate determiner paths. I have been suggesting that the {N;P}s in e.g. (163) and (164) are associated with the sense of the noun; they are subjoined to a {N} that refers to their denotational set: {src}, like other functors, would then not govern {N;P}, but relate only {N}s.

There is more direct evidence for the presence of such a denotational {N} in languages with extensive systems of gender-agreement, as illustrated in the commentary to this chapter. It is via this {N} that gender agreement with the {N} of attributives and determiners is conducted. Gender concord on verbs, however, as with person-number concord, involves agreement by incorporated {N} arguments.

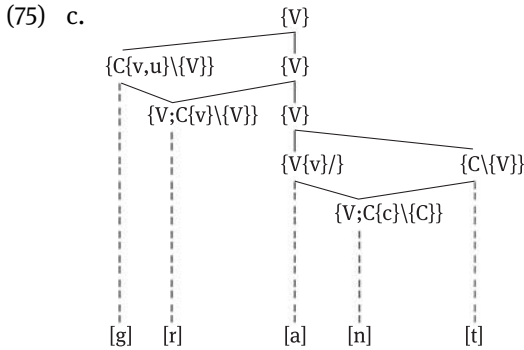
{N;P} is structurally the most inert category, of course; prototypically, they are leaves on syntactic trees, as is notionally appropriate, particularly given their relative discreteness and persistence. Even the relationality of the few nouns that are often claimed to be ‘relational’ is in doubt, and the structures involved might be accounted for in other terms (as discussed in Chapter 21 of Part II). However, even nominal structures can be recursive, notably when embodied in attributives that contribute to the identification of entities, as exemplified in (165a–b), pre-nominal and post-nominal, and in verbal and other apposed structures as are illustrated by the extension of (161a) offered in (165c).

- (165) a. the simple scarcely-concealed pervasive political duplicity  
 b. the bush in the garden of the house at the end of the road where Bill lives  
 c. The fact (that) she denied the rumour that she fell over came as no surprise  
 d. the mass belief on the part of the populace that he is mad

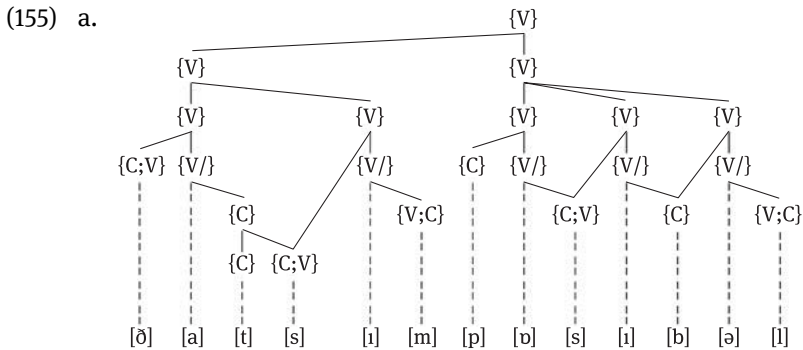
(165d) offers a mixture of these recursive possibilities.

As concerns more general restrictions on syntax, a fully-formed potentially independent predication must be a tree with a {P} as its root; and its leaves are normally non-functional entitatives – unsurprisingly, given their defining formal property of non-relationality. The prototypical tree is a **proper tree**, where each node in the tree has a single mother, one governor, and it lacks non-projectivity, or **tangling**: sequencing is such that dependency lines and association lines do not cross. Syntax and phonology differ in the ways in which they are permitted to depart from this prototype.

Phonological representations like that in (75c) are not proper trees.

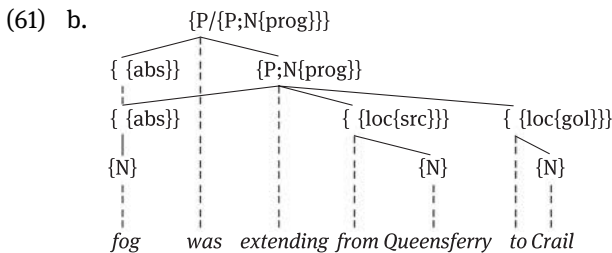


Both [r] and [n] depend on two heads. This violation of propriety is associated with the assumption that dependency relations within the foot are maximized in phonology, as discussed in Chapter 6. This is also illustrated in (155a) from Chapter 13.



Here we have ambisyllabicity, both within an individual lexical item and in the pre-utterance phonology.

Phonological trees lack tangling, however, unlike syntactic trees such as (61b), invoked in Chapter 5, where a dependency line crosses an association line.



(61) also illustrates that syntactic trees, at least those headed by {P;N}, are not restricted to binary branching.

In Part IV in particular we shall be looking at further circumstances in syntax wherein tangling is sanctioned. This is an important structural extension, both in differentiating between syntactic and phonological structure and in raising the question of the motivation for this extension of power. Moreover, though no nodes in (61) and the like have more than one mother, there are two nodes in (61) – the two absolutes – that share a dependent. This amounts to a more complex articulation of double-motherhood. However, departures from projectivity are very restricted, so that both the tangling and the argument-sharing of (61) are necessarily associated with the presence of the free absolute; such tangling is sanctioned where such a functor is involved, as here, and also in the case of some adverb types. And, as we have seen, besides tree-proprity, there are further, substantively-based restrictions on possible paths of syntactic dependencies, as indicated by the banning of the valency  $^{**}\{X/\{N;P\}\}$ , where  $X \neq N$ , and where the {N;P} would be subjoined to a {N}.

But, despite restrictions, a vast variety of structural types can be allowed for between the {P} root and the leaves of a tree, given the capacities of different categories to depend on each other, particularly through the mediation of functional categories – though {P} itself has limited valencies. However, the combination of links provided by functional categories permits the embedding within each other of the communicative, functional, referential, and comparative structures that they introduce and characterize. And these also play a part in the capacity of syntactic structure and syntactic categorization within the lexicon to represent complex scenes, and within the lexicon even {N;P} can govern, in subjunction. Complex scenes may include, as illustrated above, scenes within scenes, as in (162), scenes seen as entities (or ‘facts’), as in (161), entities taken as emblematic of scenes, as in (160).

Further, the presentation of these scenes may have various communicative statuses, represented by moods such as declarative, interrogative, etc. As suggested in Chapter 10, moods are grammaticalized ‘speech acts’. We examine finiteness and mood more closely in the immediately following chapter. Here I merely remind us that their grammaticalized status means that, as with other aspects of language, they may be used ‘indirectly’ – as when, say, enunciation of *It’s draughty in here* is a declaration that is intended as a request to close the window: the declarative {P} has been converted to a request whose presence depends on implicature. The moods are secondary features of the ultimate {P} in a sentence, and it is worth also recalling here that they may be differentiated in various ways in syntactic structure.

Thus, both of (128), from Chapter 9, represent interrogative mood, in contrast with the declarative of (166).

- (128) a. Gordon is leaving?  
b. Is Gordon leaving?

(166) Gordon is leaving

These illustrate the role in the representation of mood of different sub-modules of the lexicon-syntax interface, specifically in this case uniquely intonation in (128a) but also linearity, ‘inversion’, or, better, alternative placement, in (128b). They also remind us, on the one hand, in terms of (128a), of the dependence of pre-utterance phonology on syntax, and so of the syntactic role of aspects of phonology. And, on the other hand, (128b) vs. (166) illustrates the exploitation of the variable linearization that we can associate with the syntax created at the interface. In phonology, linearity is directly given by the lexicon, syllable-internally mostly in the form of relative sonority, and, again, by syntax, in the formation of fully-represented pre-utterance structure – where rhythmic factors can also have a role in the ordering of syntactic elements.

The intricacies of its sequencing are another reason why syntactic structure is different from phonological. This is illustrated not just in the distinguishing of mood, as in (128a) vs. (166), but also in the factors in the particular language that determine sequence, in many cases specifying whether in any instance the sequence of dependent and head is marked or unmarked. We formulated (55) in Chapter 5 in relation to English.

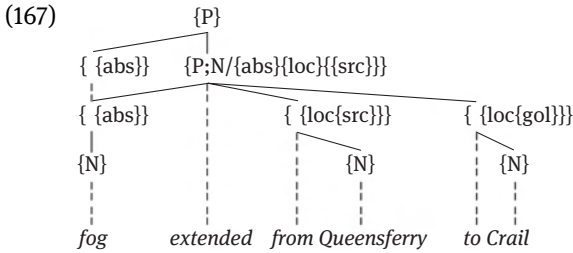
(55) *SYNTACTIC SEQUENCING IN ENGLISH*

*marked word order:* the dependent precedes its head

*unmarked word order:* the dependent follows its head

We have seen that specifiers and the free absolutive of {P} are marked in this respect in English. And we shall find in Part IV, in particular, that the free absolutive is also involved in further intricacies, particularly in what we might call **ectopicities**, where an element is not in the position that seems to be called for by its status in the predication it notionally belongs to. This is frequently associated with tangling.

Ectopicity is already exemplified in a minor way – there is no tangling in this case – by the role of the free absolutive in (61a) from Chapter 5, expanded as in (167).



*Fog* is a complement of *extend*, and, as such we might expect it to occur to the right of *extend*, like the other complements of the verb. But being shared with the free absolutive overrides unmarked sequencing.

However, we shall encounter in Part IV, along with the varying position of adverbs and specifiers of different types, much more striking ectopicities, as anticipated by the examples in (168).

- (168)
- a. Jill tends to ramble
  - b. Bill intends to leave
  - c. Will is admired
  - d. Jill is difficult to satisfy
  - e. Bill seems to want to leave
  - f. Will happens to expect to seem to be heartless
  - g. Whom does Jill admire?
  - h. Whom does Jill think that Bill doesn't like?

Here I am merely pointing via the examples in (168), to a phenomenon that will occupy us extensively in Part IV – though we shall return briefly to the type illustrated in (168g–h) in the chapter that immediately follows.

In the familiar type illustrated by (168a) *Jill* is clearly an argument of the *ramble* verb, fulfilling the agentive requirement of its valency, but it does not occupy the expected subject position with respect to that verb – i.e. immediately before it in this instance. Instead, *Jill* serves sequentially as the subject of *tend*, even though it does not satisfy part of the valency of that verb, whose only complement is the non-finite verb. *Bill* in (168b) satisfies the valencies of both *intend* and *leave*, but occupies a more seriously ectopic position with respect to the latter. In this case and the others anticipated in (168) the free absolutes of Chapter 5 have a crucial role to play.

The ectopic argument in both (168a) and (168b) is the prospective subject of the verb concerned. In (168c,d) the ectopic argument is not the prospective subject

of the verb. In (168d), at least, the ectopic argument also satisfies the valency of *difficult* in some respect, and occupies the position suitable for the only nominal argument, that of subject. What is happening in (168c) is less obvious in this regard. But in both these cases the tangling of a structural line is present.

(168e,f) introduce a further aspect of ectopicity. In (168e) the two constructions of (168a) and (168b) are combined, so that the ectopic subject of *leave* is even further from it. And (168f) shows recursion of the construction of (168a), with the same consequence. Thus, the syntactic connection between the verb concerned and its ectopic argument involves ‘extensible’ long-distance dependencies, even without mixing construction types.

All of the ectopic arguments in the examples in (168) so far considered occupy subject position, though not the subject position appropriate to the final verbals whose valency they satisfy – that is, at least one of the verbs to which they are semantically attached. But in (168g,h), involving another type of interrogative from those in (128a–b), the ectopic arguments are not merely not subjects of *admire* and *like* respectively; they also do not seem to occupy a straightforward subject position. In both instances they precede an operative absent from simple declarative sentences, and are followed by a contentive verb. And they are (sometimes, at least) marked by non-subject inflection. (168h) illustrates the ‘extensibility’ in this case too of the distance of the dependency between the ectopic argument and the verb whose valency it satisfies. These ectopicities allow for the compact representation of complex cognitive scenes, allowed by the flexibility of sequencing in relation to valency, facilitated by a free absolutive. Since sequencing is assigned, once and for all, at the interface, this relation does not involve ‘movement’; there is no ‘inversion’ as such.

We have seen in this chapter that freedom from the restrictions on phonological representation based on phonic implementation that are illustrated in (158) combine with demands for the representation of scenes and their communicative status to motivate such elaborations of syntactic structure as we have already encountered. We have, however, not neglected to acknowledge crucial restrictions on the structure of predications, and particularly their nominal aspect.

We will below, particularly in Part IV, considerably expand on the range of syntactic structures allowed for, in order to accommodate, among other things, the ectopicities illustrated above. Part II looks more carefully at the cognitive demands on syntactic categorization in the lexicon and, in more detail in Part III, how these are reflected in lexical, including morphological, structure and in syntactic structure. We thus begin the whole of Parts II-III with a more detailed survey of the modes of signifying of the cognitive content that English makes



available, and a consideration of why these modes, and combinations of them, are necessary.

But our picture of the parts of speech is not yet quite complete, and this Part of the present work accordingly has the last stages of its journey still to pursue, which continue here to prepare us with structure builders which will be deployed in the following Parts.

# Chapter 15

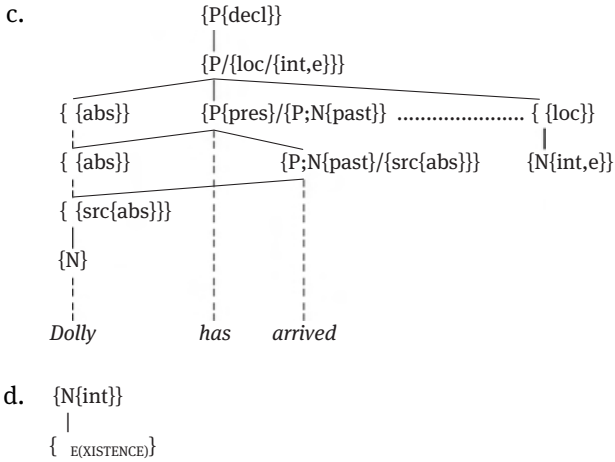
## Finiteness, Truth, and Mood

truth, negation, and reaffirmation – declaratives, interrogatives, and imperatives – vocatives, responses, greetings, and interjections – ‘sentence adverbs’ – performatives – predicative nouns and adjectives – the complementizer as finiteness determiner – a verb determiner? – syntactic categories and parts of speech – mood and minimal utterances

It is time to look at a functional category that so far has not received the attention here that its key grammatical status warrants. This is the finiteness category, operative, {P}, the category that confers finiteness and licenses the potential independence of the construction subordinate to it, and introduces the truth value of the proposition associated with the predication. The typical dependent (a path of) {P}s is {P;N}, either in adjunctive dependency on the operative or subjoined. Independent operatives fall into two groups, modals, and the aspect-voice verbals *be* and *have*. These are associated with various verbal valencies: the modals, including the ‘empty modal’ *do*, take the unmarked verb form, in this instance distinguished as the ‘infinitive’; *be* takes a verb form marked for progressive or passive, and *have* a perfect form. These marked forms each have a distinct morphology, though the perfect and passive ‘participles’, to use their traditional name, usually coincide. The modals, unsurprisingly, are associated with different secondary features that prototypically express different modalities, evaluations of the existential status of the scene being represented by the dependent {P;N} – which we need not investigate at this point. However, I have also acknowledged the existence of a kind of ‘empty’ modal that occurs in circumstances which, for various reasons, require the presence of an independent operative but where no particular operative is specifically motivated, as in, say, *Did Dolly arrive?*. As observed, this ‘modally empty’ *do*, like typical modals, is complemented by a ‘bare’ infinitive.

There is much more to be said concerning the valency and semantics of the operatives. Consider the simple declarative sentence in (169a) whose mood I take to be a secondary feature of the {P} that is the head of an independent sentence.

- (169) a. Dolly has arrived  
b. Dodos existed

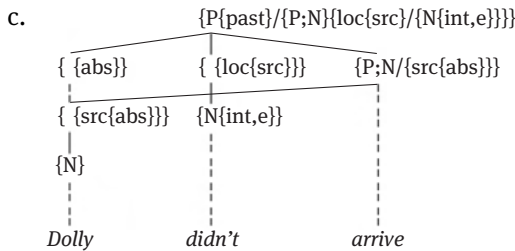
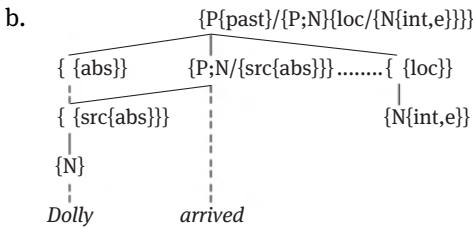
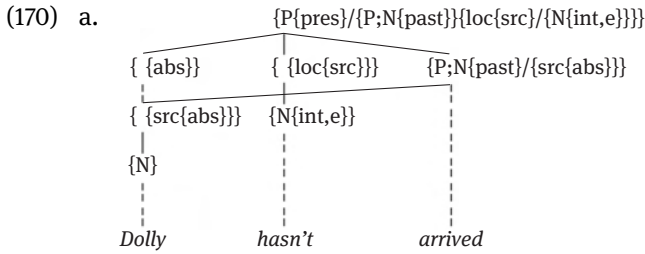


(169a) involves a declaration by the speaker, associated with a node, unidentified in (169c) for the moment, to which the existential {P} above the perfect {P} is in turn subjoined, a declaration that it is the case, or true, that ‘Dolly has arrived’ at the time of utterance and often in the context of the utterance of the sentence. But this may be modulated by temporal circumstantials with an appropriate selection of verb, such as in *I have visited Venice in the past*. The content of the declaration is a **truth value**, and the latter is expressed by subjoined {P}. Finiteness involves truth. We can characterize this in terms of a localist analysis of the linguistic expression of truth.

In these terms (169a) constitutes a claim that the proposition expressed describes a situation that presently exists in the world under discussion, neutrally our perception of the ‘real world’. (169a) asserts for a proposition an analogue of what (169b) expresses for a set of entities: existence – in the case of the entities denoted by *dodos* – in the past. That is, we need at least the components in the representation in (169c) to express the content of the operative in (169a). Here the existential is incorporated in the {P}: that part of the valency is satisfied internally; and {E(XISTENCE)} marks the maximally indefinite locative {N}, which is taken to be a container, hence {int}. {N{int,e}} is an abbreviation for (169d), where existence is treated as a name. The abbreviation, which I shall use in what follows, is a reaction to how often the existential locative occurs, in full sentences, particularly.

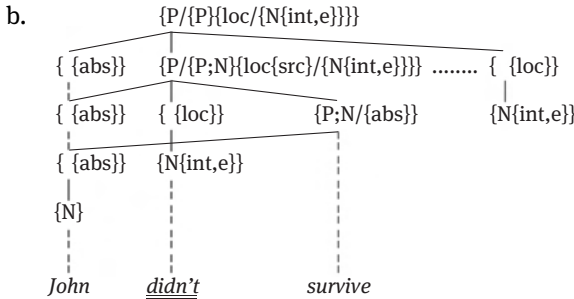
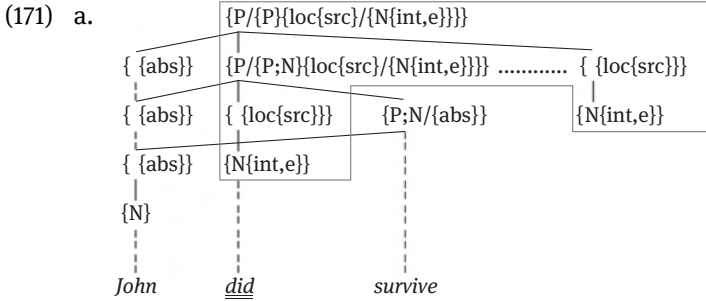
The perfect form is interpreted as a **relative past** – relative to the pres(ent) of the governing {P}, not indicated here. The argument-sharing associated with the free absolutive of subject formation again introduces ‘tangling’. I am not concerned here with the internal structure, including valency, of *arrive*, which is abbreviated here except for the subject.

Again in localist terms, a declaration that some proposition is not the case involves its absence from the relevant world, which I associate with a locative source, with no corresponding goal, as in (170a), which ignores the mood node, which is the unmarked declarative.



The scene is absent from existence, from the acknowledged world. This representation includes a negative configuration that cannot be subjoined to a finite, i.e. converted, full verb, so that the negative corresponding to the *Dolly arrived* of (170b) requires at the interface the presence of the default independent operative, expressed as *didn't*. With the non-negative operativeless (170b) both the incorporated existential locative and the converted {P;N} are subjoined to the {P} – as the dotted lines connecting the subjonees are again intended to represent, in an attempt to overcome the limits of two-dimensional presentation. Their presence marks the absence of serialization.

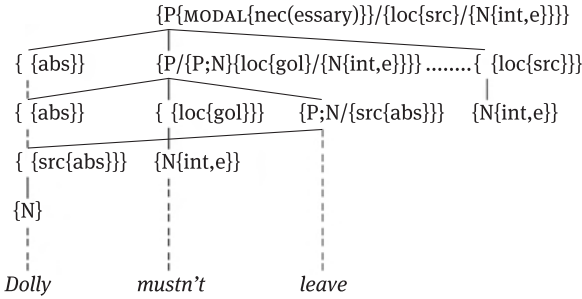
It is possible to insist on the truth of a proposition, of course: by denying its non-truth, to (re)assert it strongly. This is realized as contrastive intonation, which expresses a double negation, as in (171a).



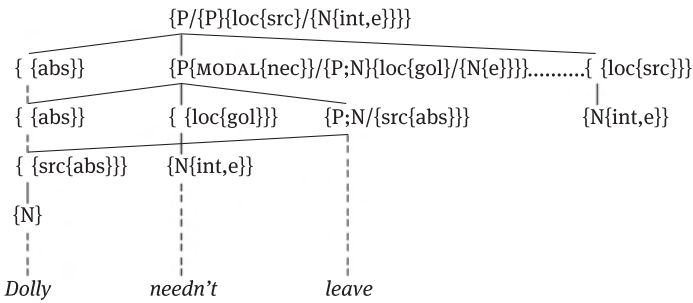
Again this cannot be expressed as part of a finitized full verb. *John survived* insists on the identity of the verb – *survived* rather than, say, *complied*, *perished*, *was deprived*, etc. We again require a *did* to carry, in the present case, the iconic tonic of the intonation. And it realizes two negative operative categorizations. And once more the lower {P} and the locative of the upper {P} are both subjoined to the upper {P}. All of the contents of the outlined part of the graph are subjoined to the upper {P}; (171b) similarly illustrates an insisted-on negation, with a simple existential {P} above an existential source.

Though other operatives are associated (provisionally) with the existential {P}, most modal operatives introduce a {P} superior to the existential, positive or negative, **eventuative** (positively oriented) or not. *Mustn't* in (172a) illustrates what seems to be, given structural properties investigated so far, the appropriate structure for an epistemic modal above the, in this case, simple eventuative existential, with {loc{gol}}, but the modal *needn't* in (172b) involves subordination of the modal construction to a negative existential.

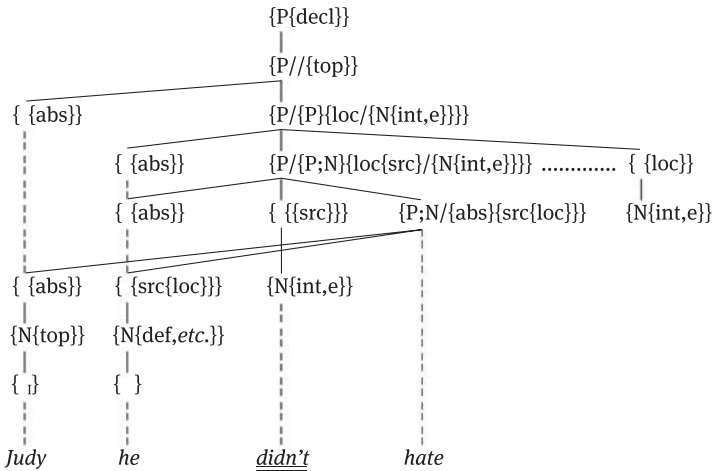
(172) a.



b.



c.



‘MODAL’ is a subcategory of {P}, whose particular modality is specified here as necessary. In (172a) the non-modal predication is negated, as is the norm for placement of a modal; however, in (172b) it is the modal predication that is negated. (172c) includes various {P} categories, to allow a differentiation of four recursive {P}s the lower two of which are existential, (re)assertive and an incorporated negative respectively and these could be extended by including

a *must*, as in (172a). Above them are a topicalizing and a mood {P}, with fixed positions (when present) in the hierarchy. We return in Part IV, however, to a more detailed look at the structure of modality, including the epistemic/deontic distinction – the latter, indeed, perhaps being the more usual interpretation of the modal sentences in (172a–b).

An even more elaborate extension of the domain of finiteness than that introduced by the modalities is associated with the moods. The latter, I have suggested, are features of the further superior instance of {P} that occurs only in root clauses – i.e. clauses which, as headed by a (modal or existential) {P}, are not just potentially independent sentences but are indeed such. The mood node behaves like {P} in general, except that its complement is what is the otherwise, in subordinate clauses, ‘root’ {P}, and the declarative is not provided with a free absolutive; however, in Part IV we shall deconstruct the mood {P} into complex lexical structures.

We can thus recognize two different kinds of {P}, {P{MOOD}}, to which an otherwise ‘root’ {P} is subjoined to create an independent sentence, whether the latter is a distinct modal or a topic or a simple existential prototypically with subjoined {P;N}. Likewise, there are two kinds of non-dimensional {N}, represented as {N{def}}/{N}} and {N/{src}}, where if both are in a simple determiner construction the latter is subjoined to the former.

The unmarked mood is declarative: a proposition is declared to be true or untrue. I have omitted the declarative mood node in the above, except in (169c). The **indicative** construction that realizes declaratives is a grammaticalization of a speech act, a statement. As a grammaticalization, as noted, it can be used non-prototypically, as, say, a request: thus, *I’m freezing*, as a further example, can be intended as a request for someone to provide some (more) heating. The simple indicative construction associated with declaratives is the unmarked finite one, in terms of categorization, linearization, and intonation.

The representations of other moods depart from this construction in some way. Negation and reassertion already depart from the unmarked indicative in terms of the necessary presence of an independent operative, and of intonation in the case of the latter. But non-declaratives can show further differences. These further differences are less drastic when the mood also signals a questioning of an aspect of a proposition rather than an indicative predication presenting the proposition as true.

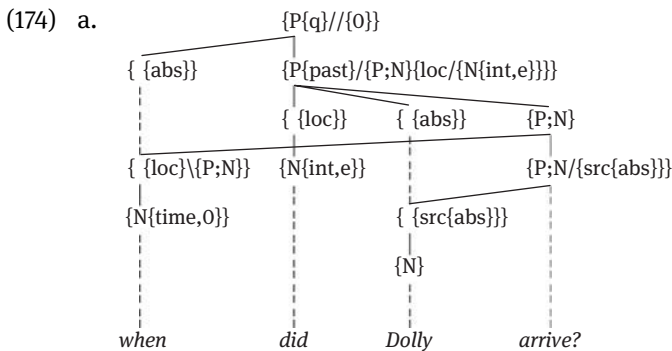
Interrogatives question the truth status of a proposition or the identity of an argument or predicator, as illustrated in (173).

- (173) a. Has Dolly arrived?  
 b. When did Dolly arrive?/What day did Dolly arrive?  
 c. Who has arrived?/Which (of them) has/have arrived?

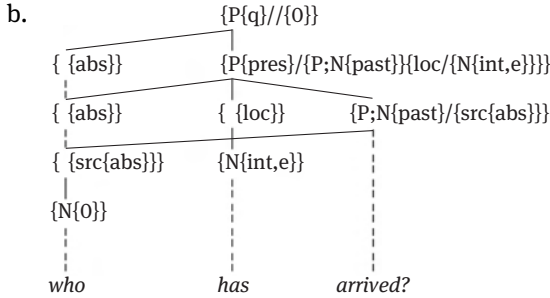
In both the truth-status, or propositional, interrogative, of (173a) and the argument interrogative of (173b) the subject has not been placed in its typical position, and in the latter another argument, marked as questioned, seems to have ‘taken its place’. In (173c) the subject is the questioned element, and is not overtly ‘displaced’. All three can share a distinctive intonation, indicated crudely by the question mark. But only (17a–b) require an operative, with, as elsewhere, *do* as the default.

Let us look at the categorizations associated with these properties, starting with perhaps the most ‘deviant’, when compared with the indicative, (173b). But first recall that there is no ‘movement’ involved in any of these; as with all syntactic sequences, those in (173) are assigned, once and for all, at the lexicon-syntax interface. And even the increasingly complex structures we have been looking at are built on the basis of the lexical valencies that are appropriate in the context.

As in declaratives, the sentences in (173) involve subjunction to a mood {P} of an existential {P}. But they signal interrogative status by the presence of the above properties which reflect either, in the case of simple ‘inversion’, simply the presence in the mood {P} of the feature interrogative, {q} and a requirement that there is an element that is unidentified, in this case the truth value; or, in the case of a *wh*-element preceding the ‘inverted’ operative or in subject position, the marking of an argument as unidentified, ‘open’, or ‘unspecified’, with feature {0}. (173b) has both, as shown in abbreviated form in (174a).





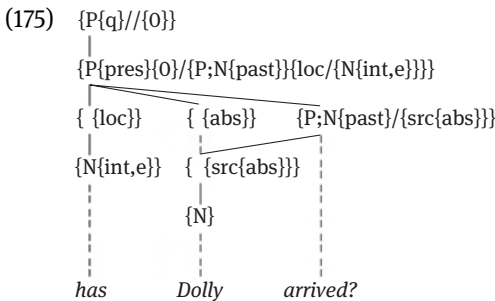


As well as being marked as interrogative, the mood {P} has a valency, but one which need not be satisfied immediately. The  $//\{0\}$  is satisfied by an element subordinate to the {P} that is marked as superordinate to an ‘identity unknown’ element, marked by {0}; this is what is marked on the time {N} in the initial locative of (174a). It thereby shares its argument with the free absolutive of the initial temporal. (174a) is a non-subjective ‘verb-second’ construction, a property it shares with some other constructions in English. This means that the free absolutive of the lower {P}, exceptionally, must follow its head, unlike most other subject-sharing absolutives. This suggests further that (174a) is a grammaticalized topic construction.

In (173c), represented, again in abbreviated form, as (174b), however, the subject is the unidentified argument, and so no ‘displacement’ is necessary to place the {0} element in initial position.

The *wh*-forms in (174a–b) are another variety of pronoun to add to those we looked at in Chapter 9 – though I have abbreviated their representation here by leaving out the subjoined { }. The second example in each of (173b–c) involves determiner versions of interrogative *wh*-forms rather than pronouns.

The verb before subject structure of (174a) is also spelled out in the alternative (‘yes/no’) or propositional interrogative of the abbreviated (173a/175).



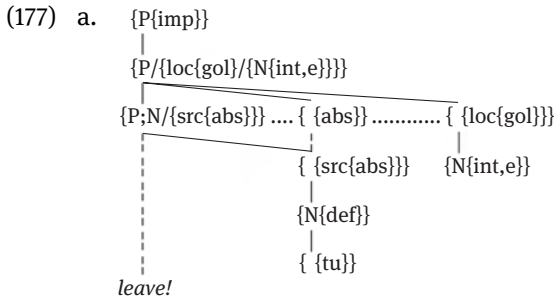
Here it is the existential state of the lower {P} that is unidentified, and this is signalled by its initial position, with the subject again following. The initial mood {P}, as elsewhere, lacks a free absolutive; the subject is nevertheless ‘backgrounded’ by the questioned existential.

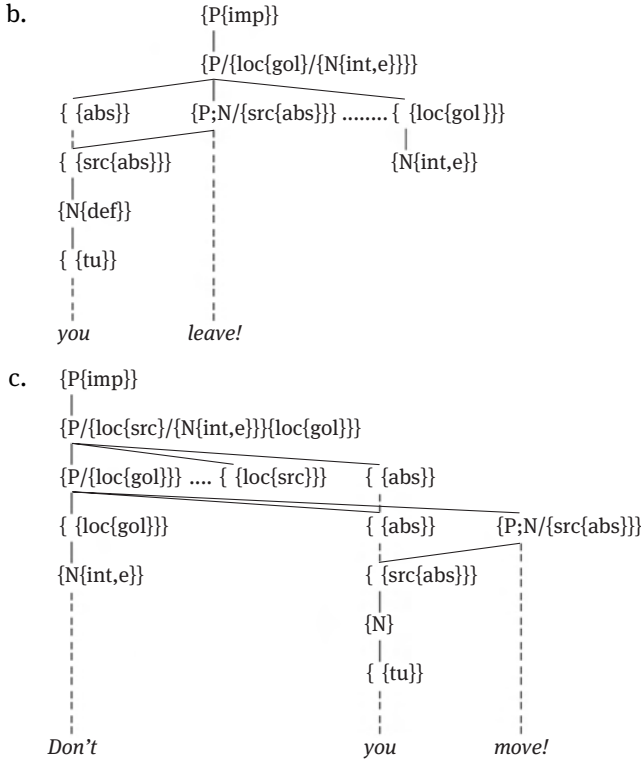
There are yet other speech acts that are not concerned with propositions, and diverge even more from the indicative in their expression. Imperatives, for instance, do not express existential claims, but rather order, or request, or suggest some course of action to, prototypically, the addressee. This is, of course, reflected in their syntax: the subject is typically the addressee pronoun, but it may involve the addressee(s) and other persons or third-person indefinites in particular.

- (176) a. You stay behind  
 b. You and your friends come on Tuesday  
 c. Somebody help me

Names are not prototypical imperative subjects, however. And the subject itself is only optionally expressed independently, perhaps unsurprisingly given its restricted character. But the imperative may be accompanied by a vocative, typically *you* or a name, and typically on a distinct intonation contour, and possibly postposed: *Come along, Jeb!* Modals are absent. Non-epistemic modals appear in requests masquerading as declaratives, *you must leave*, etc. Imperativizable predicates must be capable of being interpreted as actions, with agentive subjects, including figuratively (*Be a man!*).

All of this suggests that the basic {P} that subjoins to an imperative is not a simple existential, but an eventuate, a ‘coming into being’ of the action denoted by, typically, a verb, as in the syntactically ‘subjectless’ *Leave!*, represented in (177a).





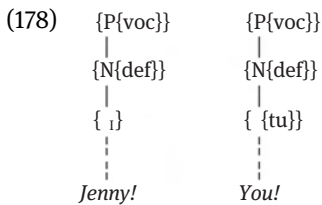
As elsewhere, lack of sequencing between categories is indicated by the dotted horizontal lines joining them: the whole complex categorization in (177a) is realized as a single word form. The lexically introduced free absolutive of the lower, eventulative, {P} is satisfied internally. ‘Eventulative’ is again characterized by a positively-oriented directional existential. Again the initial mood {P} lacks a free absolutive. And once more the existential is ‘foregrounded’.

We also have imperatives with subjects: *You leave!*, *Nobody move!*. The former is represented in (177b), with the existential free absolutives overt. In negative sentences the subject normally follows the operative, as in *Don't you move!*, represented in (177c), with a negative eventulative above the positive eventulative. Here again an uppermost free absolutive is absent with the mood.

Even though the intonation of imperatives varies according to whether a command is being issued or a request made or a suggestion offered, imperatives with subjects cannot be interpreted as declaratives that convey an indirect direction; it's not a question of the addressee having to infer that an order has been given. This is not to deny that the addressee may misinterpret the mood of a simple verb with overt second person subject: making a suggestion (*you go by*

*bus*) may be misinterpreted as stating a possibility or even making a non-contingent statement – or vice versa.

Other moods depart even further notionally and syntactically from the declarative and the indicative construction. This is true of the vocative, which was mentioned above because of its affinity with the imperative; though the vocative may be tagged on to sentences in different moods, it shares with imperatives a focus on the addressee. However, vocatives may occur as independent sentences, to attract attention: *John!*. Here we have an expression of mood that differs radically in its expression from the indicative. It is not clear what more structure need be attributed to the prototypical vocatives, names and simple *you*, than what is indicated in (178a–b).



But this then raises the question. What is the status of the ‘tagged-on’ vocative of *Come along, Jeb!*? Such a vocative – let us call it an **integrated vocative** – shares something of the distribution of a ‘sentence-adverb’, a type we labelled as modifiers of {P}: recall Chapter 7.

There we distinguished between modifiers of the verb construction and modifiers of the sentence. The latter and their typical distribution were illustrated by the bracketed adverbs in (85a), along with a modifier of {P;N}, *outstandingly*.

- (85) a. (Frankly/Actually) Isabella (frankly/actually) performed the sonata  
 outstandingly (, frankly/actually)

However, there are two types of {P}s in the representations in (177), for instance; and we can distinguish between modifiers of the mood {P} and modifiers of the existential or eventative {P}. *Frankly* is a mood modifier, and *actually* modifies an existential {P}, as in (179a–b), where I ignore the internal structure of the adverbs.

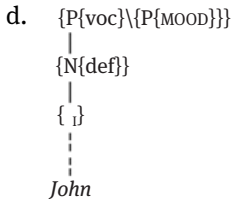
- (179) a.  $\{ \{\text{loc}\}\{P\{\text{MOOD}\}\}$   
 b.  $\{ \{\text{loc}\}\{P/\{\text{loc}\{N\{\text{int,e}\}\}\}$   
 c. I said that, frankly, I didn’t care

Adverbs such as *however* and *moreover* belong to the (179a) type, plus an overt dependence on discourse. Given the restriction of mood to root clauses, the mood

modifier occurs in subordinate clauses only as a modifier of {P;N}, but, of course, its mood character is particularly evident when subordinate to a verb of communication in free indirect speech, as in (179c). There is, of course, no such restriction of modifiers of existential {P}.

Integrated vocatives, however, are restricted in the same way as mood modifiers. Moreover, any medial positioning, in particular, requires a separate intonation contour, as indicated by the pair of commas in (180c), thus signalling the embedding of one mood within another.

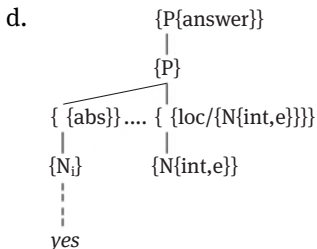
- (180) a. John/My dear, the paper is on the table  
 b. The paper is on the table, John/my dear  
 c. The paper, John/my dear, is on the table



The mood status of even peripheral vocatives perhaps demands such individuation, highlighting their status as a distinct mood. They might be represented as in (180d), with one mood modifying another mood.

Still further reduced from even such simplicity of syntactic categorization and expression are forms expressing response to an alternative interrogative such as (173a/175), as in (181a), or expressing a greeting (181b), or an interjection (181c).

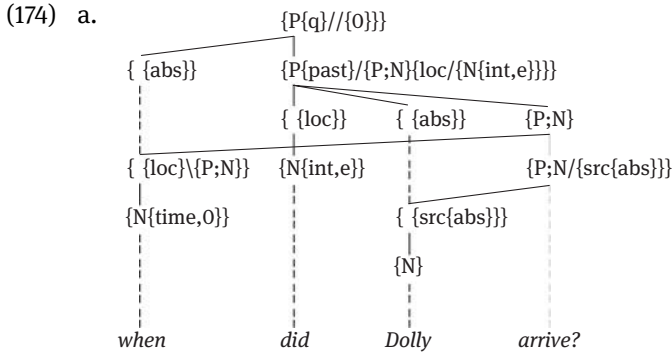
- (181) a. Yes!  
 b. Hello!  
 c. Ouch!



Despite their dependence on situational stimuli, including those of discourse, these are well-formed, structurally complete pre-utterances which can be inter-

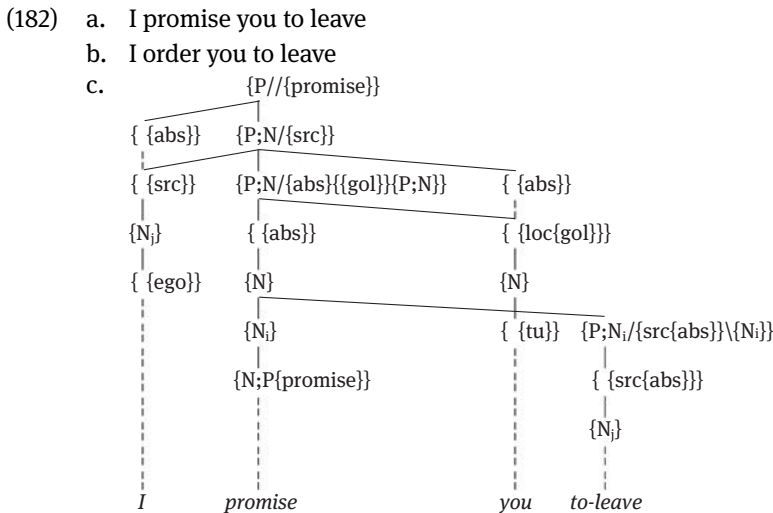
preted as being governed by a mood {P}, whatever else is involved in their internal structure. Something along the lines of (181d), where the absolutive {N<sub>i</sub>} is coreferential with the {O} of a questioned {P}, suggests itself. This will be more plausible when the answer mood {P} is deconstructed as in (IV.24) in Chapter 35, and a *yes/no* question deconstructed as in (IV.30a), such that the coreference involves two {N}s.

Likewise, the internal structure of an answer such as *on Tuesday* to the question in (174a) could be equivalent to that of the structure for *It was on Tuesday*.



Such answers and other abbreviated sentences express moods.

Conversely, there are moods that are conveyed by means of **performative** indicatives based on a mood-conveying {N;P}, as in (182a–b), provisionally represented in (182c).



These performatives include nominal moods conveyed syntactically by expression of the presence of a mood-requiring {P}, as in (182c) – compare the imperative in (177a) above.

A suggested structure for (182a) is abbreviated in (182c); the representation already anticipates matter from the following parts, and I have ignored here the (at this point) irrelevant internal structure of *to-leave*. What I have included is an analysis of the verb *promise* as a causative directional verb based on a noun associated with the mood feature {promise}. *To-leave* is apposed to the co-indexed {N} that governs the {N;P} *promise*; and there is also often, but not necessarily, coreference between the subjects of *promise* and *to-leave*. The content of the mood {P} is simply its valency, specifically, the requirement that it has {promise} subordinate to it. This will be important in the suggested deconstruction of mood in Part IV.

Declarative mood is **propositional**; it is concerned with truth value, whether it is positive or negative, emphatic or not, and the interrogative questions the truth of a proposition or the identity of an argument. Other moods are not propositional; rather, as with imperatives, they make a proposal, or **request**, of some sort, more or less firmly. Questions seem, on first consideration, to be propositional, if defectively so; but they also make a request. We again postpone exploration of this area until Part IV, however, where the existence of variants in finiteness will receive more attention based on further deconstruction.

Here I take up now another aspect of finiteness, one that relates to the contentive categories. A number of the above examples have involved verbs that have been converted into operators, as well as those that are accompanied by independent operators, and we have uncovered some of the circumstances that favour one or the other. As registered in Chapter 3, nouns and adjectives in English do not participate in such an alternation: these categories normally do not undergo finitization. This is expressly excluded by the formulation in Chapter 5.

(57) FINITIZATION

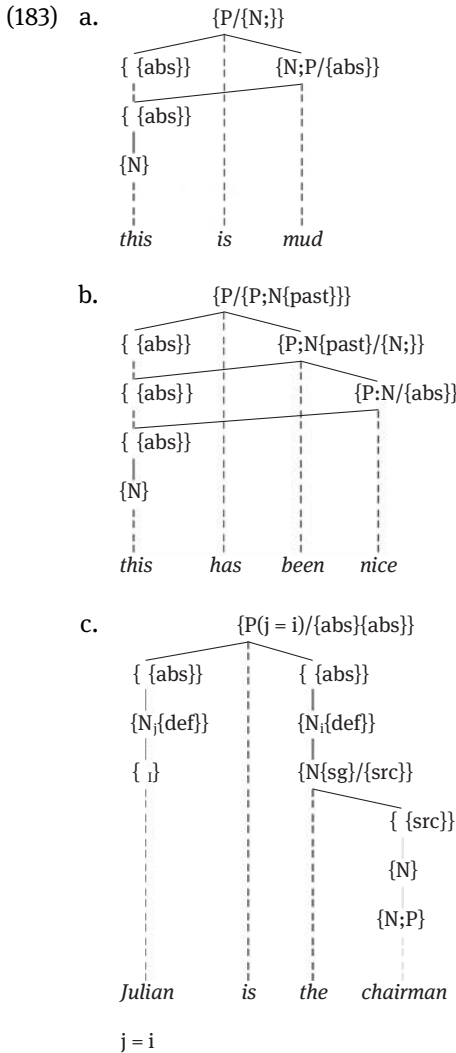
$$\begin{array}{c} \{P\} \\ | \\ \{P;N\} \leftrightarrow \{P;N\} \end{array}$$

It therefore behoves us to look at the relationship between these categories and finiteness. As well as not undergoing finitization in English, they fail to exhibit the forms demanded of their complements by the various operatives. This situation is accommodated by the complementation of various verbals, functional and contentive, by nouns and adjectives. As is familiar, the unmarked such verbal is the **copula** *be*, as was illustrated by (3) in Chapter 3, where absence of the

copula (or other verbals, full verbs, that take predicatives) is not normal in such sentences.

- (3) a. This \*(is) mud
- b. This \*(is) nice

It looks as if something like (183a) might be appropriate for (3a), with *be* as copula linking non-verbals rather than governing a non-finite verbal.





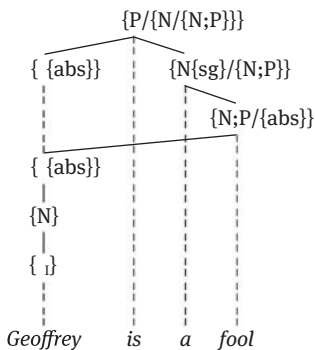
The copula takes a non-verbal contentive – ‘{N;}’, covering noun and adjective – as an argument, and the noun in (183a) and adjective in (183b) apparently have the valency ‘/{abs}’, satisfied by *this*, which is shared by the free absolutive of the copula, and also of *has* in (183b). But these contentives obviously cannot be selected as subject. Instead we have the introduction of a free absolutive dependent on the copula, and one dependent on *has* in (183b). (183b) illustrates the copula in the role of the past verb form that satisfies the valency of *has*. The noun and the adjective are said to be **predicative**; crucially they do not satisfy a semantic relation.

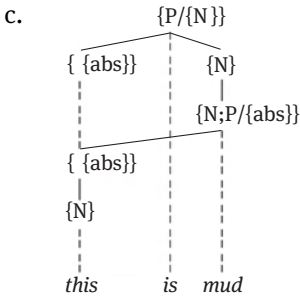
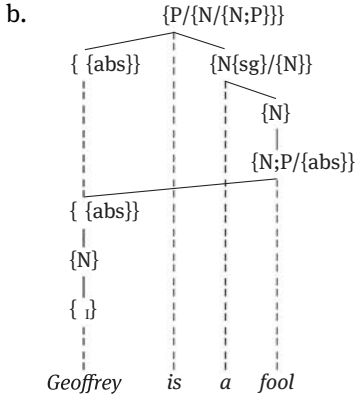
*Be* also serves as the finite predicator in the **equative** construction of (183c); but in this instance the post-copular noun is part of an argument, bearing the same semantic relation to the copula as the initial *Julian*. The copula here takes two absolutive participants, and asserts coreferentiality. Neither argument outranks the other on the subject-selection hierarchy; and, given appropriate contexts, either may come first. Here too the post-copular noun has no valency; it is not predicative. However, I focus in what follows on the construction in (183a), which raises perhaps the most obvious further questions concerning this area.

When in English we substitute a singular predicative noun for the mass noun in (3a), an interesting thing happens: as observed in Chapter 8, it is preceded by an indefinite article. A singular predicative noun requires to be dependent on a determiner, just like an argumental noun. But the predicative article is rather special. Not only is it, like the article of the subject in (87b) from Chapter 8, both non-definite and non-partitive, but it also, along with the non-specific predicative in (87b), does not bear a semantic relation, as is suggested in (184a).

(87) b. A cat is a wily animal

(184) a.





This fills in detail absent from (88d) in Chapter 8. The article in (184a) is non-argumental; it is referentially inert. It signals merely singularity of the entity to which the class of noun is assigned by that sentence. The specification for predicative nominals given as the valency of the copula in (184) assumes that such a  $\{N\}$  also occurs with predicative plural and mass nouns like that in (183a), appropriately modified in (184c). In their case the  $\{N;P\}$  is subjoined to the predicative  $\{N\}$ . This is consistent with the overall behaviour of singulars, plurals, and mass nouns in English: singulars regularly take an independent determiner. However in Chapter 14 it is suggested that subjunction to  $\{N\}$  also occurs in the presence of a separate determiner. Thus, (184a) should also be expanded as in (184b).

The introduction of the notion of a predicative determiner, as in (184b), suggests an analysis of ‘complementizer’ *that* in (161a), whose characterization was left aside in Chapter 14.

(161) a. The fact (that) she fell over came as no surprise

*That* occupies a potential determiner position with respect to the following {P}, just as the functor *the* is to *fact*; not just a predicative but also a subordinate predicate can have a determiner. However, *that* introduces a construction apposed to *the fact*. That is, we have in (161) two determiners that, as heads in an appositional structure, are coreferential, *the* and *that*. We now have an opportunity to begin to test whether such an analysis, assuming a categorization for the so-called ‘complementizer’ that is close to the etymological source of *that*, as a determiner, might be appropriate. Specifically, it is a determiner that, in the first place, can be apposed to another determiner phrase, as in (161a) and which identifies the following category – analogous to the *a* of (184b).

In (161a) the determiner is governed by an absolutive subject, as is the *that* in (185a).

- (185) a. That she fell over came as no surprise  
 b. It came as no surprise (that) she fell over  
 c. \*That she fell over seems  
 d. It seems (that) she fell over

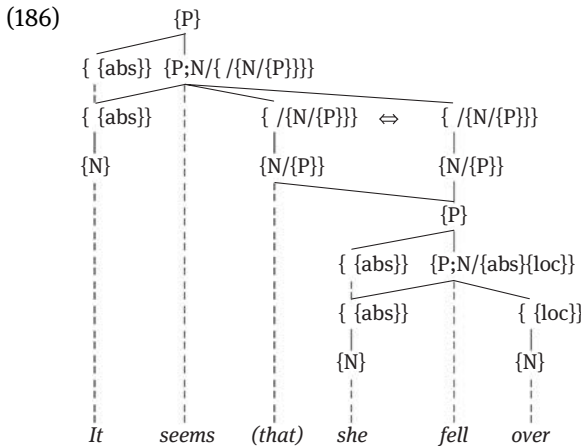
A *that* construction can be coordinated with a straightforward determiner construction, as in Radcliffe’s ‘The idea of Valancourt, and that she should see him so soon, alone occupied her heart’ (*The Mysteries of Udolpho*, Folio edn., p. 470). Normally coordination involves like categories (see further Chapter 16). *That* is a determiner that requires to be complemented by a finite clause. However, as a **finiteness determiner**, we might expect it to have some unusual properties, as well as some shared with other determiners.

Certainly a construction headed by {P} is distinctively the predication par excellence; but, for that very reason, it is non-prototypical as a subordinate construction. Thus, in many languages, the full verb of verbal predications undergoes nominalization in order to appear as subordinate. This construction-type is illustrated by English *Martin’s admiration for Mary* – though, of course, nominalization is not obligatory in English. Such as (161a) are also available, as are alternatives with *that* but not *the fact*, as in (185a).

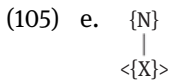
It is the non-prototypicality of subordinate finites that might lead to the danger of ‘garden-pathing’ that is avoided by the obligatory presence of determiner *that* in (185a). Let’s look at what a proposed structure for such a predicative determiner might look like. Firstly, however, let us remind ourselves that not all sentences of the form of (185b) are paralleled by sentences like (185a). Compare (185d) and (185c). The presence of *that* in (185c) is simply ungrammatical, though

in (185d) it is optional, as in (185b). I shall, indeed, take (185d) as my starting point (for reasons that will emerge).

The representation in (186) is appropriate, on the analysis of there being a {N} that determines the {P} that heads the subordinate, with the {P} being in adjunction to {N} (*that*) or in subjunction (no overt {N}), so that (186) allows for either, which are mutually exclusive of course.



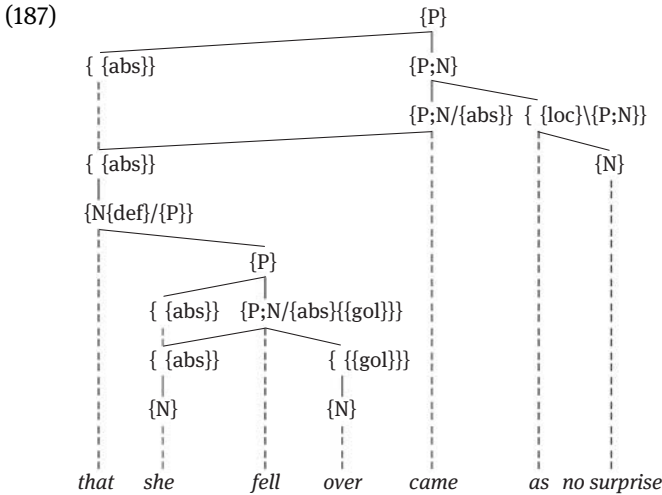
I have left the functor, if any, to which the finiteness determiner is subjoined empty for the moment, in that the presence of a functor and, if so, which one, are things still to be investigated. The thick double headed arrow separates the two alternatives for this determiner: either, on the left, the finiteness determiner is overt or, on the right, the subordinate {P} is subjoined to it – and the determiner subjoined to the functor (if any) in both instances. (186) ignores details that are not pertinent, such as the existential character of the {P}s, tense, and the internal structure of the locative and the pronouns. *That* here has lost any deictic function, and it is not even definite, unlike that in (185a–b). In those cases, the speaker assumes that the interlocutor can identify the referent, which is the proposition ‘she fell over’. The finiteness determiner may or may not be definite (or ‘factive’). But there has been no radical change in the primary categorization of *that* when compared with the *that* that takes nominal complements. The finiteness determiner belongs to the wide superentitative cross-class represented in Chapter 9 as the revised (101).



i.e. a possibly unitary complex headed by {N}.

The requirement in (186) for the empty functor governing finiteness-taking {N} is apparently the only component of the valency of *seem*; there is no semantic relation. This marks *that* in (186) as a non-prototypical determiner: determiners normally satisfy a functor with a value; with this finiteness determiner this is unnecessary. The subordinate clause is not an unmarked argument; it lacks a semantic relation, and so, it seems, cannot appear in subject position. Thus, a free absolutive is introduced with respect to *seem* and it is satisfied by the expletive *it*. As with predicative nouns, I assume that absence of the overt {N} means that {P} may be subjoined to a finiteness determiner in the lexicon, as indicated by the right option allowed by the arrow in the representation in (186).

Such an analysis seems also to be appropriate for (185b), but in (185a) the clause is in subject position, suggesting that it is a normal argument eligible for subject-formation, as shown in (187), where *that* is also to be interpreted as definite, as elsewhere.



I ignore here the internal structure of *no surprise* and any further specification of the existential *came*, as well as not showing any recognition of the idiomatic status of the structure they occur in. In (187) the clause-governing {N}, as is normal with {N}s, has been subjoined in the lexicon to a functor, here an absolutive, which is available for subject formation. Here the finiteness determiner behaves as would a prototypical determiner. We can allow for both (186a) and (186b) if the lexical conversion of the finite-clause-governing {N} to a functor involves a functor with a relation, except with certain verbs, notably those with a doubtful factivity pre-

supposition. This analysis is pursued and tested in the following chapter and the other Parts of this work, where we also confront further forms that have been labelled ‘complementizer’.

The finiteness determiner has lost the deictic function of the nominal determiner *that*; it is relatively bleached, at most definite. Similarly, the infinitival functor *to* of *She likes to flirt* has lost the goal feature of the (purposive) goal circumstantial of *She came to see the elephants*: the former infinitive *to* is thus specified simply as { / }, i.e. with no minor features. However, as a functional category, it must take a complement, as indicated in the representation of the categorization. Usually, functors are complemented by nominals. If this remains the case with the bleached functor, then we should fill out its specification as { /{N} } – or rather { /{N/{P;N}} }, with the complement of the functor as a verbal determiner. In this case the determiner is always lexical; there is no overt equivalent to *that*. However, given this lack of an overt {N}, and possibly of definiteness, and any other sign of nominality, one might pause in suggesting such a {N}. Do we have instead a more economical ‘non-finiteness functor’? – { /{P;N} }? Resolving this conflict has interesting consequences for the analyses of non-finite verbal forms offered in Parts III and particularly IV.

So far in this Part we have confronted one common traditional picture of the parts of speech with the set of syntactic categories envisaged here.

| Declined                        | Undeclined                                     |
|---------------------------------|------------------------------------------------|
| Noun, Pronoun, Verb, Participle | Adverb, Conjunction, Preposition, Interjection |

**Table V:** Primary Syntactic Categories (completed)

| Functional |        | Contentive   |                            |
|------------|--------|--------------|----------------------------|
| Operative  | {P/}   | Verb         | {P;N}                      |
| Comparator | {P.N/} | Adjective    | {P;N}                      |
| Determiner | {N/}   | Noun         | {N;P}                      |
| Functor    | { / }  | Name { <A> } | Pronoun { } <b>Neither</b> |

The two pictures have in common only noun and verb. Recall that ‘participle’ is interpreted here as either a verb converted to an adjective, as in *She is very tired*, or a noun, as in *Her singing of the aria was terrible*, or a secondary category of verb of various types, exemplified by the past form of (173a) above. In Table V ‘adjective’ has been differentiated from ‘noun’. I group pronouns with names, by virtue of their sharing the unique category { }. They differ in that, while passive names

are contained in the onomasticon, pronouns are not; and prototypical pronouns are a necessarily complex part of speech in the way nouns are, but identifiable, again like nouns by a single component, { }. Active names are also complex, but via nomination and determinerization or mood-formation. ‘Preposition’ corresponds to ‘functor’, though the latter has a wider scope. It embraces not only adpositions but also morphological case and expression by positioning.

Moreover, ‘adverbs’ and ‘conjunctions’ too have been regarded here as a kind of functor; but by virtue of their internal complexity and lexical distinctiveness, they, like pronouns, constitute distinctive parts of speech. ‘Interjection’ joins ‘vocative’ (not traditionally a part of speech) as moods, i.e. features of the root operative in a main clause. But Table V is completed by three further functional categories. Indeed, the functional/contentive distinction, based on categorization, and absent from the phonology, is an innovation – though approximately anticipated by some terminologies in terms of ‘closed vs. open class’ or by recognition of ‘function words’. The functional vs. contentive division appears to be more relevant to the syntax than the morphologically-based distinction ‘declined’ vs. ‘undeclined’. We have not quite finished with the parts of speech, however.

Specifically, we have left a lot more to say about the traditional ‘conjunction’ and its division into ‘subordinating’ and ‘coordinating’. Chapter 16 takes up the analysis of the former and Chapter 17 of the latter. We must pursue, for instance, consequences of the interpretation of ‘complementizer’ *that* as a finiteness determiner means that it subordinates a clause: this brings it very close in function to subordinating conjunctions – with which it is indeed traditionally grouped. But it is not just because of the apparent categorial complexity of ‘conjunctions’ that I have left them till now; we are now in a better position to formulate their role in sentences.

A construction headed by mood {P} constitutes the content of a **minimal utterance**. And mood is associated with one word utterances such as *Yes*, though prototypically not expressed overtly. And even sentence fragments such as answers like *Tomorrow* have a mood, a kind of declarative, even though they not only cannot be understood out of context and the mood is not prototypically expressed, like *Yes*, but they are also structurally and referentially parasitic upon the immediate linguistic context. The significance of the minimal utterance for conjunctions, however, is that the latter comprise the major joints of the predications that are implemented as such an utterance, as suggested by the etymology of the term. The structure of the minimal utterance and the role of conjunctions in it will thus figure largely in Part IV.

# Chapter 16

## Subordinating Conjunctions

Complex parts of speech – subordinating vs. coordinating conjunctions – circumstantial conjunctions – *that*-circumstantials – participant locative subordinating conjunctions – apposition of the predicative determiner – relative conjunctions – interrogative conjunctions – the finiteness determiner as participant and semantic-relation bearing – non-finite relatives

Chapter 15 concluded with recalling the set of primary categories we have established, in the form of Table V, which bravely announces itself ‘completed’.

**Table V:** Primary Syntactic Categories (completed)

| Functional |        | Contentive |                            |
|------------|--------|------------|----------------------------|
| Operative  | {P/}   | Verb       | {P;N}                      |
| Comparator | {P.N/} | Adjective  | {P;N}                      |
| Determiner | {N/}   | Noun       | {N;P}                      |
| Functor    | { / }  | Name { <A> | Pronoun { } <b>Neither</b> |

It was also noted, however, that the categorizations in Table V do not exhaust the parts of speech, in the sense of possibly overlapping lexical classes with a distinctive distribution. The recognition of categorially complex parts of speech, a possibility again not present in phonology, adds to the set of parts of speech that can be allowed for by the basic categories in the table. Thus far we have recognized as categorially complex the following: adverbs, conjunctions, and pronouns and active names, and, if the suggestions made in Chapters 8 & 14 are accepted, even nouns. However, as again observed in Chapter 15, the status of the entitatives among these is rather different from that of the adverb: they are all identified and differentiated by the base for the complex category – { } or { <A>} or {N;P}; so that the head of the complex is redundant.

Adverbs, however, have been analysed here as an inherently complex part of speech with necessary components { / } and (subjoined) {N}, though many are more complex than this. It may be too that all adverbs are locative. Adverbs thus have the basic distribution of locative functors, but they are distinguished as a part of speech by virtue of a distinctive lexical membership and an even wider distribution. Many traditional subordinating conjunctions, though differing in being complemented by a predication rather than a nominal construction, show a similar distribution. But the situation is more complex than that, as I shall now try to show. However, at this point it is worth observing again that the suggested



shared dependence on a locative of adverb and circumstantial may underlie the traditional confusion concerning the status of ‘adverbs’ and ‘adverbial’: part-of-speech or ‘function’, whatever the latter might mean?

Etymologically, as I have acknowledged, ‘conjunctions’ are ‘joining’ words or expressions. What do they join? Traditionally, conjunctions have been differentiated into ‘subordinating’ vs. ‘coordinating’, and this determines what is joined and how. The ‘subordinating’ conjunctions like *since* and *if* join a subordinate clause, traditionally finite, to some position within a superordinate. ‘Coordinating’ conjunctions like *and* join elements of equal syntactic status and neither of the elements is necessarily a clause. This makes it unclear what these ‘conjunctions’ have in common, other than ‘joining’ – a role which might also be attributed to prepositions. I shall take up this problem in the chapter that follows this one.

In the present chapter, as indicated, I shall focus on the subordinating sort, specifically their categorization, including their valency, and their part-of-speech status. What will emerge is the variety of expressions that serve to subordinate a finite clause, both with respect to their function in the main clause and their relative complexity. I shall begin by recognizing further complexity in the form of accepting the finiteness determiner as belonging to the subordinating conjunction part of speech; *that*, like other members of the category, subordinates a finite clause.

As concerns specific function in the superordinate structure, the conjunction in (185a) introduces the sentential subject of the main clause, which suggests it satisfies the functor that undergoes subject-formation.

- (185) a. That she fell over came as no surprise  
 b. It came as no surprise (that) she fell over

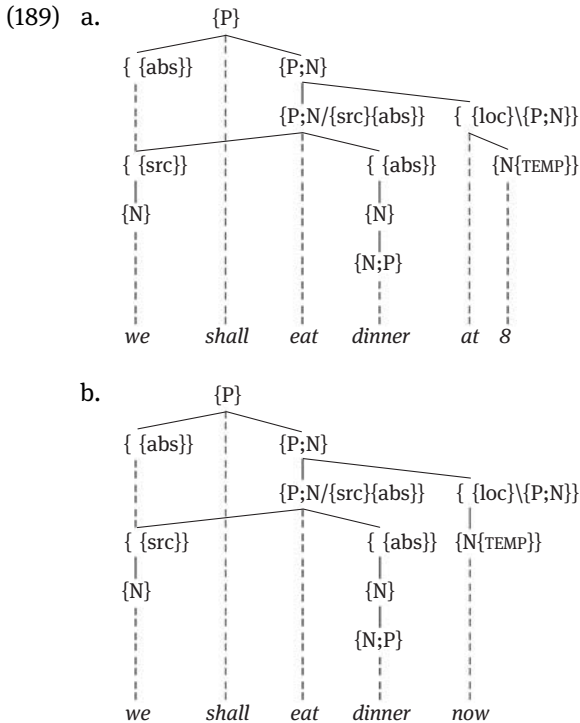
In (185b) the subordinate finite clause is not the subject and *that* may be absent, but, in satisfying the valency of *come as no surprise*, it is a participant in the structure of the superordinate clause. And we shall (re-)consider what kind of participant below. The subordinator here is the finiteness determiner proposed in Chapter 15, which may be independently expressed or not. We shall indeed find that it has a fundamental role in subordination of clauses. But that is to anticipate. Firstly we must recognize a rather different function for other traditional subordinators.

Simple instances of the other, typically circumstantial, type of subordinating conjunction, illustrated in (188a), seem to have the same role as prepositions, except that they introduce a sentential rather than a nominal structure.

- (188) a. We shall eat dinner when Bill arrives  
 b. We shall eat dinner at 8  
 c. We shall eat dinner now

Compare the prepositional circumstantial of (188b). The sequence following *dinner* is in both cases a circumstantial. (188c) illustrates a ‘circumstantial adverb’ headed by a complex locative with a similar function to *at*. Let us look at how we might characterize the more transparently articulated instance of a circumstantial in (188b), before returning to the nature of the ‘conjunction’ in (188a) or the adverb in (188c).

We might represent (188b), ignoring mood and other irrelevant details, as in (189a), where the valency of *eat* and other details are simplified.



The incomplete temporal locative is a circumstantial. The adverb in (188c) has a similar notional and syntactic role to that fulfilled by the phrase headed by the preposition. But it is categorially complex, apparent even from the abbreviated representations of both of them in (189): the dependency relation between functor and determiner is lexical, and in (189b) the valency of the functor is shown to be satisfied internally.

Some such adverbs are overtly based on functors, as in (190b).

- (190) a. We ate dinner after this
- b. We ate dinner after(wards)

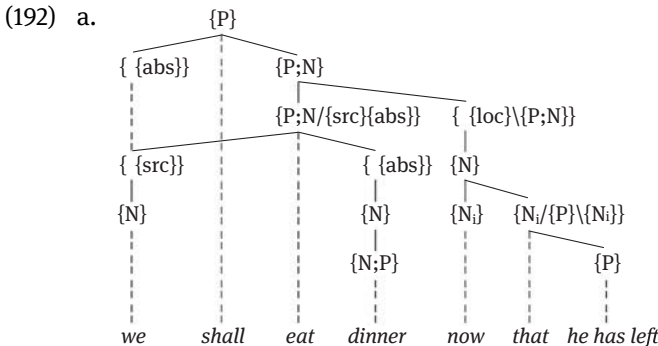
For comparison, (190a) illustrates the functor with a distinct pronoun complement. As we have seen, adverbs are categorially complex, and this may be reflected in their shape, as in the full form of (190b).

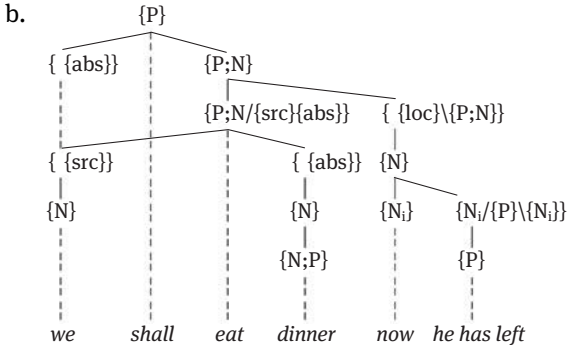
As well as adverbs, some subordinate clauses, such as that in (188a) above, fulfil the circumstantial role of the locative functor in (189a), and some are based on adverbs, as in (191a).

- (191) a. We shall eat dinner now he has left
- b. We shall eat dinner now that he has left
- c. In that he defaulted he is liable to prosecution

But we also find (191b), with the *that* that I associated initially with introducing participants, not circumstantials. At one time this construction type was indeed much more common, and involved a variety of adverbs; and it can still occur with some simple adverbs, as in (191b), and with ‘phrasal conjunctions’ like *on condition (that)* or *in the event (that)*, as well as ultimately-deverbal ones such as *provided (that)/providing (that)*. And, indeed, the *that* in (191c) is obligatory, and shows the general determiner property of satisfying a functor. It seems that the association of *that* with participants, as in (185) is not in itself what is distinctive about it; there are other factors involved in expression of the participant/circumstantial distinction and in the presence (and absence) of *that*.

It is the finiteness determiner *that* that connects the following clause with the adverb in (191b), by coreference; the *that*-headed construction is apposed to the adverb, as in (192a), where I have omitted the irrelevant structure of the subordinate sentence.





The {N} realised as *that* is co-indexed with the {N} of the adverb, and it is marked as modifying that {N} in apposition, as well as, of course, itself taking a {P} as complement (rather than, as prototypically, a nominal – recall *that hill* etc.). In (192b), representing (191a), I suggest again that the {N} otherwise realised as *that* and the dependent {P} form a lexical unit: we have a lexical unit with the {P} subjoined to the {N}. What has happened in the history of English is the spread of this lexical version at the expense of the construction in (192a). The conjunction of (188a) is now confined to the (192b) version.

(188) a. We shall eat dinner when Bill arrives

We must at this point confront the existence of instances of the conjunctions we have been looking at that introduce not circumstantials but participants. Just as *that* does not necessarily introduce participants, so these other traditional conjunctions are not necessarily only circumstantial.

The post-verbal arguments in (193) are required by the valency of that verb (though, of course, indefinite participants may not be made overt).

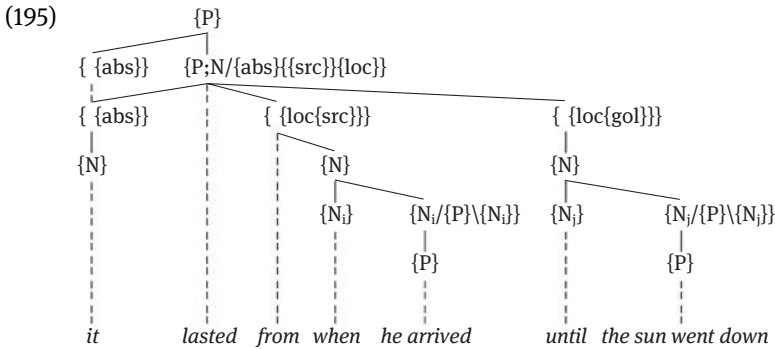
(193) a. It lasted until the sun went down  
b. It lasted until sunset

In both (193a) and (193b) we have a temporal directional locative that complements the verb. Indeed, in each case there is another temporal valency that is not overtly satisfied in (193): namely, the source locative that is implied by the goal in those sentences. It is made overt by the interchangeable sources in (194).

(194) a. It lasted from when/the time she arrived until the sun went down  
b. It lasted from noon until sunset

What unites these expressions and the circumstantials discussed above is that they are all locatives, even if, as in the case of *if*, for instance, the location is a rather abstract one – as spelled out in its case by the notionally analogous phrasal expression *on condition (that)*.

(194a) also gives separate expression in the source construction to the functoral and nominal components of the conjunctive configuration. This is shown in (195), which doesn't spell out the temporal character of the non-subject arguments.

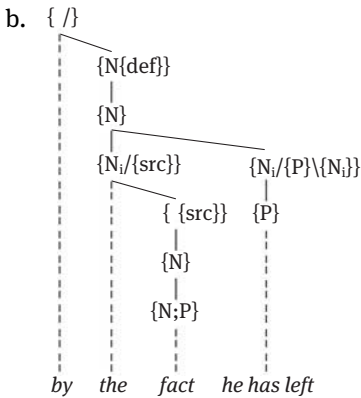
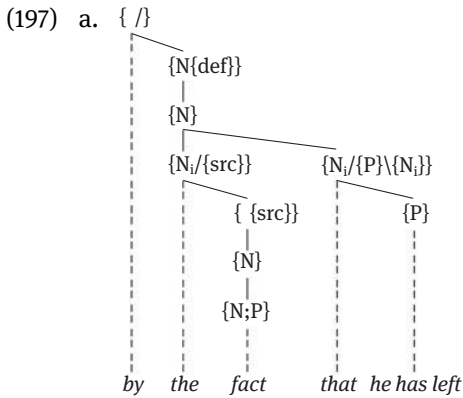


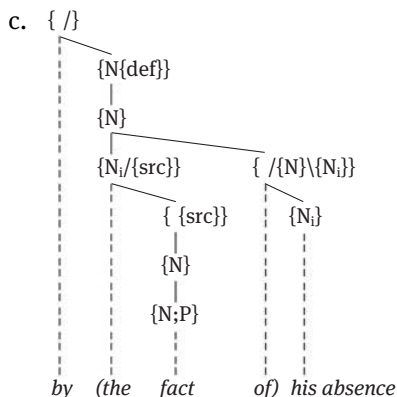
In the valency of the main verb the simple locative is, as usual, a goal when co-valent with a locative source. And *when* raises questions. But the main point here is to illustrate the fleshing out of locative conjunction configurations that satisfy valencies rather than being circumstantials. The conjunctions we have been looking at involve locative constructions in general, not merely a circumstantial subset of these. And sometimes the governing locative functor is given overt expression as well as the complex based on the nominal, as with *from* here.

In the preceding, the finiteness determiner has been apposed to the {N} in a locative functor phrase. But we also find such appositions to {N} which are not necessarily governed by a locative, and where that {N} governs a distinct noun, unlike most of the traditional conjunctions we have been looking at. In such appositions as we find in the phrases in (196a) the version with overt *that* again remains equally viable.

- (196) a. The fact (that) he has left doesn't help
- b. That he has left doesn't help

(196b) illustrates the optionality of *the fact* – and the consequent obligatoriness of *that*. These subordinates can occur as (part of) participants or circumstantials but with various restrictions. Thus we find *She was dismayed (by the fact) that he had left*, where in the presence of *by* or some other functor *the fact* cannot be omitted; and of course in its absence the *by* cannot be included: *She was dismayed (\*by) that he had left*. We can represent the relevant relationships in the alternatives of (196a) as in (197a–b), which ignore the semantic relation of the head functors (and the rest of the sentence, as well as the internal structure of the subordinate clause).





Again, the apposed  $\{N_i\}$  is a finiteness determiner rather than a nominal one. A nominal apposition, as with a nominal participant, needs an overt functor, as in (197c).

So far, then, we have simple *that* as a conjunction, as in (185) – to which we return below – and conjunctive constructions where *that* or its lexical equivalent is in apposition to a coreferential  $\{N\}$ . Much more needs to be said about *that* and its interaction with *fact* and factivity, but I delay this until Part IV, with its focus on notional syntax. Here we are concerned with the panorama of clause-subordinations – though including of course the crucial role of the finiteness determiner in this.

I am proposing that conjunctions other than simple *that* are built on the finiteness determiner, often covertly. Some of these coreferential  $\{N\}$ s are part of locative constructions which may be participant or circumstantial – (192), (193a). Other finiteness determiners are apposed to a  $\{N\}$  governing a noun like *fact* that may serve a range of semantic functions – again, however, including participant or circumstantial. The  $\{N\}$  in the latter construction, such as that in (197c), necessarily governs a distinct noun, which is only one possibility with necessarily locative conjunctions. Not all subordinate-conjunctive expressions are locative, then.

There are still other circumstances in which we can find some of the conjunctions under consideration, particularly those marked, as in (188a) and (194a), by an initial *wh*-. These are traditionally recognized as a subset of ‘relative pronouns’, as further illustrated in (198).

(188) a. We shall eat dinner when Bill arrives

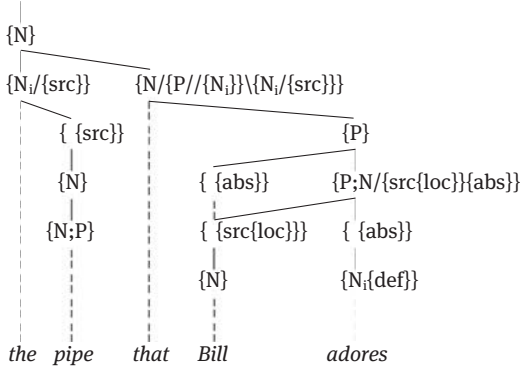
(194) a. It lasted from when she arrived until the sun went down

(198) a. the day when she arrived  
b. the pipe which Bill adores

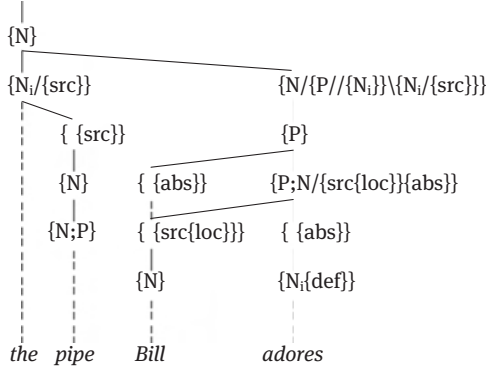
(198) illustrate that relative pronouns are, however, typically part of a subordinate clause: *when* and *which* are arguments, circumstantial and participant, of the subordinate verb, though the *when* in (188a/194a) compacts expression of the subordinator and relative pronoun. How then are relative pronouns related to subordinators? I have suggested that the ‘subordinating conjunctions’ we have looked at, other than some instances of *that*, are directly arguments of the superordinate to which, via apposition of the finiteness determiner, they subordinate the clause that the determiner governs. But relative pronouns are part of the subordinate clause. Nevertheless, the subordinating configurations involved are very similar.

Consider first the *wh*-pronoun-less relative constructions in (199a), where the finiteness determiner is characterized as a type of post-nominal attributive (recall Chapter 8), but with co-indexing and modification of the head determiner (as with appositions), and there may not be an overt finiteness determiner, but one with a subjoined {P}, as in (199b).

(199) a. {N{def}}



b. {N{def}}

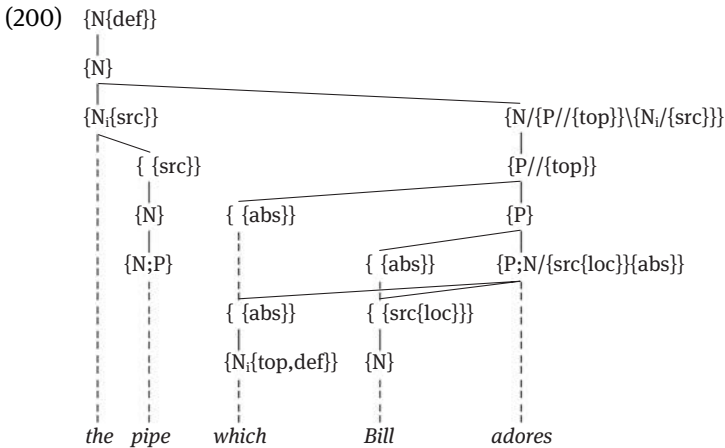




The finiteness determiner mediates in the co-indexing between the head of the phrase and the relativized element absorbed in the subordinate predicator. In (199a) the finiteness determiner functions as an attributive,  $\{N\backslash\{N/\{src\}\}\}$ . (199b) differs from (199a) only in containing a lexical rather than a syntactic finiteness determiner.

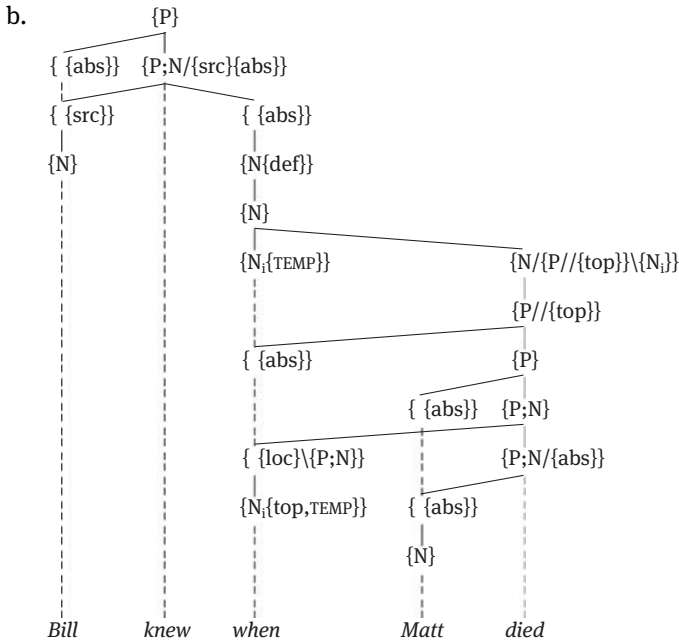
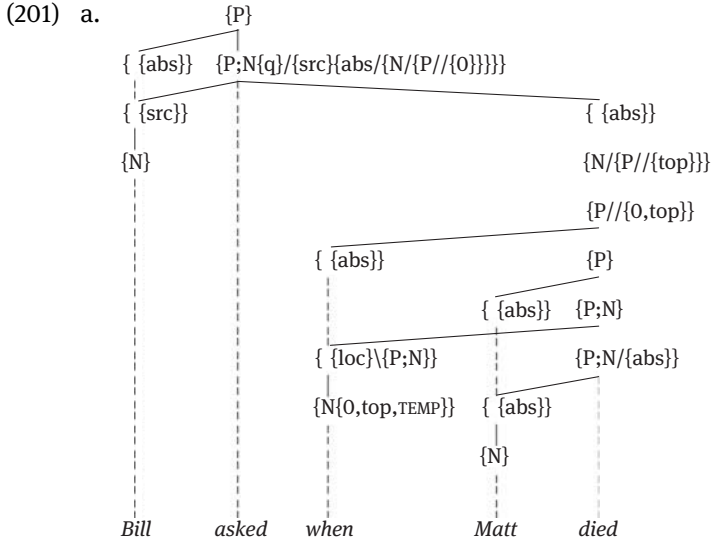
Crucial again in both (199a) and (199b) is the role of the finiteness determiner. What is different from the functor-headed conjunctive constructions we looked at above is that instead of apposition of the finiteness determiner we have this determiner serving as a simple attributive; and in this case coreference holds between the determiner at the root of the partial structure and an incorporated argument of the subordinate verb.

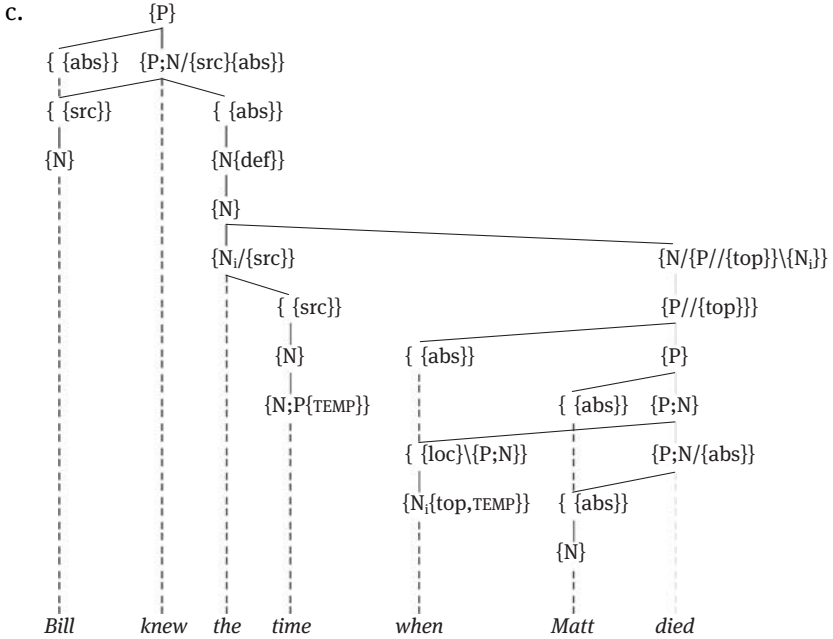
The presence of a relative pronoun allows this argument to be expressed syntactically rather than lexically, but it remains coreferential with the highest  $\{N\}$ , as illustrated in (200).



This type of relative clause is interpreted as incorporating a grammaticalized topicalizing structure, headed by a topic-demanding  $\{P\}$ . This valency is satisfied by the relative pronoun, which occupies initial, topic position, by virtue of sharing with a non-valenced absolutive that depends on a higher  $\{P\}$  – the topical – than does the subject. But this function, where the unmarked topic is definite, is not the only role of these *wh*-forms.

In the ‘indirect question’ of (201a), on the other hand, the interrogative pronoun satisfies the need of a grammaticalized topical  $\{P\}$ , when required by an interrogative (‘*q*’) verb, to have subordinate to it (‘//’) an open (unidentified)  $\{0\}$  element rather than a definite topic.





The interrogative pronoun in (201a) occupies initial position by virtue of satisfying the valency of the non-valenced absolutive of the topical verb. This indirect question is not to be confused with the condensed relative structure in (201b). In (201b) *when* realizes a lexical complex that corresponds to the syntactic sequences in *the time at which* and *the time when* – the latter of which is represented in (201c). The definiteness of (201b–c) is satisfied internal to the determiner phrase, not necessarily by extralinguistic reference. A simpler example is *The killer of Frodo is still at large*.

But the finiteness determiner in (201b), again, like that in the interrogative in (201a), satisfies the absolutive argument of the superordinate verb, but less directly. The lexical structure expounded by *when* in (201b) is a **blend**, with analogues expounded by other *wh*-words. (188a) and (194a) are similarly lexically complex. And we shall also encounter syntactic blends in Part IV.

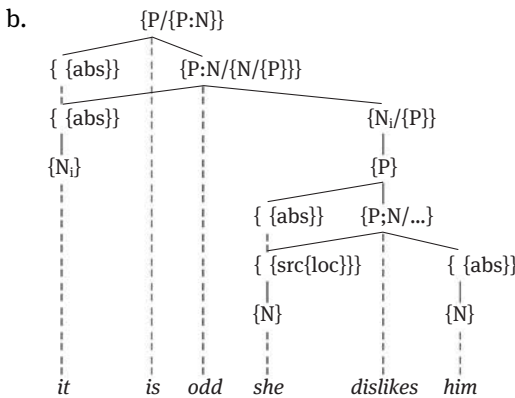
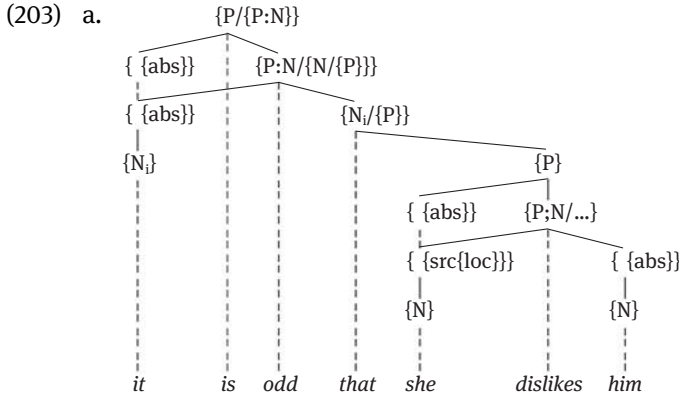
I have in all of (200) and (201) assumed the presence of a finiteness determiner, despite the absence of syntactic expression of it in English in combination with these coindexed and open pronouns: *\*which/when that*. *That* is optionally present only in the absence of such a relative form. What essentially differs between (201a) and (201b) is the specification of the grammaticalized topic, {0} vs. coindexing.

As noted, the presence of *that* is optional in introducing the sentential participant in (196a), to which we can add (202a).

(196) a. the fact (that) he has left doesn't help

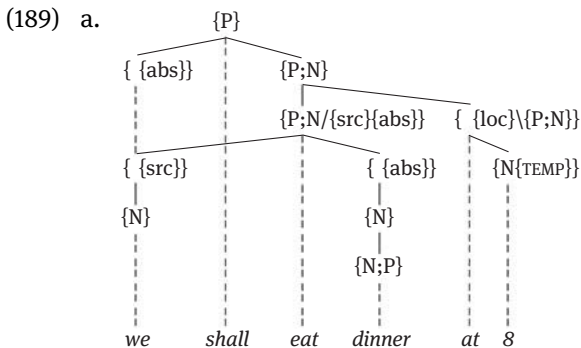
(202) a. It is odd (that) she dislikes him  
 b. That she dislikes him is odd

But in (202) the subordinate clause rather than *the fact* satisfies the valency of *odd* rather than it being, as in relatives, a modifier, let alone showing apposition, as in (197). The alternative possibilities illustrated in (202a) were represented in (186) in Chapter 15. In (203) I remind us of such constructions, with slightly simpler examples than in Chapter 15.



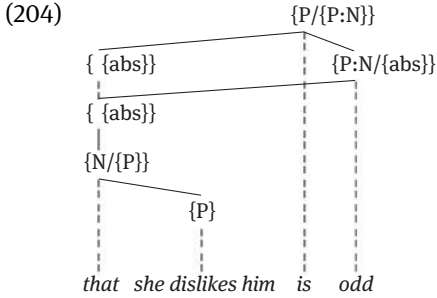
Neither of the absolutes in the main clause in (203) is part of the valency of its predicator; the copula takes only an adjective participant, and the adjective only a finiteness determiner. Thus, there is nothing to provide these absolutes with an argument – there is nothing to share with. The *she* subject of the {P;N} of the subordinate clause is hosted by the free absolute of the {P} of that clause, and the latter cannot be hosted in its turn by the absolute of a {P.N}, which in (202) lacks such. The other, main-clause free absolutes are provided with an expletive *it*, which assumes a coreference relation with the determiner of the subordinate clause.

In contrast with (202a), and the appositional structures looked at above, (202b) requires the presence of the *that*. There are obvious parsing-derived motivations for this: sentences such as *\*She dislikes him is perfectly obvious* would attract ‘garden-pathing’ in their interpreting. *She dislikes him* is a complete independent sentence. But what is the categorial status of *that*? The subordinate clause in (202b) certainly occupies a position very much associated with constructions headed by determiners, even if it is only an expletive, as in (202a). But subject position in a clause is specifically occupied by a participant {N} that bears a semantic relation to the predicator: the {N} is governed by a functor. Recall (189a), for instance.



Subject formation involves functor phrases. In (189a) the agentive source outranks the absolute with respect to the subject-selection hierarchy.

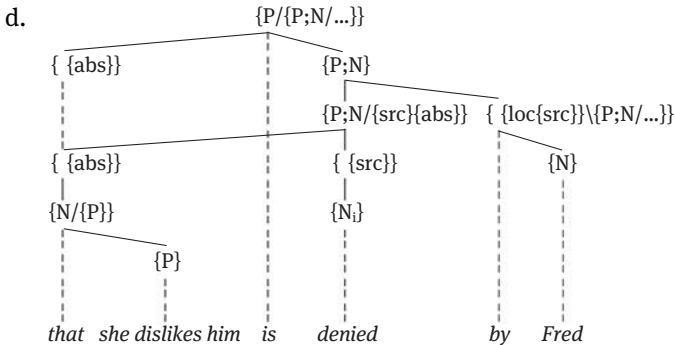
In Chapter 15 I suggested that the finiteness determiner, like other {N}s, can be subjoined lexically to a functor, in order in this instance to serve as subject. The result of this conversion is shown in (204), which again ignores the structure of the lower clause.



Here an absolutive rather than a finiteness determiner is included in the valency of the adjective, and this is satisfied by the absolutive functor to which the finiteness determiner is subjoined. Unlike most other clausal subjects, such a construction is a reluctant ‘inverter’: consider *??Is that she dislikes him so obvious?* Again, it may be that this has to do with the immediacy of the centre-embedding of such a non-prototypical determiner phrase as that containing the subordinate sentence.

The above example apparently illustrates the most pervasive case in which this finiteness determiner can be subjoined as a complement to a functor – i.e. if subjoined to an absolutive. It also appears in this role as a passive subject, as in (205a), which again alternates with an expletive construction, as in (205b), in this case as alternative congeners to the active in (205c).

- (205) a. That she dislikes him is denied by Fred  
 b. It is denied by Fred (that) she dislikes him  
 c. Fred denies (that) she dislikes him



Presumably, in (205a) there is again, as shown in (205d), an absolutive governing the *that*, as in (204). The absolutive of *denied* is selected as subject, since

the passive verb incorporates the source argument, and *by Fred* is a circumstantial whose {N} is coreferential with the incorporated source {N} (as explored in Parts III and IV). However, in (205b) *dislike* again apparently lacks absolutive in its valency, but is subcategorized for a finiteness determiner (and an agentive source, which is, however, again incorporated); and so the subordinate clause, without a functor, is not subject, and the non-subcategorized-for absolutive of *dislike* is again satisfied by an expletive, as in (203). Also, in the active (205c) the finiteness determiner of the subordinate clause satisfies the absolutive valency of the main verb, lexically or analytically, and no expletive is introduced; but the absolutive is outranked as subject by the (unincorporated) source, and occurs, quite regularly, in ‘object’ position.

However, the finiteness determiner can also be converted to other functors, provided they are not predominantly locative. So that in *That she dislikes him disturbs John* the subordinate clause, via its determiner functions as the causal source argument of the main verb. It thus seems that the finiteness determiner is restricted to being appositional as far as locative constructions are concerned, but can satisfy the valency of functors that are not predominantly locative, as well as being a direct participant, as in (205b), or appositional, as in (197), or attributive, as in (199).

What we can conclude from the preceding is that, properly, there is only categorially one subordinating conjunction, *that*, and it is categorially a determiner that is exceptional in demanding a {P} as complement. Adoption of this primary categorization contributes to a minimalizing of historical (non-derivational) change in primary category. The determiner may also govern the {P} lexically. This option – thus absence of overt *that* – has become more prevalent in present-day English. The finiteness determiner, as we have seen, may also be subjoined lexically to a functor that is not predominantly locative. The other traditional subordinating conjunctions are primarily adverbs – i.e. complexes headed by a functor, arguably in all cases a locative of some sort, that have the finiteness determiner apposed. But, among these, *wh*-forms have a variety of primary functions and are only secondarily markers of subordination; they are also not limited to locatives. However, despite all this structural diversity, subordinating conjunctions, as traditionally thought, are defined by their subordinating of finite clauses, but via the finiteness determiner.

As concerns the traditional function of conjunctions, different types of subordination are performed by the relationship between the finiteness determiner and the main clause, as summarized in the following.

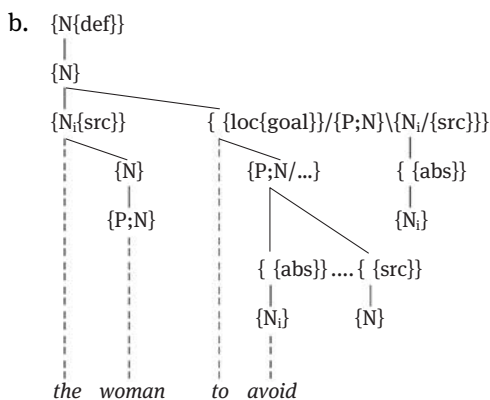
The finiteness determiner connects the subordinate sentence by:  
Apposition to an adverb or to an abstract noun;

- or by conversion to an attributive;
- or by satisfaction of a valency,
- either in its own right or by virtue of being subjoined to a source or absolute functor.

All of these words or phrases are based on the finiteness determiner: it is its presence, as independent word or lexical component, that characterizes the part of speech ‘subordinating conjunction’; the essential component is a specialized determiner. But, as we have seen, the part of speech ‘subordinator’ is not merely potentially complex but may be phrasal in various ways.

Traditional subordinating conjunctions involve the subordination of {P} to other categories. But there is at least one other kind of subordinator of verbals that we should also take into account here – though it will be looked at more carefully in Part IV. Here I introduce one manifestation of a subordinator of {P;N}, partly because of analogy with finite relatives. In expressions such as (206a) we have subordination of {P;N} to a partitive {N} – via a functor appropriately specified as to its valency, i.e. as { /{P;N}} at least.

(206) a. the woman to avoid



c. the woman to be avoided

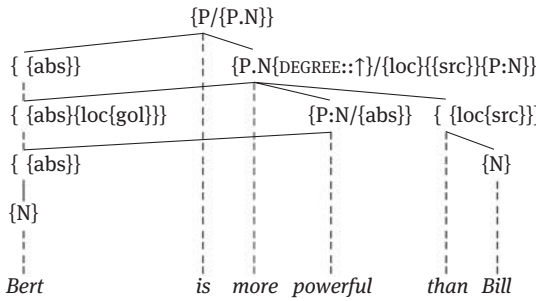
This is represented in the simplified structure in (206b), where the incorporated absolute of *avoid* is coreferential with the partitive {N} of *the*, and the agentive is indefinite. Alternatively, there is the passive in (206c), and, indeed, the verb in (206b) may be a middle. I have interpreted the *to* in such a situation as a functor with a goal specification, as it is elsewhere, when it is a normal {N}-taking functor, as in *to the woman*. This specification is the metaphorical basis for the contingent modality of the attributive. What is of interest here is that we have a ‘subordinating conjunction’ that in this instance is a functor, just like the ‘coordi-



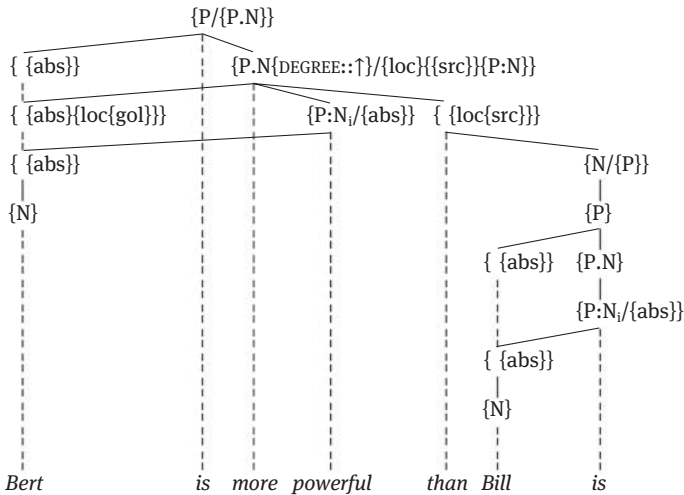
nator' *and* that we are now about to turn to in Chapter 17, where we shall, indeed, also return to infinitival *to*.

However, one of the major omissions from the text of this chapter is a discussion of the status of the expressions that join the elements involved in structures of comparison. I shall say a little about these here, thereby anticipating later discussions, in Part II. *Than* seems to be a simple functor in (207a), where it introduces the locative source complement of the functional category corresponding to the adjective, namely the **comparator**, which with gradient adjectives indicates DEGREE, in this case the overtly comparative comparator.

(207) a.



b.



c. { loc }  
 |  
 { P.N{DEGREE::↑}/{loc}{loc{src}}{P:N} }

d. { loc }  
 |  
 { P.N{DEGREE::↑{max}}/{P:N} }

The comparator is represented as {P:N}, with equal proportions of **P** and **N**, and in this case the comparator bears positive polarity, indicated by the upward-pointing arrow, expressed by *more*; and the adjective is also positive, though not indicated here (see the Conclusion to Part II for more general discussion of polarity and antonymy). The comparator takes as arguments an adjective and two locatives, one of them a source, in whose presence the other locative is interpreted as a goal. We have a directional expression: crudely, what it expresses is that from Bill to Bert is upward on the scale, or vector, of power; it has a higher degree. In various languages the metaphorical source of the comparator construction is expressed more overtly as such, with the locative source being realized as forms that otherwise indicate the equivalent of English *from*. The two upper absolutes are not subcategorized for, and the lower one of these is attached to the goal argument: they both share its argument with the absolute in the valency of *powerful*.

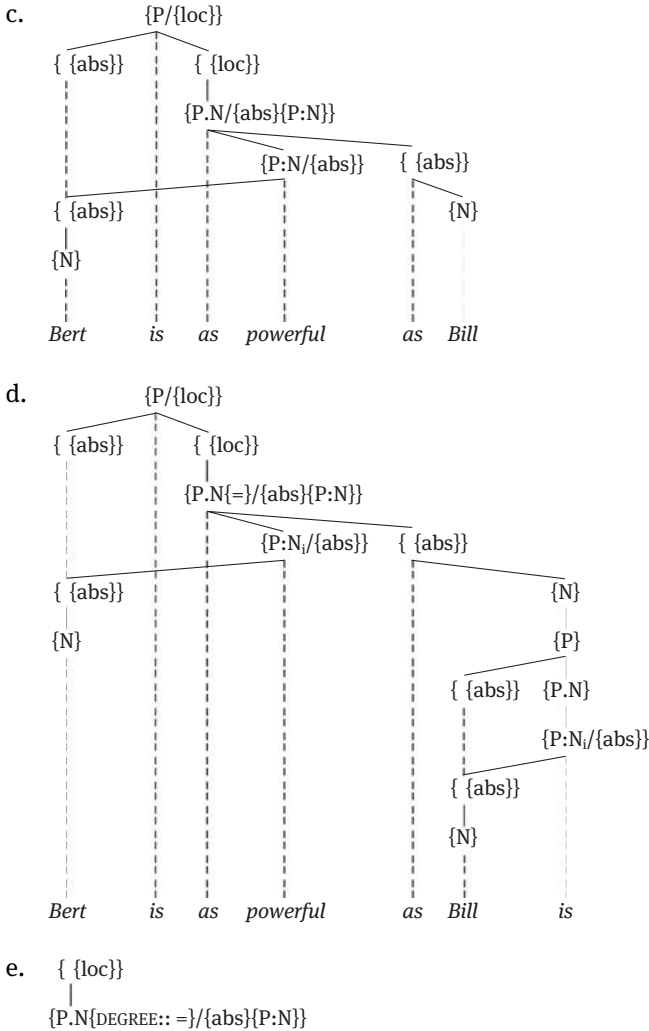
In (207b) a sentence head is subjoined to a ‘subordinating conjunction’ that satisfies the locative source functor: again we have finiteness determiner. And this sentence head has its unvalenced absolute satisfied by the {N} of the absolute of the {P:N} that is subjoined to the lower {P}. And that {P:N} is coindexed with the adjective in the superordinate clause. This coindexical relation permits the ellipsis via incorporation of the lower {P:N}.

A ‘positive’ gradient adjective such as *powerful* in *Bill is powerful* contains a positive comparator component missing in *Bert is more powerful*; in the positive Bill’s power exceeds a certain norm. The latter (comparative) sentence does not claim that Bert is positively powerful; his power may be above or below the norm. The ellipsis therefore avoids the misleading expression *Bill is powerful* from following *than*.

The representations in (207) as they stand, do not express all of the relations that are involved in the comparisons. Thus (207c) deconstructs the comparative itself as a location at a point on a dimension, and the comparison involves relative placement on this dimension. The superlative abbreviated in (207d) is at the maximum point on the dimension and so lacks directional arguments. Such deconstruction, partly in the light of changes elsewhere, will proceed further in Part II, particularly Chapter 21. The attribution of a free absolute argument to {P:N}, in particular, is questionable, as well as the attribution of a valency to {P:N}.

We can assume similar structures for such *as ... as* constructions as are illustrated by (208).

- (208) a. Bert is as powerful as Bill  
 b. Bert is as powerful as Bill is

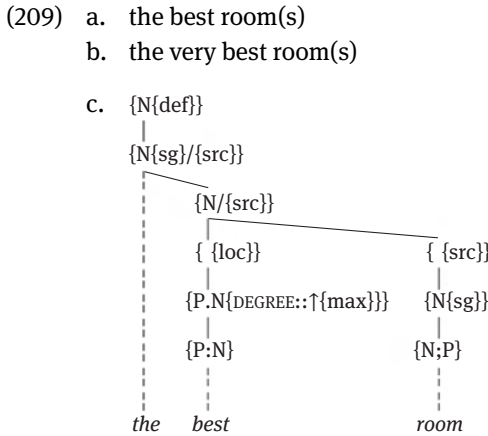


They lack the asymmetry of (207), however; and so are non-directional, as shown in (208c–e), which also adopt the locative headed analysis of (207c–d), but, for simplicity omits the DEGREE category. In both cases, the correlative construction expresses the information that Bert is located on the scale of ‘powerfulness’ at the same point as Bill. And again the adjective lacks the above-the-norm property associated with the ‘positive’ form. In (208b) the finiteness determiner satisfies an absolute in a complex equative (=) predication. In both (207b) and (208d) the role of the finiteness determiner is again crucial. (208e) again expands on the specification of the comparator.

The representations thus suggest that the comparative comparator takes locative or absolutive complements. The bearer of these features is the functor category, which is the functional category that lacks both **P** and **N**. The comparator is the functional category that involves the mutual dilution of **P** and **N**; these functional categories thus have the same proportion of **P** and **N**. And their interaction is distinctive, as with the directionality relations pertaining to the dimension labelled by the gradient adjective.

I have also observed that the scalar property assumed in my informal glosses of the sense of the comparator constructions in (207), and non-overtly in the positive comparators, suggests that the comparators themselves involve lexically a location of some sort, a place on the scale, as indicated in (207c) and (207d). This location is coindexed with the {loc} that is introduced by the comparative. In (207a–b) the orientation of the scale is upward, indicated by an orientational secondary feature. With *Bill is less powerful than Bert* the orientation is downward. And in the case of negative polar equivalent of (208a–b) – *least* – we are dealing with a simple point on the scale, as expressed in (207c).

Superlatives I have dealt with here only in passing – recall (207d), to which I now add in (209a) another superlative, in this case morphological, and embedded in a determiner phrase.



Since the superlative is at the (unique) maximum point on the dimension, as again abbreviated in the representation of the singular determiner phrase in (209c), it is often accompanied by the definite article, as here.

Hardy, however, compresses the expected *other(s) of the quaintest trades* as in the last conjunction in ‘<i>t contained the shops of tinkers, braziers, bellows-menders, hollow-turners, and other quaintest trades, ...’ (A *Laodicean* [Folio

edition], p. 375) – perhaps on the analogy of (va-c) in the commentary on Chapter 15.

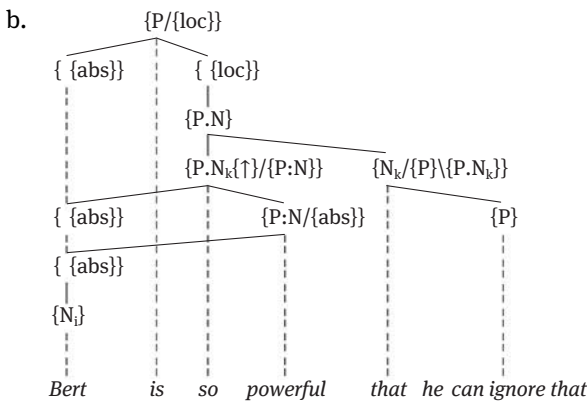
- (15.v) a. Which of the boys is responsible?
- b. Which boy is responsible?
- c. Which boys are responsible?

But there is no violation in the quotation of the sense of ‘superlative’, despite its plurality. However, the inflationary tendency of general usage leads to devaluation of the superlative, which then itself is regarded as gradient, as in (209b). We can associate the same trajectory with (*very*) *unique*, for example. And we have a similar devaluation in the current development of human nouns like *genius* (now also adjectival), *celebrity*, *star*, *hero*.

The above representations remain tentative and incomplete. But some such components as indicated in them seem to be appropriate. They shall indeed be revised in Part II. (207b) and (208b) do serve to illustrate another circumstance in which the finiteness determiner behaves like a prototypical determiner in complementing a functor. What is also of ongoing interest here is that this provides the framework for another, related construction type in which, unlike in the preceding cases, an analytic finiteness determiner is optionally present.

This construction type is illustrated by (210a), where one option is the presence of *that* as the finiteness determiner, and the subordinate finite is apposed to the comparator *so*, as approximately represented in (210b).

- (210) a. Bert is so powerful (that) he can ignore that



(210b) represents the version with *that* performing a familiar role, in taking a {P} complement and modifying in apposition some kind of locative construction.

# Chapter 17

## Coordinating Conjunctions

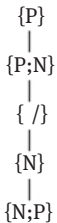
rank scale and the asymmetry of coordination – comitatives – infinitival *to* – correlative coordinators – disjunctive coordination – coordination of different categories – coordinator and subordinator as parts of speech

In perhaps the simplest case of so-called ‘coordination’ we are concerned with the *and* in (211).

(211) John and Mary left

*And* here joins instances of the same category: it presupposes an expression before *and* of the same ‘rank’ as the expression that follows. What I mean by this is that the two conjoined expressions belong to the same place on a scale such as that in (212).

(212) RANK-SCALE



(212) embodies the canonical chain of dependencies. It ignores adjectives, which canonically are adjoined to {P} (predicative) or subjoined to {N} (attributive), as well as the diverse potential of adverbial placement.

Ranking correlates with a particular variety of cognitive salience, relational salience. The relational salience of a category mainly proceeds from the possession of one or both of two kinds of relationality: (a) the capacity to impose relations on other categories, and (b) the ability to relate an utterance to the context of utterance. All the functional categories are relatively salient in terms of (a), with functors being particularly strong in view of the number of relation-types allowed and the role of these in relating (possibly multiple) arguments to a predicator. {P}, the head of any sentence, is central in relating that sentence to the context of utterance, in specifying the speech act and deictic parameters, crucial in relationality type (b); but, structurally, {P} also confers finiteness on a (sub-)tree, the ultimate structural

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(a)-type relator. Determiners, referential and possibly deictic, are also heavily involved in (b), but, in connection with this, they enable nouns to be (part of) arguments, as well. Comparators are the most complex and the least salient functional category. Nouns are minimally relational, verbs are very type-(a) relational in introducing arrays of functor-types via valency; adjectives are apparently intermediate.

In ‘subordinating’ constructions the rank scale is violated, as in the examples in the preceding chapter, where {P} was subordinated. {P} is made subordinate to categories that are lower on the scale, via a dedicated determiner, low on the (a) scale. This is epitomized by the characterization of *that* as {N/{P}}. With ‘coordinating’ constructions the elements being joined are of the same rank. To this extent we can talk of ‘coordination’. But it doesn’t follow that the conjoined elements have the same syntactic status, as is often assumed.

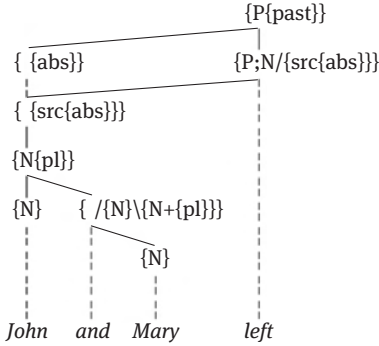
*And* in (211) serves to introduce an element – it takes it as a complement – that it connects with a preceding element of the same rank. *And Mary* is a construction headed by *and*. As such it can occur naturally in production as an afterthought or extension of an ongoing performance. *I told John, and Mary, of course*. But how does the conjunction in (211) effect the connecting of *John* to this construction? The overall construction *John and Mary*, as it appears in (211), is headed by a functor that fills the subject position in this instance.

(211) John and Mary left

Here the expression *John and Mary* is subjoined to a functor satisfying the valency of the *leave* verb. In *for John and Mary* we have an overt adjunction to a functor. A {N} is the normal head of a construction adjoined or subjoined to a functor. In (211) this valency might thus be satisfied by either *John* or *Mary* but not *and*, which, whatever it is, is not a {N}. However, the second {N} in (211) is an unlikely candidate as head of the construction, if it is, as suggested, a complement of *and*. Even if *and Mary* is not taken to be headed by *and*, overall head status for *Mary* would violate the normal correlations between dependency and serialization in English. In the unmarked instance, dependents occur to the right of their heads; and in particular functional categories take a complement to their right. The traditional view takes expressions such as *John and Mary* to be, uniquely, non-headed. But the unmarked, most economical and restrictive assumption is that constructions are uniformly headed. There is lacking motivation for suggesting that ‘coordinations’ violate this – apart from ‘tradition’, and the assumptions adopted in ‘artificial’ (or logical) languages.

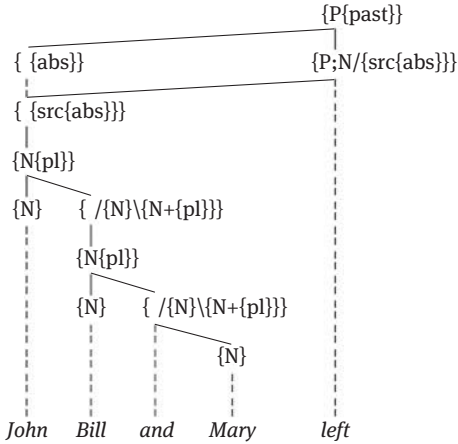
The obvious head of the construction is *John*, and *and* modifies it and is complemented by *Mary*. As a modifier of *John*, the construction *and Mary* may be omitted – or be delayed, as observed above. Such a complete structure is shown in (213a) – though it ignores mood and the internal structure of the active names, and I am not concerned with the details of the valency of *leave*.

(213) a.

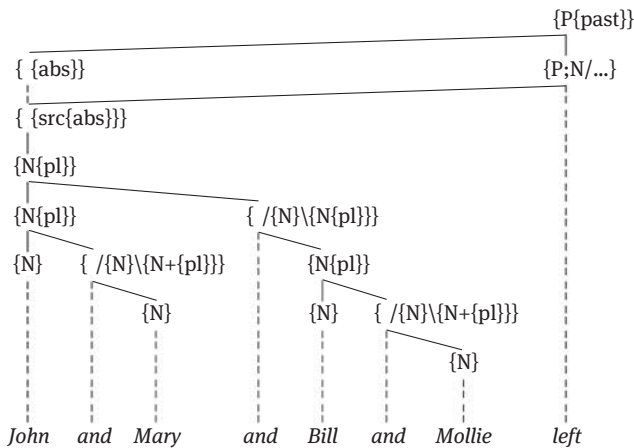


b. John and Mary are leaving

c.



d.





In (213a) *and* has been represented as a functor, a categorization we shall consider further below. The valency ‘/{N}’ is redundant for a functor, but I have specified it in (213a) to remind us of both aspects of the dual function of *and*, this complement-taking one and the modification requirement ‘{N}’. This functor thus also requires to modify a {N} in this case; but, further, it assigns plurality to the {N} heading the ‘coordination’, as revealed by the concord in (213b). Addition of one {N} to another results in plurality for the combination, as represented in (213c–d): the coordinator is an **active modifier** with such ‘conjuncts’. The ‘coordinative’ functor may also be represented lexically, in the case of medial ‘conjuncts’, as shown in (213c). Moreover, given the identification in the construction of the initial element and its termination, ‘coordination’ may involve the layering shown in (213d), where throughout an analytic functor is required, since in this example none of the individual ‘conjuncts’ are medial.

An obvious question concerning the categorization of *and* that now arises is can we associate functor *and* further with a secondary feature, a specific semantic relation, as with the other functors we have encountered? In a number of languages the same form is used where in English we have either *and* or *with*, as in (211) or (214a) vs. (214b).

- (214) a. John and Mary left (together)  
 b. John left (together) with Mary

That is, in such languages the equivalents of the conjunctive and the comitative functors have the same form. This is illustrated by the examples from the Bantu language Babungu in (215), which differ only in word order.

- (215) a. Làmbí gè táa yìwìng ghó Ndùlá  
 Lambi go.PFV to market and/with Ndula  
 (‘Lambi went to the market with Ndula’)  
 b. Làmbì ghó Ndùlá gè táa yìwìng  
 Lambi and/with Ndula go.PFV to market  
 (‘Lambi and Ndula went to the market’)

Even in English, *together* may be a ‘binding’ modifier of either, as illustrated in (214). Might then *and* and *with* in English be differentiated only by their precise colligational requirements rather than their inherent features? In terms of colligation, *with* is a locative functor that is typically circumstantial, as in (214b), and the locative secondary feature is characteristic of circumstantials (though we also have such as *She is with her friends*); *and* in (211) is a functor that requires a {N} both to modify and to be complemented by, as shown in (213). But there is

no need to appeal to locative in its case; indeed it is undesirable: in (211) *John* is not a ‘figure’ given a ‘ground’ via ‘coordination’, which links items of the same rank. *And* in English is a bare functor, I suggest. Nevertheless, etymologically in some languages at least, such a coordinator seems to originate in a more regular functor, and the Babungu examples suggest this is happening/has happened in that language.

Part of what happens to a comitative marker that comes to be conjunctive is the loss of the locative feature, a further grammaticalization. A similar process seems to be at work with infinitival *to* in English. The two instances of *to* in (216a) are both goals, both represented {loc{gol}}.

- (216) a. They went to town to see a show  
 b. They seemed to like it  
 c. They went to town in order to see a show

The first is a simple concrete goal (and a participant) and the second is a metaphorical goal of intention (and a circumstantial). As such, it takes a {P;N} complement rather than, as is usual with functors, a determiner. The *to* in (216b), however, does not appear to be a goal but rather a simple functor, but again with valency of {P;N}, {/{P;N}}. Given this ambivalence of *to*, the ‘intention *to*’ of (216a) is often ‘fortified’ by *in order ...*, as in (212c), or *for ...*

In the case of *and* and comitative *with* the distinction in secondary categorization and colligation is associated with the semantic difference illustrated by the pair in (217).

- (217) a. Janet and John are going to live in London  
 b. Janet is going to live in London with John

Only in (217a) are the two arguments represented as contracting the same semantic relation: they share the relation {src{abs}}, agentive intransitive. In (217b) only *Janet* bears this relation; *John* is either a simple locative making *London* more precise, or as a comitative is presented as a circumstantial participant in the event whose manner of participation is not overtly signalled.

But this does not commit us to saying that the two personal names in (213a) are accorded equal status in how they are presented: a priority, however slight, is accorded to the first {N}; it licenses the presence of the bare conjunctive functor construction that can modify it. And this priority may be interpretatively more salient, particularly when there is conjunction of verbal elements. Thus, in *He opened the bottle and poured out the wine* a temporal sequence is normally

expressed, and in *Do that again and I'll punch you* there is established, via a metaphor based on sequence, a relation of consequence, as part of a warning.

The representations in (213a) are in accord with other evidence of asymmetry. For instance, while in (218a) *his* may be taken as coreferential with *John*, in (218b) this would be unusual, except in an exceptional context.

- (218) a. John and his sister left  
 b. His sister and John left

The anaphoric {N} must follow, and on the present account, be in a subordinate construction. This compares with what we find in (219) with the ‘subordinating’ conjunction, where again only in (219a) can *John* and the pronoun normally be coreferential.

- (219) a. John hopes that she loves him  
 b. He hopes that she loves John

The sentence with a circumstantial in (220) shows a similar picture.

- (220) a. John will come if you invite him  
 b. He will come if you invite John

However, (221a) shows that superordination can overcome precedence, and (221b) that sequence can overcome subordinate status; both may involve intra-sentential coreference.

- (221) a. If you invite him John will come  
 b. If you invite John he will come

However, there are no equivalents to (218) and (219) parallel to (221) for (220), where precedence is achieved by virtue of the circumstantial status of the subordinate clause. But we get the same result as with the latter when we have a subject *that*-clause.

- (222) a. That she loves him pleases John  
 b. That she loves John pleases him

But, as expected, with the postposed *that*-clauses in (223), only (223a) can involve coreference.

- (223) a. John is pleased that she loves him  
 b. He is pleased that she loves John

This at least shows that *his sister* is not a subordinate in (218b). But also precedence and superordination coincide in (219a) and (223a) – and apparently (218a); and this can account for the parallel pattern of anaphora in the three cases.

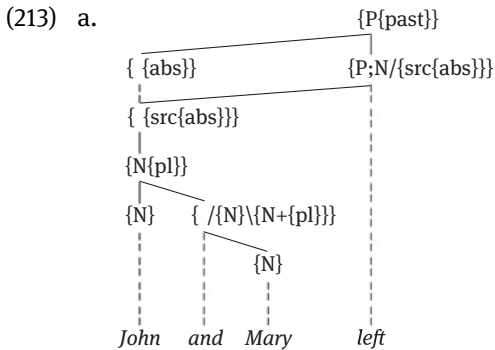
But even if the above does not necessarily support the presence of subordination in (211)/(213a), it does reveal an asymmetry between the two conjunct positions. And it will not do to dismiss the phenomenon illustrated by (218) as simply a question of sequence. For word order is a major medium of syntactic expression, along with hierarchization, categorization and intonation, and all of these are equally grammaticalizations of non-linguistic capacities, whether these involve our interaction with time (manifested as serialization) or salience (manifested as dependency) or classification (manifested as linguistic categories) or sound (manifested as pre-utterance phonology). Asymmetry is essential to syntax. Of course, in other circumstances we might say *Mary and John* instead of *John and Mary*. But this does not reflect equivalence of the two positions, any more than the availability of both *The traitor is Charles* and *Charles is the traitor*. We need to be able to characterize what is special about initial position in (214). I'm suggesting that the representation in (213a) is compatible with the nature of the asymmetry of 'coordination', and can form the basis for such a characterization.

Another indication of asymmetry is apparent in the set of expressions in (224).

- (224) a. John and/but not his sister/Mary is responsible  
 b. Not John \*and/but his sister/Mary is responsible  
 c. Not John \*and/\*but his sister/Mary are responsible  
 d. \*Not John/his sister/Mary is responsible

(224a) and (224b) reveal that the individual members of the 'coordinate' construction can be negated, unlike the whole construction in (224c) or the alternative single members in (224d). But also, most appositely, the two members of the construction behave rather differently, with negation of the first member requiring an 'adversative' conjunction to coordinate with the second conjunct in (224b).

The representation suggested in (213a), repeated here, provides a characterization of *and* that is compatible with what we can establish about the behaviour of other syntactic categories, and in particular of the categories invoked in that characterization.

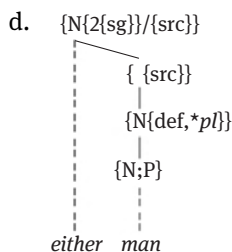
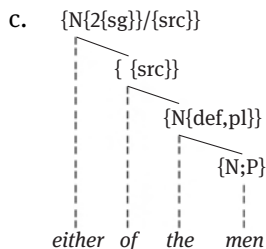


There is no need to think of coordination as involving a symmetrical schema, involving a category, realized as *and*, whose behaviour in it is unique, and/or a uniquely non-headed construction type. The phenomenon of ‘coordination’ does not warrant such drastic innovations in our ideas of what syntactic structure is like.

Before looking at ‘coordination’ of categories other than {N}, let us acknowledge a further traditionally recognized kind of ‘conjunction’ differentiated as a subset of ‘coordinating conjunctions’ sometimes labelled as ‘correlative’. These accordingly involve two elements, including *either – or*, *neither – nor*, *not only – but also*. We can include here *both – and*. As we have seen, *both* is not always present with *and*, but this is also true of the other pairs, in certain circumstances. But let us focus to begin with on *either – or*, which most resemble *both – and* in their behaviour. This will also present us with the question of how *or* is to be differentiated from *and*. It is also with these ‘correlatives’ that, in terms of this very correlational structure, we apparently come closest to the equality of status of conjuncts associated with the traditional notion of ‘coordinating conjunction’. We shall find, however, that basic to them is the same kind of asymmetrical structure that I have attributed to simple ‘ coordinations’.

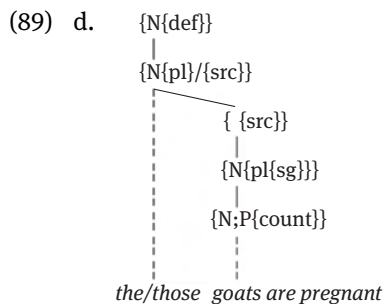
*Either* appears to be a quantificational and optionally pronominal determiner when it is not correlated with *or*, as illustrated in (225), where the tertiary singular in (225c–d) is distributive, and the lower determiners phrases are simplified.

- (225) a. They didn’t know either of the men  
 b. They didn’t know either man



*Either* denotes a disjunction, typically of two, as is expressed by the features  $\{2\{sg\}\}$  in the partial representation for the ‘object’ in (225a) given in (225c). In (225d), representing (225b), most of the configuration is provided lexically, though abbreviated. Despite the definite plural following, *either* in these configurations is redundantly singular, as is the non-binary *each*, as well the expression of the lexical configuration in (225d), where the determiner’s  $\{sg\}$  cancels the inherent plural of regular count nouns. *Each* is also disjunctive, but not limited to application to two  $\{N\}$ s; and it does not participate in correlative conjunction, but does participate in the idiom *each and every...* .

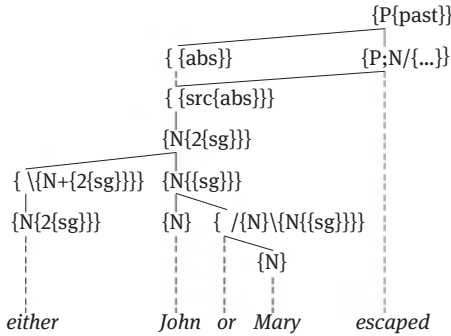
As an aside, but pertinent, recall the **distributive** role of tertiary **sg** attached to the denotative  $\{N\}$  discussed in Chapter 8.



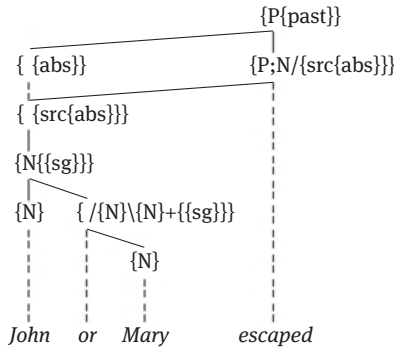
Again the function is individuating.

Let us assume that, as with *that*, which is both a nominal and a finite determiner, we can associate the same categorization as in (225) for *either* with its correlative occurrence. But correlative *either* is an **active modifier** that imposes a valency rather than simply number: ‘//{sg}’ is attributed to the head of the ‘coordination’. We shall find that the tertiary singular also provides the basis for a suitable means of distinguishing *or* from *and*. Overall, this leads to a representation for a conjunction of nominals such as that in (226a), where a binary disjunctive {N} – {N{2{sg}}} – modifies the (in this case subjective) {N}-construction, imposing a disjunctive status on the *John* and *Mary* arguments, but *or*, though disjunctive, otherwise shows the same kind of categorization as *and*, and introduces the same asymmetry, as shown in both (226a) and (226b), the second of which lacks *either*.

(226) a.



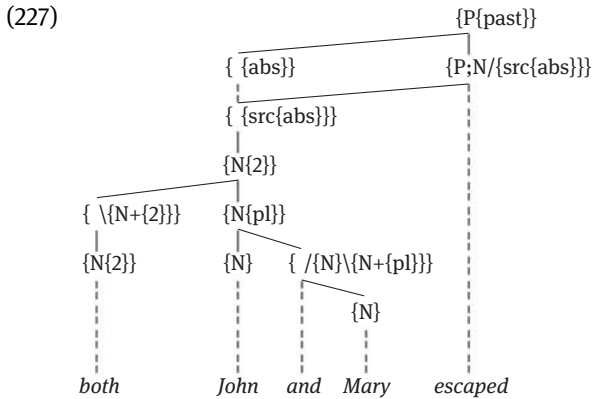
b.



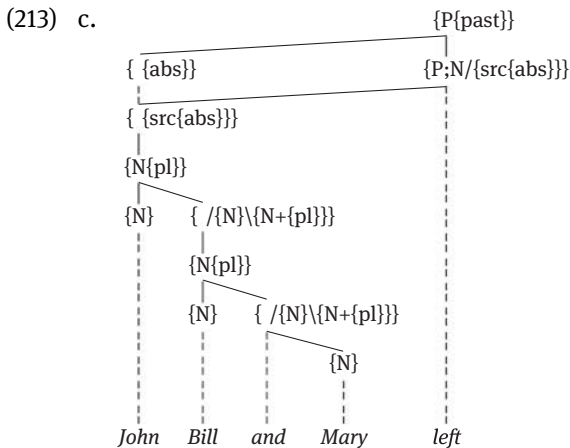
*Or* in (226b) is a functor that modifies a disjunctive {N}, and is itself a disjunctive functor. Here, in the absence of *either*, we have a configuration like that in (213a) associated with *and*. And in (226a) we have the same configuration but also a specifier based on the disjunctive {N} *either*. This requires that the first conjunct has a corresponding disjunctive functor subordinate to it. In the absence with *or* of the binary feature of *either*, (226b) is more easily extended beyond two disjuncts than is

(226a). Notice that the individual disjunctees may be singular or plural; cf. (*either*) *women or men*. If the disjunction is intended to be inclusive rather than exclusive, the disambiguating construction in *John or Mary or both*, with a hierarchy of alternatives, is available. But if even one of the disjunctees is plural, the verb concord is normally plural: consider *Either the Smiths or Mary Dunn are in the wrong*.

*Both*, again a normally a dual quantifier, but inclusive not disjunctive, of course, lacks the disjunctive feature, and thus the imposition of alternative status for *John* and *Mary*, as represented in (227).



Similarly, and as we have seen, the disjunctive and binary features are absent from (213a), which, lacking *both*, may be extended, as a construction that is not necessarily binary – as illustrated by the *John, Bill, and Mary* of (213c).



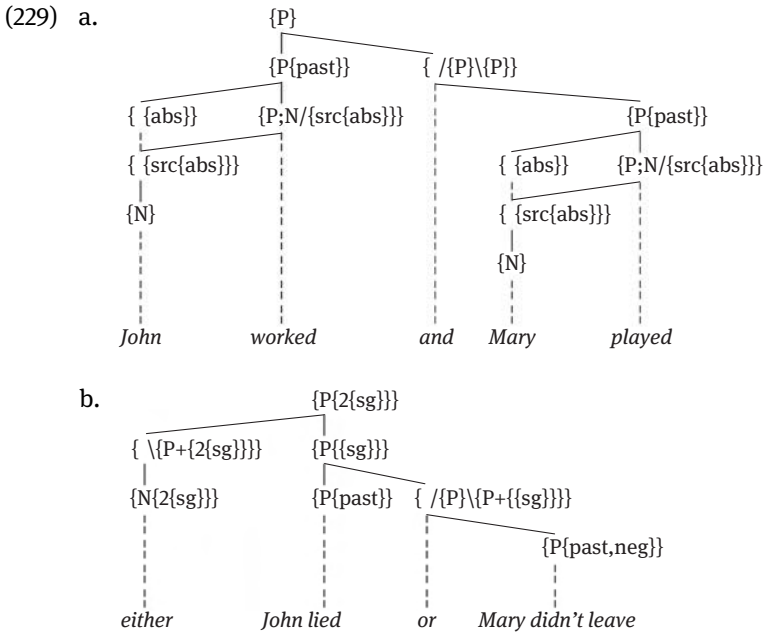


But in both of (227) and (213a), *John* and *Mary*, are of very different syntactic status, as was illustrated for (213a) by the behaviour of the pairs in (217) and (218). Such phenomena are paralleled by similar examples involving the *both* of (227), which emphasises the binarity of the conjunction.

But what now about ‘coordination’ of other categories than {N}, particularly ‘coordination’ of {P}, the crucial element in what is subordinated by subordinating conjunctions? Given that what is being ‘coordinated’ in such a case is not {N}, i.e. of the same category as *either* and *both*, we can expect to discover some differences from the nominal correlatives we have just been looking at with whatever correlated verbals there might be. But take firstly a simple non-correlative example like (228a).

- (228) a. (\*Both) John worked and Mary played
- b. (Either) John lied or Mary didn’t leave

If we substitute {P} for {N} in the configuration for *and* in (213a), then we can characterize such sentential ‘coordination’ as in (229a), with no plurality requirement.



(229a) shows the same kind of configuration as (213a), except that the bare functor takes {P} rather than {N} as a complement and the correlative possibility is absent. But consider now non-disjunctive correlated verbs.

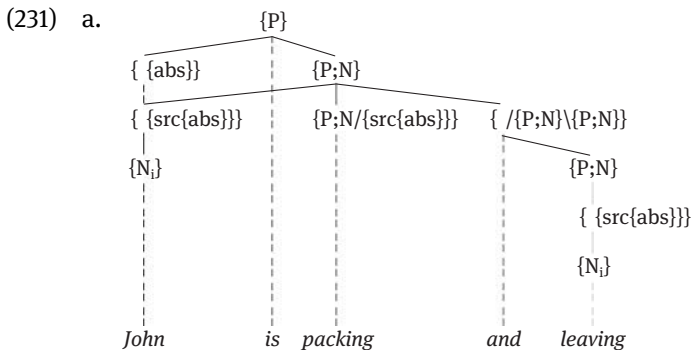
Thus there is no non-disjunctive correlative version corresponding strictly to (228a/229a). An addressee confronted with *Both John ...* will assume that something like *... and Mary* will follow, rather than *\*Both John worked and Mary played*. The *both* of *Both John ...* is taken to be governing *John*, not the clause that it introduces. The negative correlation in *?\*Neither John worked nor Mary played* is also awkward at best, though verb-second *Neither did John work nor Mary play* is better. Mood is another factor, not pursued here. However, we shall see that there is non-disjunctive correlative ‘coordination’ of {P} if their subject is shared.

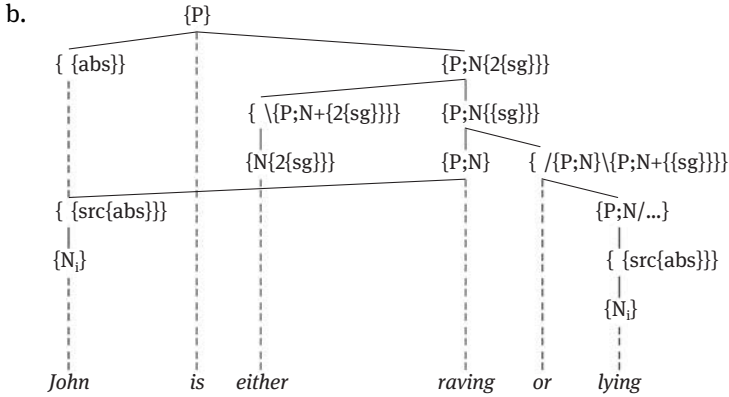
Correlation is optional with simple sentential disjunctives, as illustrated by (228b). The sentential representation is much abbreviated for practical reasons of space, but also for relative ease of interpretation of the essentials. In (229b) we have a structure like that in (226a) but with {P} specified rather than {N}. Compare now ‘coordination’ of {P;N}, which throws some light on the restrictions on ‘coordination’ of {P} in such as (228a).

(230) illustrates coordination of {P;N}, non-disjunctive and correlative disjunctive, as exemplified in (230).

- (230) a. John is packing and leaving  
 b. John is either raving or lying  
 c. John is both leaving and not coming back

But non-disjunctive correlation is allowed in this case, as in (230c). The same kinds of configurations as in (229) seem to be appropriate to (230a–b), with the addition of the coreference relation indicated by the subscripting and indeed the lexical configuration that the second subscripted {N} terminates in (231).



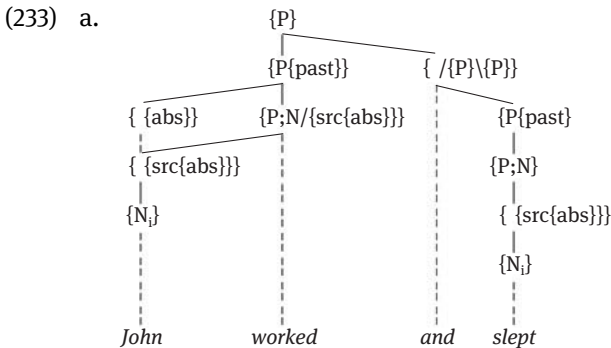


In both cases the subject of the second {P;N} is incorporated and indexed as coreferential with the subject of the first. And again, the correlative verbal requires a ‘proxy’ {N{2{sg}}}, as would the non-disjunctive with *both ... and*, which, as exemplified in (230c), is available in this case.

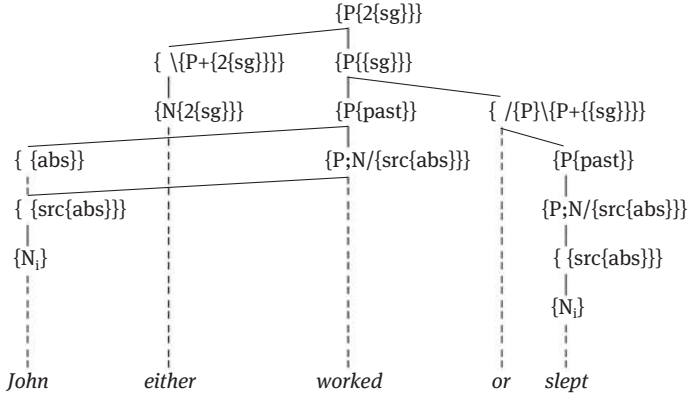
We have an even more extended lexical structure with the second conjuncts in the examples in (232), involving ‘coordination’ of {P}.

- (232) a. John worked and slept
- b. John either worked or slept
- c. John both worked and played
- d. John worked hard and is now sleeping

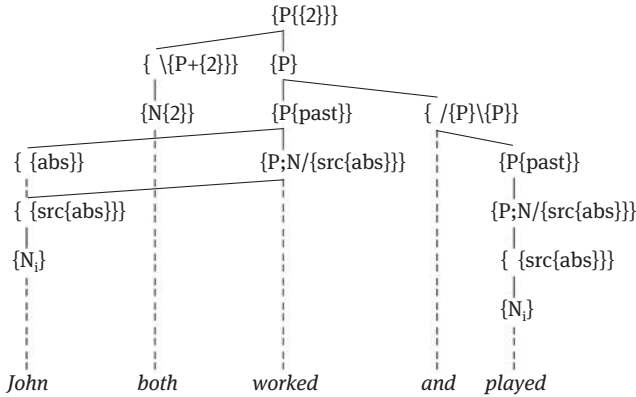
In (232a–c) the tense of the second verb apparently agrees with that of the first and this is quite common; but the {P} of the second verb is scarcely within its scope, though higher, as represented in (233); and we can find departures, as in (232d).



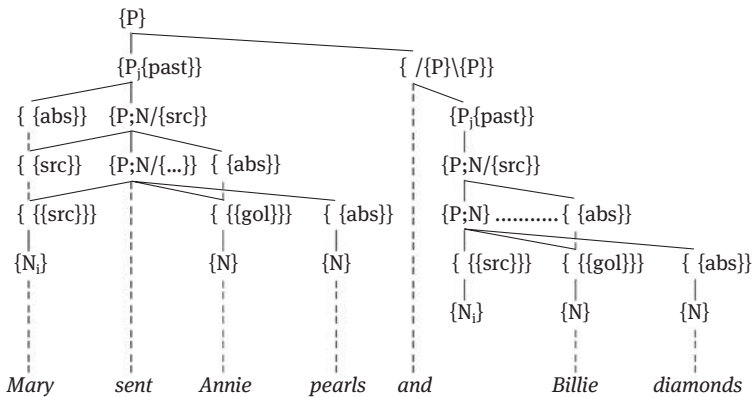
b.



c.



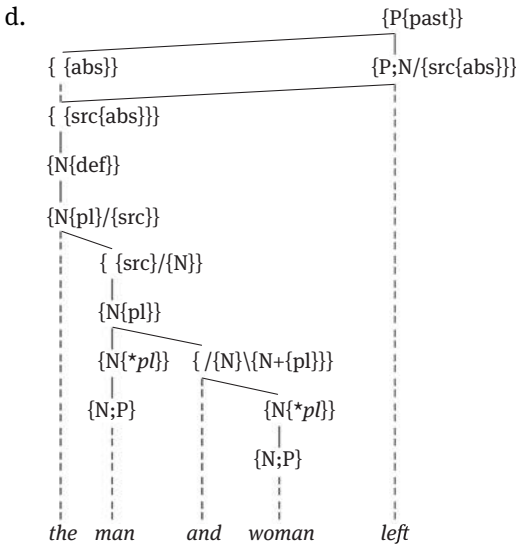
d.



Again the second verb has its subject argument incorporated and it is identified by coindexing, but, unlike in (231), the lexical path that the coreferential {N} terminates is headed by {P}. The free absolutive of this {P} is satisfied by the subject of *slept* in (229a), for instance (but not shown in the abbreviated structures in (233)). (233c) shows non-disjunctive correlative coordination of {P}, after all, provided there is a shared subject, as in (231b), with ‘coordination’ of {P;N}. This avoids possible ‘garden-pathing’, though this would be minor. This parsing problem was exemplified in (228a). Even (233d) can be analysed as a finite verb ‘coordination’ rather than say coordination of simply *Annie pearls* and *Billie diamonds*, which, though in a sense at the same level, do not constitute single categories. Both the second verb and its subject are coindexed with those of the first verb, so that they do not appear overtly.

‘Coordination’ of nouns, as in (234a), does not involve correlatives, but the latter are possible with coordinated comparators and functors, as illustrated in (234b–c).

- (234) a. The man and woman left
- b. The dress looks (both) old and tatty/It’s an old and tatty dress
- c. They are found (both) around ponds and beside rivers



The representation of (234b–c) is straightforward; and (234a) might be represented as in (234d). This representation includes a number of properties already invoked in characterizing ‘coordination’, such as the partitive relation, together

with the number features {pl(ural)} and {s(in)g(ular)} and the referential feature {def(inite)}, all of which are primarily features of {N}. (234b) also incorporates the assumption that nouns are associated lexically with a governing {N}. Thus, strictly, what we have in (234) is ‘coordination’ of the {N} governing {N;P}, not of {N;P} itself.

What unites and separates the various manifestations of the traditional notion of ‘conjunction’ seems to have to do with the rank scale presented in outline initially in this chapter.

(212) *RANK-SCALE*



The unmarked dependency relations in syntax follow the scale, beginning with {P} and ending with {N;P}, and ‘coordination’ ‘joins’ major categories of the same rank. The most versatile ‘ coordinations’ involve the central members of the rank scale. {P} resists negative and non-distributive correlatives; {N;P} as such is not ‘coordinated’, and its governing {N} eschews correlatives.

As already observed, (212) ignores various complexities. It ignores the partitive functor that may intervene between nominals, for instance; the scale may be terminated by { } (name) as well as {N;P}; and as noted, it also ignores the place of adjectives, which as a combination of verb and noun features, are equally at home at both their canonical places on the scale: predicative ({P;N}-level or attributive ({N}-level), as illustrated in (234b). In the above discussion, as well as ignoring the internal structure of names, I have indeed for the most part left unspecified the internal structure of determiner phrases in general, except in (234d), as otherwise not of consequence in the present context, except for the dedication of the partitive { {src}} to a place lower in the scale than that of {N}.

Conjunctions allow a finite to appear at a lower point on the scale than usual (‘subordinating’) or they permit multiple occurrence of categories of the same rank (‘coordinating’). ‘Coordinating’ conjunctions can be described as such, however, only to the extent that prototypically they do join together categories of the same rank. But the ‘joining’ of conjuncts involves subordination of following conjuncts to the of initial conjunct, via a categorization for the conjunction such as { /{N}\{N}}, for the joining of determiner constructions, or, for sentences, { /{P}\{P}}. The

coordinating conjunction here is a functor, rather than the ‘sentence-subordinating’ determiner that is realized as *that*. The functor is a ‘bare’ functor that has the function of bringing about this asymmetric joining rather than signalling the semantic relation holding between two categories; but in both types of conjunction there is dependency to the conjunction on the part of the element that follows it. The superordinate element in ‘coordination’ precedes the subordinate, whereas in subordination the position of the subordinate depends on its function in the superordinate. The second element in ‘coordination’ has no function other than satisfying the ‘coordinator’. ‘Correlative coordinating conjunctions’ involve a pair of categories that signal ‘coordination’. The two conjuncts are nevertheless in an asymmetrical relation, as in non-correlative conjunctive structures. But the correlative markers introduce additional structure, particularly involving the determiner structure that is associated with the initial correlative element.

We have seen that all of the structures involving conjunctions that we have looked at in these last two chapters involve violation of the rank hierarchy, either by demotion or by involving conjuncts of the same category. In this they contrast with prepositions, functors other than the bare one that joins coordinates and the dedicated partitive. Prepositions are rank-conforming: prototypically, they join a verbal to a nominal and subordinate the latter to the former, though they themselves can be conjoined. The conjunctions, both the finiteness determiner and the ‘coordinating’ functor *and* – and even ‘subordinating’ *to* – are functional categories that depart from their normal role in the rank hierarchy. Prototypically, { / } governs {N} and {N/} governs nominal constructions. Does perhaps such a perception underlie the traditional grouping as ‘conjunctions’?

What has also emerged overall is that conjunctions are categorially functional: they are specifically either a dedicated determiner (*that*) or a functor (e.g. *and*, *to*). But, as functional categories, they may also be represented lexically, when the conjoiner is converted to the appropriate determiner/functor, rather than the latter being expressed by a distinct form. Correlative constructions involve a quantifying determiner (e.g. *both*) and a functor (*and*). *Either* and *or* are the disjunctive equivalents of *both* and *and*, and *neither/nor* their negation. As observed, all of these conjunctions are asymmetrical: they are ‘subordinating’ in so far as that is the relation between the conjuncts.

Traditional subordinating conjunctions go against the rank scale, ‘coordinating’ do not, strictly, but rather do not progress down it. ‘Infinitival’ *to* may conjoin elements that violate the rank scale, as in (206), or not, as in (216b).

(206) the woman to avoid

(216) b. They seemed to like it

Functors in general, as we have seen, conform to the rank scale, but functor *and* in itself violates it when being complemented by a {P} or {P;N}. Similarly, functor *to* is lower in rank than {P;N}. The partitive functor, independently realized as *of*, typically joins elements of the same rank – {N}. *Determiners* in general govern partitives or nominals, the latter according with the rank scale; but partitives are aberrant functors in complementing determiners. The finiteness determiner is necessarily in violation of the rank scale.

The traditional distinction between ‘coordinating conjunction’ and ‘subordinating’ corresponds to the roles of the functors *and* and *or* vs. that of the finiteness determiner. However, traditionally a distinctive class of ‘subordinating conjunctions’ is established by recognizing as such those elements to which is apposed the finiteness determiner, either *that* or more usually in present-day English its lexicalized equivalent. These elements may be single-word lexical items (*if, now*) or lexicalized sequences (*on condition, in the event*). I have identified many of these as locatives. ‘Conjunctions’ are not a basic syntactic category. The two traditional types are specializations of distinct functional categories, functor vs. determiner (though infinitival *to* is a functor, like *and*).

Nor does it seem to be the case that all of the ‘conjunctions’ we have looked at belong to a unitary part of speech, with a distinctive class meaning and a distinctive distribution. Apart from sharing position before the clause dependent on them, they can all be said to be ‘joining’; and they are either anti-hierarchical in terms of rank, or non-hierarchical, unlike prepositions, which serve the hierarchy that reflects prototypical behaviour. But ‘coordinating conjunctions’ and ‘subordinating conjunctions’ have very different distributions and associated categorizations. However, a case might be made for a part of speech ‘coordinator’ and for a ‘subordinator’. The latter is less obvious, but would include *that*, locative expressions + *that*, and locative expressions + lexical conversions to {N/{P}}. *If* and *that* do at least share the function of marking the beginning of a subordinate sentence, as well as, on the present account, being (based on) the finiteness determiner.

What seems to emerge from our look at conjunctions, in the context of other functionals, is a generalization that contentives are always joined by functionals, either overt, as with the finiteness determiner *that* or, on the basis of other evidence – as with the finite determiner in (202a) – lexical, covert.

(202) a. It is odd (that) she dislikes him

If this can be maintained, it’s a striking structural feature – one that we return to in Parts II & IV.



# Conclusion to Part I

parts of speech and categories in syntax and phonology – categorial complexity in syntax – adverbs, subordinating conjunctions, and correlational conjunctions – specifiers/intensifiers and functional categories – intensification of operatives and intonation – analogy and disanalogy – neutralization – some key concepts

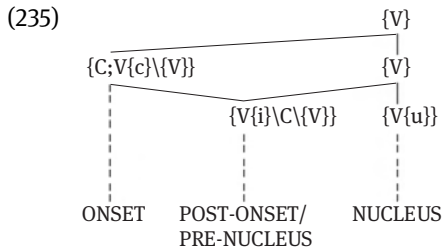
With the discussion in Chapters 16 & 17 of what I have taken to be the main features of ‘conjunctions’, we encounter particularly forcibly something of the discrepancy between category and part of speech. Syntactic categories classify the nodes attributed to words on the basis of their notionally determined distribution. **Parts of speech** are possibly categorically complex lexical units that share a distribution; for distinguishing them, a subjunction path rather than a single categorized node may be necessary. Adverbs, inside or outside their subordinating role, are typical complex parts of speech. In the phonology, however, there was apparently no such distinction between category of segment and part of speech. Even affricates are analogous to (morphologically) compound words rather than complex parts of speech. However, I have recognized as **phonological parts of speech**, positions where distinctive systems of contrast are evident; associative contrast, however, distinguishes phonological categories. We can distinguish as parts of speech positions ONSET, POST-ONSET, NUCLEUS (divisible into TRANSITIVE, INTRANSITIVE), and PRE-CODA, CODA, and SPECIFIER; they are the bases for polysystemicity. The more energy-demanding consonant sounds (voiced/aspirated plosives, a full range of sonorants) tend to precede the nucleus, on account of the syllable dynamics.

Since the Parts of this study that follow are concerned with lexicon and syntax, only the roles of phonology in relation to morphophonology and pre-utterance phonology will receive much attention. I thus should at this juncture acknowledge what seem to me some of the major aspects of phonology that we have neglected. Particularly lacking is detailed attention to polysystemicity and its association with the parts of speech. Not only are there different systems associated with the particular parts of speech, but also, for instance, the coda phonotaxis is particularly complex, as we saw in Chapters 11 & 12, especially in the distribution of specifiers. We’ve also observed the restricted distributions of [h] and the velar nasal and the most obvious neutralizations.

Perhaps most strikingly, {V{i}} and {V{u}} occur in nucleus and post-onset position (with restrictions), and as derived onsets; but, though the semi-vowels can appear before a range of nuclei, there is also a particular relation between pre-nuclear {V{i}} and a nucleus with {u}, which sequence is unusually common, as in *few*, *ewe*, *lewd*, *mutiny*, *beauty*, i.e. a sequences that includes both segment types that can be semi-vowels. Is the immediately pre-nucleic segment both pre

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nucleus and post onset, an ‘ambivalent’ part of speech – as, say, representing *few*, in (235)?



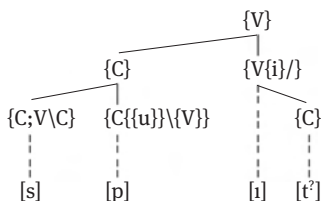
Significantly, in many variants of English this unusually distributed semi-vowel disappears or, along with coronal plosives, is substituted for by an affricate. All three variants are found in pronunciations of, say, *tube*. Once more, ‘phonemics’ does not throw much light on such phenomena as these.

Since the sequence of segments is determined by the relative sonority hierarchy and its particular-language extensions, and the sequence of syllables is lexically given, the equivalent in the phonology of syntactic restrictions is principally the restrictions between the members of adjacent phonological parts of speech – onset \*[tɫ-], for instance, – and the absence of potential members of a particular part of speech – as with (post-) onset [ŋ].

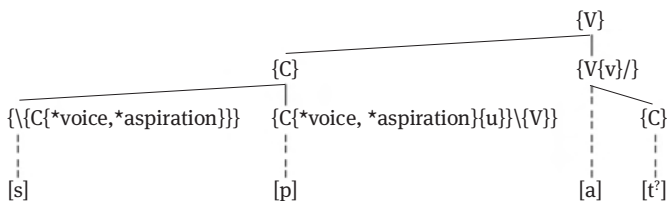
The analogy between syntax and phonology as concerns the possession of an intensifier part of speech also recalled to us the failure of analogy as concerns the distinction between functional and contentive category. Phonology also initially seemed to differ from syntax in not having an obvious need for a distinction between part of speech and category. It may be, however, that relevant here is the distinction between contrastive distinctions relevant at a particular position and a fuller specification motivated by inclusion in the categorization of a segment of all the distinctions appealed to by categorization in the phonology as a whole. Thus, contrastively, the first segment in *spit* has been analysed as  $\{\{C\}\}$  in Chapter 11, but its realization includes distinctions such as are contrastive elsewhere in the phonology. A pre-onset representation such as  $\{C;V\{C\}\}$  is appropriate if we include these redundant distinctions. This representation, minus the valency, is shared by the first segment in *sip* and the last in *piss*. I have suggested that this may reflect a partially analogous distinction to that between syntactic category and part of speech, once we take account of the different orientation of the two planes.  $\{C;V\}$  belongs to different parts of speech by virtue of distributional distinctions, and these distinctions are lexically basic, non-redundant.  $\{C\}$  would be one such part of speech, distinct from contrastive  $\{C;V\}$ . The former is a **specifier**, in that it has a neutralizing role in relation to plosives.

Let us now recall briefly the {C} of  $\{\backslash\{C\}\}$ : the much discussed modified {C} is **neutralized**, lacking the contrasting features that differentiate other plosives, such as, initially, voice vs. aspiration, as shown in (132f), where in the coda the often unreleased or glottalized [t] is in contrast with a voiced plosive, as in *pat* vs. *pad*.

(132) b.



f.



Chapter 11 offers the representation in (132f) to underline this. What is lacking in the neutralized {C} is both aspiration and voice. The contrastive initial voiceless plosives illustrated by *pat/tat/cat* is aspirated, giving  $\{C\{c,v\}\}$ , or contrastively, non-redundantly  $\{C\{c\}\}$ , and the voiced plosive in *bat* etc. is  $\{C\{v\}\}$ , but now overtly lacking aspiration, so that we do not have a privative opposition, but an equipollent. Aspiration and voicing have equal status. Then the neutralized plosives after initial [s], as in *spill/still/skill*, would simply lack either feature, as in the representation of the specifier in the  $\{\backslash\{C\}\}$ . The neutralization is represented iconically in this case.

Such neutralizations make up much of the complication of phonological representations. Phonology does not involve a system of mutations (such as ‘synchronic vowel-shifts’), whereby phonological segments ‘change’ their value (rather than being stored lexically or built further in the interface to implementation). Historical mutations are often evidenced in the current language by morphological alternations, as we shall explore in Part III. Other alternations between segments in related words are the result of conflict between earlier constraints; the latter again are not relevant to synchronic phonology. In Part IV we shall find in more detail that syntactic representations are similarly **non-mutative**, but constructed in the interface from the lexicon on the basis of the notional categorizations stored there and the context.

Another kind of simplification of phonological representation, with a different status was formulated in Chapter 13, where the pervasive CV substantive categorial notation was formulated, as displayed in Table X.

**Table X:** Vocalicness and Gravity

|             |               |     |                     |     |                    |
|-------------|---------------|-----|---------------------|-----|--------------------|
| <b>V</b>    |               |     |                     |     |                    |
| Vocalicness | {V} (intrans) | vs. | {V/C} (transitives) | vs. | *{V <sub>3</sub> } |
| Vocalicness | {v} [a]       | vs. | {c,v} [e/o]         | vs. | {c} [i/u]          |
|             |               |     | { } [ /ə]           |     | {V<C>}             |
| Gravity     | {c{v}} [u]    | vs. | {c,v{v}} [o]        | vs. | {c,v{c}} [e]       |
|             |               |     |                     | vs. | {c{c}} [i]         |
| <b>V;C</b>  |               |     |                     |     |                    |
| Vocalicness | {v} [r]       | vs. | { } [l]             | vs. | {c} [m/n/ŋ]        |
| Gravity     | {c{v}} [ŋ]    | vs. | {c} [n]             | vs. | {c{c}} [m]         |
| <b>C;V</b>  |               |     |                     |     |                    |
| Vocalicness | {v} [v/z/ð/ʒ] | vs. | {c} [f,s,θ,j]       |     |                    |
| Gravity     | {v{v}} [ʒ]    | vs. | {v} [z]             | vs. | {v{c}} [v]         |
|             |               |     | {v{c,v}} [ð]        |     |                    |
| Gravity     | {c{v}} [j]    | vs. | {c} [s]             | vs. | {c{c}} [f]         |
|             |               |     | {c{c,v}} [θ]        |     |                    |
| <b>C</b>    |               |     |                     |     |                    |
| Vocalicness | {v} [b/d/g]   | vs. | { } [π/τ/κ]         | vs. | {c} [p/t/k]        |
| Gravity     | {v{v}} [g]    | vs. | {v} [d]             | vs. | {v{c}} [b]         |
|             | {v} [k]       | vs. | { } [τ]             | vs. | {c} [π]            |
|             | {c{v}} [k]    | vs. | {c} [t]             | vs. | {c{c}} [p]         |

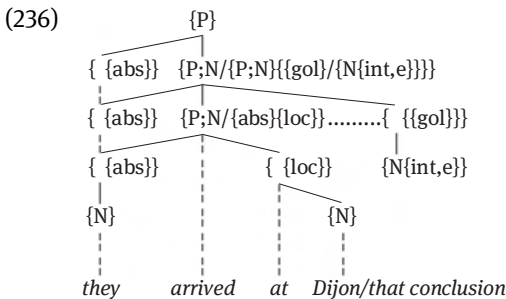
Table X incorporates the neutralized plosives [π, τ, κ] alluded to above in relation to (132b, f) and discussed in Chapter 11.

Even apart from the category vs. part of speech distinction introduced here, the question of the extent of analogy between the planes has been a major theme of Part I from the very first chapter. In the Parts that follow, this concern will be less prominent, as these chapters mainly focus on the complexity of syntactic and lexico-syntactic structure, as well as its morphological expression. This focus is a consequence of what has emerged in Part I. As we have looked at **categorization**, **hierarchization**, and **linearization**, it has become clear that syntactic structures are required to show greater complexity. As much mentioned, this requirement is driven by the need to represent complex cognitive scenes whose rich content demands intricate lexical categorization and an extensible means of representation. I have argued that both syntactic complexity and the restrictions on structural elaboration that limit complexity in phonology are **substance-driven**.

In syntax many parts of speech, especially contentives, have indefinitely extensible set of members (signs), but their syntax typically makes reference to a

small set of features along with the valency, if any. The part of speech verb is prototypically instantiated by a simple primary category, {P;N}, though **causatives**, for instance, involve subjunction of a {P;N} to a {P;N/{src}}. However, as well as the subjunctional complexity of adverbs, involving distinct primary categories, it is often thought appropriate to recognize, for instance, ‘phrasal verbs’, phrases that unlike the typical idiom, constitute **phrasal lexical units** that display a recurrent structure. These include **lexical periphrases**, such as *have/take a walk/shower*. However, some types of phrasal verb, exemplified by *look at* might rather be interpreted as showing a marked valency selection: *look* is apparently a directional verb (*look towards, look through, look out of*, etc.), and *at* is an unusual choice for a goal functor. The choice of functor may reflect the concentration, or **focusing**, of the visual perception. So too with *arrive at*, perhaps, with focus on the place of arrival. *Look to*, with what is normally a goal preposition, on the other hand, is more obviously an idiomatic phrasal verb. As we shall see in Part III, other types of phrase can be analysed as constituting a phrasal part of speech.

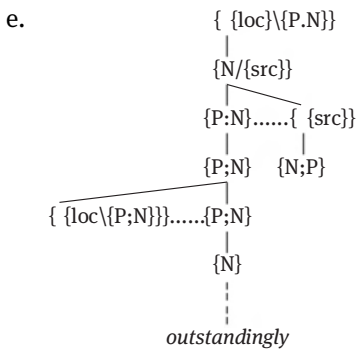
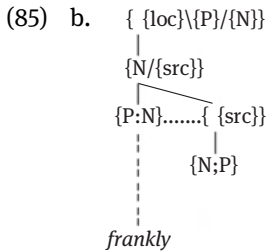
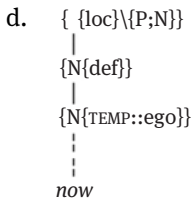
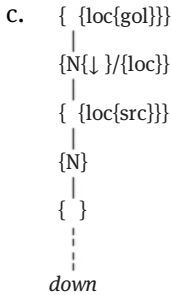
The unusual *arrive at* may, indeed, be best analysed as an internally complex verb, of the character of (236), where occurrence of *at* is normal, as a complement of a locative verb, as part of a structure roughly equivalent to the **directional existentials** *They came to be at Dijon/that conclusion* or *Their being at Dijon/that conclusion came about*.



(236) is interpreted as non-agentive, but of course *arrive* may frequently be agentive; and the locative may be subjoined to the verb. And the less concrete *look at* may involve a causative based upon such a locative. However, we return to perceptual verbs in Chapter 33; see particularly (II.269d). Finally here, we might observe that French *arriver* is overtly also a simple dynamic existential verb.

Already, in looking at **adverbs** we have been confronted with a complexity that does not involve phrasal structure, but lexical items composed of more than one distinct categorial representation in a subjunction relation. Recall the tentative representations for functional and adjective-based adverbs in Chapter 7.

- (84) a. Bill fell down  
 b. She lives in Barcelona now



Adverbs as a part of speech are lexically complex locatives that do not take an external complement, but rather complement verbs and modify them and operatives, and adjectives.

**Subordinating conjunctions** are characterized by the presence of both these types of complexity (linear and non-linear), often manifested in the same expression – but always with the crucial component of all such conjunctions, the **finiteness determiner**. I have suggested that many of the elements performing the function of subordinating conjunction are more complex than they are often thought to be. Most subordinating conjunctions are a combination of a specifically locative structure with the above category that performs the subordinating. The locatives may have an ‘adverbial’ structure, involving a functor governing a nominal, at least {N}. This complexity of adverbs and subordinators may or may not be signalled overtly in the morphosyntax. Something of the complexity of *if* is made overt in the phrase *on condition that*. *That*, however, realizes the essential subordinating conjunction, appearing on its own or realizing the other category that locatives or locative nominals combine with to form many ‘subordinate conjunction’ expressions. This essential category may also not appear independently (indicated by its optionality in *on condition (that) he left*).

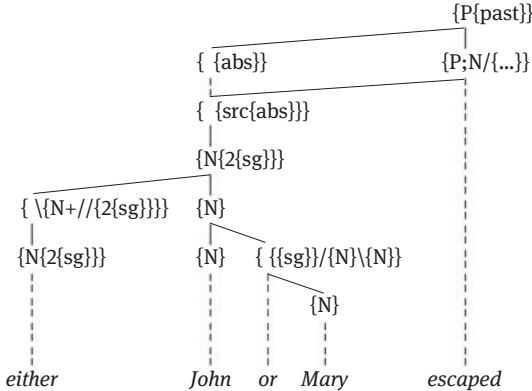
As a complement of a functor, the {P}-subordinating category, as with the alternatives in (202a), is represented as simply {N/{P}}, realized as *that* or lexically by conversion.

- (202) a. It is obvious (that) she dislikes him  
 b. That she dislikes him is obvious

It is a determiner, as *that* functions elsewhere, but with the exceptional valency indicated in the representation: it is a finiteness determiner, it signals a subordinate finite. Overt expression by *that* is obligatory when the finiteness determiner functions as subject, as in (202b). In apposition to an adverbial like *now*, giving *now that*, this determiner is categorized as  $\{N_i/\{P\}\{N_i\}\}$ , where *now* contains a matching  $\{N_i\}$  subordinate to a locative, and again the finiteness determiner may be expressed as *that* or by conversion of the {P}. The finiteness determiner may also be in apposition to such nominals as that in *the fact (that) ...*

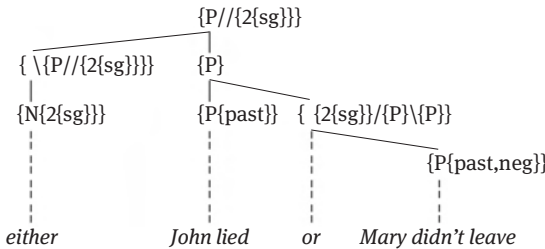
So much for subordination, for the moment. **Correlational coordinating conjunctions** illustrate an extension of simple coordination by *and*, *or*, etc. that insists on the binarity of the conjunction or disjunction. Recall, for instance, the disjunctive in (226a), where *either* is apparently a specifier that insists on its distributive binarity.

(226) a.



*Either* expounds a specifier that imposes a valency on the head of the coordination. But otherwise the complexity of structure lies in the valencies of the simple coordinator, not in the primary categorization; the coordinators impose an asymmetric relation. A similar complexity is associated with ‘correlative coordination’ involving non-determiners.

(229) b.



I also illustrated correlatives with other categories – verbal in (230b–c) and adjectival and functoral in (234b–c).

- (230) a. John is packing and leaving
- b. John is either raving or lying
- c. John is both leaving and not coming back

- (234) b. The dress is (both) old and tatty/It’s an old and tatty dress
- c. They are found (both) around ponds and beside rivers

The specifiers realized as *either* and *both* are thus **generalized specifiers**, not limited to a particular category, but generally intensifying, one of disjunction and typically exclusion, the other of inclusion. We look at other such specifiers in



Part IV. Indeed I have dwelt on these structures suggested in the last chapters in anticipation of their prominence in what follows.

The recognition of adverbs and coordinating and subordinating conjunctions as parts of speech does not require us to add to the set of primary syntactic categories of Table V.

**Table V:** Primary Syntactic Categories (completed)

| Functional |        | Contentive  |             |                |
|------------|--------|-------------|-------------|----------------|
| Operative  | {P/}   | Verb        | {P;N}       |                |
| Comparator | {P.N/} | Adjective   | {P:N}       |                |
| Determiner | {N/}   | Noun        | {N;P}       |                |
| Functor    | { / }  | Name { <A>} | Pronoun { } | <b>Neither</b> |

But we should now place the information it contains in the context of the relationship between primary category and part of speech. This is what is attempted in Table XI.

**Table XI:** Parts of Speech

|                       |              |                   |                                             |
|-----------------------|--------------|-------------------|---------------------------------------------|
| <i>Functional</i>     | Operative    | {P/}              | <i>categorially simple</i>                  |
|                       | Comparator   | {P.N/}            |                                             |
|                       | Determiner   | {N/}              |                                             |
|                       | Functor      | { / }             |                                             |
|                       | Coordinator  | { /{X}\{X}}       |                                             |
| <i>Non-functional</i> | Verb         | {P;N}             | <i>extendably simple</i>                    |
|                       | Adjective    | {P:N}             |                                             |
|                       | Noun         | {N;P}             |                                             |
|                       | Name         | { }               |                                             |
| <i>Functional</i>     | Adverb       | { {loc}/{N} }     | <i>lexically complex</i>                    |
|                       |              | <br>{N}           |                                             |
|                       | Pronoun      | {N/}<br> <br>{ }  |                                             |
|                       | Subordinator | { {loc}/{N/{P}} } | <i>typically phrasal,<br/>or core alone</i> |
|                       |              | ⇕<br>core         |                                             |

Innovations to the expanded set of functional parts of speech occupy the extremes of the table, adding in the lower box to the non-linear complexity and the often

phrasal. The contentives and names are prototypically simple – if we lay aside idiosyncratic signs, for the moment, at least. Verbs set themselves apart from the other contentives in not requiring to be subjoined to the corresponding functional category and by sharing relationality with functional.

Further remarks on this table are in order. In counting the functional parts of speech as categorially simple I am counting as ‘simple’ the result of conversion of the corresponding contentive to that functional category. The presence of the subjoined element is not essential to the identification of the part of speech, as is illustrated by the conversion of {N} to functor – except in the case of adverbs, which are identified by their necessary complexity. Indeed, many adverbs are still more complex than indicated in the table, and many are derived from the contentive adjective. The coordinator part of speech is a specialized functor that lacks a secondary feature and whose complement and appositional target are of the same category, where this variability is indicated by ‘{X}’.

Names may be formally unitary or multiple – *John* vs. *John Anderson* vs. *John Mathieson Anderson*, for instance. More complexly structured names, on the other hand, are not the norm – though in English some place names, for instance, may include a determiner or even other, descriptive elements (*the Wirral*, *the Grampians*, *the Yorkshire Dales*, *the Firth of Forth*, ...). With the pronoun part of speech the name category is necessarily converted to a {N}. The subordinator-of-{P} part of speech can be sufficiently identified by the presence of {N/{P}}: the core of the subordinator is the finiteness determiner. But given its frequently purely lexical status, with subjoined {P}, identification of subordinators typically depends on the presence of other, including themselves phrasal, elements (possibilities which are condensed in the table).

Compare this set of parts of speech with, again, the common traditional set given in Chapter 1.

---

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| <i>Declined</i>                 | <i>Undeclined</i>                              |
| Noun, Pronoun, Verb, Participle | Adverb, Conjunction, Preposition, Interjection |

---

Compared with the latter, Table XI has lost ‘participle’ and ‘interjection’. I take ‘interjection’ to be a specialized mood {P}, and at best a peripheral part of speech. So too with greetings. ‘Participle’, not a distinct part of speech, has been replaced by ‘adjective’. This gives a comparable set of contentive/declined categories for the two lists, but I have split off ‘name’ from ‘noun’ and taken the former away from the set of contentives; and ‘pronoun’ too is taken to be non-contentive, and necessarily categorially complex. The non-functional parts of speech in English are those that inflect in the traditional sense, except for adjectives; but

the functionality of pronouns does not accord with the non-declining status of the other functional categories. However, this accords with the deictic and functor-satisfying roles of pronouns. Compared to the familiar tradition invoked above, other additions to the functional parts of speech have been newly recognized – operative, comparator, determiner – and conjunction is split into two parts of speech, as subordinator and coordinator.

There is no reason I am aware of to suppose that there are other categories to be added to those in Table V. But the set of parts of speech is offered here as a provisional set, a set which might be added to on the basis of further investigation of lexical groupings. In the preceding chapter we have already anticipated, in relation to such as (206) and (216b), an infinitive-introducing functor, for instance.

(206) the woman to avoid

(216) b. They seemed to like it

But continuing uncertainty arises from the status of a part of speech as a set of lexical items (words or expressions) whose shared distinctive meaning and distribution warrant a distinct syntactic categorization. There may be further complex categorizations that satisfy this characterization.

These complex categorizations are to be distinguished from those that are clearly derivational. Thus, finite verbs are not a distinct part of speech, despite being categorized as on the right of (57).

(57) *FINITIZATION*

$$\begin{array}{c} \{P\} \\ | \\ \{P;N\} \Leftrightarrow \{P;N\} \end{array}$$

The class on the left is the same as the class on the right, though its syntactic role is different. So too with other conversions of contentives to functional categories (though the situation is complicated by the variable limitations on the lexical conversion of adjectives to comparative and superlative comparators).

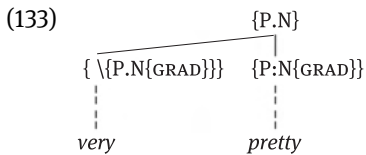
There is, however, one class of words that, though invoked at various points in the preceding, indeed in the immediately preceding chapter, will have so far been for the careful reader rather obtrusively absent from the main discussion of categorization and the parts of speech. We have seen that there are many words and expressions that can be either participants or circumstantials. Moreover, as circumstantials, expressions are usually compatible with a range of heads to modify, but perhaps in some instances limited to a particular category. Thus mod-

ifier *today* normally modifies verbs, via a locative functor. But ‘circumstantial’ is not a part of speech; it is not a distinct class of lexical items.

But the ‘specifier’, if this last is well-founded, seems to be a rather special modifier. For we have understood the specifier to be a dedicated item or items that single(s) out a particular subclass to modify, which it modifies in a marked position for a dependent; and it is typically associated with intensification. It is time we looked more circumspectly at the status of these items, and at the extent of their distinctiveness. Pursuit of this topic introduces an analogy to pit against the dis-analogies between syntax and phonology we have just been surveying in the last few chapters, as well as extending our account of the syntactic parts of speech.

Thus far we have encountered, in Chapter 11, what was then regarded as a specifier of gradient adjectives, *very*, whose behaviour was compared with the phonological pre-plosive onset [s]. Both the syntactic and the phonological specifier select to modify a sub-class within a major class, and they intensify a crucial property of the sub-class. The [s] of onset [sp] intensifies the fricative noise of such an onset as well as minimizing this property (aspiration) of voiceless stops themselves and lacking harmonic noise (voicing). The plosive specifier intensifies obstruency. The adjectival specifier intensifies the essential property of individual gradient adjectives.

As a first approximation, we might abbreviate this adjectival specifier as in (133), from Chapter 11, where ‘grad’ = ‘gradient’ or ‘gradable’.

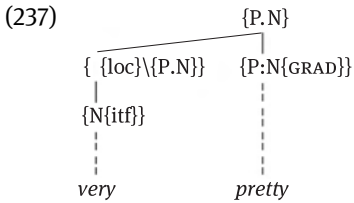


As it stands the specifier is categorially null, lacking not just a primary but also secondary feature. The sole content is the selected modifiee. And this is apparently justifiable in the case of primary categorization, at least, to the extent that no positive feature specification seems to be obviously appropriate or necessary; but it fails to represent the intensifying property.

Both names and functors are also represented as lacking primary features, and differing in whether they are normally complemented: names are represented as { }, uncomplemented, and functors are { /}. *Very* has no semantic or syntactic affinities with names, which are not even normally modifiers. Functor status for specifiers seems to be more plausible: *very* is inherently relational, at least as necessarily modifying – { \}; and it is not semantically incompatible with the directionality dimension associated with functors. Is then *very* to be catego-

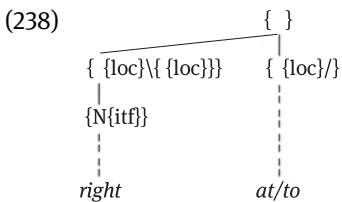
rized as a functor, perhaps with a locative or goal subcategorization? However, a functor is complement-taking – { /}; and it normally takes a determiner as argument. Are there any motivations for this too in the case of *very*?

As remarked on, the representation in (133) makes no allusion to the ‘intensifying’ property of *very*. This could be captured if the intensifying specifier is indeed, like other syntactic modifiers, locative, with the ‘intensification’ involving a high point on the dimension associated with the adjective. Along these lines, I suggest that it involves indeed a subjoined nominal that carries the intensification feature {itf}, with at least the structure shown in (237).



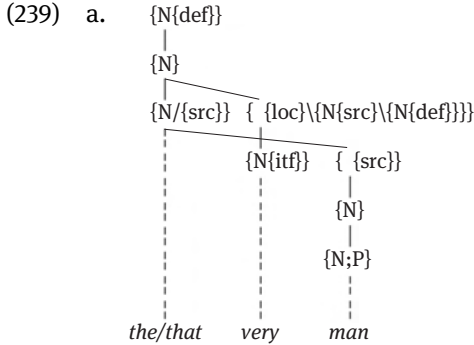
However, (237) is misleading in another respect. Let’s approach this via a look at other potential syntactic specifiers.

Another syntactic category where a case can be made for its being specifiable, indeed inviting intensification, is the functor, as in *right at/to the end*. This kind of specifier demands non-actively an independent locative functor as its head, as represented in (238).



Some locatives, however, are not normally, non-metaphorically, intensifiable (*\*She is right with her mother*), as usually inherently closely approximate, perhaps. So, the specifier selects a subclass of modifiees. There are, of course, other, dedicated lexical locatives, as with the *home* in *He went right home*, perhaps. Other candidate specifiers of locatives are the other initial orientational words in *round at the back* or *up to the bridge*.

And *very* itself also could be said to function as a intensifier of a sub-class of another functional category, that of definite partitive determiners – but in this case the intensifier follows its modifiee, as indicated in (239a).



b. such a (talented) dancer should be treasured

The *very* is clearly intensifying with respect to the subclass of determiner it targets, and, like the other specifiers, it is optional, as becomes a modifier. If this *very* is accepted as a specifier, then a dis-analogy with the phonology is partially removed: recall Chapter 11, where phonological specification was allowed to take place in either direction. We might also recognize post-deictic specifiers in *that there woman* or *these here tomatoes*. The non-partitive indefinite article may also boast a specifier in the shape of *such* in (235b); but it also seems to have phrasal and quantificational alternatives: *so talented a dancer*, *many a dancer*. In the latter of these the converted quantifier apparently specifies non-definite *a(n)* – the *a(n)* of *A dancer doesn't move like that*.

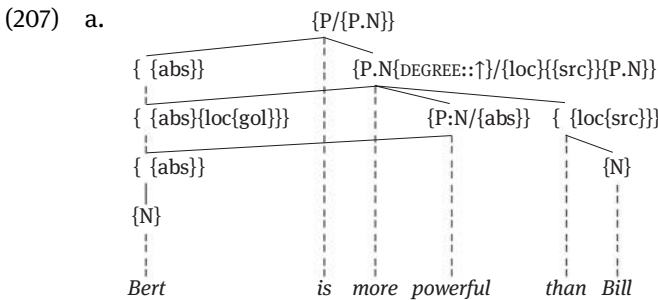
We now have identified putative specifiers for at least two functional categories and only one contentive. Notionally, these specifiers share an intensifying role; and this is also characteristic of the phonological specifier we have looked at. Indeed, agreement in this property is defining, along with selection of a subclass of modifiees. The term ‘intensifier’ for this part of speech thus seems more distinctive than the ‘specifier’ of recent tradition, which has been interpreted in a number of ways. More substantively, perhaps, we may want to wonder about the selection of potential modifiees of ‘specifiers’, which scarcely looks systematic. It may be too that we need to recognize two constructions, **intensifier** and **specifier**. The latter is illustrated by the determiner phrase preceding, and apparently modifying, *high* in *five metres high*, which is not necessarily intensifying, but could be said to specify. Both types alternate as comparative comparatives in *five metres higher/much higher* and *five Euros more expensive/Much more expensive*. Here I focus on intensifiers, as apparently more widespread – and typical, given the mere specifiers can in context be intensifying.

Only one contentive category, however, is involved in our discussion of victims of intensification, the adjective. And it is not obvious what would consti-

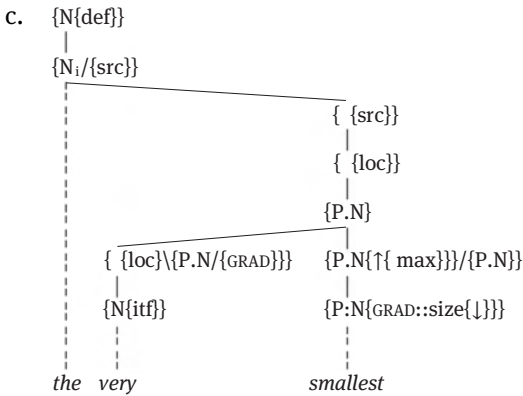
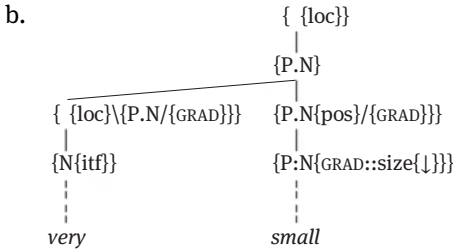
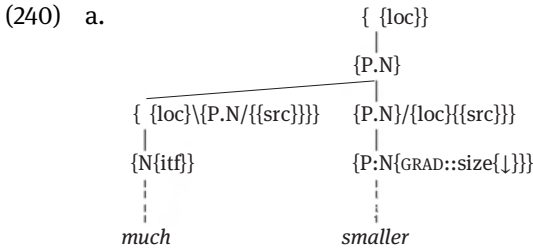
tute a noun or verb intensifier. This discrepancy is what encourages me to look again at the representation in (233). Is that *very* to be interpreted as an adjectival intensifier, after all? There are good reasons not to do this. These indicate that this intensifier, like the others, intensifies a functional category. It intensifies a third member of the set of functional categories that we have entertained, namely the comparator, rather than the corresponding contentive. Let us now look at why this might be proposed.

The ‘positive’ form of the gradient adjective is sometimes interpreted as simply lacking what is associated with the ‘comparative’; and this is apparently reflected in the greater complexity of ‘comparatives’ – either morphological (*smaller*) or analytic (*more intrepid*). But, of course, the ‘positive’ also has a notional property that the ‘comparative’ lacks. A typical ‘comparative’ places an entity on a scale of, say, size, relative to some other entity. But the ‘positive’ locates the entity as being on the positive side of the scale relative to some implicit norm. Because of this discrepancy, Bill may be described as smaller than Bert without either being describable as necessarily small. The ‘positive’, too, involves a comparator, a basis of comparison, and it is this comparator that *very* intensifies, just as *much* intensifies a comparator associated with the ‘comparative’, as in *much smaller*. The gradient adjective is associated with different kinds of comparator, and one of them must be chosen, even if this is manifested only in the syntax (in the form of *more*). Indeed, syntactically, gradability of an adjective consists centrally in the ability to complement a comparator, either ‘positive’ or traditionally ‘comparative’ – or, indeed, ‘superlative’.

(240), which acknowledge the locative status of gradient adjectives, will attempt to characterize the relevant aspects of this situation, though the nature of the comparator is not our major concern here. Recall, however, the representations (207) in Chapter 16, exemplified by (207a), which illustrates the role of the comparative.



(240a–b) differentiate between ‘comparative’ and ‘positive’ principally in terms of the presence vs. absence of directional arguments in the valency of the comparator, whose presence is signalled by the suffix, and whose locative source is satisfied by an argument such as the *than*-phrase in *smaller than Bert*, but may be left indefinite.



*Much* and *very* differ in the kind of comparator they intensify, either with directional valency where the direction is positive (240a), or not (240b). But *very* can also intensify being at the extreme point of the scale, being incomparable, at the max(imum), as with the superlative construction in (240c), where also the



{P:N{↓{max}}}} normally requires a definite determiner. And *much* can intensify *the smallest*, in relation to the extent to which a superlative is superior. Thus, as regards these three forms of the converted adjective, *much* requires a comparison other than with the norm: it can either intensify a comparative, or the determinerized superlative with a post-attributive – as in *much the smallest girl in the class*. And *very* is the default with positives; and it can even intensify *much* itself.

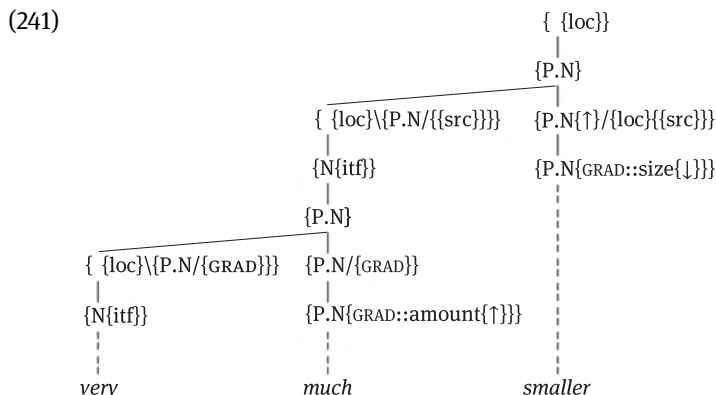
The obligatoriness of the comparator (positive, comparative, or superlative), with positive as the unexpressed norm and the variation in comparator and intensifier type derives from the notional character of a gradient adjective, which class has been described as ‘the basic intensifiable’. Recall once more that the putative affixed comparators themselves are not available with all adjectives. But gradient adjectives are necessarily dependent to a comparator of some sort if they are to be intensified; they are part of a complex headed lexically by a comparator, comparative, positive, or superlative. The exceptions to subjunction to a comparator are those socially and stylistically variable gradient adjectives that require *more* to mark the comparative analytically, and *most* in the case of superlative.

Since gradient adjectives are the unmarked value, ‘classificatory’ adjectives such as *dead*, *semitic*, *official*, *metallic*, *false* can be distinguished as {P:N{n}} (vs. {P:N} for gradients); and they are often, indeed, derived, particularly from nouns. Their {P:N}s are not eligible for gradient intensification. The {n} is also associated with the unmarked place of ‘classifying’ adjectives in a sequence of pre-nominal attributives: that is, following gradient adjectives, so closer to the noun, as in (165a).

(165) a. the simple scarcely-concealed pervasive political duplicity

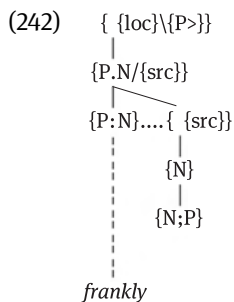
Only attributive nouns tend to follow {P:N{n}}s, as in *the political concealment instinct*.

Some of the intensifiers we have identified show further complexity. Intensifier *much* itself is based on a gradient adjective, as exemplified in *much money*. And this is why the intensifier has a comparative and superlative, *more* and *most*, and can itself be further intensified by *very*, as shown in (241).



And the independent comparator *more* is based on the ‘comparative form’ of this adjective. But this is but one aspect of the complex syntax of these forms, and of the comparator part of speech. (The comparative construction is discussed more fully in Chapter 16; and see too Chapter 21.)

Notice finally here that, given that gradient-adjective-based adverbs also may be intensified and comparativized, their derivation must include a {P.N}. Thus, the like of (85b), cited above, must be extended as in (242), which is still provisional, however; and also, as in (242), the functor of the adverb in Table XI must be allowed to have {N.P} as well as {N} subjoined.



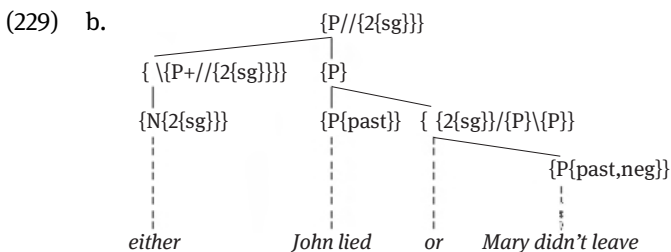
As elsewhere, the {P.N} allows reference to the set denoted by the adjective. In Chapter 7 it was observed, rather vaguely, that many an adjective-modifying adverb ‘is apparently a derived specifier of gradient adjectives’. In the present context, the basis for this observation is evident, given, on the one hand, the intensifying character of these modifiers and, on the other, adjectives as the prototypical intensifiables, which are indeed typically intensified by adverbial modifiers based on adjectives.

We arrive at a view of the intensifier in general as an optional intensifying modifier of a functional category. The different intensifiers we have looked at are each a sub-type of this complex part of speech represented in (243).

$$(243) \quad \begin{array}{c} \{ \{loc\} \setminus \{F\} \} \\ | \\ \{P.N\{itf\}\} \end{array}$$

Let us generalize that ‘F’ is a variable over the set of functional categories. Intensifiers do not involve an extension of the set of primary categories. They are characterized by the intensification feature and their specific valency. As modifiers, they have been taken here to be also locative, and this is supported by the dimensionality of the intensification feature. But we have also found other means of intensification in the form of correlative conjunction specifiers, which we shall look further at below. We should note too that the intensified functional category must be expressed overtly, analytically (as with functors or determiners or some comparators) or also morphologically, as an alternative with comparatives and superlatives – with positive alone being indicated by the absence of a morphological or analytical marker.

What one might regard as ‘generalized intensifiers’, such as *only* or *just*, introduce aspects of exclusivity as well as intensification, and *also* and *even* express inclusivity. And the intensified element is, further, not required to be functional. We have already encountered other instances of such intensifiers in the preceding chapter, in the shape of the {N}-based correlative coordinators (*n*)*either* and *both*. Recall, for instance, (229b), with intensification by repetition in the specifier of the {2{sg}} features.



These ‘generalized intensifiers’ and their variable placements, consideration of which introduces the potential elasticity of the set of the syntactic parts of speech, will demand more attention in Part IV.

As concerns category-specific ‘intensifiers’ in general, though they introduce a phonology-syntax analogy, we have a further confirmation of the distinctive-

ness of syntax merely from their restriction to the modification of functional categories: these latter have no analogy in phonology. However, the [s] specifier of phonology does at least intensify the unmarked consonant type.

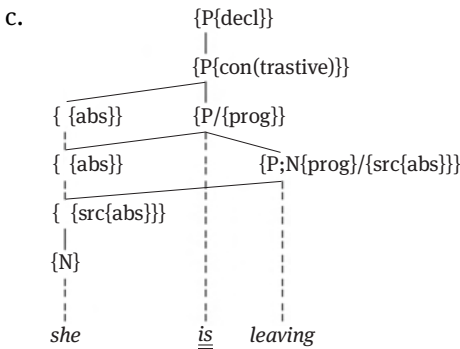
I have also not associated an intensifier with the ultimate functional category, {P}, i.e. an intensifier where {F} in (243) would be instantiated by {P}.

$$(243) \quad \begin{array}{c} \{ \{loc\} \setminus \{F\} \} \\ | \\ \{P.N\{itf\}\} \end{array}$$

Perhaps the closest to a ‘specifier’ that we can associate with {P} is the subject, or rather the free absolute that hosts it – which at least shares the typical (marked) sequencing of ‘intensifiers’ (except, interestingly, that of the definite article), as well as their dedication to dependency on a particular category. But the subject is not just complex (and headed by a functional category), but also often itself phrasal; and in most circumstances in English the free absolute is obligatory in independent predications, except in e.g. imperatives. The free absolute of the basic {P} would have to be an almost obligatory ‘intensifier’, as well as allowing association with phrasal subjuncts. Moreover, there is no obvious intensification involved, unless routinely providing the unmarked ‘topic’ slot is (rather perversely) counted as such.

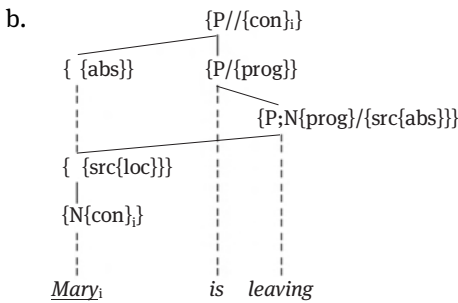
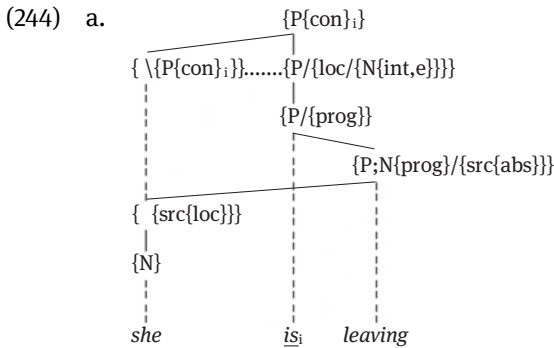
Say, however, that we recall that expression of syntactic categories is not limited to independent expression or inflections, but also may appeal to intonation, the basis for one of the modules of the lexicon-syntax interface. This area offers us a rather obvious candidate for an intensifier of {P} in terms of the expression of sentential contrast. Recall (129a) from Chapter 10.

(129) a. She is leaving



Sentential contrast or insistence is represented in (129c) as a contrastive {P} that is added above the basic one, and realized by a characteristic tone on the finiteness element. This syntactic property is specifically associated with the finiteness element, so that a default is introduced if necessary, as in *She did leave*. As with most other instances of intensification, the functional category that is intensified is given overt independent expression – hence the necessity for the *did*. Moreover, the basic {P} is an existential introducing the proposition expressed by the sentence as a fact, though possibly modally qualified (by *may*, *should*, etc.). And what the intonation does is intensify expression of the factuality (or modality); it intensifies the act of affirmation or denial or questioning or whatever that is associated with the particular {P}.

The marking of intensification here by intonation has been interpreted as meaning that in this case the intensifier was not expressed as a modifier but as an optional higher instance of the intensified category. A more conventional intensifier configuration, not unlike that for correlative intensifiers, would be (244a).



We have again intensification involving co-indexing. For clarity I have separated out the existential and periphrastic {P}s. Notice finally that some {P}s, such as imperative *be*, are not preferred for certain kinds of contrastive intensification.

Thus preferable are *Do be good* and *Don't be late*. In an articulated account of pre-utterance phonology, as in Chapter 42, the indexing could be more transparently associated with intonation.

It seems to me that such an account of the identity of intensifier of {P} is worth pursuing; but I shall try in Part IV to reconcile it with the proposals made in Chapter 15. We must also allow for intensification/contrast of referents, perhaps as outlined in (244b); but I shall not dwell on this and its relation to topicalization in the present context. These representations also leave out of account the existential status of non-mood {P}, and its correlation with the proposed contrastive feature.

Perhaps, then, in view of (244a), we can add intensifier to our provisional list of the parts of speech, along with the infinitival *to*, giving Table XII rather than XI.

**Table XII:** Parts of Speech

|                       |                                     |                            |     |
|-----------------------|-------------------------------------|----------------------------|-----|
|                       | Operative {P/}                      | <i>categorially simple</i> |     |
|                       | Comparator {P.N/}                   |                            |     |
|                       | Determiner {N/}                     |                            |     |
|                       | Functor { / }                       |                            |     |
|                       | Infinitive-to { <{{gol}}>/{P;N}     |                            |     |
|                       | Coordinator { /{X}\{X}              |                            |     |
| <i>Non-functional</i> | Verb {P;N}                          | <i>extendably simple</i>   |     |
|                       | Adjective {P;N}                     |                            |     |
|                       | Noun {N;P}                          |                            |     |
|                       | Name { }                            |                            |     |
| <i>Functional</i>     | Adverb { {loc}}/{N}                 | <i>lexically complex</i>   |     |
|                       |                                     |                            |     |
|                       |                                     |                            | {N} |
|                       | Pronoun {N/}                        |                            |     |
|                       |                                     |                            |     |
|                       | { }                                 |                            |     |
|                       | Intensifier/Specifier { {loc}\{F/}} |                            |     |
|                       |                                     |                            |     |
|                       | {P.N{itf/metric}}                   |                            |     |
|                       | Subordinator { {loc}}/{N/{P}}       | <i>typically phrasal</i>   |     |
|                       | ⇕<br>core                           |                            |     |

The question arises: why are there approximately this number of syntactic categories in different languages, despite some discrepancies in exactly how many are differentiated? The addition of intensifier/specifier to the parts of speech is a further indication that, as far as I am aware, we are not in a position to ask the

same question about parts of speech. I have already differentiated from intensifying specifiers simple specifiers that give for instance metrical specification (*two metres wide*). Are there further possibilities than I have observed here, other potential parts of speech?

Concerning syntactic categories, however, what seems to be involved is a compromise between economy of basic distinctions and the need to characterize a range of basic notional distinctions reflecting our perception of the world. The categories help articulate the decomposition of perceived scenes. This compromise underlies the area of relative stability occupied by different syntactic systems, with the set of contentive categories having from one to three members. And a similar compromise, though operating within a more limited perceptual domain, underlies what stability there is in the variable membership of phonological systems of different languages.

We have been looking at the consequences of viewing language as a representational system, indeed a re-representational system that permits cognitively-driven assemblies of lexico-syntactic categories to be associated, by progressive cumulative re-representation at the interfaces, with final phonological representations based on our perception of sound, specifically the sounds of speech – or vice versa, in parsing. The grammaticalizations that constitute language are necessarily approached either expressionally or interpretatively. However, we have not investigated the character of the input and output functions that link cognition with structured assemblages of lexical items or those that link phonological categorizations with articulation and recognition, which are beyond the scope of this grammar-focused discussion.

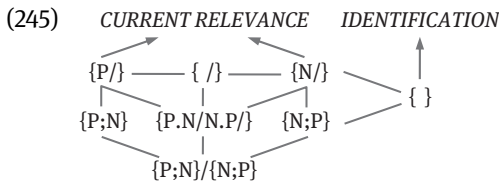
In the early chapters in Part I we looked at syntactic and phonological categorization in English, including its componentiality and the possible asymmetry of the combination of component features. And this was illustrated by the elaboration of the sets of categories, divided, in the case of syntax, into functional and contentive, as well as names (neither functional nor contentive). Then we observed that these categories are linked by structural relations that are also substance-based, involving hierarchization (dependency), linearity, and pre-utterance phonology, and this structuring is guided by the major categories and the valency of the categories. Valency includes specification of complementation and modification requirements, as well as coindexing. In Chapter 7 was introduced the distinction in the syntax between primary, or major, category and part of speech, illustrated from the lexical structure of adverbs. This initiated a series of chapters on different categories, before there was a more detailed look at the interaction at the interfaces of the modules associated with dependency, linearization, and phonic substance as manifested in the syntax and phonology.

Latterly, after contrasting the substantive demands for restrictions on phonological structure with the demands for complex articulation of structure in syntax, we concentrated on three categories rather crucial for what is to follow now. First of all our concern was with the finiteness category associated with operatives. Instances of this category are the root of syntactic representations, and as such they carry the secondary features associated with the grammaticalization of speech acts, in particular. These features have a crucial role to play in the root clause in particular, but also, as the link to the context of speech and its participants, they are reflected in the pragmatically sensitive aspects of the entire sentential structure (involving deixis and its grammaticalizations). They characterize the minimal utterance. The mood features, which are **syntactic prosodies**, manifested in a variety of items subordinate, and sensitive, to them, will be further deconstructed in Part IV to illustrate the place of these features in the full characterization of the lexical structure of mood.

Intimate connection with the extralinguistic is also characteristic of determiners, which can signal deixis and reference. This shared property of the functional verbal and nominal categories and the important distinction between functional and contentive categories suggests that the simple categories in syntax are related in more complex ways than is suggested by the linear list of the smaller set of phonological categories in (24), whose positioning there reflects the sonority hierarchy.

- (24) {V}      {V;C}      {C;V}      {C}  
       vowels    sonorants    fricatives    plosives

The relations among the syntactic categories are more complex; and some of these are indicated in (245).



The arrows that direct {N/} and {P/} to ‘current relevance’ embody reference, deixis, tense, speech act and its participants. The medial triangle unites the functional categories, and the low ‘V’ the contentives; and each functional category is joined by a short line to the corresponding contentive category. The outlying { },



for names, is linked to the other entitatives, but is set apart by its extralinguistic function of ‘identification’.

The final two chapters of Part I completed our picture of complex categories (except for the above speculations about specifiers/intensifiers) with a description of the major inter-clausal and more general joints of the prototypical minimal utterance, the ‘conjunctions’, subordinators and coordinators. The core of the former is the *that* that I took to be the determiner of the operative, the element that introduces subordinate finites. Both ‘conjunction’-types are complex parts of speech that build on already established simple categories, the functor in the case of the coordinators (and infinitives) and the determiner with subordinators. There remain further distinctions scarcely touched on in this part. For instance, the class of ‘articles’ is a traditional one. And I did very briefly acknowledge (in Chapter 8) such a sub-class of determiner, based on their inability to have an overt nominal source adjoined to them.

(246) \* $\{N\{\text{art}\}/\{\text{src}\}\}$   
           —  
            $\{\{\text{src}\}\}$

As well as the traditional ‘definite’ and ‘indefinite’ articles, we have to recognize other articles that fail to govern a lexically expressed source: a negative article *no*, and a universal *every*. We take these up in Part IV.

It will only be in Part IV that we return to phonology in its own right, and then at the very end and concerning the correlation between syntax and pre-utterance phonology. From the end of Part I until then I shall have nothing to say about phonology as such, though Part III includes some discussion of morphophonology (which has sometimes been confused with phonology), following the syntactico-morphology of Part II. The view taken here of phonology is rather simple: apart from formulating the redundancies governing the erection of phonological word structure, it is concerned with the contrasts to be associated with each part of speech or in the pre-utterance phonology and the mutual restrictions between the membership of adjacent parts of speech, as illustrated by [#sr]. It is therefore perhaps fitting to say farewell to lexical phonology with a sketch of part-of-speech membership in English phonology.

(247a), which ignores non-rhoticity, lists the contrast-types to be found at the various parts of speech, while (247b) allows a post-onset member to be converted to onset, but not to precede a post-onset, given there is only one of these parts of speech in each syllable, and (247c–d) gives some common combinatory constraints.



of speech, there is a further problem for such segment-based enterprises. Some contrasts are prosodic. Even in English, not often cited for its prolixity of prosodies, there is, for instance, the distribution of [h], which, as is familiar (recall *hemp*, *Hebraic*, *ahoy!*, *jojoba*), appears only in foot- and or word-initial positions, specifically onsets, that would otherwise be unfilled – possibly followed by a post-onset/non-nuclear vowel, [j] (*hew*, *Hugh*) and, for some speakers, [w] (*whether*, *whirl*). [h] is a prosody of the word that doesn't participate in the syllabic norms. This is very crudely represented in the partial lexical entry (247f), where the potentially double prosody is stored outside the sequence of syllables, whose internal segments are unordered. With sequencing of these segments an [h] looks for an empty onset of the appropriate type, word-initial or foot-initial. If there are two potential landing places (*ahoy*, *hiatus*) and only one [h], the choice must be stored, unless one can establish priorities.

Perhaps I have illustrated something of why establishing the set of contrasts, including neutralizations, at each phonological part of speech and the range of prosodies, and the structures projected by the parts of speech, can be regarded as an appropriate and sufficient goal for the study of lexical phonology, without indulging in the last century's mistaken diversions into potted history, morpho(phono)logy, cliticization, constraint-competitions, empty segments, and lenitions and fortitions, none of which should feature as properties of a fully-developed synchronic phonology, though some such mutational phenomena may result in some of the syntactic, morphological, and phonological properties.

The graphic notation developed in the preceding chapters is a compromise between the multidimensionality of mind, especially language, and the unilinear implementation of the latter in time. The question of the status of transmission by implementation, articulatorically, orthographically, or gesturally, and by recognition via sound or sight or touch, will also arise in Part IV, but as a final consideration, as being what I would describe as 'non-grammatical'.

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## Part II: **Modes of Signifying**

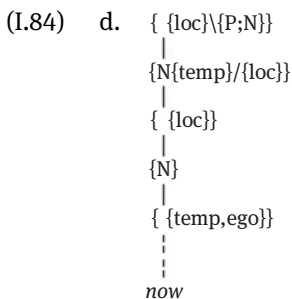


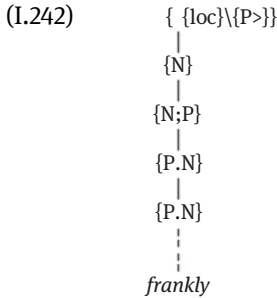
# Prelude to Part II

complex categories and lexical derivation – derivational morphology: affixation and internal modification – conversion – derived functional categories – derived contentives – back-formation – non-verbal contentives and participants – morphosyntax and morphophonology – inflectional morphology – modes of signifying, and of troping – lexical structure and syntactic structure

Part I of this grammar introduced the major/primary phonological and syntactic categories relevant to English, along with an account of phonological minor categories and a preliminary presentation of syntactic minor categories. I also differentiated there between simple primary category and part of speech, which I have suggested don't coincide in the phonology, and may often not coincide in the case of syntax. In looking at the syntax, as a first step I identified the notional properties that define the basic syntax of simple parts of speech. Syntactic parts of speech are sets of lexical items that share a distinctive sense and distribution. Among these parts of speech there are some, however, that categorially are inherently complex, not characterized as a single syntactic category. This is most obviously the case with the part of speech 'adverb'.

I distinguished two types of adverb, both categorially complex, as illustrated by (I.84d) and (I.85b) from Chapter 7, and repeated and modified in the Conclusion to Part I. What these types have in common is their necessarily being headed by a subjunction of {N} to a locative functor.





((I.242) is the modified (I.85b).) In neither case is any one of the set of categories present unique to the part of speech adverb. We return to such as (I.242) in Chapter 23.

The adverb is inherently complex and is identified by the features that are necessary to this very complexity, consisting of a locative with subjoined {N}. Nouns too, for instance, were analysed as inherently complex (in Chapters 8 & 14): lexically {N;P} is governed by {N}. But, unlike with adverbs, the categorization of nouns includes a particular category that is unique to nouns, {N;P}, and which is sufficient in itself to identify them as nouns. Categorial complexity thus does not always correlate with the identification of a distinct part of speech.

However, we must also allow for complex categorizations involving different parts of speech whose complexity is a result of **lexical derivation**. A lexical item of a particular category may be based on a different category that is associated with a different lexical item, its synchronic **source**, if one is available and perceived as such by the language user, and which is usually its diachronic source. The synchronic relation, however, is an alternation, non-temporal. And when such a recategorization is recognized, the meaning and exponence of the ‘result’ of the recategorization, the ‘derived’ item, incorporates, initially at least, the meaning and exponence of the item that forms the source of the **base** of the recategorization, but modified by the nature of the recategorization. In this way the noun *kindness* may be said to be based on a category that has as its source the adjective *kind*. Its derivationality is signalled by the **suffix** and associated with syntactic and semantic differences attributable to the recategorization. A different lexical item has been established, belonging in this case to a different part of speech, and **morphologically** marked as such.

‘Derivation’, or ‘word-formation’, is a diachronic phenomenon in the first instance, and includes **back-formations**, where recognition of the morphologically ‘derived’ form precedes in time the simple form. But, as above, the term ‘derivation’ has tended to be used also of the synchronic results of individual historical derivations – a ‘wrong-way-round’ lexical relationship in the case of historical

back-formations – as stored in the lexicon. This usage is perhaps unfortunate. However, I shall continue to use this traditional terminology in talking about synchronic lexical relations. Moreover, I shall suggest that there are genuine synchronic back-formations, where a morphologically simpler form incorporates the complexity of structure signalled by its morphologically more complex congener. But that is to anticipate. And diachronic back-formations are not usually interpreted as such synchronically.

Over time the meaning of such a new item may diverge further, possibly idiosyncratically, from that of the lexical item which is the historical source of the base of the derived item. Semantic non-transparency of the relationship between the items develops, just as phonological changes may render the expression of the relationship opaque; and these two developments may well be related in particular cases. If the two items are differentiated by affixation affecting the derived form, where the affixation is associated with the difference in meaning between the two related items, any **semantic opacity** may be said to involve **non-compositionality** of the combination. Let me now illustrate something of this.

The adjective *wild* is the source of the base of the basically abstract noun *wildness*, but there is also another *-ness* form that would seem to a user as if it might be based on *wild*, *wilderness*. But the relation is **obscured in expression**. The vowel of the base of this noun is different from that of the adjective source, and there is a synchronically mysterious element intercalated between the base and the noun-forming derivational suffix. Moreover, the basic sense of *wilderness* is much more restricted than that of *wildness*; it is basically a place noun, semantically closer to the *-ness* names of places. Its meaning is non-compositional; we have semantic opacity manifested by departure from the expected combined meanings of base and affix. In this instance expressional and semantic divergence go together, but this is not always the case, though it is quite common for expressional idiosyncrasy to accompany semantic.

Not all recategorizations are signalled by affixation – or by differences in expression of the base itself. The latter is illustrated by the (transitive or intransitive) verb *feed*, whose source is the noun *food*. Here we have derivation signalled by **base-internal modification**. However, even this signalling may be absent. The transitive variant of the verb *feed* in turn forms the source for a noun denoting a kind of food, that which is fed to animals – and there have been other semantic developments. But the main interest here is that the noun *feed* is derived without affixation or internal change. We have lack of morphological signalling of derivation; there is a derivational relation by **conversion**.

The conversion and its direction is motivated semantically, but is signalled only by the difference in syntax and possibly by the inflectional morphology of the derived item: the converted form may express different secondary categories.



This is illustrated by the two most obvious nouns that are converted from the verb *talk*, one mass, as in *idle talk*, the other count, so *a talk* – which may involve *giving a paper!* Some instances of the second, count noun have thus acquired not just the semantics of a noun but a specialization, as denoting more formal presentations. To this extent we have semantic obscuration. In the chapters that follow in this Part we shall be looking at possibly cumulative, alternational, and derivational relationships manifested in all these ways.

I shall focus on the nature of various common lexical recategorizations in English. These derivational relationships may be signalled by **derivational morphology** (first introduced here in Chapter 3 of Part I). However, as anticipated above (and in Chapter 3), the term ‘derivational morphology’ I shall apply only to recategorizations manifested by overt modifications of the base as compared with its source, i.e. by affixation or by alternation within the base or by both, as with *depth*, though such complex formations are often obscured semantically (cf. *wealth*, *filth*, *dearth*, *hearth*), but may also be the source of adjectives (*wealthy*, *filthy*).

The term ‘derivational morphology’ does not include conversions. Though they too are derivational relationships, they do not call upon derivational morphology to express the relationship. Derivational recategorizations and their motivations will occupy us in Part II, and their effects on modes of signifying. In Part III, we will look specifically at the structures that express lexical relations, involving affixation and root modification. This leads us to a consideration of **inflection**, which allows by such means for forms of a single word, as in *walks*, which ends in either a plural inflection attached to a noun **stem** or a 3rd-person singular present inflection attached to a verb. In considering both derivation and inflection by affixation I shall term as **formatives** the sub-word units that expound the derivational or inflectional features and their respective base or stem.

But considering the structures of lexical items will also involve some items greater in inclusivity than a single **word**, especially **idiomatic phrases** (or simply phrasal clichés) and **compounds**, which are also the result of development of a fresh lexical item. Contemplation of such developments will also eventually take us in Part III into the role of **iconicity** and **figures**, both in relation to individual items and more generally in linguistic structure, as well as finding motivations for positing complex lexical structures that are not derived, but intrinsically involve extended subjunctions of syntactic categorizations. Semantic structure shares its categories and relationships with notional syntax.

In Part II, however, we shall concentrate on derivationality of the syntactic categories of words and the importance of recognizing that the categories provide alternative ways of signifying, or presenting even the ‘same’ phenomenon, as with our earlier concern with the categories of *walk*. The chapters that follow also, inevitably, raise the question of how ‘real’ these intercategory relationships,

and the associated alternations, are to different native speakers. Relevant to such questions is the difficult status of relative **productivity** of different derivational formations, which is, strictly, a diachronic phenomenon and difficult to predict, but no doubt relative opacity has a role to play in it. Also, different mental lexicons will vary. People differ in their capacity to perceive, learn, and invent, and even people in the same community don't construct the same grammar and its lexicon. And people also differ in their skill in accessing language and using it creatively. This contributes to the complexity particularly of the core of language embodied in the lexicon that we've just been talking about. Each conversation between users is to varying degrees a negotiation about meaning and how it's expressed. To idealize in these circumstances is to falsify. To adapt the opening line of a close colleague's book, there is, of course, no such thing as the English lexicon. On the other hand, this also means that a grammarian's account of a grammar and especially a lexicon cannot be comprehensive. The present account offers a necessarily partial view of the potential knowledge of language available to users, and one that at many points in the text is admittedly incomplete and crude, leaving much more to be deconstructed.

As well as bases that are not attested as separate lexical items, we shall also encounter bases that are syntactically structured. Not only are there phrases that constitute lexical items – that have been converted to lexical items – but also such a derivation may be signalled morphologically. This is illustrated in the following short quotation from P.G. Wodehouse's *Eggs, Beans and Crumpets*, Chapter 3. '<a>nd after a bit of Well-here-I-am-back-again-ing and Oh-hullo-Mr-Purkiss-did-you-have-a-good-trip-ing, as is inevitable on these occasions, Purkiss said. ...'. We have two albeit no doubt short-lived action nouns marked by *-ing* that are based on utterances rather than simple verbs (see further Chapter 19). The derived noun here is based on a virtual **delocutive** verb, a verb based on a potential act of utterance (on delocutives see further Chapter 25). Not everyone may have the inventiveness of Wodehouse, and clearly not all such coinings will stabilize as **established** items, long-term inhabitants of lexicons; but such formations reflect part of the resources of the language.

Consider as a starting-point instances of derivational types we have looked at where internal complexity is associated with morphological derivation or conversion from a single-word source. Thus, the meaning and syntax of the noun *attack* suggest that it is converted from the corresponding verb.

- (1) a. Bertrand's attack on Phil
- b. Bertrand attacked Phil
- c. Phil was Bertrand's victim
- d. Phil was yesterday's victim

- e. Phil was the victim of Bertrand's attack/slander/neglect
- f. {N}  
 |  
 {N;P}  
 |  
 {P;N/...}  
 |  
 ...  
 |  
 attack

The noun in (1a) is an event nominalization whose base-source is the verb in (1b). And, unlike typical nouns, the noun *attack* in (1a) takes two apparent arguments. Nouns may also be indicated morphologically as an argument of the verbs they are based on, as in the suffixed *payer* and *payee*. The former is a representation of the agentive (source) argument of the verb, as is the converted noun *cook*. And Meredith offers a noun-to-noun conversion that is a play on a common metonymy in the description of the just-engaged character Cecilia's reaction: 'And for some reason ... she now detested her "hand" so much as to be unable to bring herself to the metonymic mention of it' (*Beauchamp's Career* (Constable), p. 448).

But there are also nouns that share the non-nominal behaviour of denoting an argument of an action, for instance, but are not overtly derived. Such is *victim*. The relationship between the two names in (1c) is mediated by a verbal category that is part of the lexical structure of the noun *victim*, and *yesterday* in (1d) is a circumstantial argument of that verb. This is not a specific verb listed in the lexicon; there is no lexical item that might serve as a synchronic source for the noun. *Victimize*, for instance, is itself a causative overtly based on *victim*. So the last word in (1e) is variable in interpretation, as illustrated, depending on context, though it too is a nominalization based on a verb category with an actional source and an absolutive goal of a 'negative-affect' sense.

All of these complex categorizations involve categories and configurations associated with the syntax. And this is not surprising. When asked about the meaning of a word we can resort (possibly via a dictionary) to suggesting near-synonyms, but often more helpful is a paraphrase, an analytic rather than an associative explication. For similar reasons the source of much of overtly expressed or not lexical structure is transparently a reduction of syntactic structures. This is not to identify lexical and syntactic structure but to recognize that there is much in common, as will emerge very clearly in what follows. As well as the sharing by syntax and lexicon of syntactic categories and dependencies, but not sequencing, relational categories (functional and verbal) share their valencies, whereas nouns, for instance, prototypically – and I shall suggest in Chapter 21, universally – lack valencies. Thus nominalizations may appear in configurations in the lexicon that are not paralleled in the syntax. This is illustrated for the noun in (1a)

above by the partial structure in (1f). Here the noun apparently governs a verb in subjunction, changing the **mode of signification**, a dis-analogy with phonology as far as syntax is concerned. But much of what we think of as ‘semantics’ is characterized by categories and configurations associated with syntax, which is a manifestation of a substance-based analogy: syntax and lexical semantics share the substance they grammaticalize.

Further, though ‘natural’ and other logic may, of course, be exercised independently of language, the former are often parasitic upon the latter; so that it is plausible to suppose that natural language is the core medium for the articulation of thought. And artificial logics rely on varyingly successful adaptations of natural language. It is difficult to underestimate the extent of our dependence on grammatical, including lexical, structure. However, further pursuit of these last considerations would take us beyond the scope of a simple grammar of English – though they will inevitably recur below.

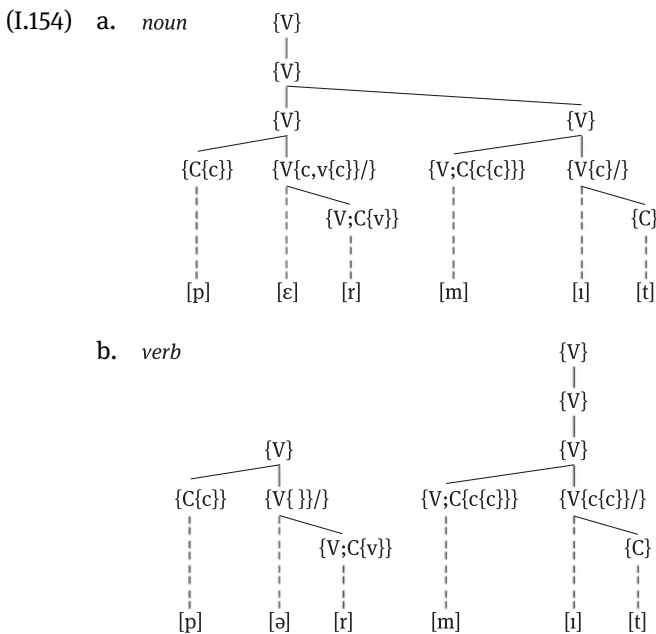
But some final cautionary comments on lexical structure are perhaps in order. Although the range of valencies associated with a complex form may give a clue to its internal categorial structure, as well as affixes signalling the kind of category change involved, the absence of the richness of signals that is associated with syntax means that more than one plausible alternative view of the structure of a lexical item may be more pervasively possible than with sentences. And indeed different users of the language may work with different analyses, as well as different signs (such that Smollett’s compound-based adjective *hobby-horsical* was novel to me, for instance). This observation is not an attempt to disarm criticism of the analyses I propose in what follows – they are vulnerable independently of this consideration – but rather to emphasize the non-determinateness of any account of the lexicon in particular. Further, the lexical structures offered here include only basic categorial information; they are semantically incomplete. But they are intended to indicate some of the main categorial regularities that underlie the use, and innovation, of lexical items.

Parts II and III focus on the basic repository of exponence, the lexicon, with its junction, in the form of lexical items, of the categorial representations of the fundamental substances of language. As such, these Parts attempt to articulate, within a representational framework, the meta-interface provided by the lexicon between syntactic categories of lexical items and their phonological representations. This is a complex interface, involving potentially syntactic categorizations whose complexity may or may not be signalled by the mediation of representations of derivational morphology; in the latter case, lacking morphological signalling, the reflection of such complexity will be indirect.

As observed above, it may be manifested by the existence of a distinct item that is different in its syntactic categorization but is semantically related and

phonologically identical – involving conversion. The semantic differences will correlate with differences in syntax and/or in inflectional morphology. But also some complexity of lexicosyntactic category may be covert. It is only the syntactic behaviour of the item itself and its associated semantics, and their similarity to those of overtly complex items, that signal the complexity. Such complexity contrasts with the character of phonological structure.

Lexical conversions that relate two instances of the same major category might be seen as analogous to the building of the phonological hierarchy of {V}, in converting a category to another of the same. But verb-to-verb conversion, for instance, shows varied semantic differences, which may be manifested in valency, whereas in phonology the vertical succession of {V}s in (I.154a) in Chapter 13 are differentiated by relative placement of the {V} and its complement and adjunct dependent(s), and its vertical place in the hierarchy; there is no categorial conversion.



The succession of ‘conversions’ that create the suprasegmental phonological structure involve rhyme, syllabic, ictus, tonic; these can be thought of as different ‘meanings’ of ‘{V}’, but it is a fixed hierarchy. The placement of the highest, tonic-headed hierarchy, for instance, is determined morphophonologically or phonologically, or, as in (I.154a) vs. (b), exponence of syntactic category. The determinants of lexicosyntactic conversions are more complex and diversified.

Part II is primarily concerned with the syntactic categories in the lexicon – **lexicosyntactic categories** – rather than the morphological structures, if any, that expound them or the **morphophonological interface** that maps morphological representations on to their phonological exponence. These other levels of lexical structure are the focus of Part III.

Chapter 18, which follows this Prelude, contributes more detail and illustration of the lexicosyntactic categories and their modes of signification – and **modes of troping**, including the **suppletive metaphor** that is instantiated by the localist hypothesis. I am concerned here almost entirely with the ‘positive’ or ‘neutral’ role of tropes, but Chapter 18 also notes that figures can be used to obscure or mislead, or at least to provide euphemism.

The main concern of the chapters that follow that beginning, Chapters 19–26, is with providing morphologically common instances of different types of derivation of contentives from contentives. But sometimes, there are (what I hope are) necessary digressions and conceptual anticipations. Thus Chapter 19, concerned with verb-derived nouns, also elaborates on the role of the genitive in nominalizations, and along with Chapter 20 it introduces the notion of unrealized primary categories, and bases that lack synchronic sources. And Chapter 21, though both it and the chapter that immediately follows are concerned with derived adjectives, digresses on the status of the comparator category and the extent to which non-verbal contentives have valency.

Chapter 23 inserts into this sequence of contentive derivation types an even more extended and conceptually far-reaching diversion into the questions concerning the relation between adjectives and adverbs. Relevant here is the bifunctionality of adjectives – attributive vs. predicative and the status of the *-ly* suffix. This diversion is pursued into Chapter 24, which introduces the notion ‘synchronic back formation’ and anticipates the close relation between attributivization and noun compounds that is part of the concern of the discussion of compounds in Chapter 30 in Part III. Chapter 25 re-enters the sequence primarily concerned with derivation of contentives, with illustration of verbs derived from other contentive parts of speech, including the prominent role of prefixes in causatives, in particular. And Chapter 26 completes the sequence on contentive derivational types with illustration of mainly deverbal verbs and with evidence for the lexical complexity, involving causativity, of many non-derived verbs. This illustrates rather forcibly how complexes of substance-based syntactic categories in the lexicon are not necessarily signalled morphologically or by conversion.

In our survey of Part II there is thus investigation of the syntactic categories that are appealed to in the lexicon, mainly as far as they are involved in derivational relations, but not necessarily so. In Chapter 27, beginning Part III, the focus shifts to the interface that provides an articulation of the morphosyntactic rela-

tions that specify the exponency of lexicosyntactic categories by the morphology. So far affixes, for instance, will have simply helped us identify what categorial derivation each is associated with. Morphosyntax and morphophonology introduce complex issues involving diachrony vs. synchrony, to do with ‘productivity’ and ‘blocking’, and more generally to do with the recognition of the expressional structures of the lexicon.

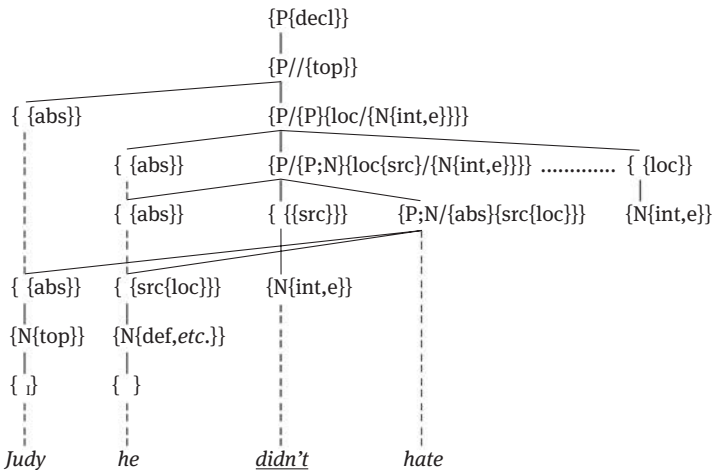
# Chapter 18

## Modes of Signifying and of Troping

lexical re-categorization – functional vs. contentive derivation – modes of signifying – complex modes – the mode of nouns, and of verbs – deverbal nominalizations – bases and their sources – metonymy and word formation – metaphor – suppletive metaphors and localism – iconic metonymy – phrase-derived tropes and idioms – lexical linking

In Chapter 15 of Part I, I presented in (172c) a deconstruction of finiteness in the form of a lexical subjunction path of {P}s where the individual {P}s are distinguished by their secondary categories, including valency.

(I.172) c.



Such paths are regulated in the lexicon by rules of word formation involving functional categories. In (I.172c) the basic negative existential {P} is subjoined to a further, optional existential that provides emphasis, specifically reassertion, and it in turn is optionally subjoined to a topicalization {P} (again optional), and it is subjoined to the mood {P} that is obligatory in root clauses.

In the present Part we are concerned with such lexical subjunction paths as we find in (I.172c). But we shall particularly concern ourselves with the re-categorization of primary categories that such paths allow rather than the differentiation, by sub-categorization and valency, of components of a path consisting of repetitions of the same category, here the functional category {P}. This area will be an initial concern in Part IV. Here we shall not be primarily concerned with the details of individual complex lexical items, but with attempting to formulate major types of re-categorizational paths principally involving contentives.

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As observed, these re-categorizations may be marked by affixation to the form of the re-categorized item, or modification of the form, or by conversion – or a form may be inherently complex, not derived. Thus far we have mainly encountered re-categorization to a functional category, as illustrated by Finitization (introduced in Chapter 5).

(I.57) *FINITIZATION*

$$\begin{array}{c} \{P\} \\ | \\ \{P;N\} \Leftrightarrow \{P;N\} \end{array}$$

In this case re-categorization is not marked by a dedicated affix or change of form but may be recognized from the presence of inflectional elements representing secondary categories of {P}, as well as by positions in syntax: we have a conversion. Even inflectional evidence is lacking in the conversions listed in (I.91a,c) of Chapter 8, unless the {N} heads are plural.

(I.91) a. *DETERMINERIZATION*

$$\begin{array}{c} \{N\} \\ | \\ \{N;P\} \Rightarrow \{N;P\} \end{array}$$

c. *PARTITIVIZATION*

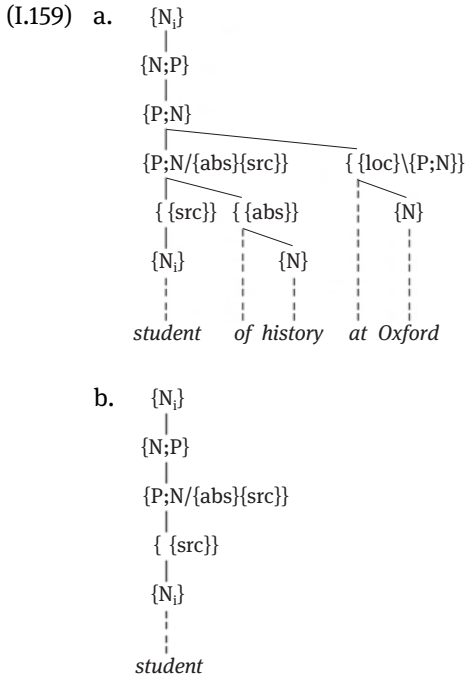
$$\begin{array}{c} \{N/\{src\}\} \\ | \\ \{\{src\}\} \Leftrightarrow \{\{src\}\} \\ | \qquad | \\ \{N\} \qquad \{N\} \end{array}$$

These involve respectively the obligatory re-categorization of a noun as a determiner, of {N} and, optionally, in (I.91c), of a partitive as a {N} subcategorized for partitive. In each case the base for the derivation satisfies the unmarked complementation of the derived category.

The availability of functional categories as the goal of conversions, and the commonness of recourse to these, is one of their defining characteristics; and this is associated with their requiring to be complemented – as well as their linking contentives. Functional categories provide either in the syntax or in the lexicon for the articulation of the representation of scenes whose main lexical semantic content is carried by contentives. Conversions to functional categories are fundamental to the building of syntactic structure, and to allowing for much of the variety of ways in which one contentive category may be derived from another. What we will principally be concerned with in this Part, however, are the con-

tentive primary categories that are involved as **derivatives** and sources of **bases** in conversions and in recategorizations signalled in other ways. And we shall be looking at the motivations for such recategorization.

We looked at one kind of instance in Chapter 14, that exemplified, by (I.159b).



The subjunctional structure isolated in (I.159b) re-categorizes a verb as a noun, as well as incorporating the argument of the verb whose presence is indicated by the suffix; while (I.159a) illustrates, provisionally, some of the syntactic consequences of this lexical structure. The presence of the verb categorization is revealed by the verbal arguments that may be associated with this derived noun, as illustrated there. We have what are elsewhere, as with the source verb *study*, a verbal complement and circumstantial, the latter of which introduces a fresh {P;N} above the basic {P;N} (as initially described in Chapter 5). The internal categorization of the word helps to determine its syntax.

Why are there such re-categorizations? I have suggested that representations such as (I.159) provide a compact, direct means of adding a word with a different **mode of signifying** from the source of the base. Each part of speech is associated with a particular mode of signifying. It represents its denotata as a particular kind of phenomenon. A noun represents even non-typical members of the class as entities. Verbs are signified to be scenes, prototypically events. Re-categorizations

like that in (I.159) allow for superimposition of a different mode. In this particular case what is represented as a cognitive scene is re-represented as an entity participating in such a scene. This creates a mixed mode of signifying, or, perhaps better, a **complex mode** of signifying. Let us focus a little on the notion ‘mode of signifying’, a term with much history, but almost none of it recent, except in the form of historiography.

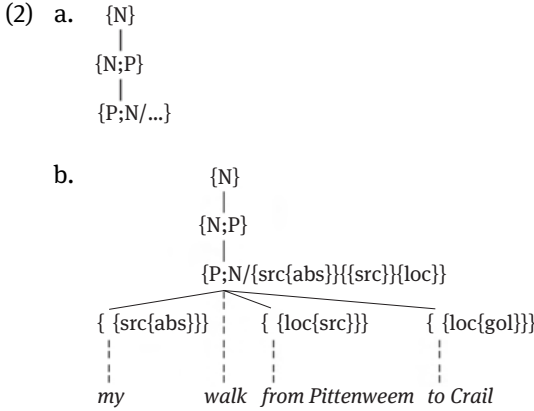
Nouns and verbs are alternative modes of signifying aspects of cognitive content. Certain aspects of this content are perceived as more suitably signified by nouns, since nouns attribute to their denotata entity-hood, prototypically involving relative stability through time and discreteness in space. Nouns are the lexical category that provides a descriptive stable label for the ‘anchor-points’ called arguments that enter into the various relations embodied in a predication. Just as the noun is the appropriate mode for introducing what we conceive of as entities, so verbs, by their relationality and dynamicity, appropriately signify the scenes or situations in which the ‘anchoring’ entities have a role: prototypically events. (I.159) illustrates the invoking of the activity denoted by a verb as a means of identifying an ‘anchor point’ in the shape of the set of entities that engage in this activity, indeed, with the help of another {N} in this instance, a token of that set. We have an **agentive** formation.

But it is desirable sometimes, also, to treat directly as such an ‘anchor-point’ a scene type itself. Such a deverbal noun denotes an aspect of cognitive content that is usually signified by a verb, and so is prototypically dynamic and relational, and thus normally the unmarked head of a predication denoting some scene or situation. However, for communicative purposes the language user finds it desirable to treat the notional content of the verb as describing an argument in a predication, as in (I.2).

(I.2) I am tired after my walk

Here, in *walk*, we have an **actional** conversion, rather than the morphologically-marked agentive derivative of (I.159). However, this final sign in (I.2) also involves a complex mode of signifying. At first inspection it seems to be less complex than the re-categorization we’ve just looked at, both in categorization and in expression (a simple conversion). But the presence of the verb has syntactic consequences in this case, too.

The content of the verb is presented as an event that is discrete and in itself atemporal – though particular instances of the verbal base may be given an overt time reference in various ways (e.g. *my walk this morning*, *my morning walk*). We can represent the result of the conversion in (I.2) by the relevant part of the schematic lexical categorization in (2a).

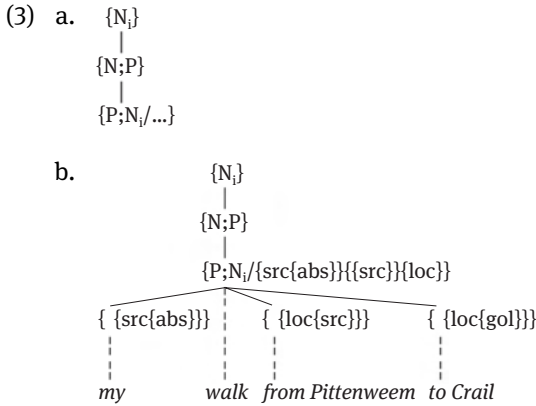


As in the non-derived (1a), the valency of the verbal component – specified only by ‘...’ in (2a) – is relevant to the syntax of the noun.

(1) a. Bertrand’s attack on Phil

For example, it is the presence of a locative in the valency of the verbal base for the derived noun *walk* that allows the nominal to have continuations like ... *round the village*, ... *to the village*, etc. And it looks as if, as a first approximation, the agentive required by the verb is satisfied by the genitive pronoun *my* in (2b). The components of the valency of the verb that are shown in (2a) are confirmed, even when not overtly expressed, by the semantics of the verb in *I enjoyed the walk*, as well as by the presence of the functors in (2b) that satisfy them.

As I’ve observed, (2) represents a rather different change in mode of signification from that we saw in (I.159). In (2) the event itself is viewed as an entity. In (I.159) an entity is viewed in terms of its participation in a particular kind of scene. (2) involves the more radical change in mode. And its apparent simplicity is deceptive. There is more abruptness in the relationship between the categorial components in this kind of complex mode. The nominal and the verbal components of (I.159) are bound together by the coindexing of the {N} that governs the complex with the incorporated {N} of the verbal agentive. There is apparently no such binding in the noun *walk*, but simply a primary recategorization. The non-involvement in the derivation itself of verbal arguments, as opposed to in the source, and of coindexing with the root of the lexical item indicates that the verbal and the nounal categories share a sense that differs only in mode of signifying. That is why, after all, the coindexing in (3), as an elaboration of (2), in linking the denotational set of the noun and the signification of the verb, does not involve coreference.



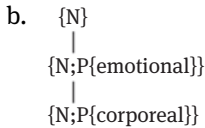
It will be evident that both (I.159a) above and (3) still oversimplify in various ways, including with respect to the status and characterization of the *my* in (2b), for instance. And I shall return to this in the chapter that follows.

At this point I have aimed simply to illustrate a little more explicitly two different complex modes based on verbs that are re-categorized as nouns. One re-categorization is expressed morphologically, the other is a conversion. But there are other differences, not necessarily correlating with the structural differences just noted. In this particular morphologically-signalled derivation in (I.159) the change of mode is figurative, specifically **metonymic**: the term for an activity is applied, signalled by suffixation, to a participant in that activity. And observation of metonymy introduces a fundamental property of many recategorizations, whether by conversion, as in *cook* the noun, or morphological derivation, as in (I.159).

Traditionally, the term ‘metonymy’ is usually applied to conversions, and often to recategorization as a different sub-class, rather than word class, as with the first noun in *All hands on deck!* Denotatively, a term for a relevant body part is applied here to persons to whose activities the part is seen as important; we have indeed the variety of metonymy usually referred to as **synecdoche**. In this case an entity is identified by an item otherwise denoting a part of that class of entity. In metonymy, as with other tropes, there is a shift in denotation. But in metonymy specifically, between the source of the base and the derivative there is or has been thought to be, when coined, a salient intrinsic connection, though it may become obscure over time. (Recall that the source of a base is the lexical item on which a derivative is perceived as being based, usually interpreted as synchronically in our discussion here, unless I indicate otherwise.)

As concerns metonymic formations, consider the second noun in (4a), the skeleton of whose categorial structure we might represent as in (4b).

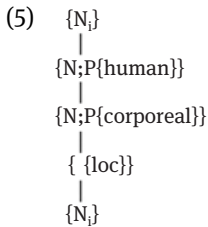
(4) a. an affair of the heart



The two contentive categories differ in sense, in their colligations and semantic collocations, and thus are not codenotational. Crucial to such a connection is presence of a source for the base category of a converted lexical item, as well as, in different cases, encyclopaedic knowledge or contextual perception carried over into the denotation associated with the converted category. The form *heart* has acquired a different denotation from the physical one, unsurprising given the physical heart's response to strong emotion, the basis for a perceived metonymic connection. The further derivative in the compound *big-hearted* or in *broken hearted*, for instance, is not usually taken to be referring to the dimensions or physical state of a concrete organ. And, as is over-familiar, the partially conventionalized icon '♥' denotes 'love', which has apparently spawned the verb in *I heart you*.

(4b) involves a noun base and a noun derivative, as in traditionally recognized metonymies. But there are conversions involving derivation of one contentive category from another that are also metonymic. This is illustrated by the denominal verbs in *She handed the money to us* or *He footed it to the pub*. Here there is substituted, in signification, action for instrument; the verb is based on a body-part noun in an instrumental relation – such as will be diagrammed below. And in *Table five has ordered an omelette* a phrase has been converted to an ad hoc name for the purpose of reference. There is a shift in signification in both cases, a **tropic** shift.

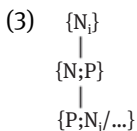
The categorial structure in these has a clearer role – a signification paraphrasable as 'the customer at table 5' in the latter case – than in *All hands on deck*, whose interpretation involves more substantial encyclopaedic knowledge. For some present-day users the body-part *hand* and the deck *hand*, in particular, may involve homonymy (without derivational link), as can occur with any established metonymic, indeed synecdochic, derivation. But even in the case of the derived noun *hand*, on reflection, the mediating structure is accessible, with a core like that in (5).



Here the human is coindexed with possessor of the corporeal entity.

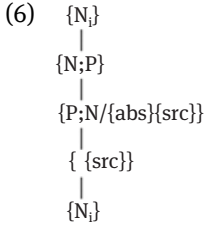
Such traditional metonyms as this, or *heart* as a noun for the emotions, are at most merely more idiosyncratic than what is involved with the verb *hand*, whose derivation-type is paralleled by other denominal verbs – *finger*, *knee*, *elbow*, *leg*, *head*, etc. Further, many morphologically-marked word-class-changing derived forms are metonymic, as with *student*. Much of lexical derivation, indeed, is, as I have observed, metonymically based, though with established derivatives what may be involved are dead (or sleeping) metonymies.

A simple conversion such as that in (3) for the noun *walk*, however, with little interaction between the category change and the dependents of categories, is not obviously metonymic.



An actional verb is converted to an actional noun, but there is no shift in signification, no tropic shift, as indicated by the coindexing – merely a shift in mode of signifying. Compare again the morphologically-derived noun *student*, which exhibits an obvious metonymy, as does the ‘extent’ or ‘location’ interpretation of the noun *walk* in *It was a long/her favourite walk*, or the noun in *She has a funny walk*, with a ‘manner’ interpretation. The connection between these nouns and the verbal base is also mediated by a semantic relation. The latter subordinates to the noun category the argument of the verb (here circumstantial – cf. *She walks in a funny way*) that is coindexed with the superordinate  $\{N\}$ , as in (I.159b), repeated above.

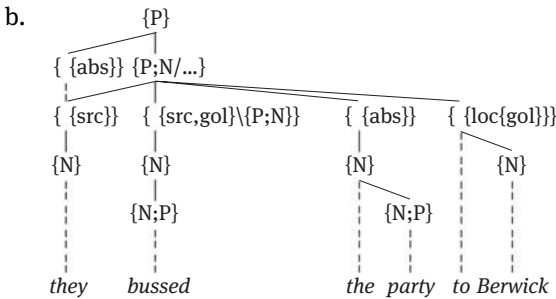
Such deverbal nouns where the base is linked to an argument of the verb are metonymic, as further illustrated by the noun *cook*, represented as in (6), where the governing  $\{N\}$  is coreferential with the agentive argument of the base verb.



In *pastry-cook* – to anticipate discussion of compounding, in the interests of illustrating possible complications – the absolutive requirement of the verb base of the second noun is satisfied by the first noun; in (6) the absolutive is indefinite.

Conversely, the denominal verb in (7a) has valencies; and, moreover, the base again, as with verb *hand*, satisfies a potential circumstantial argument of the verb, as indicated in the much simplified representation in (7b).

(7) a. They bussed the party to Berwick



We have here a causative-directional verb, whose own internal structure (7b) omits, but which is based on a noun in an instrumental relation ( $\{\{src,loc\}\{P;N\}\}$ ) to the verb. As a circumstantial, it is the functor that indicates the valency, i.e. the requirement to modify a verb (ignoring here restrictions on the kind of verb). There is a discussion of causative-directionals in Chapter 26 that expands such structures so as to recognize the two predication-types involved and the relation between them.

The particular metonymic character of lexical derivation can vary, and indeed in many cases may be absent, as with simple actional nouns. With these, as we have seen, we have a change in mode of signifying, but not in denotation. Changes in sub-class are usually transparently metonymic, or otherwise tropic, as are conversions of noun to verb and vice versa, with the connection between the base and derivative often mediated by valencies. This is true even of verb-to-verb



conversions like that in *He walked the horse home*, where a verb of self-propulsion is converted to one of induced propulsion, involving a valency change: again the transitive action verb is based on the verb that represents the event resulting from the action.

Metonyms also vary in the simplicity of the lexical structure involved and thus often of the amount of involvement of encyclopaedic information or immediate context that is invoked. This informational complexity is exemplified by *All hands on deck!*, with (5) representing a bare categorial skeleton, bereft of encyclopaedic information. Whereas interpretation of *Table five has ordered an omelette* is heavily dependent on context. However, in change-of-word-class metonymies in particular, such as *student*, awareness of the lexical structure of derivation plays a prominent role in establishing the link between the two categorizations, along with encyclopaedic knowledge.

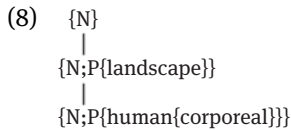
When an appropriate, transparent metonym is used, the relation of the base to the intended referent is fundamental to the identification of the latter and adds further information. This is most obvious, perhaps, with metonyms involving a change in mode of signifying. Thus, in the case of the noun *cook* the identification of a referent is guided by the prominence of the role of the referent in the action of the verb. Less obviously, and more dependent on encyclopaedic knowledge, in again the signifying-mode-preserving *hands* of *All hands on deck!* there is indicated a part of the body most relevant to pursuit of the job of seaman, particularly on sailing ships. In other contexts, other kinds of manual workers are invoked. In metonymies such as that in *Table five has ordered an omelette*, *Table five* provides a succinct contextual means of identification – but even it, with usage, may lose its sense of metonymy. In all of these cases the metonymy introduces what is intended to be an identificationally helpful image.

Some derivational relationships involve **metaphor** – as again implied by my introducing the term **trope** just above; it is, of course, familiar as another mode of troping. Tropes involve a shift in signification brought about by derivation. In metonymy the shift relates base source and derived items denoting cognitively or perceptually adjacent concepts. With metaphor the derived item belongs to a different cognitive domain, and the shift is based on assertion of perceived similarity of the related concepts within the two domains.

When someone refers, metaphorically, to a teenager's bedroom as *the pigsty upstairs*, the referent is identified from the orientational attributive *upstairs* and by use of a word from a domain other than that of normal human accommodation. The hearer can recognize the referent through familiarity with the accommodation concerned or by inference from the context, and recognizes and judges the force of the metaphor, its success as a cogent characterization, from the same evidence – helped by this being a cliché metaphor.

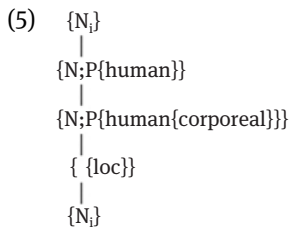
This metaphor relies on particular encyclopaedic knowledge or prejudice concerning the habits of pigs, and its purpose is likely to be graphic intensification of the communication of particular characteristics of the referent identified with the help of the derived noun. Even this simple example introduces the subjectivity of many metaphors, and even their possible use to obscure as well as enlighten.

Other established metaphors belong to a system of metaphors linking two domains. Consider, for example, the use of the items *crown*, *shoulder*, and *foot* to identify parts of a hill. These reflect not isolated metaphors but instantiations of a **hyper-metaphor**, one that, on the basis of a perceived analogy, conceptualizes the structure of a hill in terms of the human body in a vertical posture. This ‘mountain’ metaphor is part of an even more inclusive metaphorical system that allows reference to features of the landscape in terms of (particularly the human) body. This may be schematized as in (8).



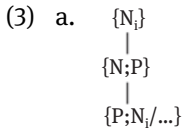
Other established instances of the body-landscape metaphor are *mouth (of river)*, *head (of loch)*, *face (of cliff)*. This kind of phenomenon illustrates the anthropocentricity of much of language, in this case as a source of hyper-metaphors. And its productivity is limited primarily by ingenuity and/or plausibility in seeing analogies.

Here there is no such intrinsic link (however temporarily) as is made explicit lexically in the schema in (5) associated with *hand* in *All hands on deck!*, where the denotation of the source of the base is a part of the concept referred to by the synecdochic metonym.



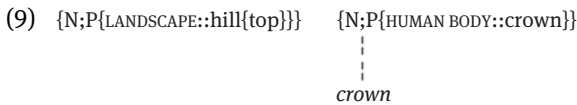
The lexical complexity in (8), on the other hand, merely articulates – as it stands – the minor change in mode of signifying, involving sub-classes, that is associated

with instances of the relevant hyper-metaphor. But, unlike in the derivation of noun *walk* from verb *walk* shown in (3a), no codenotationality is indicated.



Metaphor typically involves a major shift in denotation, indeed domain of denotation.

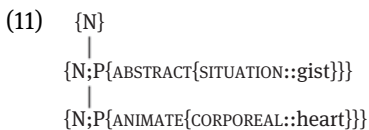
Individual instantiations of the hyper-metaphor might be expressed as in (9), which supplements the schema in (8) by deriving a particular metaphor, where rough domains are in small capitals (recall the end of Chapter 3).



That is, as an (in the first place) asymmetric equivalence between hill-top and crown of the human body, the sign on the right of (9) may be used to express the categorization on the left. Particularly if a metaphor concerns an abstract domain, there may be no obvious non-metaphorical expression for the categorization on the left, as perhaps illustrated by the use of heart in the alternatives in (10).

(10) the heart of the problem/matter/issue/...

If, as here, there is lacking a non-metaphorical expression, then the metaphor for the various alternatives is **suppletive**, as roughly and incompletely expressed in (11), where the suggested feature {gist} itself involves at least a historical metaphor.



It is not merely **supplementary**, as in (9). There may, of course, be alternative suppletives, such as, in this case, *nub* or *core*. The real benefit of the hyper-metaphor is in providing structure for the domain and a place in the structure for elements in the domain. Isolated abstract terms lack this support, except by resorting to a covert metaphor, as in *His love filled his life*, where love is provided with a con-

tainer to fill. We return to the wider significance of the suppletiveness of some metaphors shortly. At this point there are other relevant matters to pursue.

Firstly, we should observe in the following passage, besides (incidentally) the initial personification, or animalization, that the interpretation of the less in terms of the more concrete associated with many figures is sometimes reversed, as with the simile at the end.

The engine, a creature whose ancient pride had been to enter stations unblown and on the dot, now pursued with depressed but dogged wheezing a timetable hopelessly beyond its senescent powers. On either side the forlorn and dismal backs of terraced houses stretched like a tedious discouraging argument ...

(Michael Innes *The Journeying Boy*, Penguin, 1961 [Gollancz, 1949], pp. 65–6)

Here the row of houses (of brick, if not concrete) is associated with an altercation, though the latter is not totally abstract. **Simile** is not strictly a trope, of course. It involves an unusual comparison, not a lexical change. But it can have a similar effect to metaphor, though it is less strikingly figurative, given the overtness of the machinery. We shall return to its status in a subsequent chapter (Chapter 33) dealing with both tropic and non-tropic figures.

Let us also observe the possibility of combined metaphor and metonymy, perhaps illustrated in the actional sentence in (12).

(12) He broke her heart

*Heart* is a concretizing metonym for the ‘seat’ of the emotions, and in (12) the ‘seat’ is presented, metaphorically, as an object that is breakable, such that human interaction constitutes a force that may be used to effect a breakage of the container of the emotions. This illustrates something of the expressive benefits of concretizing. *Heart* used for something emotional can be metonymic or metaphorical, even simultaneously, depending on whether it is the perceived adjacency of emotion and heart activity in a person is metonymically prominent or the heart is seen as part of a suppletive metaphor whereby parts of the body are viewed as containers of different aspects of mind (*his heart is full/he’s empty-headed/he has no balls/he lacks guts/he has no stomach for that*); and one’s view may change from one to the other type of trope.

Use of the tropes we have been looking at has various other motivations and various effects. To the interlocutor they may give a new insight into some concept, they may amuse, they may give the satisfaction of problem solving or the sensuous pleasure afforded by the presentation of an image; they may be an

aid to memory, and/or clarify the abstract. The importance of concretization is illustrated by another quotation.

He had, for quite a while, been buying up shares in a margarine company owned by one of his rivals. He wanted to make a bid now for the whole show. Of course they would have to sell one or two things. He laid them out for her. An egg cup with a rabbit on it and the scooped egg turned upside down to fool someone that it was whole, two slices of dry toast, a honey pot in the shape of a hive, with a chipped bee on the lid. ... That's how he talked ... She sat a moment after he was gone, then put each of the pieces he had moved, the honey pot, the egg cup, the two bits of toast, back where they had been, and turned the egg over in the cup to show its ravaged side. Then she put them all back again as they had been when he left ... An egg cup was just an egg cup, of course; but pick it up, move it, and you could get hold of that more abstract thing it stood in for, which was not so easily graspable. You made it visible, got your hands on it in its momentary occurrence as egg cup, and a shift took place in your head. Once that happened you were dealing with the things at once.

(David Malouf *The Great World*, Picador 1991  
[Chatto & Windus, 1990], p. 258)

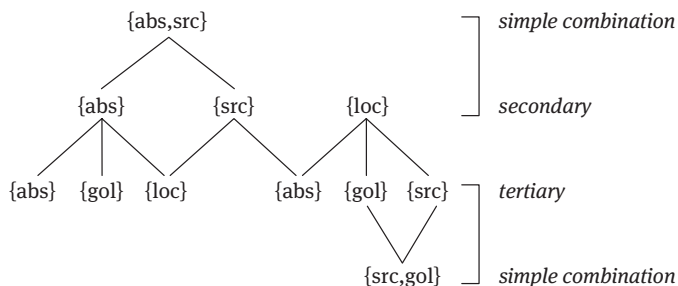
This describes the performance of an action-aided textually-extended hyper-metaphor, or **allegory**.

Simple suppletive hyper-metaphors are characteristic of, indeed necessary to, the representation of abstract domains. Representation of many abstract notions depends on metonymy, also: thus, trivially, we distinguish between emotion and reason with reference to *heart* vs. *head*. Moreover, though we may deploy inherently abstract words too, such as *love* and *mind*, in talking about abstract domains, the posited connections between terms in such domains are articulated by metaphors based on words for physically manifested relations. Thus, the mind is conceived of as a container, which contains among other things knowledge. We can say *I'll bear that in mind*; the item of knowledge is carried in the knowledge container. The verb and preposition embody metaphors based on physical activity and physical space. There are also represented sources of items of knowledge, and these have a knowledge container as a goal, as in (13a), where the person is the container of the container and the source is the abstract content of the book.

- (13) a. I learned that from a book  
b. I taught French to that class

In (13b) *I* is both the spatial source container and the source of the action.

The reader will perhaps recognize, in relation to these expressions, an instance of the localist hypothesis concerning 'case' introduced in Chapter 4, which recognized as necessary only the semantic relations and their combinations shown in Figure III.a.



**Figure III.a:** Minor Functor Feature Combinations

These relations and their dimensional and orientational elaborations provide the bases for the articulation of a wide range of abstract relations. And it is one aspect of the fundamental source of suppletive metaphors that reflect how we as humans confront the world and react to it. The supplementary metaphors for landscapes mentioned above manifest another, perhaps more striking, aspect of the anthropocentric component also associated with these suppletive metaphors. But, however unemphatically employed, and scarcely registered when established, it is the latter that are crucial to our linguistic modelling of abstract domains.

Sentences like those in (13) make it clear that these suppletive metaphors are lexicosyntactic metaphors, structures that typically express concrete spatial/directional relations. It's not so much, in these cases, that individual words are metaphorical as that clausal structure can represent abstract scenes (as the latter word implies) only in terms of space and directionality. The relations in (13) are the same in content as those in (I.39a) and (I.46).

(I.39) a. Fog extended from Queensferry to Crail  
           {abs}                    {loc{src}}                    {loc{gol}}

(I.46) They walked through the wood {src{abs}} {loc{src,gol}}

But it is the scene itself that is represented metaphorically in (13). Of course, the metaphor is often conventionalized, and, as observed above, we are usually unaware of talking spatially when we think we are talking in pure abstractions.

Much of the spatial structure represented by a clause is determined by the arguments, and particularly the participants, of the verb, but not all aspects of clause structure are so determined, as shown in (14).

(14) He left in a temper

Being in a temper is abstract, though it will often be manifested by comportment. But the verb in (14) is concrete, and the abstract component of the scene is conveyed by the (locative) circumstantial rather than the verb and its participant. Abstract scenes and parts-of-scenes are often necessarily represented spatially. Here an emotional state is presented as a circumstantial (manner? instrumental path?) to a verb of motion.

In the chapters that follow we shall encounter numerous constructions that are necessarily expressed in spatial/directional terms. It has already been suggested (in Chapter 7) that circumstantials in general are simple or directional locatives, whether concrete or abstract domains are concerned. And we shall return in Chapters 32–3 in Part III to the role of figurativeness in general in language. Though figures have often been studied in the past as relevant to specific registers of use, such as creative literature and public rhetoric, they are made possible by basic properties of language, and can be encountered in a wide variety of language uses. In those chapters in particular we shall build up a classification of figures based on the aspects of language in which they are effected and which they affect. Tropes, including metonymy and metaphor, are primarily aspects of word formation; the suppletive metaphors we have latterly met are constructional, but the construction is driven by lexical representations. There are other figures, however, that relate to syntactic structure, phonological structure, and pragmatic status; and some involve combinations of these.

The linguistic status of the established instances of tropes we have looked at – and indeed of the other figures we have yet to look at – varies among speakers and at different times. Frequently, at their most transparent they may be said to be ‘sleeping’ – not active in use but accessible, given a precipitating context; and they may be extended. This particularly occurs with hyper-metaphors, especially the suppletive ones, which come into play when a speaker is confronted with the need to conceptualize an unfamiliar domain or part of a domain, but lacks an established model for its articulation.

There is always scope for individual creativity. We find an obvious example in this sentence from p. 58 of Dorothy Dunnett’s *Caprice and Rondo* (Penguin, 1998): *It was the talk of hilarious Mewe, ... (Mewe is the German name of the Polish town Gniew).* Here the established, routinized metonymy of *the talk of X*, where *X* = a place name or noun, is expanded by a further instance of the metonymic shift triggered by *hilarious*. And, as I have emphasized, such creativity is not limited to ‘creative writing’. Of course, much of the time tropes are conventionalized, even essentially ‘dead’; their derivational structure is opaque. Awareness that a metaphor, for instance, is involved may be lacking; creativity is balanced by inertia. But even in this respect – the establishment of ‘dead’ metaphors – troping has obviously figured as a productive source of vocabulary expansion.

Both vocabulary expansion and increasing opacity are illustrated by the development of the present-day verb/noun *broadcast*. This form seems to be in origin an adverb and adjective compound with a second component based on a verb, applied to the sowing of seed and the like – which is ‘broadcast’ if it is scattered widely. It quickly developed as a derived noun and verb, again used of the scattering of seed. Early on there are also examples of figurative – particularly metaphorical – developments. A late example of a metaphorical ‘adverbial’ *broadcast* is offered by Edgar Wallace’s *The Four Just Men* (1905), Chapter 6: ‘At noonday Scotland Yard circulated broadcast a hastily printed sheet’. The verb and noun came to be applied, metaphorically, to wireless transmission, a *radio broadcast*. Subsequently, simple *broadcast* has come to denote such an event, and to include other information media, apparently differentiated by re-lexicalization as an actional noun of the element *-cast*: *telecast*, *podcast*, *webcast*. One aspect of this development, the earlier loss of *radio* in *radio broadcast*, illustrates an important source of vocabulary expansion (and loss). This is what we might call **iconic metonymy**, specifically synecdoche – where the substitution of the part for the whole characterizes both meaning and expression. Further examples of this common vocabulary source are *tube* from *tube railway* and *motor* or *car* from *motor car* (not to mention various cross-linguistic mutilations of the form *automobile*).

Let’s note finally the not dissimilar development whereby some troping involves the creation of a new lexical item from a phrase. Not all lexical items that have bases whose source is phrasal are tropic. But we encountered such in illustrating delocutive verbs in the preceding Prelude to Part II. And Wodehouse provides another kind of example in the following passage, as part of a variation on the ‘butterflies in the tummy’ trope.

The mice in my interior had now got up an informal dance and were buck-and-winging all over the place like a bunch of Nijinsky’s.

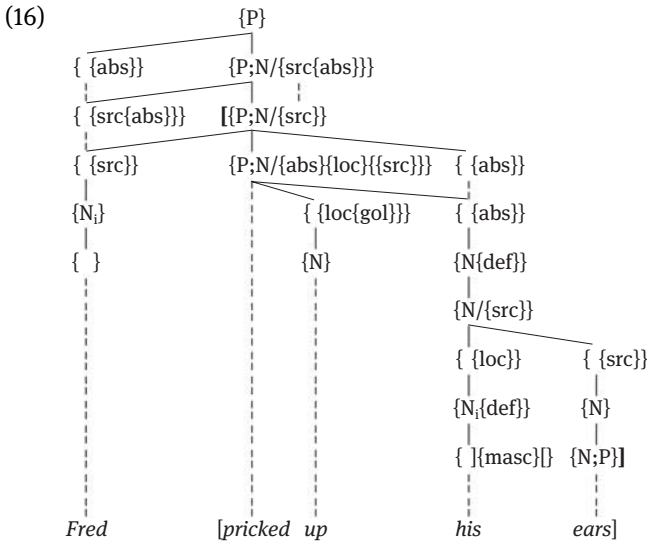
The first conjunct sets up an animal metaphor and then a personification but the complex verb in the second, however, (whatever one makes of its components) is not in itself freshly tropic in the context of the animal metaphor and the anthropomorphy of the simile; the derived progressive expression is directly based on a coordination whatever the tropic context. However, many ‘dead’ or ‘sleeping’ tropic formations are preserved as phrasal lexical items, **idioms**, as used in the sentence in (15).

(15) Fred pricked up his ears

Here a derived phrasal verb is based, metonymically, on a syntactic structure headed by a verb.



The idiomatic phrasal item and its structure are enclosed within the square bracketings in the sentential representation in (16).



The reversed square brackets around the {masc} feature of *his* (which is redundantly also singular and third person) indicate that this feature is not specified by the idiom. However, the coindexing of the {N} that {masc} is subjoined to, while confirming the variability, indicates that the genitive pronoun corefers with the coindexed subject of the sentence. The former is a reflexive genitive, though not morphologically marked as such in English.

The base of the formation illustrated as part of (16) provides an example of a lexical causative structure – agentive clause governing directional. And the absolutive argument of the directional is hosted by the free absolutive of the agentive. The structure of the genitive within the idiom contains a locative (the possessive pronoun) that has been converted to an attributive, which then satisfies lexically the definite {N}. This anticipates the treatment of such structures for genitives in the chapter that follows. My principal concern here, however, is the phrasal item.

The causative-directional phrase forms the base for the derived intransitive verb represented by the uppermost {P;N} that is associated with the literal meaning (something like, blandly put, ‘listened carefully’) of the idiom, which is not spelled out in the diagram.

As the idiom is a syntactically-structured lexical base, normally its individual elements are potentially unordered, with their linearization established by syntactic regularities, in accordance, as usual, with the colligational requirements

of these elements, the order is not contrastive. But many mental lexicons will, nevertheless, store an ordered version of such a conventionalized expression. The order in (16) conforms to syntactic regularities, though the whole phrase is likely to be stored in linear form.

The main final aspect to remark upon in this representation is again something that will engage us much in a subsequent chapter, Chapter 26: this is the **lexical linking** of elements in the valencies of the upper two {P;N}s, specifically the two elements with dominant source relations. These are linked lexically, as indicated by the short discontinuous association line between them. This linking is part of the original formation of the overall idiom and its external requirements, but it remains as part of the lexical structure of the idiom. The {src} of the valency of the upper {P;N} of the idiom must be associated with an extra-idiomatic agentive that fulfils the requirements of the 'literal' sense. In other instances there are such lexical linkings that are not derived, even historically, but part of inherently complex items. We shall encounter such also in Chapter 26 in the discussion of lexical causatives. The linking in the present case means that the agents of these two verbs must take the same argument – as if the upper functor was a free absolutive. The consequence is that the derived, 'literal' verb and the upper {P;N} of the base share their subject by virtue of an assertive free absolutive attached to the upper agentive.

Such linking is characteristic of phrase-derived verbs. We return to idioms – and iconicity – in Part III. What I have pointed to in these last paragraphs is the tropic origin of many idioms, as well as the occurrence of phrase-based tropes. More generally, I have illustrated the tropic origins of many complex modes of signifying, involving specifically metonymy and metaphor. And this concludes my prelude to Part II, which is meant as an introduction to modes of signifying and the synchronic results of change in mode.

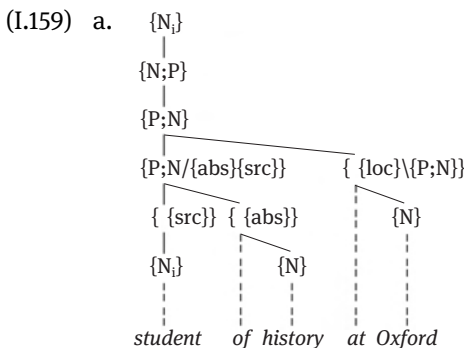
# Chapter 19

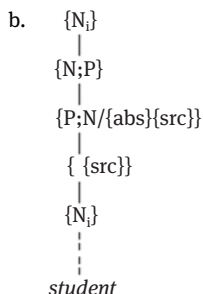
## Deverbal Nominalizations and the Genitive

deverbal nominalizations – genitivization and base-derived arguments – event nouns – product nouns – agent nouns – experiencer nouns – hypotactic apposition in nominalizations – a unified account of genitives – derivation and word formation – pro-verbs

In the preceding chapter we began to focus on the different modes of signifying associated with different primary categories and the role of lexical derivation in forming complex categories, with resultant hierarchical complex modes. Derivation of a functional category serves relational and/or pragmatic needs: the functional categories, whether analytically or lexically expressed, articulate the structures that enable the contentives to form predications and enable them to relate to the context, particularly the immediate context of the act of speech. Complex functors, multidimensional or orientational, complexes such as *on* or *after*, with the empty relational category as head, are normally based on {N}s. Other functional categories are typically the derivational goal of the corresponding contentive, i.e. a contentive which has a dominant category that is the same as the functor's categorization. Nouns, for instance, as {N;P}, are typically made into determiners, {N}. Derivation of a contentive from a contentive, however, involves a more abrupt change in mode of signification.

This was illustrated in Chapter 18 by the deverbal formation in (I.159b).

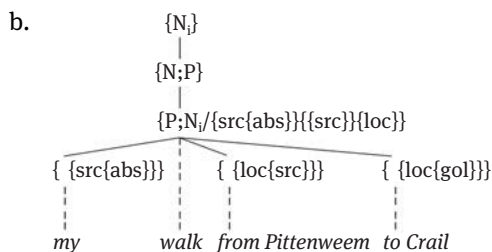
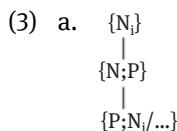




(I.159a) illustrates the syntactic consequences for a derived noun of being the derivational goal of a verbal base, particularly the potential presence of base-dependent, or internal arguments.

Chapter 18 also illustrated a rather different kind of verbal noun, notably in lacking the coreference between the head of the path and an incorporated argument of the verbal base crucial to the structure of (I.159b). And this was shown in (3a), representing the noun in (I.2) with the syntactic consequences of the complex categorization displayed in (3b).

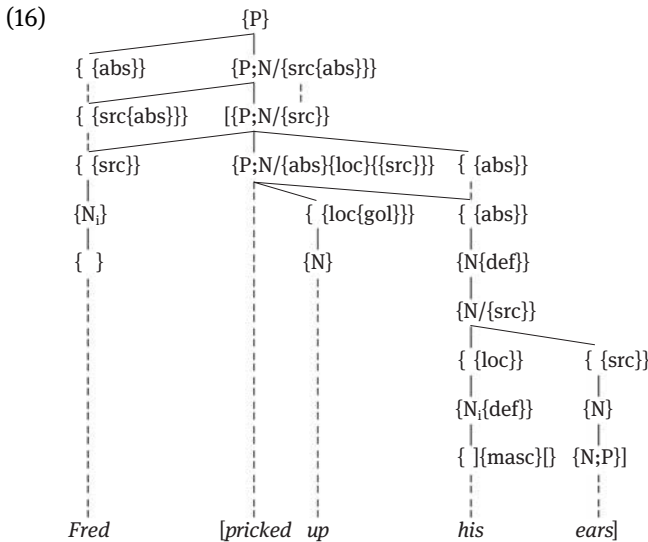
(I.2) I am tired after my walk



Here we do not have the metonymic shift associated with (I.159b); the change in sense between verb and noun is simply a change in mode of signifying. Potential syntactic consequences of the complex categorization in (3a) are displayed, in a provisional form, in (3b). As I observed in Chapter 18, (3b) is obviously a simplification. In particular, the status and characterization of the *my* in (3b) is not fully represented. And the attributive structure assigned to the ‘possessive’ genitive in

(16), for instance, does not seem to be directly transferable to (3), given the suggested dependency of the genitive on the base verb in (3b).

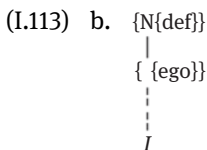
The idiom status of the bracketed part of (16) does not affect the characterization of the genitive structure suggested: in it the ‘possessive’ substructure headed, as elsewhere, by the locative has been attributivized and so has a dependent noun; and the determiner phrase is headed by a definite {N}.



Both the head of the whole determiner phrase and the possessive-pronoun base are definite. How are we to reconcile this configuration with deverbal nominalizations such as (3) where the genitive corresponds to an argument of the base verb?

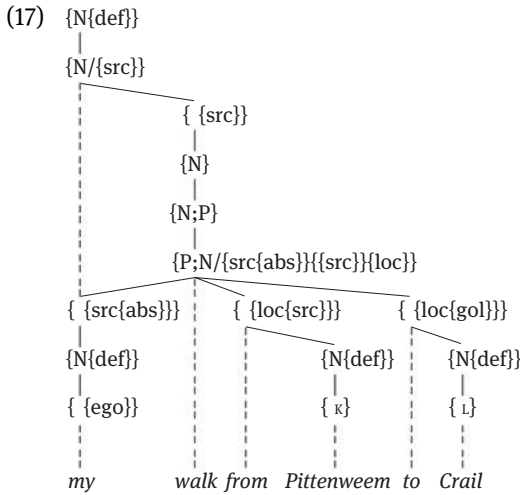
Since genitives like that in (3b) are common in the familiar kind of deverbal nominalization we have just been looking at, it is appropriate to pursue their character at this point. In the course of this we shall encounter other simplifications involved in both the representation (I.159a), quoted earlier, and (3b). This, indeed, will occupy a large part of what follows in this chapter.

Consider the *my* of (3b). Representations for pronouns and names are given in Chapter 9, where (I.113b) represents a singular first person, and a locativized extension of such a structure is what is adopted in (216).

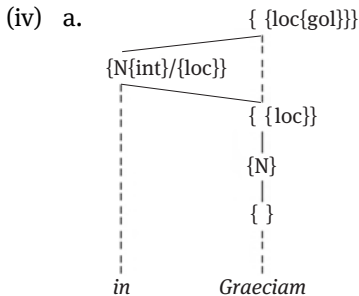


But it is obvious that something beyond the representation in (I.113b) is involved with *my*. In addition to having such components, and being apparently subjoined (as in (3b)) to a functor dependent on {P;N}, it is also somehow associated with the definite determiner that takes the noun complex as the partitive argument of its dependent {N/{src}} (as in the representation of *his* in (16)). How are the two complexes connected?

Say this involves another kind of lexical linking. The lexical association on the left of (17) is a **mixed mode**, linking a determiner with a verb-governed functor.



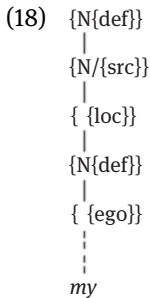
We have the kind of argument sharing that was attributed to the Latin inflected form in (iva), for instance, in the commentary on Chapter 7, which presents a kind of abbreviated mirror image of the comparable configuration in (17), again involving linked functional categories.



The linked complexes realized by *Graeciam* or *my* are stored in the lexicon. These are both inflectional forms in systems that prefer prepositions (English) or are beginning to do so (Latin).

However, the English genitive of (17) involves a more mixed mode than the Latin accusative in (iva). The latter associates lexically the almost immediate linking of two functors. Similarly, certainly, the lexical linking in the idiom in (16) associates directly two members of valencies, functors, with no change in mode. However, (17) associates an externally satisfied partitive {N} with a functor that satisfies the verbal base of its dependent noun.

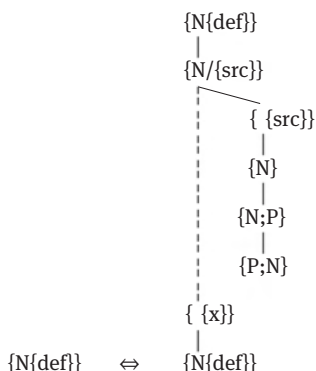
Moreover, ‘possessive’ *my* is more simply represented as in (18), with, instead of lexical linking, conversion of the locative functor of the possessive to an attributive.



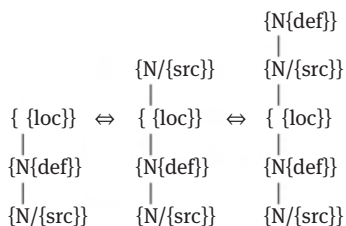
The *my* in the two representations in (17) and (18) share many elements in common, except that the functor in (18) is specifically locative, whereas in the nominalizations the secondary feature of the functor is not specified; it is filled by an argument of the nominalised {P;N}. A unified generalization is lacking. However, let us proceed, for the moment, with the suggested analysis in (17) of nominalization genitives.

Concerning this, the redundancy in (19a) makes the generalization that any functor in a nominalization such as that in (18) may be associated with a determiner, and thus create a genitive. Consider *my defeat of Noah/by Noah, Tuesday’s murder*, etc. And the secondary specification of the functor is completed by matching the requirements of a verbal base for the noun subordinate to the determiner.

## (19) a. GENITIVIZATION BY LINKING



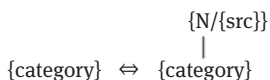
## b. GENITIVIZATION VIA ATTRIBUTIVIZATION AND DEFINITIZATION



(19a) allows a  $\{N\{\text{def}\}\}$  to occur in the configuration on the left, as the daughter of a nominalized verb, where  $\{x\}$  is whatever relation, participant or circumstantial, this  $\{N\}$  comes to bear to the nominalized verb. This is a rather cumbersome redundancy, to say the least. Nor does it get us any closer to generalizing over the two kinds of genitive.

Thus the first part of the redundancy in (19b), which expresses the generalization holding over ‘possessive’ genitives, is, on the other hand, merely a special case of attributivization.

## (I.93) d. PRENOMINAL ATTRIBUTIVIZATION

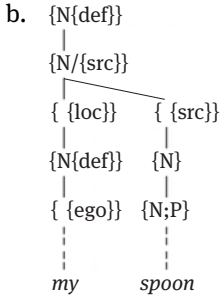


But in addition there is conversion to a definite determiner. Admittedly the usually inalienable genitive in (16) is perhaps, as such, slightly more complex in another way that is not made explicit there, so that the locative attributive is  $\{\text{loc}^*\{\}\}$  rather than simply  $\{\text{loc}\}$ . It normally cannot be directionalized in relation to its owner (van Gogh was exceptional in many ways). That, however, is an aside in the present context.



Nevertheless, a simpler example of a ‘possessive’ genitive than (16) is offered in (20).

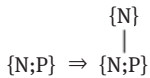
(20) a. my spoon



Spoons are usually alienable (even if you’re born with a silver one in the mouth).

Both redundancies in (19), then, represent the result of further lexical expansions of {N}. The possessive {N} in the structures (17) and (20) is a conversion of {{ego}} – which, in various ways, is involved with deictics such as *this*, *here*, and *now*. I shall distinguish such determinerizations as underlie (17) and (18), i.e. (19a–b), as **genitivization**, as indicated there. These redundancies are more complex than, for instance, the more generally applicable formation of simple determinerization suggested in Part I (Chapter 8), which converts a noun into a definite {N}, thereby satisfying the valency of the latter.

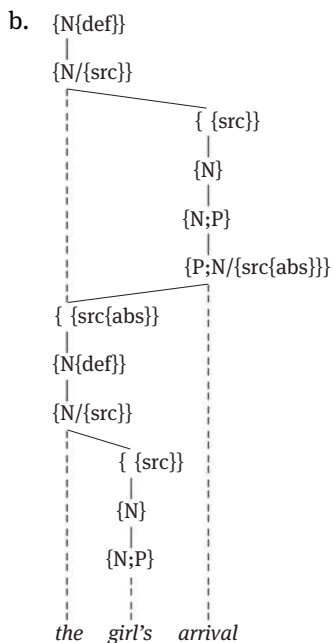
(I.91) a. DETERMINERIZATION



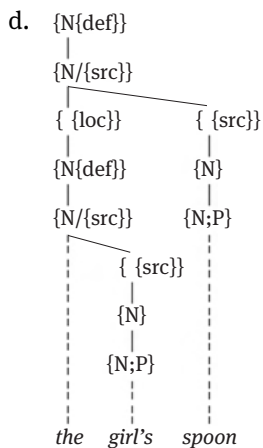
However, essentially the same generalizations as are expressed in (19) would also apply to phrasal genitives in both kinds of structure, to which I now turn, before proceeding with our concern with deverbal nouns.

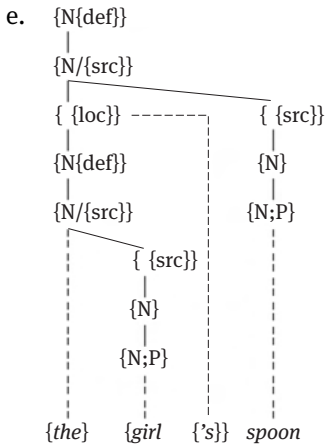
Compare with (17) the non-pronominal genitive in (21a), represented as in (21b).

(21) a. the girl's arrival



c. the girl's spoon





f. the/an arrival

g. the arrival of the girl

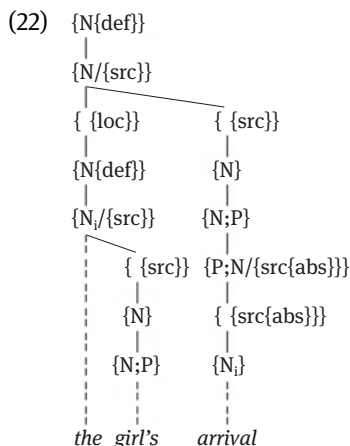
Determiner phrases, as well as pronouns – and names – can be genitivized. And in (21a–b) they are associated lexically with a definite determiner, to form a genitive. There is an analogue to (18b) in the formation of (21b). So too (21c) shares the relevant parts of its structure with (20b), as shown in (21d). I note too about (21a–b), as an aside at this point, that it also illustrates a deverbal noun whose derivation is marked by a suffix, unlike the conversion in (18).

The genitive inflection attaches to whatever word ends the lower determiner phrase, even if it is not a noun (*the girl he knew's shoes*). This means that it is positioned in the lexicosyntactic interface rather than in the morphology complex (i.e. positioned specifically within the morphosyntactic interface). We have here that anomaly, a syntactic formative, specifically a suffix to *girl*, as shown schematically in (21e). But despite this unusual mechanism of placement, the genitive, like other 'case' suffixes, does expound a functor, indeed a locative. The notation in (21e) anticipates the discussion of morphological elements in Chapters 27–9 in Part III.

However, there is a further disquieting observation to be made concerning the lexical-linking analysis – apart from its structurally unusual character, involving lexical linking of a determiner and a functor. Consider again (21a) compared with (21f–g).

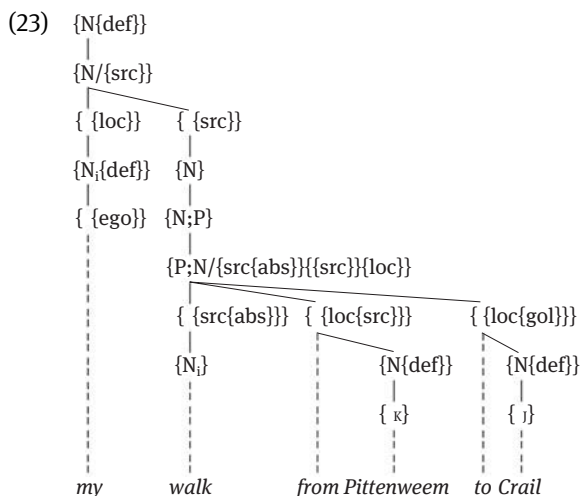
The presence of *the girl* is optional; we could have a simple determiner instead, as in (21f). So the genitive here is not necessarily a direct realization of the {src{abs}} participant of the verb, which need not, as unspecified, be expressed analytically, or analytically expressed otherwise, as in (21g). The genitive in (21a,c) behaves like an optional attributive component of the determiner, as is the simple genitive in (20) (and (21d)).

But what is different in the case of (21a) can then be interpreted as merely that the definite attributive is coreferential with the incorporated argument of the verbal base for the noun, as suggested in (22), rather than the radically different structure in (21b).



The genitive is again represented as a locative that is converted to a definite attributive, as in (20), but with the addition of the coreferential relationship. The genitive here does not express directly the semantic relation whose argument it is coreferential with, but it is uniformly the realization of this (genitive) kind of {loc}.

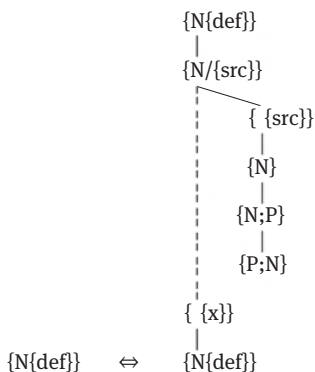
(18) can then similarly be reinterpreted as in (23).



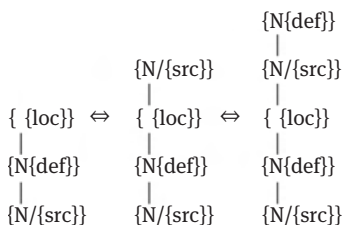
The incorporated argument of the verbal component is again coreferential with the locative determiner that has been converted to an attributive. This is consistent with the optionality of the genitive, and avoids a lexical linking whose complexity far exceeds that of such links as can be proposed elsewhere, as we shall see in Chapter 26.

We can thus abandon Genitivization by Linking (19a) in favour of generalizing (19b) to both variants.

(19) a. *GENITIVIZATION BY LINKING*



b. *GENITIVIZATION VIA ATTRIBUTIZATION AND DEFINITIZATION*



This eliminates the complication of the unusual lexical linking associated with (19a). And we can now proceed to other, though related, aspects of such deverbal constructions.

The position of the genitive phrase in deverbal constructions such as are exemplified by (18) should not lead us to confuse its status and positioning here with subject formation. It is not just that the genitive is optional, and is merely coreferential with an argument of the nominalized verb; but also that this argument is not necessarily the argument that is highest on the subject-selection hierarchy.

Let us remind ourselves of this by considering the examples in (24) and (25).

- (24) a. the singer's death  
 b. the boss's resignation  
 c. the servant's murder of the prince  
 d. the prince's murder by/at the hands of the servant
- (25) a. the death of/\*by the singer  
 b. the resignation of/by the boss  
 c. the murder of the prince by the servant

The coreferent arguments of the genitives in the phrases in (24) appear to conform to the subject-selection hierarchy, provided we also posit in the case of (24d) that the equivalent of passivization is to be attributed to such structures – despite the lack of evidence of passive morphology (see Chapter 28), and awkwardness of ?*The prince was murdered at the hands of the servant*. However, (25) contains alternative structures containing the arguments in (24) in which an equivalent of 'subject formation' (or passive) has apparently not applied. There are no verbal analogues to these: \**died (of) the singer*, etc. The genitive is only one way in which such **base-derived arguments** – arguments not associated with the derived category but with the base – may be expressed, though only indirectly; and though, like subjects, genitives may be preferred as topics of the associated verbs, the restrictiveness of the subject-selection hierarchy is avoided. We have a different, less restrictive neutralization system, one much more sensitive to discourse factors.

Moreover, it is not only that the putative 'passive' in (24d) has no passive morphology but also the distribution of overt functors in (24) and (25) suggests something quite different from passivization. Thus, *of* cannot be said on the basis of (24c) to mark the 'object' (even if such a concept can be independently motivated). It marks what corresponds to the subjoined 'subjects' in (25a–b), and if (25c) were to be in some sense 'passive', *of* again corresponds to a subject, though in the 'wrong position' for one. Nor is the occurrence of *by* a symptom of passivization: (25b), unlike (25a), can be marked by *by* as well as *of*, despite the fact that the corresponding verb is not transitive and lacks a corresponding passive, \*(*It was resigned by the boss*).

The generalization seems to be that, in such derived structures, in the absence of a genitive-mediated expression, absolutive is realized as *of* and a source of the action is manifested as *by*; the agentive intransitive argument in (25b), which is both source and absolutive, with a dominant source, may be marked by either. Appeal to passivization is unnecessary, and serves only to obscure the situation. If this is the case, and in the light of the absence of any analogue in verbal syntax to the lack

of genitivization in (25), appeal to subject formation in analysing the syntax of the phrases in (24) is inappropriate.

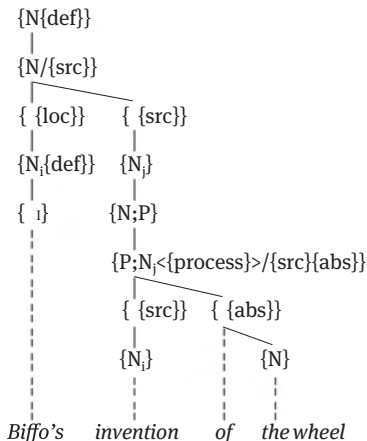
This is further confirmed by the possibility of genitives that are coreferential with verbal circumstantials such as that in (26).

(26) yesterday's murder of the prince

Whatever the generalizations may be that govern selection of argument for expression via a coreferential genitive – and judgements concerning the viability of particular examples are very variable – it is not a property shared with verbal syntax. All of this again illustrates the word-class particularity of a syntactic generalization, even when we are dealing with complex signification, as with these deverbal nouns when they are compared with verbs. This is in accord with the notional basis for categories.

In each of (22–5) we have, on the salient interpretation at least, a simple **event noun**, which is typically singular. They differ in this respect from the metonymic agentive noun *student* of (I.159). But there are further complexities of signifying that verb-derived nouns can exhibit, even when the same morphology is involved. In the first place, we have to distinguish among event nouns between **process nouns**, exemplified in (27a), perfective or **punctual nouns** (27b), and presupposedly factual or **factive nouns**, (27c), whose internally determined syntax is very similar – though we shall take up differences in Chapter 38 in Part IV.

- (27) a. Biffo's invention of the wheel made slow progress  
 b. Biffo's invention of the wheel took place on a Friday  
 c. Biffo's invention of the wheel revolutionized social structure  
 d. Everybody began to use Biffo's invention  
 e. {N{def}}



These are subcategories of the event noun, with the non-factives differing essentially as progressive (27a) vs. not (27b); they have in common the skeleton in (27e).

But we also need to distinguish from event nouns **product nouns** that share the same morphophonological structure, but whose syntax differs significantly, as illustrated in (27d). (27a–c) are event nouns, but the noun in (27d) denotes the **product** of the event, and, as such, being more typically nominal, lacks verbal complements, and readily pluralizes. Such event vs. product pairs are particularly common when nouns are derived from verbs of ‘creation’, verbs that denote the bringing of something into existence, positively oriented causative-directional existentials. The noun may represent the event itself (27a–c) or the product of that event (27d).

We find a similar range with the *-ing* nominal in (28), which is distinct from the verbal *-ing*, as indicated, for instance, by the presence of the *of* functor with the following apparent complement.

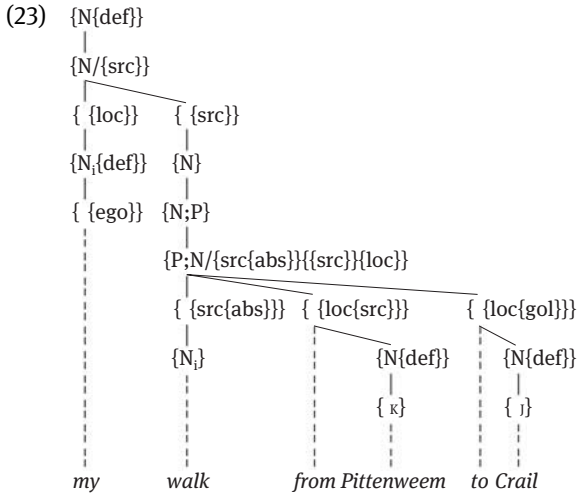
- (28) a. Fred’s building of his house was frequently interrupted  
 b. Fred’s building of his house took place last year  
 c. Fred’s building of his house was a great achievement  
 d. Fred’s building has survived well

Compare the (verbal) **gerund** in *Fred(’s) building his house was a surprise*. Again, the product noun in (28d) is readily pluralized.

*-ing* and the variants of *-(a)tion* are the most common and productive deverbal event noun suffixes. But the latter is particularly associated with ‘Latinized’ bases, while *-ing* is generally available – except that stative ‘experiencer’ verbs (e.g. *believe*, *know*) tend to be reluctant, a reluctance shared to some extent by their progressive verbal equivalent, as we shall consider further below.

I’ve offered an exemplification of the structures typically associated with genitival event nouns above, in (27e) and (23).

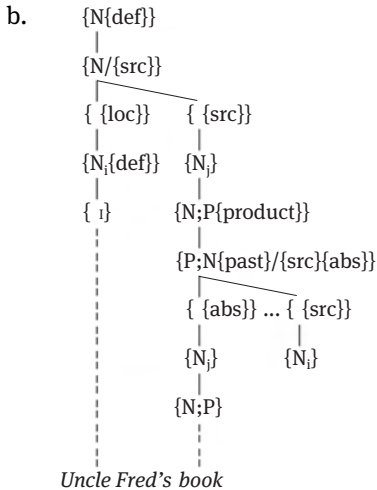
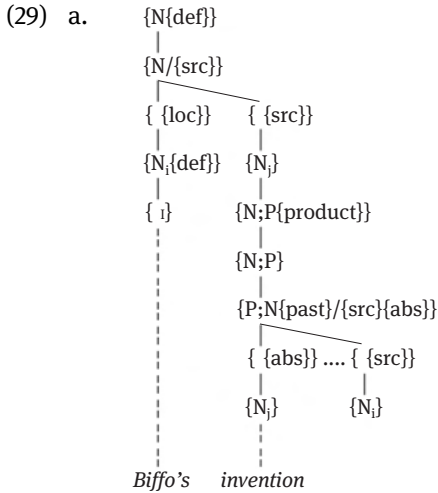




(23) contains a noun derived by conversion, a type which indeed prefers presence of a genitive rather than a post-nominal equivalent.

The characterization of the non-genitival arguments in (24) and (25), associated with the valency of the verbal base, presents no further problem, apart from their optionality, which is suggestive of a status we shall have to return to. Otherwise, it remains only to distinguish in more detail among the verbal components of the derived noun in (27a) – equivalent to those of the {P;N} in (23). We take up the characterization of such mainly aspectual distinctions in *-ing*-forms in Chapter 38, again. And we also take up factivity, where a nominalized clause is assumed to exist, to be true, in some detail in Part IV also, specifically in Chapter 37. Let's therefore turn our attention now back to **product** nouns.

Concerning these, if we ignore the causative-existential character of the {P;N}, there seems to be appropriate the structure in (29a) which shows the conversion of the structure in (27e) to the product {N;P}.



In (27d)/(29a) the absolutive argument of the verb that is the base of the derived noun is incorporated into that verb, so it is normally not available for independent realization, as we have in the event nouns in, for instance (27a–c). Thus, unlike with the event nouns, the incorporated argument is coreferential with the {N} to which the whole noun structure is subordinate in subjunction. The independent determiner refers to a member of the denotative set of the product sense of *invention*.

The whole phrase refers to the particular product of a particular event signified by the verb. As with *student*, the derivation involves a metonymic shift, but one that is even more severe. A product term like *invention* or *building* comes

close to being a prototypical noun, in particular in, unlike *student*, rejecting many circumstantials. Thus, *Biffo's invention on Tuesday* does not normally involve a product noun, and if *building* in *Fred's building in Berlin* is interpreted as a product noun then *in Berlin* there is an attributive not a circumstantial. The 'activity' of the verbal component in (29a) is past relative to the existence of the product: I have indicated this rather crudely by the presence of a feature {past} on the {P;N}. More exactly this is a relative past, as in perfect constructions – whose general character we shall return to, in this respect, in Chapter 29 of Part III.

Associated with this, there is another respect in which the representation in (27d/29a) simplifies even more unhelpfully than the eventives: the internal structure of causative-existentials such as *invent*. What is incorporated is indeed an absolute, but this does not in itself appropriately characterize 'product'. A 'product' is an effected absolute, an absolute brought into existence. It is also significant that it is the product nominalization, involving incorporation of the absolute, that shares its morphology with that for the event – from which, indeed, it is converted. Once more we have evidence of the status of absolute as the least marked semantic relation, the neutral one. Compare agentive nouns, which frequently show distinctive suffixes, as with, for example, *student* and *baker* (but not *cook*, of course – though the inanimate 'agent' or 'instrument' is marked in *cooker*).

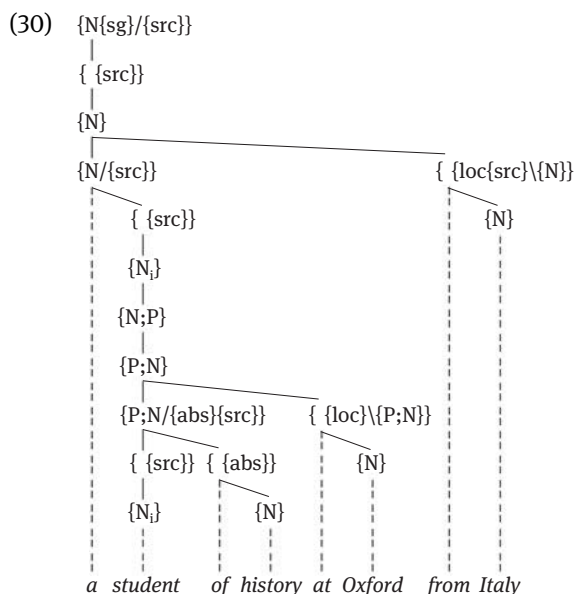
However, the example in (27d/29a) also invites a further deduction. *Biffo's invention* is potentially ambiguous as to whether or not there is coreference between the genitive and the incorporated agent. It may be someone else's invention that Biffo has 'possessed' by raving on about it, for instance, or by buying or stealing the patent, or by bartering for it with bearskins. And even with the phrase in the *Uncle Fred's book*, for instance, with overtly underived noun, there is, conversely, as well as a simple possessive interpretation, with a simple locative attributive, again an obvious agentive interpretation, where the possessive attributive is coreferential with a causal source. Recall too the apparent post-nominal attributive with *by* in *the book by Uncle Fred*.

This suggests that on one interpretation of *Uncle Fred's book* the non-derived word *book* has a lexical structure like that for *invention* or *building*, but without an overt event noun component, i.e. as in (29b) above (where it can be compared with (29a)). Once more the genitive is coreferential with the agentive source of a {P;N}. But there is no exponence of this causative-existential verb. The nominal base *book* has been converted, metonymically, to being the absolute argument of a non-expressed causative-existential pro-verb. Such non-overt **lexical pro-verbs**, which have a large role to play in lexical structures, are generalized {P;N}s that are essentially simply bearers of valency, here that of a causative-existential.

This core characteristic they share with the **syntactic pro-verbs** in interrogative sentences such as those discussed in the notes to Chapter 17, and exempli-

fied by the final form in *What will Nigel do?* Here the interrogative feature cannot be expressed on a questioned verb and is displaced to an extra ‘proxy’ argument, *what*, leaving an ‘empty’ pro-verb with an agentive valency anticipating directly or indirectly that of the answer. Compare here the non-agentive anticipation of *What happened to Nigel?*. Another such ‘proxy’ was invoked in the discussion of correlative coordination in Chapter 17.

The representation of the agent noun in (I.159), recalled earlier in this chapter, can of course be expanded in the first place to include an independent determiner, as in (30).



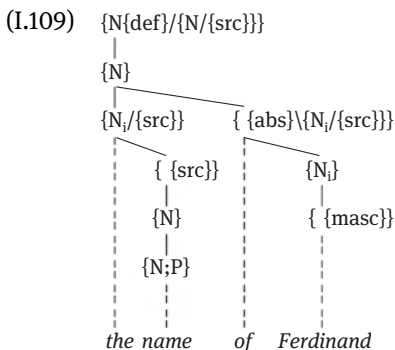
Once more, *a student* refers to a member of the denotative set that is identified as an argument of the base verb, in this case the non-locative source, marked by a suffix, rather than the absolutive of (29). We can add definiteness to the article, and also a possessive *Mary's student*. But in the latter case there is no coreference with an argument of the nominalized verb, though there are other ambiguities available within the possessive relationship. The coreferentiality of *\*history's student* is very awkward, though *?\*the cake's baker* is a bit better. The participant *history* in (30) is preferably overtly expressed in a post-nominal functor phrase.

Besides the simple incorporated sources and absolutives we have looked at, also quite frequently incorporated, by verb bases for derived nouns, are patient arguments, affecteds and experiencers, and perhaps simple, particularly human

absolutives. (On these functor combinations recall again Chapter 4.) A nominalization involving such incorporation may be signalled by the *-ee* suffix illustrated in *divorcee*, *dedicatee*, *absentee*. These involve a configuration for the noun such as that in (30), except for the valency of the verb and particularly the identity of the incorporated functor. If the latter is an experiencer, {src{loc}}, then a phrase corresponding to the absolutive argument of the base verb may be made overt, as in *the dedicatee of the book*, but expression of verbal valency is much more restrained than in the case of the agent nominalization. Thus the agentive source of *dedicate* is not overtly expressed in *dedicatee of the book by Uncle Fred*, of course, but *Uncle Fred* is understood here as satisfying the agentive requirement of the causative-existential verb whose argument is *book*. Uncle Fred is the author of the product, not the source of the dedication, though they may coincide.

The preceding are some major instances of the complex significations associated with deverbal nouns. It is fitting that we should also have a look at nouns based on the other lexical non-nounal category, of adjective, as well as considering de-nounal nouns. And this occupies us in the following chapter. However, we must finally here fill in a structural aspect missing from the above account of the arguments of those verbs that are the base for derived nouns. This concerns the pervasive optionality of these overt arguments compared with many of their equivalents in the corresponding verbal expression, as well as the frequent subjunction of a pronominal functor to the verb rather than the participant being expressed overtly.

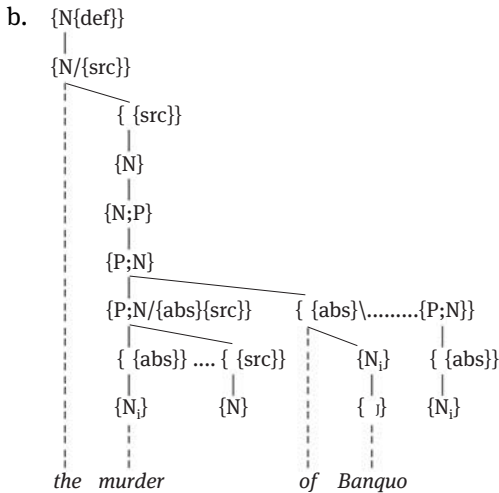
In terms of their pervasive optionality the apparent participant arguments of a nominalized verb behave like modifiers. I suggest that this is because they are in apposition to the incorporated argument(s) of the base verb rather than themselves being arguments of the verb or noun. We encountered **hypotactic apposition** in the discussion of nomination constructions in Chapter 9.



In (I.109) the absolutive phrase is apposed to noun structure headed by the {N} that is coreferential with the {N} of what is the most obviously passive name.

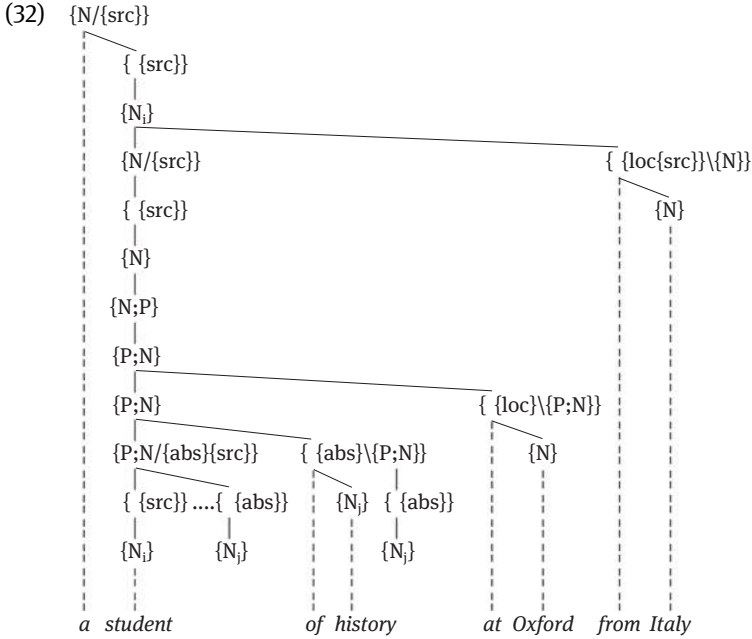
In (31a) an incorporated verbal component of the event noun has a modifier apposed to it whose argument {N} is identical to that incorporated absolutive {N} of the {P;N}, as shown in (31b).

(31) a. the murder of Banquo



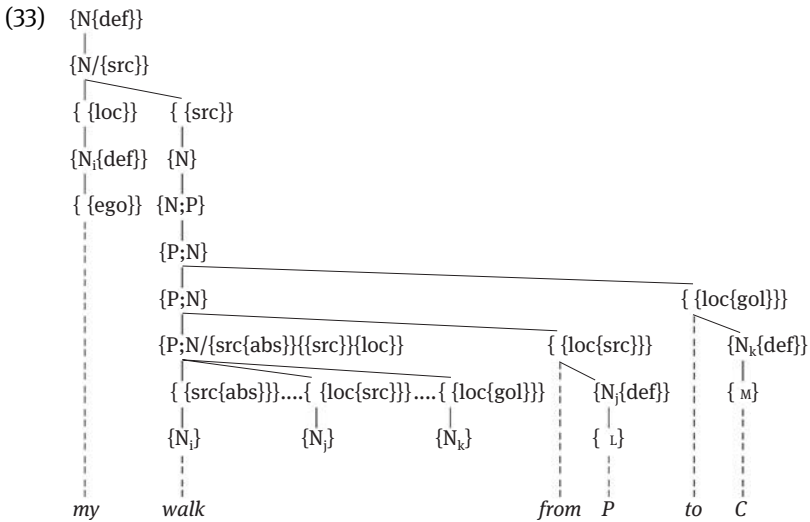
The absolutive apposee is shown as being required to modify a very particular kind of predicator, one with an incorporated absolutive (though the verbal structure is abbreviated. The subjunction path headed by this absolutive requires that type of verb (linked on the far right by a dotted line, for purely graphic reasons) as fulfilling its valency, or rather **adherency** (Chapter 5), as a modifier. What characterizes appositional structures, as opposed to simple modification, is that they manifest such coreferentiality requirements as we observe in (I.108) and (31b). Both arguments of the base verb are incorporated in (31b), as indicated by the discontinuous horizontal linking them (as joint subjuncts of the verb); but in this instance only one of them is provided with an apposed expression, either or both of the incorporated arguments may lack such.

This means that (30) should be expanded as in (32), in which both the arguments satisfying the valency of the base verb are incorporated and, of course, not serialized with respect to each other; and the absolutive *of history* is apposed to the incorporated absolutive.



The eventual sequence retains the relation between closeness to the base of the ‘modifiers’ and their degree of semantic integration with that base. The circumstantial *at Oxford* is already optional, of course, as is the attributive *from Italy*.

The representation of other derived nouns, should be expanded in a similar way. Thus instead of (23) we have (33).



However, for reasons of space I have omitted the specification of the adherence of the apposed phrases, their requirement of a {P;N} with a certain valency item; cf. *of history* in (32). The relative sequence of the directionals (and therefore the height of the {P;N}s governing them) is iconic.

There is obviously much more to be said about deverbal nouns. I have not commented very much at all on the full range of suffixes involved, or restrictions on each of them – and on conversion, for that matter. In this Chapter I have been primarily concerned with (morphological) **derivat**ion: overt relationships between categories. And here and in what immediately follows I use the affixes mainly as labels for instances of the derivational relation it expresses. I have not addressed in any detail the expression of these morphological elements or their phonological interaction with each other, which belong to **derivational morphology** as the product of a type of **word formation**, and specifically to **morphophonology** in the case of the interaction. This is the topic of a subsequent chapter concerned specifically with issues in word-formation (Chapter 27), which initiates Part III, and even there I shall not try to be exhaustive. There too is the place for a consideration of **productivity**, the extent to which a formational device is implemented in new formations – though this is always changing, both diatopically (in the wide sense) as well as diachronically. I shall suggest that this is a diachronic notion that cannot reliably be used predictively: so-called ‘non-productive’ formations are not infrequently revived, and not merely in jest.

In the meantime, Table XIII might serve to remind us of the different modes of (non-)expression for deverbal nouns that we have looked at.

**Table XIII:** Deverbal Nouns and Modes of Morphological Expression

|         | <b>AFFIXED</b>   | <b>AFFIXED &amp; MUTATED</b> | <b>MUTATED</b>  | <b>CONVERTED</b> | <b>COVERT</b>  |
|---------|------------------|------------------------------|-----------------|------------------|----------------|
| SCENE   | <i>invention</i> | <i>induction</i>             | <i>cónflict</i> | <i>decline</i>   | <i>demise</i>  |
| ELEMENT | <i>walker</i>    | <i>dedicatee</i>             | <i>próduce</i>  | <i>cook</i>      | <i>victim</i>  |
|         | <i>AGENT</i>     | <i>PATIENT</i>               | <i>PRODUCT</i>  | <i>AGENT</i>     | <i>PATIENT</i> |

Horizontally along the top, the table differentiates among modes of (non-)expression, and, on the vertical dimension, at the left, whether the derived noun denotes, metonymically, an element in a scene, or rather the scene itself, while below the table is indicated a classification reflecting the element that is incorporated in the examples in the lower row. Some forms, such as *invention*, also show the result of ‘frotting’ at the junction of formatives.

We shall also be extending what we might call the **modes of expression** in Part III by looking at the media provided at the lexicon-syntax interface for the presentation of complex modes of signification. As in Table XIII, we can in this



area too differentiate between clausal structures associated with an element in a scene or with the scene itself. Trivially, this is what differentiates, for instance, *(They did not know the one) who died* and *(They did not know) that he died*. Let me finally in this chapter emphasize the role of semantic relations in the derivation of many nouns from verbs, illustrated specifically by the instances of derivation of SCENES and ELEMENTS offered in Table XIII. This reflects the notional character of these two contentive categories. Nouns, as prototypically denoting entities perceived as discrete, are typically leaves in syntactic trees, and they are ultimately introduced into such trees by a semantic relation that satisfies the valency of a verb. Their role in the scenes identified by the verb thus provides a major means of sharpening their denotation via metonymy. But they also, by denoting whole scenes, extend the capacities of syntactic leaves into non-prototypical areas.

# Chapter 20

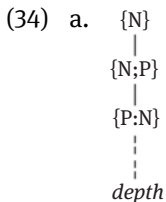
## Non-deverbal Derived Nouns

different forms of de-adjectival nominalization – attribute nouns, abstract and concrete – de-adjectival determiners – as leaves – de-nounal nouns – negatives and prefixation – source-less bases and morphology-less lexical structure – nouns in -(e)ry

The most obvious and familiar of the classes of noun that are derived from adjectives is, unsurprisingly, the **attribute noun**, exemplified by *laziness*: the noun is again non-prototypical, in denoting ‘qualities’ and related abstractions; and they are usually mass nouns. They are nevertheless represented as entities; the expected shift in mode of signification is present. Such de-adjectival nouns are signalled by a range of suffixes that attach to adjectives (whatever else they may attach to), sometimes accompanied by differences in the base, compared with the simple form that is its synchronic source, sometimes where the simple adjective source of the base is lacking, or the adjective has its own suffix, which is replaced in the formation of the noun. This range of variation is illustrated in, respectively, *kindness*, *falsehood*; *sincerity*, *opacity*, *depth*, *wisdom*, *militancy* (cf. *militant*); *terror*, *velocity* (though cf. rare *velocious(ness)*); *ferocity* (cf. *ferocious*), *feminism* (cf. *feminist*, itself based on *feminine*).

From such attribute nouns can in turn be derived, by conversion, less ‘abstract’ nouns denoting individuals, indeed often an individual scene, and so count, not mass (*That was a kindness/falsehood*); and we return to these below. Also, many of the same suffixes are associated both with attribute nouns and with other nouns that, in their case, have as a source more prototypical nouns, but are also ‘abstract’, as exemplified by *childhood*, *serfdom*, *heroism* (but probably via *heroic*). Again we return to these below.

Such de-adjectival attribute nouns clearly must have at least the categorial structure in (34a), similar to that for deverbal event nouns, and this may seem to be appropriate for a simple abstract noun the source of whose base is a prototypical adjective, except for the ‘agentivity’ of (34d).



b. Wisdom is desirable

c. Veronica is wise

d. Be wise!

e. {N}  
 |  
 {N;P}  
 |  
 {P:N{src{loc}}}  
 |  
 { {src{loc}}}  
 |  
 {N}  
 ⋮  
 wisdom

f. Veronica's wisdom

But compare the representation for the event noun *walk* suggested in (3a) from the two previous chapters.

(3) a. {N<sub>i</sub>}  
 |  
 {N;P}  
 |  
 {P;N<sub>i</sub>/...}

It seems that, like the verb *walk* (though its valency in (3a) is left unspecified), the adjective base in *wisdom* in (34b) apparently has a valency.

The base and its source take an experiencer, an owner of the quality, such as *Veronica* in (34c), and the adjective may be used, indeed, as if agency were involved, as in (34d). *Wisdom* is an experiential, and potentially actional, attribute. And in the representation for the derived noun the experiencer requirement is presumably satisfied internally, as in (34e), and there may be a coreferential genitive, as in (34f). And, as suggested in the course of the preceding chapter, (3a) should be fully expanded in a similar way. (3a), on the other hand, shows an internal coindexing that is absent from (34a). And this is something we must come back to after we have considered other aspects of adjectival bases for nouns.

As concerns valency, part of an adjectival valency surfaces overtly in such as (35a) in the form of equivalents of adjectival participants, as illustrated by (35b).

- (35) a. kindness to animals
- b. Not everyone is kind to animals
- c. John’s fondness for Judy
- d. John is fond of Judy
- e. Her likeness to her sister
- f. She is like her sister/Her sister is like her

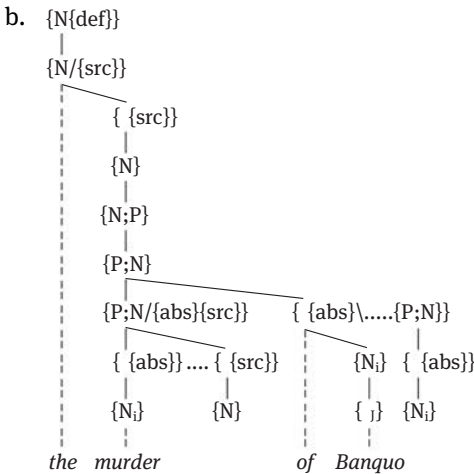
And (35c) shows both an experiencer-related genitive and a prepositional phrase that corresponds to the post-adjectival argument in (35d) – and to the corresponding argument of the semantically similar verb in (5a) from Part I.

- (I.5) a. John likes Judy

And the adjective categories in the semi-equative (35f) apparently take complex non-analytic absolutes, with the post nominal in (35e) marked with *to*, reflecting the functor complexity – as we again need to look further at.

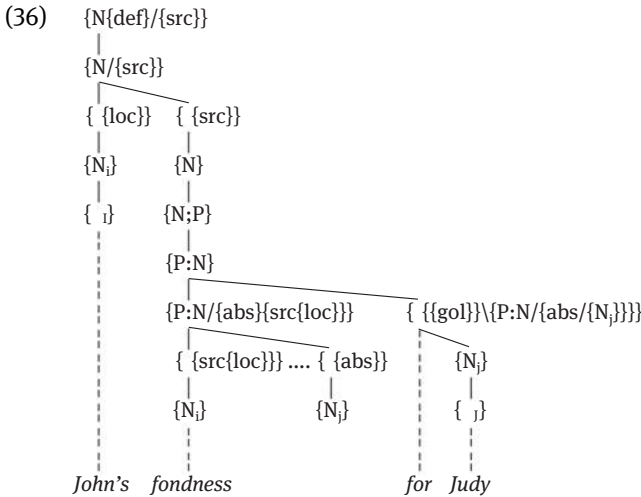
At this point my conclusion is that, as with deverbal nouns, the syntax of the de-adjectival noun reflects the apparent valency of the base. And similar structures seem to be appropriate – though adjectival valency is not at all as extensive as with verbs. Let us assume, for now, that, as with their deverbal counterparts exemplified in (31a), apposition is involved with the ‘arguments’ of the base of the derived noun.

- (31) a. the murder of Banquo



The lower dotted horizontal line in (31b) again indicates absence of sequence among the subjuncts of the basic verb.

The *of* of (31a) and (35d) is apparently a ‘neutral’ preposition, taken to be absolutive in (31b). But the apposed functor phrase seems to be directional in (35a–c, e), given a ‘natural’ interpretation of the prepositions selected. This suggests that we might represent (35b) as is suggested in (36).



(36) also illustrates, of course, another combination of apposition with genitivation, and also incorporates the suggestion that the apposed semantic relation may be different from the relation of the apposee.

Here too we have to acknowledge that, as elsewhere, the same form can manifest different kinds of derivative, as already exemplified here by *kindness*, with its converted count derivative, and as is further illustrated by (37).

- (37) a. She loves youth
- b. She loves a youth
- c. She regretted a youth that she had wasted

We can represent the ‘object’ in (37a) simply as in (38a), i.e. as an attribute noun with its source – though with some morphological irregularity – in an adjective, *young*, typically, though far from necessarily, predicated of or attributed to animates, unless metaphor is involved, but (37b) needs the extended representation in (38b).

- (38) a.  $\{N\{\text{non-definite}\}\}$   
       |  
        $\{N;P\{\text{mass}\}\}$   
       |  
        $\{P:N\{\text{TEMP}\}\}$   
       |  
       *youth*
- b.  $\{N\{\text{sg}\}/\{\text{src}\}\}$   
    /  \  
    |  |  
    |   $\{\text{src}\}$   
    |  |  
    |   $\{N\}$   
    |  |  
    |   $\{N;P\{\text{count, human}\}\}$   
    |  |  
    |   $\{N;P\{\text{mass}\}\}$   
    |  |  
    |   $\{P:N\{\text{TEMP}\}\}$   
    |  |  
    |  *a youth*
- c.  $\{N\{\text{sg}\}/\{\text{src}\}\}$   
    /  \  
    |  |  
    |   $\{\text{src}\}$   
    |  |  
    |   $\{N\}$   
    |  |  
    |   $\{N;P\{\text{count}\}\}$   
    |  |  
    |   $\{N;P\{\text{mass}\}\}$   
    |  |  
    |   $\{P:N\{\text{TEMP}\}\}$   
    |  |  
    |  *a youth*

The ‘{TEMP}’ category is an obviously provisional abbreviation. The noun in (38a) is usually mass rather than count. And I have represented it as non-specific, by default, as is normal with these bare abstracts of intransitive adjectives. (38b) involves most obviously a concrete partitive phrase, however. And, more importantly, there is a conversion to a human noun. The phrase as a whole refers to someone who is or was young, whereas in (38a) what is involved is the attribute that someone has who is young. The conversion in (38b) is metonymic. Again, these de-adjectival formations thus show similar properties to the deverbal nominalizations we looked at in Chapter 19.

A further observation on *youth*. Whereas (38b) is most naturally to be interpreted as involving a concrete count noun, one can also derive from the mass

noun in (38a) an abstract count noun such as that illustrated in the most obvious interpretation of (37c). Here this converted *youth* is given a particular relative temporal location rather than a generic one. This is represented as in (38c), where the ultimately-derived noun is shown as temporal but count. As we shall see further illustrated below, this kind of further development too is quite regular with mass non-definite/specific abstracts. We can substitute for the indefinite determiner in (38c) a genitive: *youth* may be possessed. Alternatively, as is often the case, we can append an *of*-phrase to *the youth*, as in *the youth of the composer*.

Some adjective sources have themselves undergone conversion. Some are simple adjective-to-noun conversions, as with the non-generic non-count noun that terminates (39a).

- (39) a. He did a great deal of good  
 b. How does one define the beautiful/sublime?  
 c. The young/rich are usually not aware of that  
 d. The news is bad/The data is/are inconclusive  
 e. the genuinely beautiful, the moderately rich  
 f. the idle young/rich  
 g. ??the ultimate/veritable sublime

But the categorial representation of other apparent converted attributives seem less securely nounish.

What are perhaps the two major varieties of the ‘nounishness’ are illustrated in (39b-c), and they raise interesting questions to do with categoriality. The final item in (39b) is an abstract non-count generic, with overt definiteness expressed, unlike with simple nouns; the second word in (39c) is a plural generic, and human, and again with overt definite. But there is a more fundamental categorial question, raised by aspects of these forms. The forms in (39c), for instance, are semantically plural, and this is reflected in verb concord. Contrast this with *the news* (and now in my current experience, but not practise) *the data/media/phenomena/alumni* – but this tends to be suffered by all Latin and Greek plurals) of the type of that in (39d), which etymologically are inflected for plurality, despite now taking singular concord. *News* is now firmly a mass noun with ‘dead’ native plural morphology, if any – i.e. if not interpreted as a simple form. Also, the forms in (39b-c) may, like adjectives, be preceded by an adverb, as in (39e) – unlike again *the news*. But the unmarked plurals in (39c), at least, also allow an adjective, as in (39f), where the preceding adjective may be attributive (restrictive) or appositive (non-restrictive). And, as observed, unlike typical nouns, such as those in (I.35) and (40), both (39b) and (39c) have generic definiteness expressed analytically, as does *the news*, which may also be non-generic, however.

(I.35) a. Workers are poor

(40) Beauty is undefinable

The forms in (39b-c) thus exhibit some properties that are not typical of nouns.

On the other hand, with the form in (39c) we can have what are apparently post-nominal attributives such as in (41a), which can be combined with a preceding adverb.

(41) a. How does one define the (genuinely) beautiful in music?

b. The people/cattle are restive

One might argue that what is going on in (41a) is that the adjective, when associated, as in these cases, with generic definite determination, can accept modifiers equivalent to attributives that would be hierarchically higher than them in the structure of a normal determiner phrase. However, even if there has been conversion in these forms, we have still simple post-nominal attributivization in (41a). If there is no conversion the adjective would have to be adjoined to a partitive {N} in order to satisfy *the* (but see Chapter 21). Recall too, in relation to (39c), that there are a few other, dedicated uninflected noun plurals, such as (41b), though not generic when dependent on *the*. The forms in (39b-c) seem to be conversions, and in both types we can attribute the ‘retained’ adjective properties just observed to the adjectival base, just as verbal and adjectival valencies can surface in nominalizations.

Most striking of all is that, notionally, there is a metonymic relation between instances such as the first words in (39c) and the same forms when in typical adjective use, such that in (39c) the forms denote concrete entities rather than qualities.

(39) b. How does one define the beautiful/sublime?

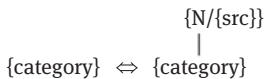
c. The young/rich are usually not aware of that

This is not obvious with the final words in (39b), but they show the typical adjective-to-noun change in mode of signifying when compared with straightforward adjective use. On such grounds too both of (39b-c) seem to be plausible derived nouns. In both cases the adjective-based form is the noun in a determiner phrase. The contentive in *the news* is much more accommodated to this status. But (39b-c) illustrate again the relevance of the source of the base to the syntax of a derived form. Word-internal structure is accessible to syntax.



Normally an adjective would have been converted into partitive {N}, attributized, in order to be part of a determiner phrase, by (I.93).

(I.93) d. *PRENOMINAL ATTRIBUTIVIZATION*

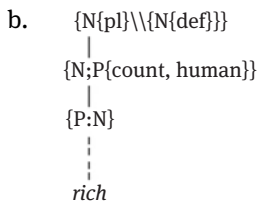
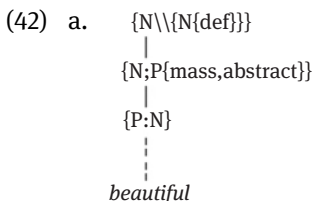


But the syntactic structure of a determiner phrase is typically terminated by a noun, as in (I.92a) – though the adjective could be separated from the noun by other attributives.

(I.92) a. a red violin

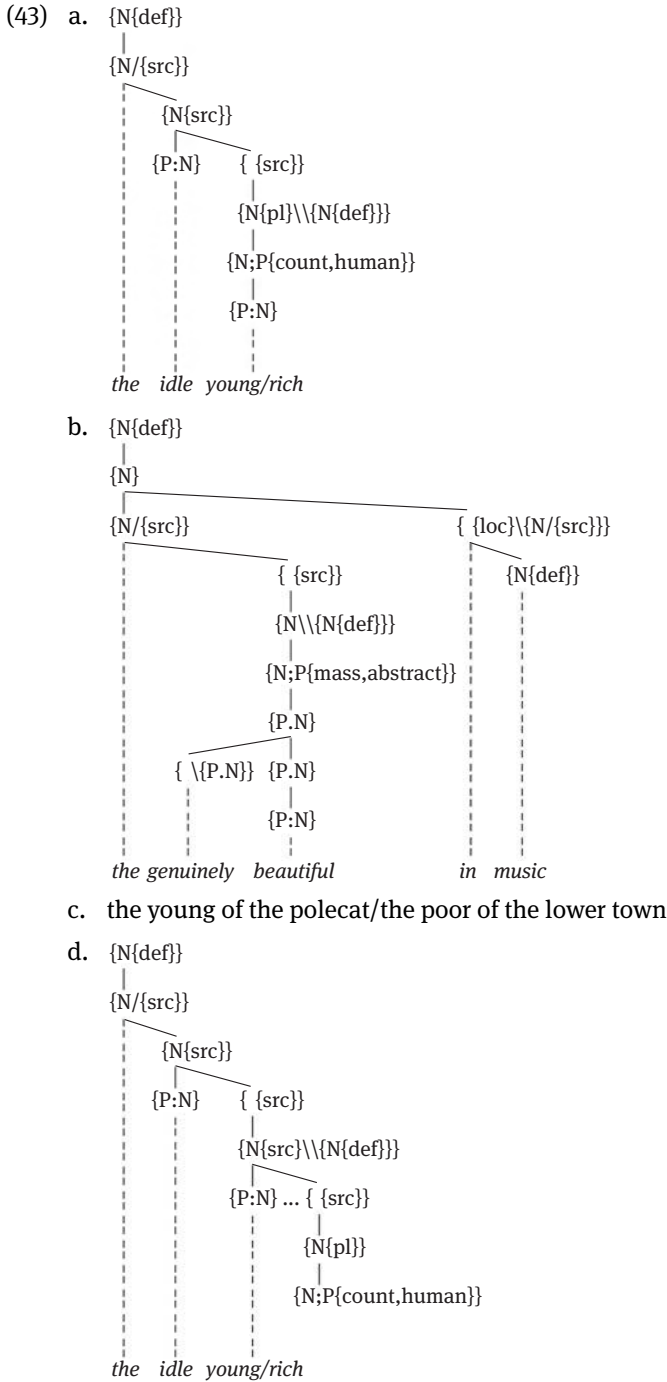
Overall, I think it more plausible that the forms in question have been converted to nouns, rather than their being adjectives that terminate determiner phrases. Let us spell out more explicitly the representations that might be appropriate if these adjectives are indeed converted to nouns.

In that case, I suggest for the relevant form in (39b) the structure in (42a), and for that in (39c) the representation in (42b).



The  $\setminus \setminus \{N\{\text{def}\}\}$  valency of the {N} indicates that it seeks to be subordinate to a definite determiner, the most immediate one.

(43a) represents (39e), with prenominal attributive (rather than appositive/non-restrictive – though the latter interpretation is at least as likely), and the attributive introduces the usual denotational subsetting.



The representation in (43b), for (41a), illustrates, as well as the structure of a post-nominal attributive, also the consequences of the presence of the adjectival base in the form of the further presence of a (derived) specifier adjoined to {P;N}. The internal structure of this specifier and the ultimate noun base of *beautiful* I have omitted, as not relevant here – as is the internal structure of *music*.

However, are (39b) and (39c) as parallel as I have been assuming? We have observed differences. (39c) does not involve attribute nouns, but animates; they are also plural, but are uninflected; they take following attributives like those in (43c), reminiscent of *the young ones of the polecat*. This would favour a characterization where the attributive adjective *rich, young*, etc. are satisfied internally by a ‘pro-noun’, as perhaps in the abbreviated (43d). An incorporated plural noun naturally doesn’t manifest its plurality inflectionally. There is no simple conversion to noun, but a complex lexical structure involving subjunction of a partitive determiner phrase containing a ‘pro-noun’. A similar analysis might be appropriate for such as the second progressive attributive *drowning* of Wharton’s.

She tried to follow what he was saying, to cling to her own part in the talk – but it was all as meaningless as the boom of waves in a drowning head, and she felt, as the drowning may feel, that to sink would be nothing beside the pain of struggling to keep up.

(*The House of Mirth*, p. 165, Library of America edn.)

Such a ‘pro-noun’ analysis does not seem to be appropriate in the case of (42a).

We observed in Chapter 19 that there are many notionally verb-including nouns, such as *victim*, where there is no direct expressive reflection of this {P;N}; the semantics and the syntax of *victim* require that *victim* has a notionally and syntactically relevant covert categorial structure. And this phenomenon, I suggest, is widespread in the lexicon, and demands attention. In the present context of the lexical structure of nouns, there are many nouns whose covert internal structure includes an adjective. An obvious instance is nouns that include an adjective denoting the quality of age as part of their meaning, though usage can convert it to other nouns with related senses. Such possibilities are illustrated by the words *girl* and *boy* (whose ‘young’ component can be ‘stretched’, converting them to different words). Such a quality component not only contributes to semantic relations such as hyponymy that the noun participates in, but also contributes to affectionate collocations such as *old girl/boy*. The quality of size rather than age is prominent in the meaning of nouns like *giant*.

However, we have also seen that complements of adjectives are not as evident in the syntax of even derived nouns as in the case of deverbals. It is my impression that we lack especially nouns based on the functor type of a complement of an adjective, parallel to derived nouns like *baker, cook, or devotee*, let alone analogues to the complexity of underived *victim*. I suggest this reflects the status of

apparent complements of adjectives (not to mention nouns), a question that we shall return to in the chapters that follow.

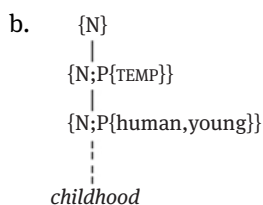
But derived forms such as those discussed in relation to (39b) provide direct evidence of the relevance to syntax of the presence of adjectives converted to nouns. And we can also associate this with morphologically marked de-adjectival nouns. It is, for instance, the source adjective's quality that licences 'measure' attributives with the noun in *a length of five metres*. And recall the derived nouns in (35), which 'inherit' arguments from the source adjective.

- (35) a. kindness to animals  
 b. Not everyone is kind to animals  
 c. John's fondness for Judy  
 d. John is fond of Judy  
 e. Her likeness to her sister  
 f. She is like her sister/Her sister is like her

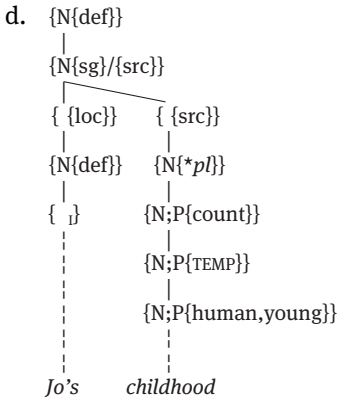
Again syntax has accessibility to the 'interior' of words. But again the greater ommissibility of the post-nominal functor phrases suggests that they are apposed, as was argued for the 'arguments' of deverbal nouns. Let us turn now, however, to nouns derived from nouns.

Nouns based on nouns necessarily involve changes of some sort in noun subclass. This is illustrated schematically in (44b), where a human noun is the source of the base for the temporal abstract noun in (44a), where I've ignored the status of {human,young} as non-overt de-adjectival components of *child*.

- (44) a. Childhood is all too brief



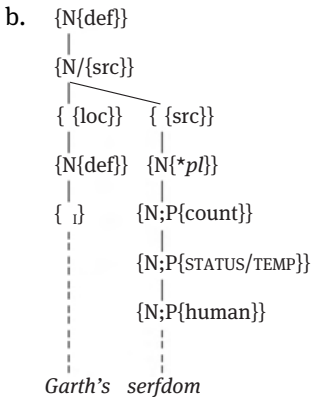
- c. Jo's childhood



In (44c) the derived abstract noun, with unmarked non-count value, has been converted to a count noun, as represented in (44d). Recall the distinction drawn between the structures for *youth* in (38a) and (38c).

Many noun-to-noun formations derive such nouns that are prototypical as abstract nouns, including the ‘social status’ or temporal noun in (45a), whose representation in (45b) also includes a conversion to count.

(45) a. Garth’s serfdom



The scarcely abundantly productive suffix *-dom* also takes adjective bases, as in *freedom* and *wisdom* (the latter somewhat obscured phonologically), and even the de-adverbial *topsyturvydom*.

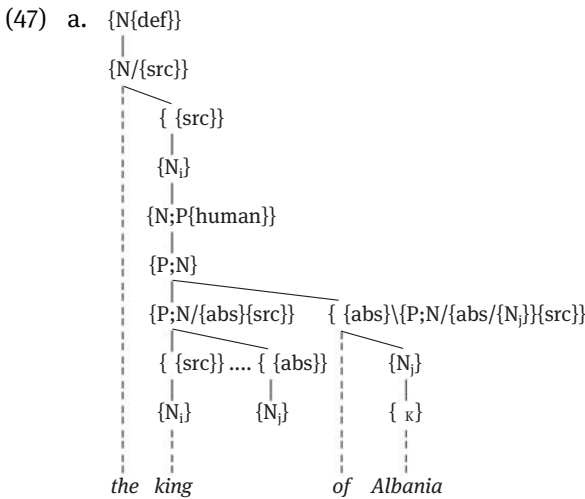
On the other hand, negative de-nominal derivatives such as *disease*, *distemper*, or *disfunction*, though often obscured, derive a noun of equivalent categoriality to its source, but for the negation. Prefixation rather than suffixation is

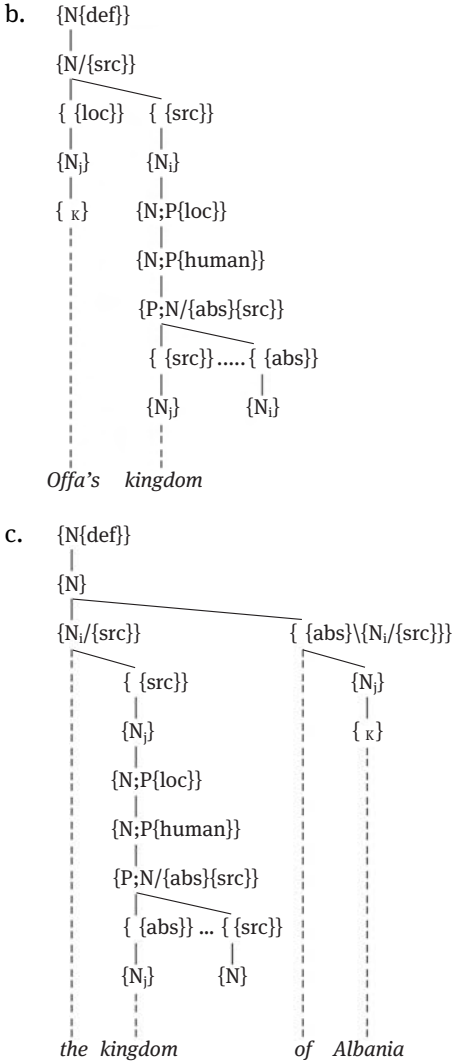
common with negative formations, as we shall encounter again in subsequent chapters in Part II.

Moreover, *kingdom*, for instance, derives one class of relatively concrete noun from another, though possibly still for some speakers via an abstract *kingdom*. Notice now, however, that the situation is further complicated by the fact that *king* itself can be argued to be lexically complex in categorization: it is an agentive, occupational, status noun, definable in relation to the action of a verb, as is overtly expressed in *baker*. Compare in the present case the semantically somewhat closer-to-*baker* *ruler*, where again the suffix spells out the agent status; in a core meaning *king* is a hyponym of *ruler*. Any such morphological indication of complexity is absent from *king*, but part of the valency of the component pro-verb is reflected in (46a).

- (46) a. the king of Albania
- b. Offa's kingdom
- c. the kingdom of Albania

The phrase in (46a) thus seems to involve the structure in (47a), which ignores number, and where the source {N} of the {P;N} is coreferential with the {N} to which it is subordinate in subjunction, and the participant absolutive {N} corefers with the apposed {N}.



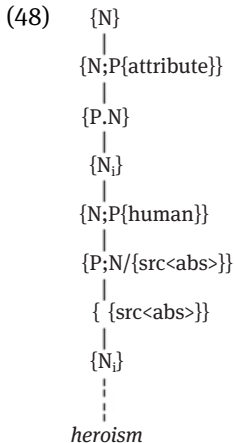


(47b) represents the noun derived from *king* exemplified in (46b). It has a structure like (44d), except for the noun sub-classes involved and the {P;N} as ultimate base and its consequences. We have coreference between the incorporated source of the verb and the genitive, and between the incorporated absolutive and the head {N} in *kingdom*. I have differentiated *kingdom* as a locational noun of some sort. The lower {N;P} corresponds to *king*. Thus, both *king* and *kingdom* are based

on a verb that has no independent lexical existence. Internal to these (and many other) forms there is a base which is lexically sourceless.

In (47c) *of Albania* is hypotactically apposed to a partitive determiner referring to a specific kingdom, and there is coreference between the {N} of *Albania* and this determiner. And the {N} of the incorporated source is coreferential with the {N} subjoined to the partitive source, i.e. the topmost {N} in the basic representation of the complex noun. For an analogous appositional structure recall the discussion of (I.107) in Chapter 9 of the phrase *the name of Ferdinand*. Once more, of course, there is no indication of the ultimate verbal base itself in the formation of the noun.

A mixture of overtness and covertness of structure is also illustrated by (48), where we revert to de-adjectival nouns, but involving an adjective based on a noun, and ultimately a covert verb.



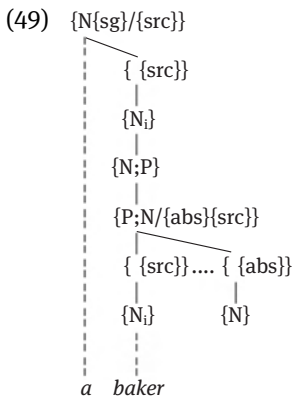
(48) suggests that *heroism* is an attribute noun the source of which is an adjective, *heroic*, in this instance by affix substitution; and the latter is based, via addition of a suffix, on a noun, *hero*, denoting a person that can be so described because this noun denotes someone who behaves or has behaved in a certain way. That is, the latter noun, *hero*, is based on a covert actional pro-verb. In *Jim's heroism* a genitive element corefers with the verbal agentive participant.

These various formations illustrate in outline, among other things, the extensive role of nominalization in changing the mode of signification of the base that it is applied to; and they also offer a sample of the kinds of morphological changes that can express a complex mode of signifying, as well as the ambiva-



lence of many forms. This latter is particularly associated with the prevalence of conversion. The formations we have looked at also show again the syntactic importance of the internal structure of such complex forms, particularly in the shape of possible arguments, especially of verbs, corefering with their agentive or not. Importantly, it has also been illustrated that such complex categorial structure need not be signalled morphologically, or even by conversion, given that there are lexical structures where the posited bases have no source. There is no expressional evidence of the re-categorization.

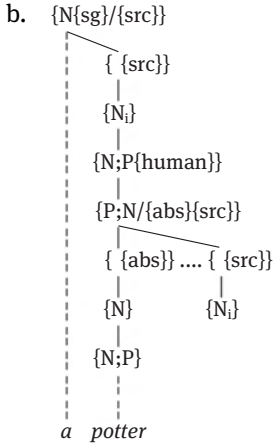
Let's recall particularly the kind of instance where the presence of a particular internal contentive component is reflected in an affix expounding another category. We have seen that de-nounal nouns share some affixal exponents with formations we have already met. These in particular can provide further evidence of unexpressed internal structure. For instance, the suffix *-er* is associated in particular with deverbal agent nouns, such as *walker*, *baker*, etc. (49) provides a representation.



As elsewhere with agentive nouns, we have coindexing of the topmost  $\{N\}$  in the path representing the noun and the incorporated source argument of the verb, whose presence is reflected in the suffix.

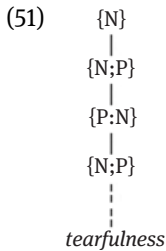
However, though the derived noun in (50a) shows the *-er* suffix and has the element of interpretation we'd expect of an agent noun, the base for the formation in its case is apparently another noun.

(50) a. potter



Nevertheless, the representation proposed in (50b) posits an intermediate verbal component that has no independent manifestation, a lexical pro-verb on the assumption that (50) instantiates a formation where *-er* attaches to agentive verbs in forming an agent. Here the interpretation of the suffix is the only indication that a verbal category is an intermediary in the derivational structure of (50a). In (50b), once more, the agent is coindexed with the determiner to which the derived noun is subjoined, as in (49). With the such re-representations there is an overt verbal source for the base. But the base for the derived form in (50a) is not the verb whose valency this lower {N} satisfies. The base corresponds to the noun that is the argument of the incorporated absolutive functor of the verb. One of the contentive categories in the lexical representation of (50a) is expressed only indirectly; and its presence is central to an understanding of both the meaning and expression of the complex noun.

The representation of the noun in (50b) contains three contentive categories only two of which are directly manifested. Contrast with this situation the partial, schematic structure in (51), where each lexical major category in the subjunction path is independently attested by base status or by a dedicated affix.



Again, as in (50), the derived noun is based ultimately on a noun, but the intermediate non-nounal category that is associated with the immediate base of the derived noun is independently attested as the derived adjective *tearful*.

However, each of (47), (48), and (50) illustrates that not all components in a complex lexical structure are necessarily distinctly expressed as such, but their presence is recognized indirectly by the morphological and syntactic, as well as notional, consequences thereof. This is already manifested in the invoking of simple conversion, where we are clearly not dealing with homonymy. Syntactic consequences may reflect notionally appropriate internal lexical categorizations in the absence of direct morphological exponence of these, or even of signalling by conversion. This is important in understanding the relationship between the categorial components of lexical structure and syntax, and the exponential relationship between this lexical structure and morphology.

We also encounter, in the shape of *velocity*, an example of a noun which is clearly morphologically derived, but the source for whose base is not independently attested in current English (if we ignore the former unfortunate car model *Velox*). There is, for most speakers at least, no corresponding adjective for this attribute noun, though earlier English testifies to *velocious*, and even (according to the OED) a ‘humorous’ use of the derived adverb *velociously* – and the adjective remains ‘latent’, but in principle not irrecoverable, given the model of such pairs as *ferocious/ferocity*. Moreover, the nominal form *velocity* is patently morphologically complex, though a member of a lexical category cannot currently be specified (except by the etymologist) as the source of its base. This is not to claim that this complexity is necessarily present in individual mental lexicons; but it is, at least potentially, accessible, even in the absence of an adjective source. Also, though *ferocity* may be perceived as an attribute noun based on the source *ferocious*, all of the patently complex *velocity*, *ferocious*, and *ferocity* lack not just an independent lexical source but even an ultimate base whose lexical category is not made overt, except by attempted elimination of the affixes, complicated by frotting.

Such pairs as *ferocious/ferocity*, of course, also illustrate again derivation by affix substitution rather than simply addition. In principle these substitutions raise a problem similar to that presented by conversions: the question of what is the synchronic ‘directionality’ of the relationship. However, in terms of relative prototypicality and semantic complexity, in this case, as with *heroic/heroism*, the adjective form is plausibly to be taken as the more basic, as I have assumed. But, as just observed, *velocity* seems to involve potential ultimate derivation from a source/base that has no independent lexical status, though notionally it is clearly a deverbal adverbial. However, the category of the ultimate source of the base of

*ferocious* and *velocity* cannot be identified synchronically on synchronic morphological grounds.

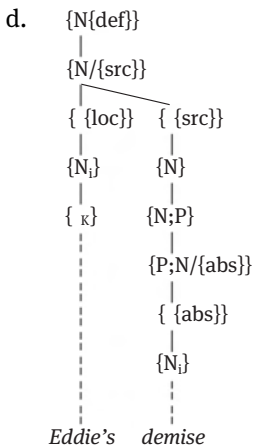
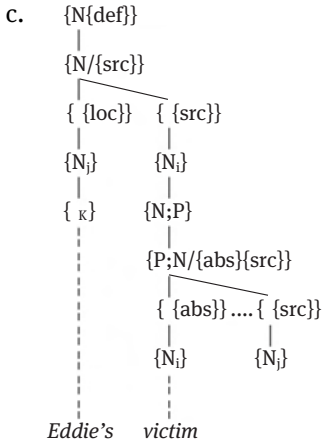
We might represent this situation as in (52a), which merely confesses absence of identity of the source, and from which may be derived a noun by suffix interchange.

- (52) a. {P;N}  
 |  
 { }  
 ⋮  
*feroc-ious*
- b. {N;P}  
 |  
 { }  
 ⋮  
*melod-y*

The base here (bounded by the hyphen) lacks even the identificatory subscript of active names in the lexicon (rather than the onomasticon). Its only role is in the regularities of the morphology. The interpretation of (52a) is non-compositional. And individual mental lexicons may treat it as morphologically simplex. With *melody* in (52b) we have an apparently derived noun with suffixation but no synchronic source for its base, and in this case, not an overt derivation by suffix substitution, since it is the adjective *melodious*, which arguably contains the noun-deriving suffix, that is perhaps more plausibly to be regarded as derived.

As well as this type in (52b) and the type of derived noun of (50a), *potter*, where the source is a noun rather than the verbal component of the complex, we also find instances where there is not only no distinct source for a base but no evidence of affixation or conversion. Thus, as we have seen, the English nouns in (53a–b) have a completely covert internal categorial structure; but the interpretation of their syntax confirms that they are based on a {P;N} whose presence is not reflected in their form, a pro-verb of a rather specific valency.

- (53) a. Eddie's victim  
 b. Eddie's demise



In (53a) there is invoked another participant, a patient, in an action initiated by Eddie, notionally the source of the action; a (more complex) non-genitive alternative is found in *the victim of Eddie's negligence*. In (53b) what we have is a scene presented as an entity, a scene in which Eddie participates as an absolute; cf. the (metaphorical) non-genitive *the demise of all his hopes*. We might now represent (53a) as in (53c), which accounts for identification of the participation of the genitive via coindexing of the agentive corresponding to the genitive. In (53b) the genitive is apparently coindexed with the absolute that undergoes the process denoted by the noun, hence the representation in (53d), which could be made more specific still by indicating that the {P;N} is a directional existential.

In such a situation whereby even many simple nouns call for being based on a lexical pro-verb prompts me to question the capacity of nouns for possess-

ing valency, even in the case of traditional ‘relational nouns’. In the following chapter we shall examine this possibility, together with a questioning too of the capacity of adjectives in this respect, despite their apparently greater ‘relationality’ than nouns. This might correlate with the failure of nouns and adjectives to be finite in English, rather than merely predicative.

We can perhaps sum up this chapter otherwise, and anticipate what is still to come in Part II, with a brief mention of a noun formation that suggests much of the complexity of lexical structure, together with some other complications involving specifically morphological structure. Consider a noun like *finery* or *greenery*, which seem to involve a collective noun based ultimately on an adjective *fine*, *green*. *Machinery*, a collection of entities that go to make up machines, or *scenery*, suggests that the same suffix, *-ery*, also attaches to noun bases. But in other instances the same sequence of *-ery* is potentially itself decomposable, as in *confectionery*, which could be based on the agent noun *confectioner*, apparently, which in turn is based on *confection*. *Confectionery* denotes the collective produce or stock of confectioners. So too perhaps *mock* – *mock*er – *mock*ery. This sequence of derivations may indeed characterize some mental lexicons, but other mental lexicons may associate *confectionery* directly with *confection*, independently of *confectioner*.

The noun *flattery*, however, is based on the verb *flatter*, whose agentive derivative is *flatterer*; *flattery* is also arguably collective, the behavioural traits associated with the source – which could be either the verb or (by suffix alternation) the agent noun. Also perhaps (*assault and*) *battery* – *batter* – *batterer*, but *buggery* – *bugger* – *bugger*, where the *-ery*-form is also not necessarily ‘collective’. We have overall a derivational process or processes expressed by *-ery*, whether or not the presence of *-er-* is independently motivated. Contrast here *confectionery* or *jewellery* with *scenery* or (electric) *battery*, neither of the latter with an obvious agent intermediary. Do the agent-noun-based forms simplify what would otherwise be the reduplication of *-ery* rather than provide the source of the latter? With *mastery* and *archery* there is no source for the agent noun (if we take the verb *master* related to the first example as being derived from it). And to add to this, simple *-y*, alternating in this case with *-ie*, can also mark diminutives, such as *deary/dearie* and names such as *Johnny/Johnnie* – as well as deriving (often unflattering) derived names (*Fatty, Piggy*, etc.).

With *nappery*, any lexical agent base is obsolete, and the relationship even to any ultimate base source in *nap* is rather opaque. And, as concerns ultimate bases, though *cutler* and *milliner* seem to form plausible sources of the bases of *cutlery* and *millinery*, the bases for the agent nouns themselves are obscure in present-day English. If the forms in the military subset of *artillery*, *cavalry*, and *infantry* all involve this same process, then again the synchronic derivation is obscure, though the collective idea is again present (compared with *cavalier*).

Consider too *cookery*, which if it is based on the agent noun *cook*, still has *-er-*, redundantly if *-er-* denotes agency, since the simple *cook* is agentive. Is then ‘instrumental’ *cooker* a plausible source of the base for *cookery*? Or is the *-ery* here not to be decomposed? And then there’s *haberdashery* ... .

Along with questions relating to the categorial relationships involved in derivation, such formations introduce issues, to do with expression, to be pursued in Chapter 28, on morphological structure proper. But the same formation-type, or formations (even if we include similar *-ory* and *-ary* forms), also illustrate(s) further types of derivational and morphological phenomena that we have noted in this chapter.

For instance, the *-ery*-forms we have looked at involve collections of entities of a certain character. But sometimes the same formation denotes a place where collections of entities of a certain type are to be found, for sale, for storage, as a residence, or whatever. We have a distinct but related categorization, but sometimes a suggestion of metonymy, as with *saddlery*. Further examples of this categorization are *menagery*, *monastery*, *rookery*, *cemetery*, *bakery*, *nunnery*, even *haberdashery*, for instance – but not *butchery*, which is behavioural again, and perhaps most often used figuratively. We might seem to have in these instances the kind of categorial relationship indicated in (54), whatever complications may be involved in the derivation of the collective.

- (54) {N;P{loc}}  
       |  
       {N;P{collective}}

But for some of the locationals, such as *nunnery*, or *winery*, or (electrical power) *battery*, there is no independent item with a simple collective interpretation. Again with some of these the *-er-* seems to be agentive (e.g. in *brewery*, *eatory*), in others apparently ‘empty’, so that the *-ery* is not divisible (*nunnery*). *Bakery* can also denote the collection of skills involved in being a baker – compare *trickery* vs. *trickster*. And a similar attribute formation involving skills can be associated with such as *cookery*, *falconry*, and *venery*, though with an opaque base in the case of the last of these.

Related to the role of these forms expressing ‘collection-of-entities’, including ‘skills’, is that of the same formation with a noun denoting the behavioural traits associated with whatever the source of the base denotes. We’ve observed some such involving *-er-*agents, but there are others where there is no agent in *-er-*: *foolery*, *devilry*, *drudgery*, *?thievery*. But the bases of *foolery* (‘playing the fool’) and the like plausibly involve an otherwise morphologically unexpressed agent. And with *villainy* even an ‘empty’ *-er-* is absent; the source of the base is an

agentive noun. There are further candidates for a similar notional categorization to what I attributed, crudely, to *foolery* (*flummery*, *frippery*, *trumpery*) whose (?) metaphorical basis is now obscure, or indeed simply remains so (*sculduddery*/*sculduggery*).

We also have an adjective formation apparently marked by *-ery* in *slippery*. But other, notionally similar adjectives have only a suffixed *-y*, as in *muddy* and, indeed, *slippy*, as well as others where the *er* is part of the base: *showery*, *powdery*, *rubbery*, *watery*, *buttery*, *blubbery*, *papery*. We shall continue to encounter in this Part questions on derivation and exponence some of the most prominent and penetrable of which I shall attempt to draw together later; at this point let us leave these complex formations in *-(er)y*, much of whose behaviour remains to me a synchronic *mystery* that typifies much of the lexicon. Interesting (possible) histories but little synchronic coherence.

Before concluding this chapter we should acknowledge the not uncommon derivation of nouns from names, typically by conversion, as with the familiar type *Fred is a Heifetz*, but also morphologically marked, as with *Carlist*, which is also a derived adjectival. Many non-personal names are preceded by a definite article when used referentially, as with *the Sun* (not the news-sheet, with a name derived from a name), which has been the source of a nominalized item on the recognition of other entities that share properties with our Sun. Conversely, the noun *king* has been converted to a name when one simply talks about *the King*. We have derivational relations holding between members of the identifying category and members of the classifying category.



# Chapter 21

## Adjectives, Nouns, and Valency

adjectives and combined modes of signification – deverbal adjectives in *-ing* – predicative vs. nominal function – generalizing comparators – comparatives – the non-valency of adjectives and nouns – apparent exceptions – *a*-forms – lexical periphrases

The primary categorization of adjectives combines the {P;N} of verbs with the {N;P} of nouns: what has been abbreviated here as {P:N} or {N:P}. This combining weakens the individual force of {P;N} and {N;P}; we have, as with other combinations, mutual dilution of notional characteristics, and thus of their distributional consequences. This mutuality of weakening is, of course, more marked throughout in the case of symmetric combination compared with asymmetric. And, in terms of this ‘negative’ characterization, the consequence is that adjectives denote, whatever else, cognitive areas that are, compared with those of nouns and verbs, marginal, certainly not prototypical for either verbs or nouns. Thus, what is represented by a prototypical adjective is not discrete: it is an attribute rather than a discrete entity; and it is thus syntactically the prototypical attributive. And on the other hand, even taking into account its status as an attribute of something, which anyway is enabled syntactically by the comparator, it otherwise lacks the relationality of verbs, although compared with nouns it is relatively highly predicative. It is not necessarily stable, as prototypical nouns are, but also, unlike verbs, not prototypically dynamic.

We may illustrate all of this with the sample prototypical subset *small vs. large* and *new vs. old* and *good vs. bad* and *dark vs. light*, which are neither discrete nor externally relational; though, as embodied in these pairings, they are evaluative and relative. The stability of these attributes depends on the nature of the entity they are applied to; they are accordingly contingent. They represent attributes that are possibly temporary properties or states of entities. But they are not dynamic, they are not associated with movement, though often mutable. Prototypically, they are **gradient** – and associated with evaluation. This is the most positive mode of signifying that we can associate with prototypical adjectives.

Non-prototypical adjectives approximate to non-prototypical verbs or nouns. The apparently relational adjective in (55a) is approximately matched by the non-dynamic verb in (55b).

- (55) a. Phil is aware of that  
b. Phil knows (of/about) that

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They indicate a state of mind. Likewise, something like the orientational sense of the adjective in (56a) may be expressed by a functor phrase containing a non-typical, orientational nominal, such as is suggested in (56b).

- (56) a. The store room is adjacent to the kitchen  
 b. The store room is beside/at the side of the kitchen

And the typically stable denotation of the predicative adjective in (57a) vies in this respect with that of the noun in (57b) denoting an entity in a particular state.

- (57) a. It is dead  
 b. It is a corpse

However, as well as noting the covert complexity of the noun of (57b), one might want to claim that the adjective in (57a), as with many adjectives, is also lexically complex – in this case, a result adjective based on a verb, though the expression is obscured. And that brings us to complex signification, and particularly to the derivative status of many adjectives, as well others that are non-overtly complex in this way.

Let me firstly, however, comment further on the related paucity of adjectives in many languages. Non-prototypical ‘state’ adjectives such as that of (55a) may be absent from a language, in favour of verbs. Or adjectives denoting a stable attribute, such as (57a), may be lacking, replaced by nominal formations. Or both such types may be absent – leaving an approximation to the prototypical set cited above. Or most or even all adjectives in a language may be transparently derived. Further, because of an imbalance in verbal vs. nominal notional characteristics of adjectives in some languages, they may occur only predicatively or only attributively.

This set of observations – and the possibility of non-occurrence of adjective as a category in particular languages – reflects the complexity and instability of an intermediate primary category. The English category of adjective, however, is far from marginal, and participates like the other contentives in derivational processes, though it may be in a more limited fashion. And the complexity of its possibly derived categorization is already suggested by the notional variety of the examples we’ve just looked at. And a look at the sources of adjectives will throw further light on their basic characteristics.

Perhaps the most familiar instances in English of deverbal adjectivalization are the formations in *-ed* (or equivalent, particularly in ‘strong’ verbs) and *-ing*, which respectively denote the state resulting from a past event and an often ongoing state associated with a scene or entity as exemplified in (58a–b).

- (58) a. (very) frightened, shaven, (very) drunk(en)  
 b. (very) frightening, (very) winding  
 c. (very) long, empty, (very) old

The adjectives preceded by *very* in (58) belong to the subclass of gradient adjective that contains the prototypical adjectives noted above. Members of this subclass can also appear, of course, in the overt comparator construction with *more* or *-er*. *Very* is basic specifier of the implicit positive comparator that is part of the structure of gradient adjectives that are non-comparative/-superlative (as discussed in the Conclusion to Part I). *Very empty*, with an adjective that is inherently of non-gradient negative polarity, on the other hand, is necessarily figurative.

The event-based character of (58a–b) suggested above is absent from simple prototypical adjectives. But less prototypical members of the class of adjectives seem to be less austere. What is our concern in this and the two succeeding chapters are the properties reflecting the mixed primary categorization of simple adjectives and its interaction with derivations such as are illustrated by (58a–b), but not necessarily made overt. However, the present chapter in particular contrasts the syntax of both non-verbal contentives with the verbals whose valency and associated syntax have so far been more extensively explored, because strikingly more evident, including in interaction with derivation. And I shall indeed call into question here the extent to which the other contentives have an active capacity for argument-taking, before focusing on derived adjectives in the following chapter.

Let us at this point, as a prelude both to the present concerns and to those of the following chapter, proceed with the analysis of some of the different adjectives in (58a–b). As with the deverbal nouns discussed in Chapter 19, the arguments of the base verb have a role to play in the characterizing of the structure and syntax of the derived adjective. In the fuller version of (59a) equivalents of both participants of the source verb in (59b) corresponding to the verbal base are present.

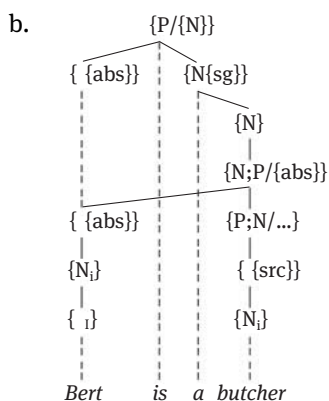
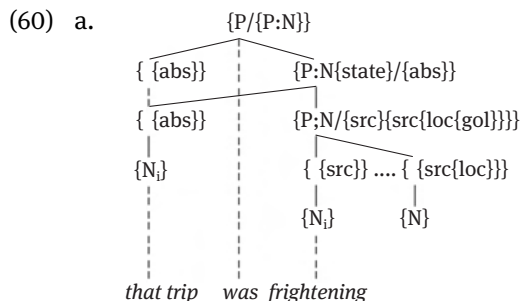
- (59) a. That trip was frightening (for Julian)  
 b. That trip frightened Julian  
 c. that frightening trip

The role of *Julian* with respect to the verb in (59b) is as experiencer, one whose referent is caused to receive a feeling of fear. The role of *Julian* in (59a) also seems to be that of experiencer, but in this case it is only optionally present. This optionality is what we found to be typical of the equivalents of verbal participants in the nominalization structures based on a verb. Moreover, in (59a) *Julian* is marked with a distinctive functor, as is usual with postposed noun and adjective apparent arguments, specifically a locative of some sort.

However, as what I have been regarding in (59a,c) as the subject of the adjectivalized verb in a predicative structure, the initial determiner phrase is not optional, unlike the genitives in (24), from Chapter 19, of which only (24b–c) would qualify as subject in a non-nominalized predication.

- (24) a. the singer's death  
 b. the boss's resignation  
 c. the servant's murder of the prince  
 d. the prince's murder by the servant

But nevertheless, in (59a) the subject of the adjective corresponds to the incorporated agentive of the verbal base, as signalled by the coindexing. Thus we might represent the shorter version of (59a), provisionally, as in (60a), where the dotted horizontals indicate, as elsewhere, non-sequencing of the elements so linked.



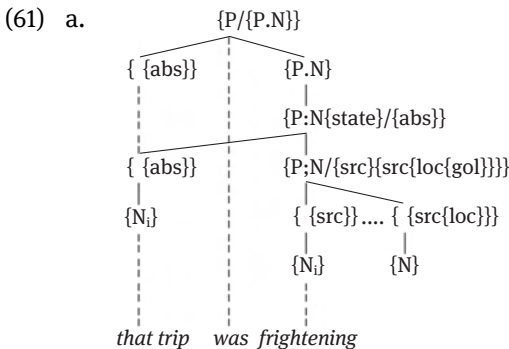
The other incorporated argument may have *for Julian* apposed to it, as in the fuller version of (59a). These representations ignore, as irrelevant here, the internal structure of *that trip*. A more serious omission, perhaps, is the internal structure of the verbal component in *frightening*, which involves a causative structure. Asso-

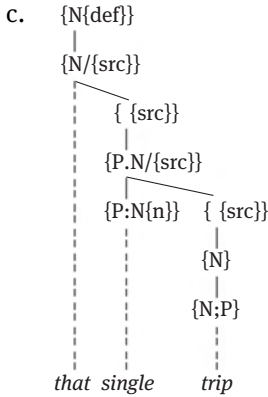
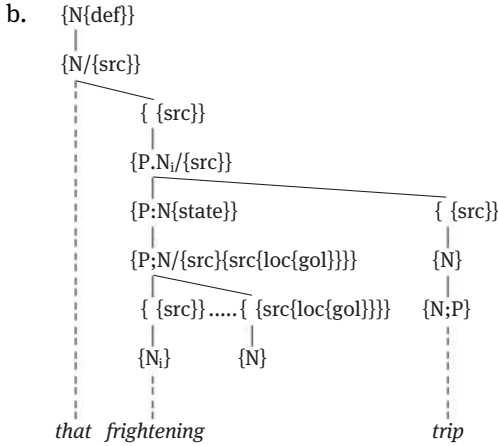
ciated with this is the apparent absence of an absolutive with the verb. Chapter 25 will, among other things, endeavour to remedy the latter omission, based on the morphology of the verb. Most relevant here, however, is the omission, with the representation of this gradable adjective, of the positive comparator, which would permit the presence of a specifier, as in *That trip was very frightening (for John)*. Recall the Conclusion to Part I, and see further below.

As far as derivationality is concerned, we find a similar situation, of course, with the predicative derived noun in (60b), where again an incorporated participant of the base is represented as coindexed with the subject of the noun. The derived adjective shares this with the derived noun. This observation concerning similarity is primarily a reflection of the relationality of verbs and the non-relationality of other contentives, restricted in these instances to a valency of ‘/{abs}’. And it prompts a look at what else is shared by predicative adjectives and nouns and by adjectives and nouns in general.

It has been assumed that attributive adjectives, such as that in (59c), are, along with other attributives (including noun-based), subjoined to {N}, specifically a partitive-taking {N}. (60b) in turn, adopts the assumption (offered in Chapter 15) that nouns are always subjoined to a {N}, thus also when non-attributive, and even when predicative. Does the occurrence of adjectives also regularly involve the corresponding functional category, which so far we have associated only with gradable adjectives? If, just as all nouns are subjoined to a determiner, all adjectives are subjoined lexically to a comparator, except where there is an analytic comparative or superlative, the valency of the copula for comparator can be generalized over all adjectives, not just the gradable one in (59a).

As gradable, (60a) is incomplete anyway, on our previous assumption, and should be extended; {P.N} is accordingly included in (61a).





Moreover, the suggestion now is that such a {P.N} appears above every adjective (not just the gradient type of (61a)). As with {N} and its dependent noun, {P:N} has, via a governing {P.N}, a potential for referring to the denotational set of the adjective. A consequence of this is that {P.N/{src}} can replace {N/{src}} in the attributive construction in (61b). This is a way of recognizing that adjective is the **unmarked attributive**. The comparator for non-gradable adjectives, which are less prototypical, more noun-like, could be {P.N{n}}, as in (61c), whose nominal secondary {n} disfavors intensification, particularly by the specifier *very*.

The comparator shares properties such as its denotational role and (related) attributive headship with the determiner, by virtue of being a functional category that also contains N. Also, both simple {N} and simple {P.N} are **generic** when subjoined to {N{def}}. The comparator shares P with the finiteness category, and this correlates with, for instance, the shared incapacity for simple reference, as opposed to coindexing. And both the noun and the adjective **copula** would then

have the valency: '/a functional category containing **N**'. Which functional category is involved is determined by the subjoined contentive.

This governing {P.N} would be the functional carrier of combinations of the gender with number or case features, in languages in which attributive adjectives show agreement with the leaf noun, as in Greek *to megalo trapezi* 'the big table', with neuter determiner, adjective, and noun, as part of a prosody (as suggested in Chapter 12, though in English its 'natural' gender is not made overt). Agreement also occurs in languages where predicative adjectives (also) show concord with another participant, say (in a subject-forming language) with the object or subject (as in, again, Greek *To trapezi ine megalo* 'the table is big'). The representations for adjectives exemplified in (61a) adopt even for English this assumption, shared with nouns, concerning the presence of the corresponding functional category. Adjectives would then join nouns as a complex part of speech identified by the presence of the subjoined category; however, also, dependency on {P.N} is apparently limited to adjectives.

(61a) shows the adjective in a predicative function. In (61b) the same adjective occurs as an attributive. And in this case the comparator acquires a partitive valency. Thus although other attributives involve lexical subjunction to a {N/{src}}, an adjective, the prototypical attributive, requires only the acquisition of '/{src}' by its governing {P.N}, and thus, of course, maintains the comparator status of {P.N}. The unmarked comparator is contrastively positive, as shown in (61b), as a first approximation. (61c), as noted, shows a non-gradable adjective, with the invariant comparator.

Attributive rather than predicative status seems to incur important differences in the characterization of the adjective. In the first place, of course, in (61b) there is the presence of the requirement for a dependent partitive associated with the {P.N} to which the adjective is subjoined. But also here it is the {P.N} in the partial structure that is coindexed with the agentive {N} of the {P;N}, as indicated there. And the adjective itself, lacking any argument structure, is apparently not subcategorized for an absolutive, as in (61a). Nor does it appear to be necessary to introduce a free absolutive in the absence of absolutive in its valency. This suggests that its subject in predicative function appears to be simply absent in attributive function. Is this precisely because the adjective in (61b) merely labels a subset of the set of trips denoted by the noun? And in these circumstances, it is, like non-predicative nouns, not involved in predication but simply denotation.

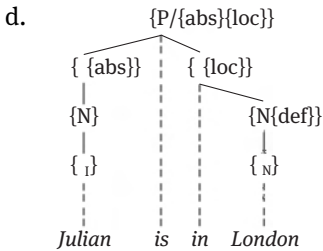
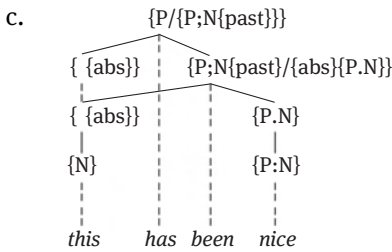
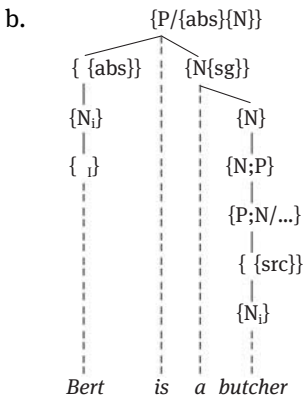
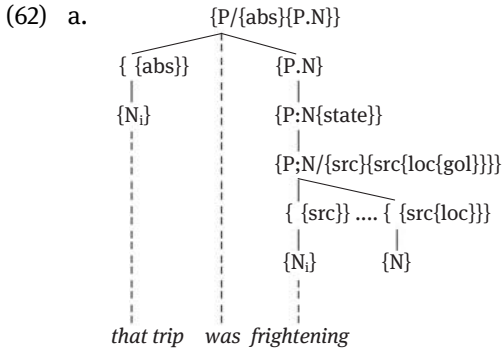
Use of the adjective in (61b) is assumed to assist in the identification of the trip referred to by further narrowing the set of denotata from which the entity

referred to by *that* is drawn. Similarly, as our representations have assumed throughout, the non-predicative noun itself in (61b) lacks the argument that would be subject when it is predicative, as in, say, *What we need is a trip*. This absence is possible because of the knowledge, attributed by the speaker to the interlocutor, that both *frightening* and *trip* in (61b) may indeed be predicated of *that*, i.e. of what is being referred to; the referent of *that* is among the denotata of both *trip* and *frightening*. But syntactically the noun and adjective in (61b) apparently do not involve predication involving *that*, or coreference with it. In (61b) predication is relevant only to the {P;N} subjoined as base to the determinerized adjective. With a simple adjective such coreference does not arise, as represented in (61c). And again, it would appear, neither adjective nor noun non-predicatives have the equivalent of the subject argument in predicative function, and a free absolutive is not introduced.

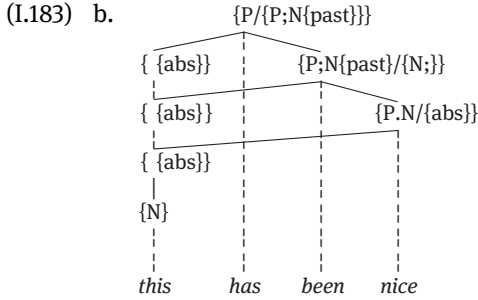
Let us dwell a little on the characterization of denotation as applied here, however, and the apparent difference between predicative and attributive use. (61b) represents the referent of *that* as being drawn from the denotata of the adjective and noun. But these denotata are those potential referents of which the adjective and the noun can be predicated. And this does not require the positing of arguments for the adjective and noun in either (61b) or (61c). The combination of {P.N} and {N} governing the adjective and the noun therein are codenotational with what can serve as the absolutive argument in a predicative construction, except that an attributive merely denotes a subset to the set that is already identified by the subordinate noun. Prototypical adjectives and nouns, at least, which are ‘intransitive’ when predicative (with ‘/{abs}’ as a valency), need not appeal to predication when not so.

The situation is different with the subjoined verb in (61b), whose valency is not limited to the neutral functor, and where there is evidence for the presence of arguments of the verb in the form of what is indicated by the coreferential indices relating *that* and one of those arguments. But what is predicated in (60a) is a description of a referent in terms of the denotation of the adjective and what it is predicated of is the referent of *that trip*; the predicator is the copula. Despite what is conveyed in (61a), both the other elements here are part of the valency of the copula rather than the adjective. It is arguable that even in (60a) the adjective itself has no valency, since it cannot be a predicator, potentially finite; it is the copula that is subcategorized for {abs}, as well as for {P.N}, as shown in (62a).



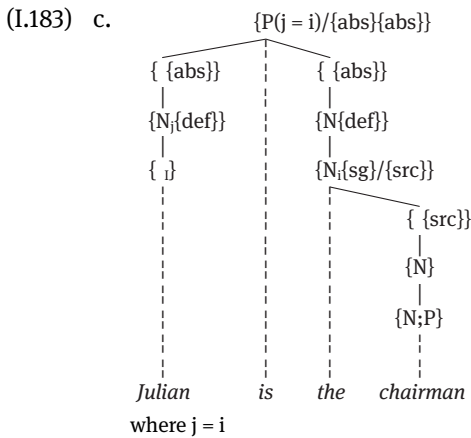


(62a) replaces (60a). So too (62b) replaces the predicative noun structure in (60b). And (62c) replaces (I.183b) from Chapter 15; in both cases the contentive has been argumentized.



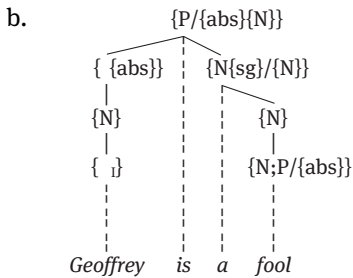
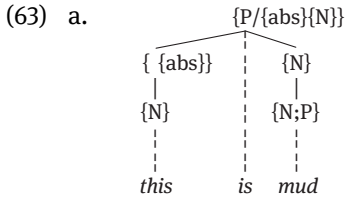
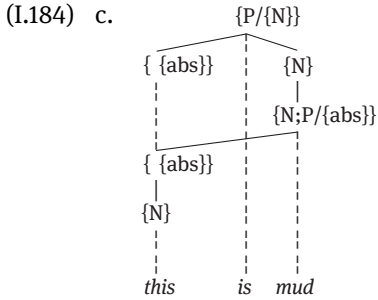
(62c) also includes the originally omitted comparator. The copulas in (62) take two subcategorized-for complements, one of them an absolutive. Nevertheless the lessened minimalness of the predicator, with merely an absolutive and a predicative as participants conforms to the etymology of the term ‘copula’, and is consistent with its behaviour in relation to other non-verbal complements. In some languages a copula is absent in such predications.

Thus, in (62d) there are also two complements. And in (I.183c) the copula also takes two functor complements, both of them absolutive, and what is asserted is referential identity.

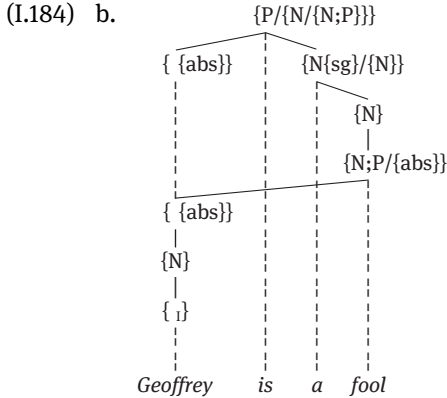


The copula takes two arguments and predicates coreferentiality of them. And throughout (62) a two participant valency is also the case.

(62b) illustrates that predicative nouns are susceptible to the same treatment as the adjective. Accordingly, instead of (I.184c) we have (63a).



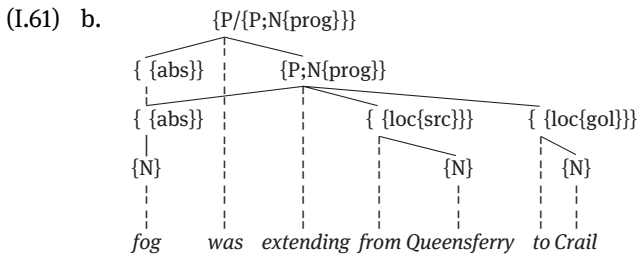
And (63b) replaces the more unusual representation of (I.184b), though it continues to ignore the lexical complexity of *fool*.



In (I.184b–c) the free absolutive of the copula was again filled by an element from inside a determiner phrase, unmediated by a verbal component even.

These revised representations of (62–3) emphasize the syntactic insulation of prototypical adjectives and particularly nouns, even when predicative. They can be predicative but not predicators, contentive categories that take complements. The set of contentive predicators is reduced to verbs and, thus far, non-typically ‘relational’ nouns and adjectives. The outcome of all this is that the simple adjectives and nouns we have looked at are not complemented by {abs}; and this introduces the question of whether these contentives take participants at all.

By contrast with the use of the copula with predicative non-verbal contentives, the form of *be* in (I.61b) lacks absolutive in its valency and has a verbal complement (whose valency is not spelled out in this representation, as non-pertinent) one of whose participants, the subject, satisfies the free absolutive of the copula.

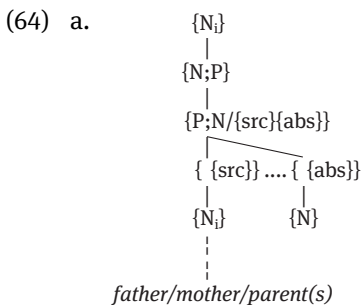


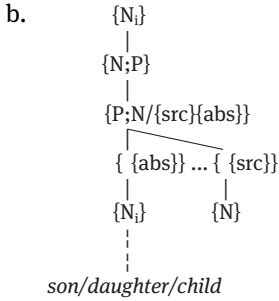
*Was* in (I.61b) is not a simple copula but the head of a **verbal periphrasis** – as discussed more fully in Chapter 36 in Part IV. The periphrast allows a subcategory of verbs, the non-finite *-ing*-form, that is not normally part of the finite verb paradigm, to occur in finite clauses. The copula in (63), on the other hand, allows

non-verbal categories (including the locative in (62d)) to appear in finite clauses, as predicative or equative, special participants. I label these copulative structures as **ecphrases**, to distinguish them from verbal periphrases. In Chapter 36 we shall find, nevertheless, that such *-ing* forms as that in (I.61b), which, though in that context verbal rather than adjectival and distinct in valency, otherwise share with deverbal adjectives like *frightening* in (62b) more than just the same suffix. Both the copula and the periphrast are subjoined to the existential {P}, unless another operative intervenes, as in (62c) above.

On such a view of the copula, only non-prototypical adjectives and nouns – specifically those that are most verb-like – seem to need to have valencies. Up to this point, I have assumed that it is normal for all contentives to have a valency, when predicative, at least, if non-verbal. Now we are at the point of considering the position that non-verbal contentives normally lack a valency in any environment, including when predicative. Apparent exceptions include some ‘state’ adjectives, such as *fond* or *aware*, which seem to which involve experiencers, and ‘relational’ nouns; but even some of both sets, at least, plausibly have an internal structure that includes {P;N} or some other structural complexity involving functional categories. That is, they are lexically complex even in the absence of signalling of derived status by conversion or by morphological marking. Obvious candidates for such deconstruction are nouns of family relationship and state adjectives like *careful*, where the relationship is the perhaps indirect result of an activity and the state the adoption of an activity.

The core familial relationships are those involving a direct genetic link. Thus *father* and *mother* might be represented as in (64a), where the incorporated agentive is identical to the {N} that is the root of the complex noun structure and (64a–b) abbreviate the full verbal structure, which is causative-existential (a construction to be introduced in Chapter 26), and where the crucial differences between the forms in each of the structures and any time element are omitted.



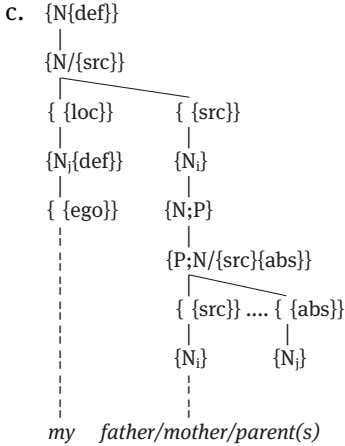


The verb in (64a), which is perfective, has in the one case (the relevant sense of) *beget* and the other that of *bear*, correlating with the (natural) gender of the noun; and there is indeed a verb *father* whose most obvious sense is appropriate as the potential source of a base for the noun, whereas clearly the verb *mother* has its source in the noun, figuratively. And *father* and *mother* have other, ‘weakened’ senses than that which (64a) attempts to partially represent; what is involved there is ‘natural’ or ‘genetic’ father/motherhood. Someone who plays the social role expected of a father/mother in a certain society may be referred to as a ‘father/mother’; this invokes metonymy from the point of view of the *father/mother* of (64a), but again notionally involves action and/or experience, and so a verbal component. And there are also further, metaphorical extensions (*father of his country*, etc.). Further complications are associated with technological developments involving impregnation and birth.

In the representation for offspring offered in (64b) it is the absolutive that is coreferential with the root of the nominal structure, and the sense of the verb is variable. It corresponds to *beget* or *bear* or an amalgamation. As confessed, I have ignored here gender differences and abbreviated the full causative structure of the verb, a type of causative existential. Other familial relations are based on these, except those involving ‘marriage’, whose very structure betrays its verbal source.

It is the complex non-noun lexical structure attributed to the forms in (64) that is the source of the relationality of such familial terms that we find in the phrases in (65a–b).

- (65) a. my father  
 b. the father of the butcher

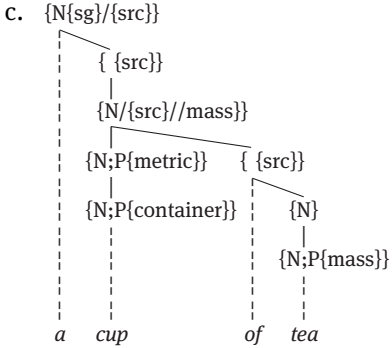


In (65a) the two relevant arguments of the base {P;N} are coindexed with either the {N} of the genitive or the {N} to which the relational noun is subjoined. This may be clarified by the representation for (65a) in (65c). In (65b) the complement of the of-phrase rather than the genitive participates in coindexing. Such nouns again do not show a valency associated with {N;P}.

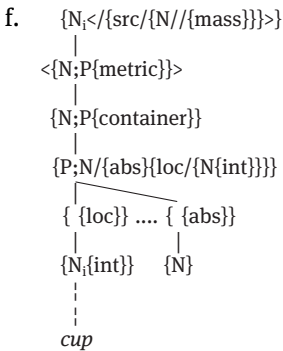
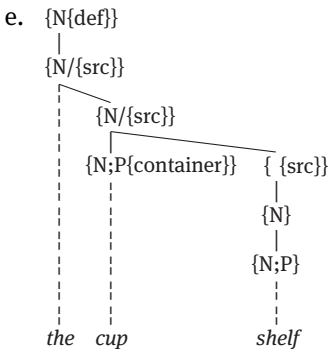
Other ‘relational’ nouns are not obviously complex in this particular way. What is striking, though, is that in these cases only one apparent ‘complement’ seems to be involved. Also, unlike with verbals, absolutive has no special status here, and indeed need not be invoked in relation to the phrases apparently headed by such nouns. And other aspects too suggest that the relationality involved is not like that we associate with verbal participants. Direct relations between nominals do not represent scenes but intrinsic relations between entities that rely on functional categories rather than other contentives to articulate them. Let us now consider the main types of ‘relational’ noun other than the familial.

Metrical nouns, such as *ounce* and the container-based *bag* and *cup*, are, obviously, ‘relational’ in some sense. Many of them have a ‘non-relational’ congener, as with the last two just mentioned. The difference between the congeners is illustrated by the container in (66a–b); we are concerned here with the relevant noun in (66b), and I suggest that such nouns behave like quantifying determiners and take a partitive complement, as expressed in (66c), where the partitivity is associated, as elsewhere, with {N}, here the {N} to which nouns are subjoined lexically, rather than with the dependent {N;P{metric}} itself; and the ‘content’ is in this case typically mass.

- (66) a. The broken cup has been replaced  
 b. He was offered a cup of tea



d. It was on the cup shelf



The facilitation of this configuration is a property of container of metrical nouns; whose {N} acquires a ‘/{src}’ that normally doesn’t take a singular as complement. Nouns like *ounce* or *litre* are of course simple metrical nouns, lacking the ‘container’ base. Similar are measurement by fractional nouns like *half* or *fifth*, though with bases in numerals. But in (66b–c) the sense of both nouns, base con-



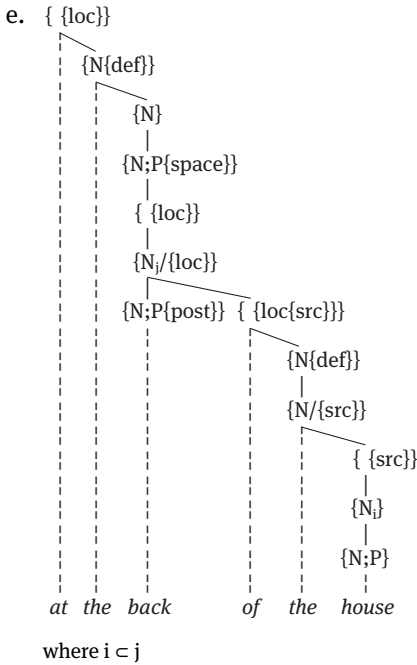
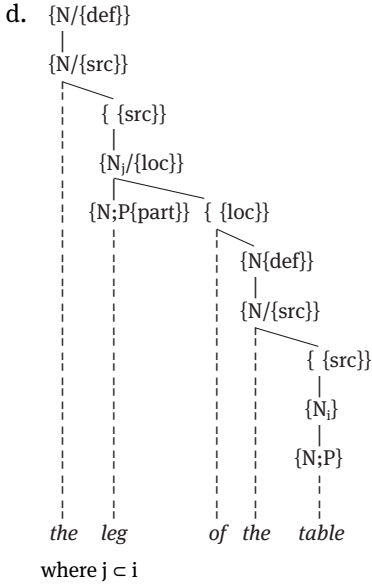
tainer and derived metric, is immediately relevant: the *cup* here is usually both measure and vessel.

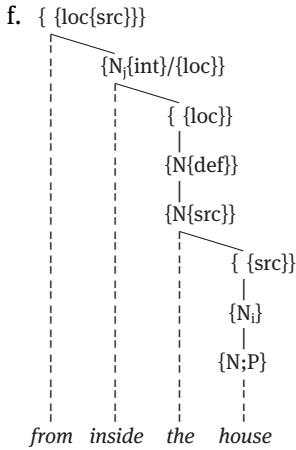
In comparison with the structure involving *cup* in (66b–c), the final determiner phrase in (66d) is simply that for an attributive container noun, as represented in (66e), as far as is relevant here. In the presence of a metric noun the partitive is analytically expressed; but with the occurrence of *cup* in (66d–e), not metrical but attributive, the partitive functor, as usual, is not expressed overtly.

However, let's also acknowledge here the internal complexity of *cup* itself, as indicated schematically in (66f). There it is suggested that the obviously complex feature '{container}', as expressed by the morphology of the term, is deconstructible as the skeleton of a sense component like 'something you can put something in', involving, after all, a verbal component. However that may be, what are involved here are not relational {N;P}s but primarily partitive relations between {N}s.

Yet another class of 'relational' nouns are those denoting intrinsic parts of certain entities, nouns such as *arm* or *top*. We can again characterize the intrinsic relationship in terms of the requirements of the {N} to which the 'part' noun is subjoined. I shall take it, however, that the valency of such nominal complexes is '/{loc}' rather than the '/{src}' of (66f), thus introducing the 'possessor' of the 'part'. The possessor, unsurprisingly, can occur as a genitive, but more generally with animate nouns, particularly human (67a), than with inanimates, which, unlike human nouns, prefer post-nominal attributive formations, as illustrated in (67b), or compounding, as in the short form of (67c).

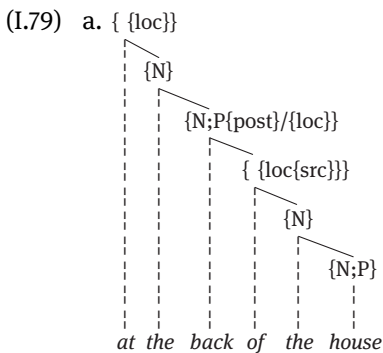
- (67) a. Fred's leg  
 b. the leg of the table  
 c. the table('s) leg





Thus we can associate with (67b) the same kind of structure as in (66c), i.e. (67d): the intrinsic location/possession is part of the sense of an intrinsic-part noun, and is expected of its denotata. Once more, the presence of the secondary feature on the upper noun is associated with presence of an independently-expressed functor. The inclusion relation between indices implements the relational notion part-whole.

The discussed kinds of representation might lead us to reconsider in general the analysis of the multidimensional and orientational expressions suggested in Chapter 7 in the course of the discussion of complex functors. Recall, for instance, (I.79a) and its ‘reductions’, also in (I.79), which attribute arguments to nouns.



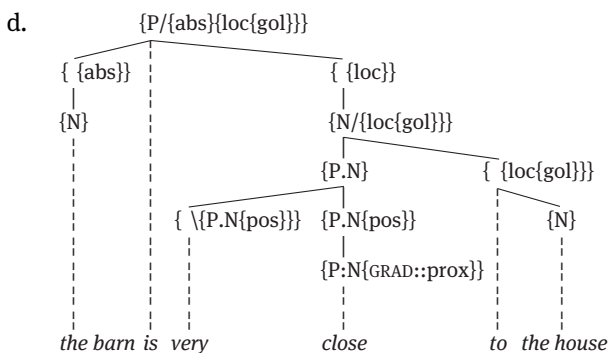
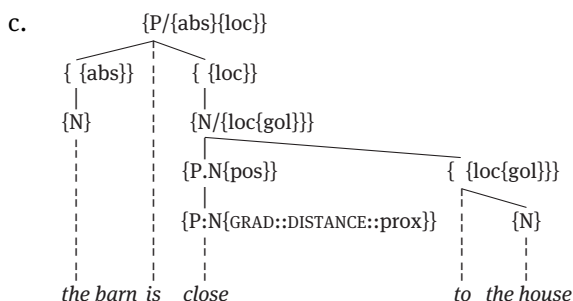
This I now expand as in (67e) above. The space and its orientation are separated, as noun subclasses, from the locational information mediated by the functional categories. The space concerned is interpreted as having an orientation to a part of the house. (67f) retains the assumption of Chapter 7 that dimensionality and

orientation have been functionalized in the case of simple dimensional and orientational prepositions like *in* and *behind*. Associating the expression of functionalized orientation with the reference category {N} is not unnatural, particularly given the association of the latter, via functors, with deixis.

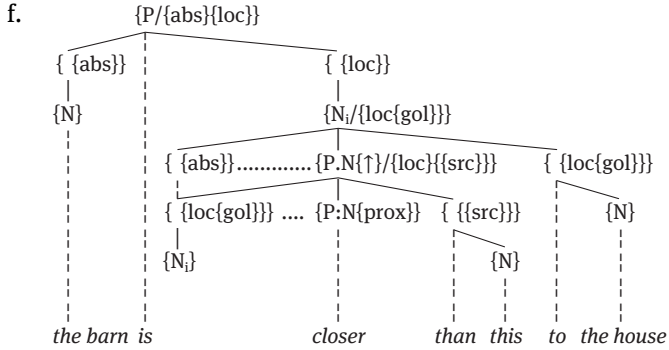
It is beginning to seem that we can dispense with attributing valency to nouns, as such. Let us now turn to adjectives that appear to require the presence of valency. Adjectives are more verb-like than nouns, and one manifestation of this is, apparently, the more extensive valencies that might be attributed to some of them.

However, gradable orientational ‘adjectives’ like (68a–b) can be analysed, as with the nouns in (67), as showing valency of a functional category – as in (68c–d), which represents the form as an adverb.

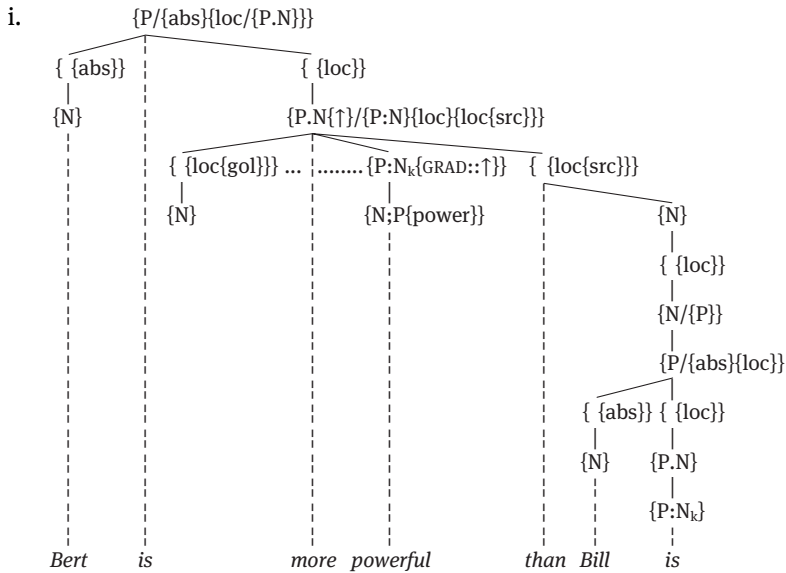
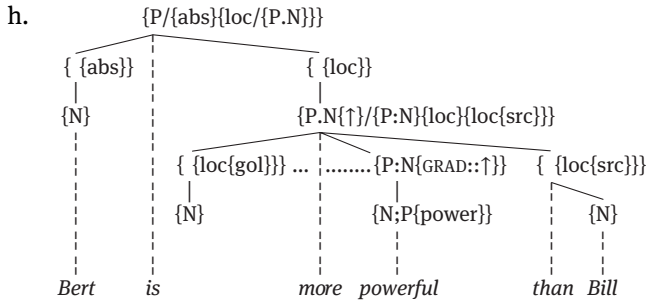
- (68) a. The barn is (very) close to the house  
b. The barn is (very) far from the house



- e. The barn is (much) closer than this to the house



g. The barn is (very) near (to) the house



(68d) represents the fuller version of (68a). The comparator in both versions is converted eventually to a locative functor, and it is the {N} subjoined to that locative that introduces the final directional. The adjectives in (68a) and (68b) are distinguished as proximal vs. distal (features introduced in Chapter 9 – and see also the notes to that chapter), and by the associated directionality of the final locative.

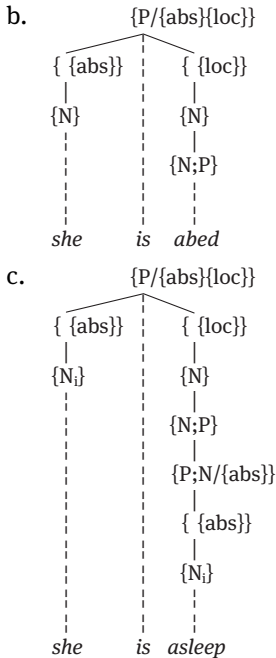
As a functional category, even the comparator is more relational than its contentive congener. This is particularly evident with the comparative comparator, as illustrated in (68e) and its representation in (68f), where the ‘upward-pointing arrow’, together with the locative source argument of the comparator, represents the overt comparison of the comparative. The subject’s location on the closeness parameter is higher than that of the comparee. In (68g), with *near*, the final {N} has been converted (optionally – or, at least, varyingly) to functor, and thus the latter is not necessarily expressed independently. (68h–i) offer simple comparatives, without the external goal locative (*to the house*), to compare with (68f). In (68f) the incorporated goal is hosted by the free absolutive of the simple locative.

These representations expand on those suggested in the Conclusion to Part I, as well as accommodating to the revised role of the copula we have developed in the interim, its absolutive no longer being free in the case of contentive and locative predicatives. The structures nevertheless remain rather crude; the need for more notionally-based deconstruction is evident.

There is a slightly more abstract direction-based and thus metaphorical series of ‘distance’ items, involving *similar (to)*, *different (from/to/than)*, *like*, that correspond to these concrete spatial adjectives, *close/far/near*, which are themselves subject to metaphor. Some uncertainty concerning the metaphor is indicated by the vacillation in the expression of the functor following *different*, particularly by the introduction of the dedicated ‘comparative functor’ *than*, so that we encounter all of *different from/to/than*.

The adjective-based complex in (68c–e) is interpreted overall as a locational. It is a characterization of the location relative to the ‘house’ of ‘the barn’ referred to; only the base is adjectival. And locative has a role to play in the representation of another type of non-verbal complex, one whose etymology involves a distinct locative. Some of these are listed in (69a), though the individual items do vary in their origin and history.

- (69) a. awake, aware, afraid, agog, asleep, akimbo, awash, afield, aslant, afloat, abeam, abed, afloe



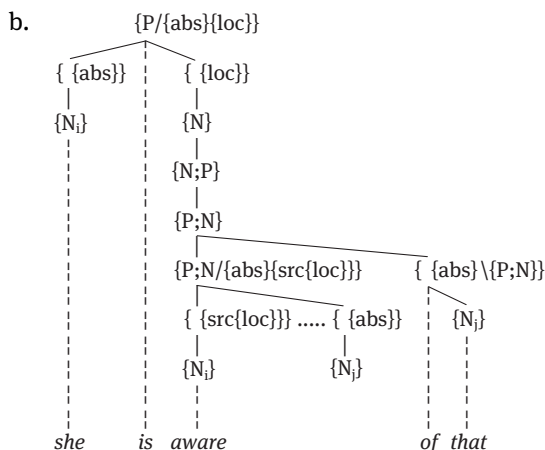
We might plausibly represent the last half-dozen examples of (69a) simply as in (69b), i.e. as an adverb. This is perhaps even more apparent in the case of *aloud*. The presence of the locative is expressed by the presence of the prefix *a-*.

In support of this analysis, these items are very unhappy as potential prenominal attributives: *\*the abed/asleep/etc. children* (cf. *the sleeping children*). The internal locative structure of adverbs apparently is equivalent to having a complemented attributive – which is necessarily post-nominal. Thus, *the children asleep next door* is fine. Compare too analytic instances like *on guard, on duty, on his mettle, on holiday, in a deep sleep, in love, in a muddle*. The earlier words in the list in (69a) are sometimes regarded as adjectives (or as both adjective and adverb). But none of them are fully acceptable attributives. And the locative adverb analysis seems to be appropriate.

However, the ultimate base for those inviting experiencer subjects, at least, despite some obscurity, is perhaps verbal, as with the ‘natural’-family nouns of (64). Thus, something like (69c), involving *asleep*, where the adverb is derived from a verbal noun, is necessary. In (69c) there is coreference between the subject of the copula and the incorporated participant of the verbal base. *Awake* can in some contexts be interpreted as denoting the result of an event, i.e. a state resulting from a {P;N}. Synchronically *awake* can be related to the verb (*a*)*wake(n)*. And the resultative sense is stronger in (*a*)*wakened*.

As I have suggested, with these experiencer cases, as with *abed* etc., ultimate adverb status is at least consistent with their failure to convert to attributive: \**an abed/asleep/awake baby*. But the major interest of this to our present concern with the question of the valency, if any, of non-functional non-verbals is that a {P;N} is plausibly also involved not just with *asleep* and *awake*, but also with such adverbs as seem to have a more complex valency, such as *aware*, as shown in (70a).

(70) a. She is aware of that



The representation in (70b) assumes that *of that* is appositional, as are such arguments in nominalizations, even though the commonness of omission of the apposed element varies among these adjectives. (70b) again shows an adverb based on a verbal noun.

Here, once more the noun is shown as without valency, despite the absence of immediately transparent non-notional evidence for a verbal source, which is lost in time, or non-existent; and this might make the formally-minded wary or beware. It is also perhaps worth observing that the *a-* of *aware* does not have the same etymological source as most of the others. The verbality of *afraid* is also opaque, but the *-d* is a residue of the verbal adjective that was also an intermediate stage in the development of *awake* (recall too Scots *afeard/afeart*). We should also note the characteristic modifiers associated with many putative adverbials – beside the simple *very* of positive gradient adjective: *very much aware/afraid/in love*, which are associated with comparatives as well as (particularly affective) adverbial structures. So too we find *fast* (≠ ‘quick’) *asleep*.

More obscurely, the apparently simple (non-*a-*) *fond* in *They are fond of it* is historically the past participle of the obsolete verb *fon*. As elsewhere, derivational



relationships that are more transparent throw light on opaque lexical structures, though sometimes residues are simply that. In the present instance, at least, can we motivate a deverbal adjectival status, as suggested by the residues of suffixes, given that a verbal source is also notionally appropriate and apparent participants are introduced by overt functors such as *of*? I return to this in Chapter 22.

Other adjectives than the *a*-prefixed traditional ‘adjectives’ are associated with a resultative sense that suggests a verbal base. Consider examples such as (71a).

- (71) a. Are you happy with the finished product?  
 b. Are you pleased with/by the finished product?  
 c. Are you made happy by the finished product?

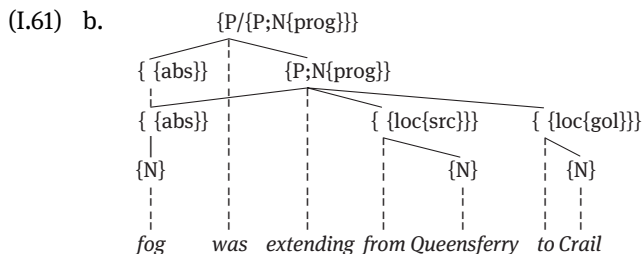
The *with*-phrase highlights the resultative sense; they are mutually supportive: no following argument, no verbal base, and vice versa. The verbal base is transparent in (71b); and, indeed, the occurrence of *by* suggests that in that instance we have ultimately a passive verb. Compare the analytic passive causative source in (71c).

Among the more strikingly verb-like adjectives is the ‘behavioural’ adjective part of whose syntax is illustrated in (72).

- (72) a. Basil is (very) careful (with the porcelain)  
 b. Be (very) careful (with the porcelain)!  
 c. Basil is being (very) careful (with the porcelain)

Despite the mark of adjectival prototypicality represented by *very*-specification of the comparator, *Basil* in (72a,c) is interpreted as ‘agentive’, confirmed by the imperative in (72b); and the progressive of (72c) is very unusual with adjectives, as well as stative verbs. Yet, on the face of it, the source of the base of *careful* is a noun, given that the perhaps most prominent synchronic sense of the verb *care* (as in *care for/about*, ‘like’ rather than ‘look after’) is not appropriate as a synchronic source of base for the noun and adjective, and even the latter sense is not quite right for the adjective.

The closest parallel, however, involves the **lexical periphrasis** *take care*, where the verbality of the noun is prominent. Indeed, a look at such a periphrasis is more generally instructive, I suggest. In periphrases of this type a generalized verb with a semantics almost reduced to its valency is complemented by an argument containing a more lexically dense but not usually prototypical noun, as opposed to deverbal. The verb of the periphrasis is, as it were, the analytic equivalent of a derivational affix. In Chapters 32 & 35 I shall contrast these with syntactic or **grammatical periphrases** like the progressive *be + -ing* of (I.61b) adduced above (which omits the valency of *extend(ing)*), repeated here.



In that case the periphrasis, with a {P} as head rather than a verb, fills a gap in the finite verb paradigm rather than establishing a new, complex lexical item, distinct in sense from (but not unrelated to) any deverbal base for the noun; with the former the progressive/ non-progressive contrast is extended from non-finite clauses to finite.

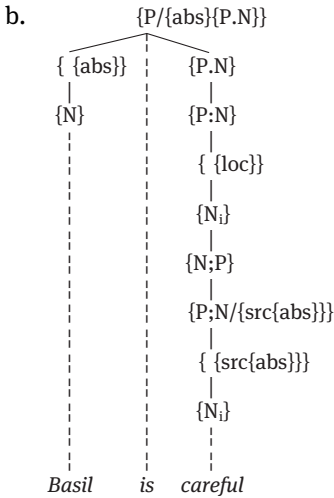
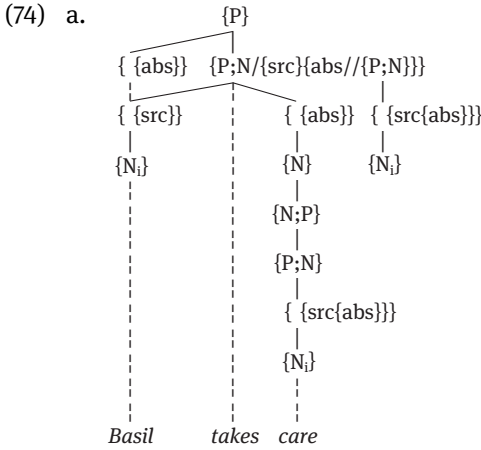
The nominals in the complements of lexical periphrases are not merely non-prototypical but very ‘verby’; they are ‘activity’ nouns. Indeed those in (73a) are transparently based on verbs.

- (73) a. take a walk, take a look, take comfort, take care  
 b. take a shower, take a train  
 c. {P;N}  
     |  
     {N;P}  
     |  
     {P;N}

And those in (73b) arguably involve a noun derived from a verb that is based on an instrumental argument. The periphrasis comprises a dedicated generalized verb plus a nominalized verb. There are similar formations involving *have* and *do*: *have a look*, *have a shower*, *have a care* etc. These periphrasts are typically simple agentive verbs with a complex, ultimately verb-based, absolutive valency. Periphrases headed by *give* are ditransitive (*give her a talking-to*), but not always overtly (*give a lecture*).

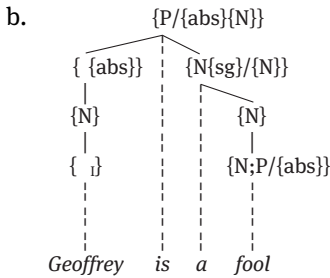
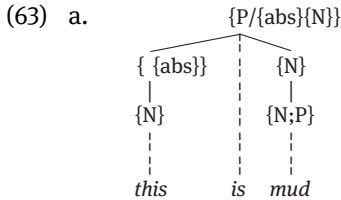
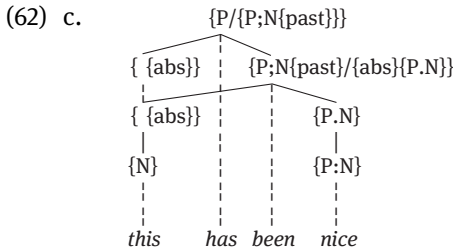
The existence of the lexical periphrasis *take care* suggests a verb source for the noun. Should we then suggest an ultimate verbal component in the lexical structure of *careful*, even in the absence of a simple verb that corresponds to this ultimate base – giving us, say, something involving the schema in (73c)? Plausibly, the activity associated with the nominal in *take care* is again associated with the presence of a subjoined verbal that is not realized independently in the appropriate sense. And this is also the case in *careful*. The suffix *-ful* typically derives adjectives from nouns or adjectives, but often the nouns are ultimately verb-based, as in *playful* or *helpful*.

That is, the phrase *take care* is to be represented as in (74a), where the ‘long-distance’ valency assigned to {abs} within the categorization for the periphrastic verb is an abbreviated version of the full subjunction.



If *take* in *take care* is merely a periphrasis, then it is appropriate to attribute to it a minimal content, amounting to little more than its complex valency, as in (74a). *Careful* would require something like at least (74b), whose lower part shares the valency in (64a). And may be accompanied by something like *with the porcelain*, as can *Take care*. That phrase is in apposition to the absolutive of a transitive equivalent of the {P;N} in (74a,b) – i.e. {N;P/{abs}{src}}. (74b) might also be appropriate for such as *cautious*, whose internal verbality is even more opaque.

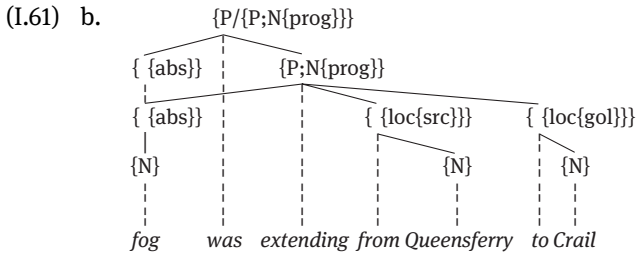
What we've looked at seems to be evidence, not just that some traditional adjectives are adverbs, but also that the alleged participants of adjectives and also nouns are, instead, the complements of functional categories – as with *leg (of)* and *close to* – or are associated with the presence of an internal verb category – as with *father* and *aware* and *careful*. Though tentative, this is an important result, if generalizable. And a significant consequence of dropping the assumption that all predicators – categories containing **P** – have valencies would be that all the structures including simple predicative adjectives and nouns, as well as the structures including such as non-predicatives, can be simplified as in (62c) and (63), formulated earlier in this chapter.



This is made possible by implementation of independently-motivated valency possibilities for the copula and comparator, in particular.

The copula of locative, equative, and predicative sentences is thus distinguished from grammatically/syntactically (or inflectionally) periphrastic *be* and

*have*, which latter require the introduction of a free absolutive, as illustrated by (I.61b), again repeated here.



This can then be said to characterize  $\{P/\{P;N\}\}$  in general, including all the grammatical periphrases.

We can now proceed in the next chapter with the analysis of the deverbal adjectives which initiated the complex and speculative discussion in this one, concerned with the distribution of valency among the contentive categories. It looks as if only verbs, among the contentive categories, might have valencies. I now return, on this basis, to the range of derived adjectives, starting with a reminder of the analyses suggested earlier in the present chapter.

## Chapter 22

# Derived Adjectives

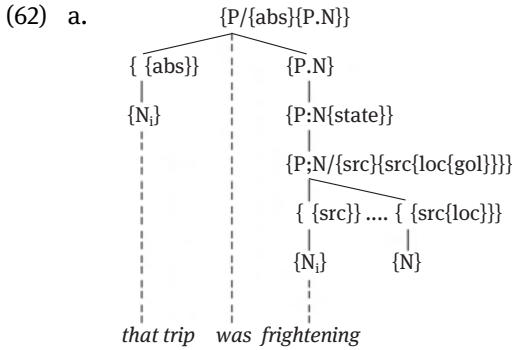
deverbal adjectives in *-ing*, again – deverbal and non-deverbal adjectives in *-ed* – deverbal adjectives in *-able* – and in *-ant/-ent* – denominal adjectives in *-al* and in *-ic* and *-y* – in *-ful* and *-less* – prefixes – derived adjectives in *-ish* and in *-(i-)ous* – in *-like* and *-ly* – collateral adjectives

Overtly derived adjectives, not surprisingly, reflect the mode of signifying we associated with the adjective. As attributes, and prototypically intensifiables, they are typically derived from a range of descriptive nouns and (particularly non-finite forms of) verbs, but the senses of these adjectives shade off into classificatory qualities and states and habits, as well as evaluation. We shall find that they are volatile and display a range of modes of expression whose members often do not cohere. I shall now try to support these preparatory remarks.

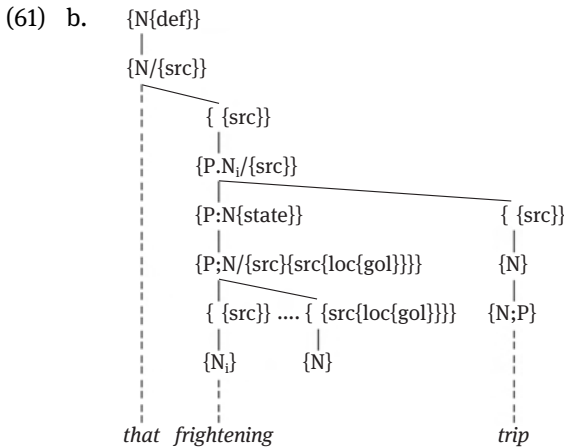
In the preceding chapter it was observed that, as with the noun-formations in Chapter 19, the arguments of the base verb in deverbals may have a role to play in the characterizing of the structure and syntax of the derived adjective. Thus, with the transitive verb base *frighten* the participant of the base of the adjective corresponding to the person who is frightened, as well as what is represented as doing the frightening, may both be represented overtly, as in the fuller version of (59a).

- (59) a. That trip was frightening (for Julian)  
b. That trip frightened Julian  
c. that frightening trip

*Julian* in (59b), with the corresponding verb, is a goal experiencer, one whose referent is caused to feel fear. The role of *Julian* in (59a) can also be so construed, but such an element is only optionally present; as with similar deverbal nouns, it is in apposition with the incorporated experiencer of the verbal base. The other incorporated participant of the base is coreferential with the absolutive argument of the copula in (59a), as was shown in (62a), where the (causative) internal structure of the verb is not represented (so that the valency of the verb as given here is strictly ungrammatical, or at least incomplete).



(59c), with the adjective in attributive function, was represented, again in Chapter 21, as in (61b).



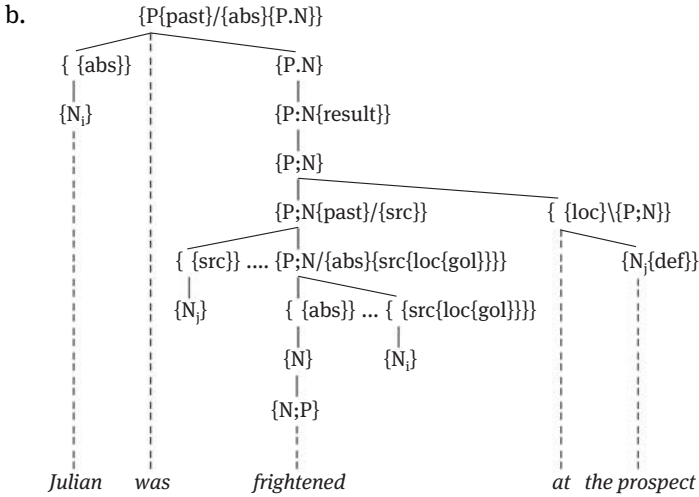
As was argued in Chapter 21, in neither case does the adjective bear a valency. But such a valency is not one of the aspects I acknowledge to be missing from these representations, including e.g. tense, as well as the internal structure of the verb.

But let us now turn to other aspects of the signification of adjectives and their derivation – and in particular to the derived forms in (58a), the sources for whose bases, as is apparent, belong to morphophonologically different groups of verbs.

- (58) a. (very) frightened, shaven, (very) drunk(en)
- b. (very) frightening, (very) winding
- c. (very) long, empty, (very) old

(58a) are again verb-based, but the state of the adjective is specifically a result. And in this instance it is the experiencer rather than the source of the action that is coreferential with the subject in (75a), and the potential apposition of *at* or *of* is with that source, as spelled out in (75b).

(75) a. Julian was frightened (at the prospect/of his mother)

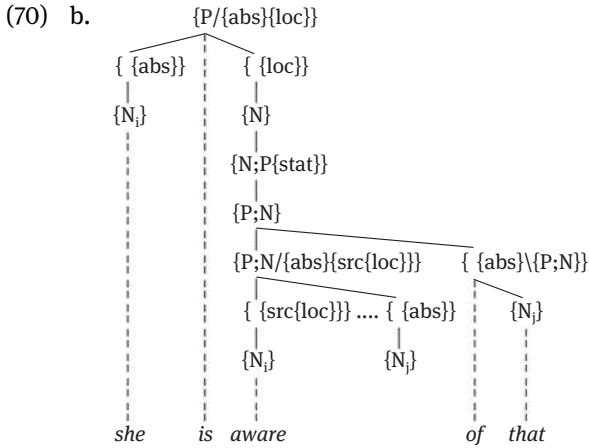


As observed in the commentary to Chapter 21, *frighten* is itself derived, a causative based apparently on a noun, though that internal structure is another aspect not shown in (61b)/(62a), which represent the corresponding *-ing* adjective.

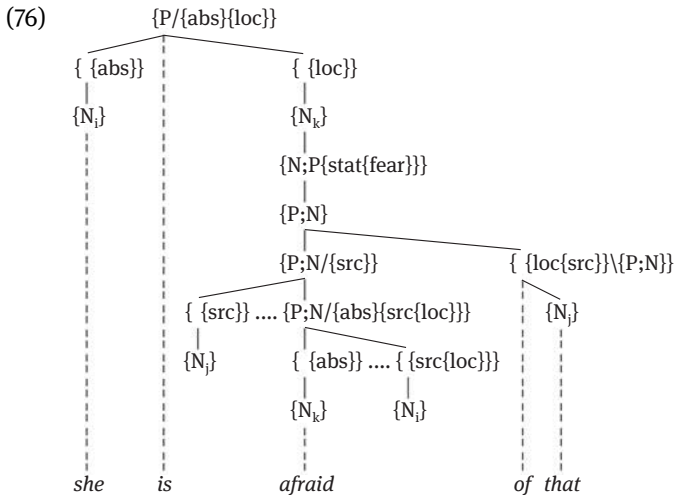
Alternative orientations of the valency, or diatheses, of the verb shown in (58a) vs. (58b) are revealed by the contrasting coreference relations in their representations. (62a) is agent-oriented and (75a) is patient-oriented. This correlates with the derived adjectival distinction between ongoing active state vs. state resulting from an action. The derivation of the first of these introduces simply a change in mode of signification, but that of the latter, in focusing on ‘result’, is also metonymic. These derivational properties will be important for an understanding of the development of the *have/be* periphrases; the non-finite verbal complements of the periphrasts are diachronically parasitic upon the adjectives.

*Afraid*, or Scots *afeard*, however, is apparently based, as represented in (76), on a causative whose source is an adverb like *aware* in (70b) from Chapter 21, but in (76) this structure has subjoined to it a spelled-out causative structure that brought about the state.





In (76) there is again an adverb locating the subject in a state, but based on a causative.



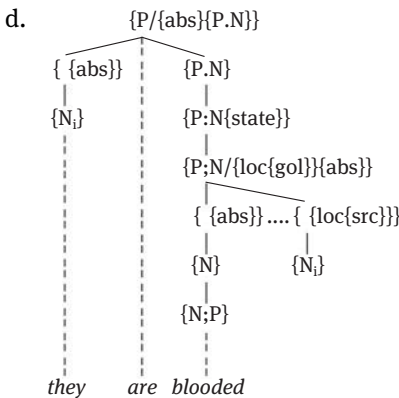
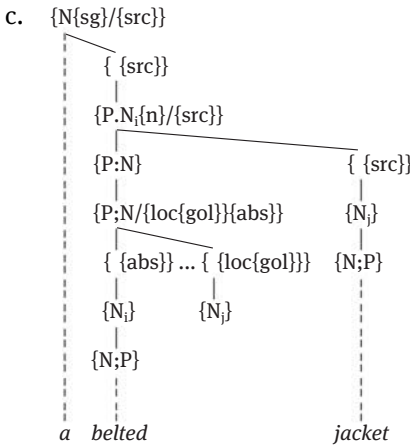
The locative head of the adverb in (76) is almost transparent, given the presence of *a-* (though obscured by reduction); but how much of this is part of any mental lexicon is uncertain! How much of the proposed difference between the representations of *frightened* and *afraid* is relevant to language use?

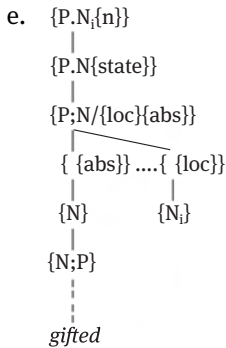
Some deverbal adjectives in *-ed*, such as *retired* or *deceased*, are based on intransitives, as are a few *-ing* adjectives, such as *willing* (but cf. *She is willing to resign*, with post-verbal infinitival participant). But these tend to be heavily

lexicalized; so that the verbal that is the synchronic source of the base of *willing*, whether it is taken to be the *will* of *She willed that to happen* or that of *She will attend*, is scarcely typical, and that of *deceased* is scarcely current, and the adjective is the source for an unusual converted noun that can be interpreted as singular or plural: *the deceased*. However, the ongoing vs. result state distinction and the active vs. patient patterning in the differentiation of the two types of deverbal adjective (*-ing* vs. *-ed*) remain appropriate in these intransitive-based cases too.

The same suffix as in (75) can also mark gradient and non-gradient adjectives based on nouns and phrase-based adjectives such as those in (77a) and (77b) respectively.

- (77) a. belted, checked, blooded, gifted
- b. large-boned, big-hearted, rosy-cheeked

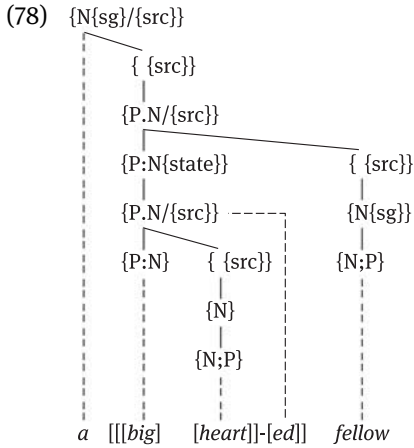




The noun-based adjectives in (77a) seem to involve an extension of the deverbal formation we have just been looking at, in so far as the result interpretation is often relevant: the adjective describes the result of some operation providing something or (at least partially) removing something. Thus, we might represent *a belted jacket* as in (77c): the *jacket* noun is coindexed with the acquiring argument of the verbal component of the derived adjective, whereas the base of the adjective is the noun that satisfies the absolutive argument of the {P;N}, and is coindexed with the head of the adjective path.

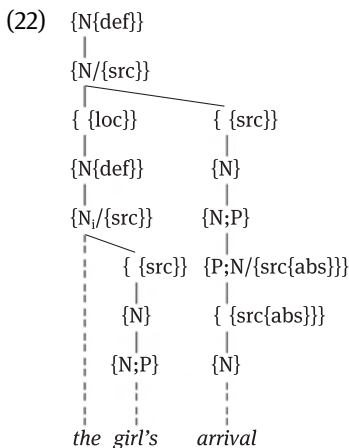
Sometimes the intermediate {P;N} has an independent lexical status. This is the case with the {P;N} in the deprivational derivation in (77d), presented this time in a predicative structure involving coreference between the subject and the incorporated locative source. Contrast the locative in the adjective *bloodied*, which is not deprivative. The adjective in (77d) is based on, among other possibilities, the medical sense of the verb (more usually *bleed*); I am ignoring the metonymic usage in the compound noun *blood-sports*. And in some cases, as with the phrase-based adjective *red-blooded*, the verbal relation may be simply possessive, as perhaps it is with the again attributive adjective in (77e). I have interpreted the adjectives in (77c,e) as classificatory ({n}). The verbal base in all of these also takes an unspecified agentive, not included in the representations, which also omit the comparator subcategories.

I have also included a dependent noun in (78).

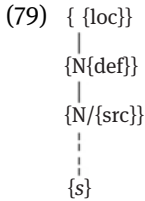


This characterizes the attributive-phrase-based adjectives in (77b), and includes an indication of morphological structure. The source of the adjective is an attributive phrase. The ordering of the component noun and adjective is inherited from the source. However, the affix, as expected, is attached, by redundancy at the interface between lexico-syntactic category and morphology at the end of the derived item as a whole – unless already stored. Neither the sequence nor the accentuation necessarily reflect compound status, but the attachment of the suffix to the whole sequence *big heart* (as shown by the configuration and bracketing) does, though this isn't shown in the tree (see further on compounds particularly Chapters 30 & 31).

Compare with (78) the genitive from Chapter 19 in (22).



Here too the suffix attaches to the last word in the phrase that is subordinate to the genitive configuration extracted in (79).



But in this case this placement is not lexically but syntactically determined, since the genitive phrase is not a lexical unit terminated by a derivational suffix, and the phrase may indeed be indefinitely long, and not necessarily terminated by a particular part of speech, as in *the girl with red hair ... just leaving's dress*. We look more carefully at morphophonological representation by affixation and other means in Chapters 27–29. And, as indicated, the kind of configuration attributed to *big-hearted* will have some significance in the later discussion of compounds. Here we continue to be concerned with derivation of categories and morphosyntactic relationships between the categorizations of words.

Together with *-ing* and *-ed*, perhaps the most familiar verb-based adjective-formation is the Latinate one in *-able* (and its competitors *-ible/-uble*), where the latter two in particular often involve prefabricated morphology with obscure bases that may have no source in an independent lexical item in English. This set of derivatives is associated with various metonymic categorial patterns but the predominating one is where the **potentiality** denoted by the adjective may be predicated of the argument that satisfies the absolutive of the base verb. And transparent formations in *-able* are particularly amenable to conversion to an adjective with a notional extension designating a specific manner (roughly ‘with pleasure’); cf. *legible vs. readable, potable vs. drinkable*.

Often the absolutive in *-able* forms corresponds to what emerges as the ‘object’ of the independent-source (transitive) verb that provides the base, as illustrated in (80).

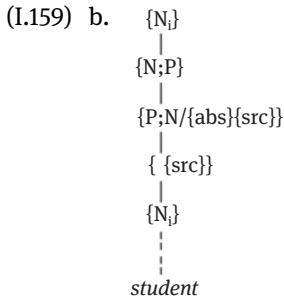
- (80) a. Freddie is likeable  
 b. Everybody likes Freddie

But the correspondence illustrated by (81a–b) is with the subject – though there is a transitive congener of the verb which behaves in the same way as in (80).

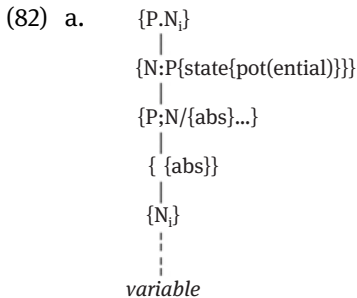
- (81) a. The weather is variable (at this time of year)  
 b. The weather varies (at this time of year)

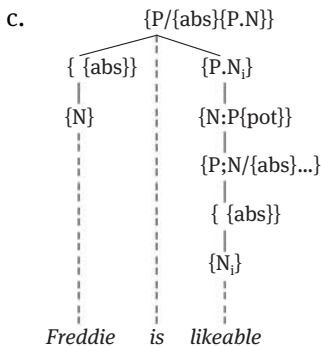
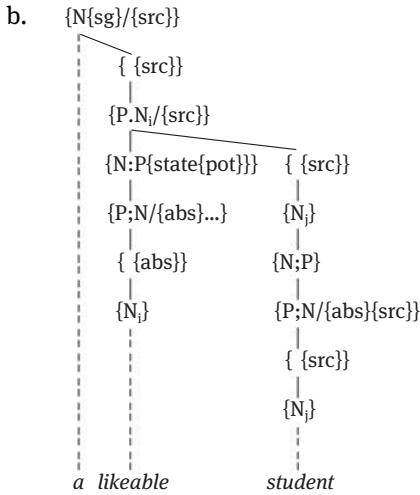
This variability in correspondence between arguments follows from the subject-selection hierarchy. In (80b) absolutive *Freddie* is outranked by the experiencer *everybody*, whereas in (81b) the absolutive *the weather* is eligible for subjecthood. This undermines the not uncommon description of *-able*-formation as creating adjectives derived specifically from a verb to which the equivalent of the ‘subject’ of the adjective bears an ‘object’ relation. Again we have an ‘ergative’ relationship indicated in (80)-(81). There is no motivation for mutational accounts in which *the weather* in (81b) is an ‘underlying’ object.

The expression of the ‘association’ adopted here between the *-able* adjective and the absolutive of its base verb again models itself on the analysis that was associated with agentive nouns. Recall once again (I.159b), where coreferentiality holds between the {N} to which the derived noun is subjoined and the incorporated agentive {N} of the base verb.



Likewise, I suggest for *variable* the representation in (82a), where it is rather an absolutive argument of the base verb that seeks coindexing; and the two derivatives, adjective and noun, are combined in the determiner phrase of (82b), while the predicative occurrence of the derived adjective is illustrated in (82c).



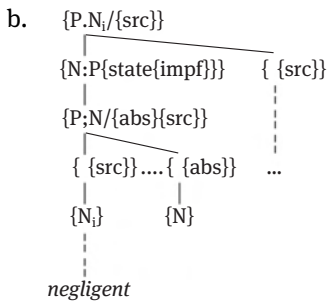


I ignore the transitivity of the base verb. The {P.N} in (83a–c) again represents the denotation set associated with the adjective, and it is the channel for gender, case, and number agreement in languages and circumstances where this is relevant (as suggested in the commentary to Chapter 14), and thus associated with the ‘agreement’ prosody of Chapter 9.

We have seen that with attributive adjectives the {P.N} to which they are subjoined is provided with a valency ‘/{src}’, as in (77c–d) or (82b) above, for instance. (82b) represents a determiner phrase where both adjective and noun are derived, and both of the incorporated arguments are coreferential with the {N} or {P.N} to which the non-verbal contentive is subjoined. As once more illustrated by (82c), predicative adjectives, as well as predicative nouns, are simply dependent, as arguments, on an instance of the corresponding functional category.

Adjectives marked with another Latinate pair of related suffixes, *-ant/-ent*, have bases, sometimes not too transparently, or indeed rather opaquely, in English, in a variety of verb-based types, but especially actional and experiencer verbs and thus often with at least one human participant. The opacity is greatest in examples of pre-fabricated morphology, of course. (83a) lists a few of these adjectives, which are commonly (unsurprisingly, given their etymological source), states that may be ‘habitual’ or ‘progressive’ – i.e. alternative interpretational varieties of **imperfective**.

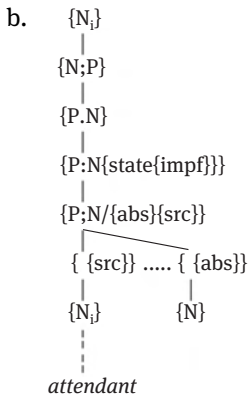
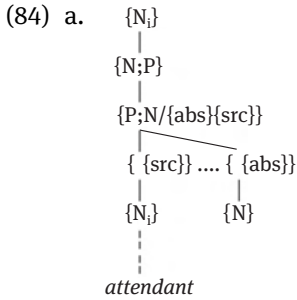
- (83) a. observant, negligent, ebullient, militant, pregnant, inefficient,  
senescent, sonorant, expectant



(83b) represents a transitive agentive type again in attributive role (hence the ‘/{src}’ valency for {P.N}, unfilled here). *Senescent*, for instance, is non-agentive, and again illustrates the obscure base of prefabricated non-English morphology (despite *senile/senility*, *senior*, etc.). And *pregnant*, unlike, say, *observant*, is not gradient, except metonymically or metaphorically.

The same suffixes are also associated with derived nouns, once more commonly with obscure base. Thus we find the (metonymic) agentive nouns *attendant* and *deterrent*, or the non-agentive *descendant* and *antecedent*. Sometimes the same form may be noun or adjective, often with disparate meanings, as with *patient*. The normally habitual actional noun *attendant* can be given a representation that is, apart from the identity of the derived word class and its consequences, analogous to that for *negligent* in (83b).

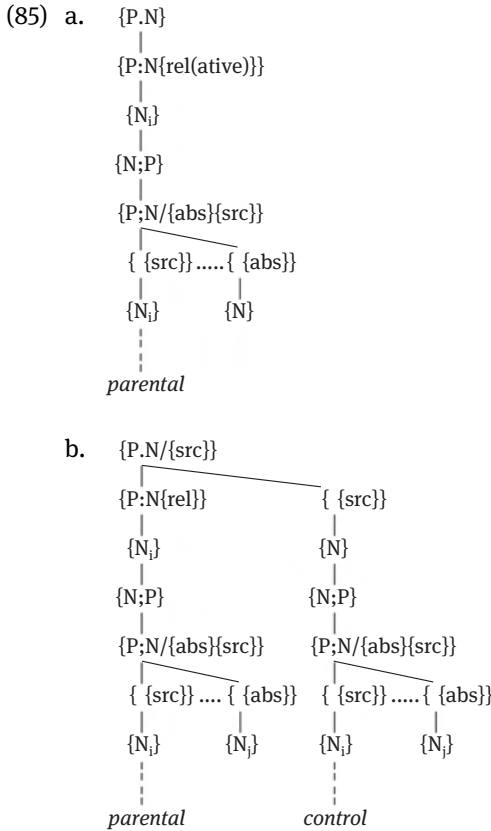


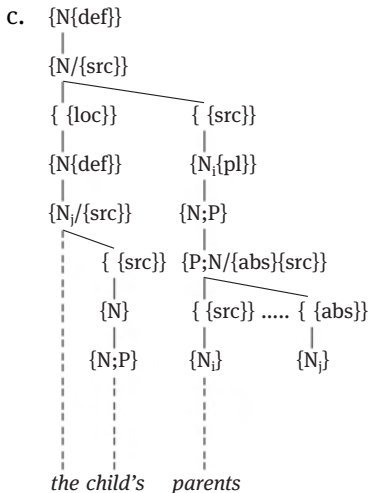


However, though the noun sense is dominant in many of these formations, it may be that they are all initially deverbal adjective formations that were often converted to nouns, nouns retaining the imperfective interpretation. An adjective categorization seems to be retained in the present case in *attendant circumstances* (though this form could be an attributive nominal – but this is notionally unlikely). Assumption of an intermediate adjective for the noun *attendant* would presuppose some such structure as (84b) rather than (84a), but any semantic contribution of the adjective would not correspond to what we find in *attendant circumstances*, given the idiomatic status of this sequence. Different language users might see conversions going in different direction, if at all. However that may be, let us now look at other adjectives, which take some of these formations, among others, as a source for their base.

The noun base in *parental*, with (again non-native) final *-al*, has itself an obscure ultimate verbal base. In other cases, a further adjective is derived from an otherwise non-occurrent (English) adjective in *-ant/-ent*, as in *sedent-ary*, where the second derivation seems to emphasize the habitual sense. The same

suffix as in *parent-al*, with the same sense (having to do with ‘belonging to’ or, indeed, ‘having to do with’) that we find in *central*, is based here on an orientational noun, as well as with many other types of noun. (85a) gives the (at least) three-contentive representation for *parental*, the ultimate (verbal) base wherein is not independently manifested (though there is a converted verb based on the noun *parent*).





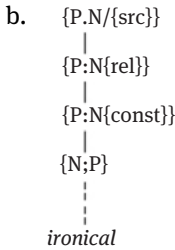
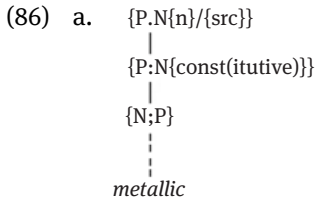
In (84a–b) and (85a–b) I have labelled the adjective type as **relative**. The presence of a verbal component is associated with what I take to be the normal subscripting included in the attributive structure in (85b). Coindexing in that case involves both participants in unmarked instances; *parental* is an attributive in the phrase terminated by a derived noun whose base verb normally matches the verbal component of *parental* in its incorporated participants. We have a slightly different double pairing with the genitive phrase containing the noun *parent* in (85c).

The source of the base of *-al* forms is often obscure in English, and may not be perceived as such, in some instances more than others: *real*, *royal*, *loyal*, *legal*. On the other hand, *-al* is often tacked on to other suffixes that mark the derivation of an adjective, especially *-ic*, as in *ironical* or, with a now more obscure source for the ultimate base, *comical*. The *-ic* currently attracts no such *-al* in relation to (the much abused) *iconic*, or *metallic*. And what seems to be added by the final suffix in *ironical* is associated with a preference for application to humans and their actions. Sometimes the *-ic-al* sequence behaves as a ‘unit’, in so far as there is lacking a simple *-ic-form*, as in *farcical*, *surgical*, and *whimsical*, the last of which shows a complex suffix alternation with respect to *whimsy*. And *vertical* has a complex morphophonological relation, involving ‘frotting’, with *vertex/vertices*.

The substitution of *-ic* for *-y* in *ironic* does not seem to be associated with the presence of anything more than a change of mode of signification – though individual examples of this substitution have been further lexicalized. And *comic*, *mystic*, *stoic*, *psychic*, and *mechanic*, for instance, can undergo conversion to human noun, almost obligatory in the last instance – and even more so *medic*, which doesn’t seem to be the diachronic source for *medical* – quite the reverse.

And *mechanical* is not obviously based on *mechanic*. Such idiosyncratic developments are, of course, to be expected, particularly if the mixed language sources of adjectives is involved. For even more opaque conversions to noun, consider *logic*, *music*, *magic*, *tragic*, *metric*, which can all be the source of *-al* adjectives; and *musical*, for instance, can be converted to a noun.

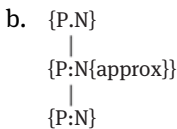
Given, however, that the basic contribution of *-ic* seems to be simply change in mode of signification, only a simple obvious secondary adjective feature, **constitutive**, characteristic of many such formations, is included in the attributive representation in (86a).



The addition of *-al* to *-ic* complicates the relation between adjective and noun, so that, as observed above, *ironical* could be applied to a human that uses irony rather than something that has the quality of irony. The latter is the force of the metonymic {rel} feature in (86b).

There are some complex adjectives derived from possibly simple adjectives. Notable here are the very common **approximative** adjectives such as those in (91a), with a structure such as is suggested in (87b), though the first example in (87a) may be ultimately converted from a nominal.

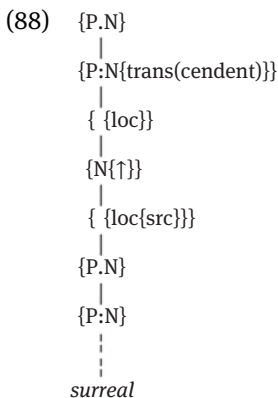
(87) a. greenish, roundish, youngish, longish, slowish



The suffix is Germanic. And base-sources include the most prototypical adjectives, which are normally gradient as well as simple. Such approximatives are also susceptible to litotes, so that *slowish* is used of some activity that is unexpectedly or undesirably slow, where again a verb is hanging around (as will be important in later discussion in this Part). Even the quantitative comparative has attracted such a suffix, *more-ish*, but the sense of approximation is replaced in this instance by the expression of the desirability of a little more, typically of some consumable. And de-nounal examples such as *foolish* or *mode-ish*, are scarcely approximative, but more like *-ic* formations semantically, marking mainly a difference in mode of signification, and constitutive. Different again are ‘ethnic’ adjectives such as *English*, which often can be converted to a language name, as well as being related in some way to *England*.

Litotes is also sometimes associated with **negative** formations, where again the derivation involves retention of the same subcategory, but for the negation. They, however, are marked by a prefix, not a suffix: *unable*, *unlovely*, *indefinite*, *immoral*, *disloyal*. So too with the affix *a-* of **privation** in *amoral* or *agnostic* or *amorphous*. Denial of negation can also strengthen the sense of the non-negative base, as exemplified by *not unbecoming* (and see further Chapter 34 and Commentary on it).

Similarly prefixed are ‘transcendent’ formations exemplified by *surreal*, or *supersecular*, or *supraindividual*. The first of these might be structured as in (88), with components in common with comparatives, as is implied by the suggested term ‘transcendent’.



This set of historically related prefixes, along with *hyper-* of Greek origin, also occur on other contentives, such as the popular *super-hero*, but the source of the base is often obscure, particularly in prefabricated formations, as with *transcend-*

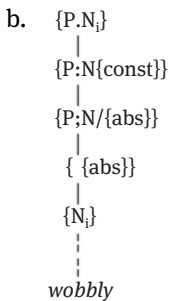
*ent* itself, along with some other *trans*-forms. But more productive is the ‘crossing’ sense, including as an independent unusual ‘back-formation’ or, rather, base-clipping *trans*.

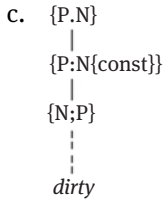
Many of these prefixes are shared with verbs, including the currently productive *un-*, as in *unfollow*, while nouns tend to unique entitative-type negators, such as *non-person*, *non-solution*, etc., or conversions from adjectives, such as *the undead* (usually covertly plural – and more common than the adjective) or *the improbable* (non-count). The verb prefix in *destabilize* and *detach* often has this ‘undoing’ sense, but the base is frequently obscure, and also the sense of the prefix, which also may be confused with other initiatory *de*’s. In *de-platform* the prefix is also verb-forming.

Recall that we also find prefixation reflecting functional categories rather than merely secondary features (though many of the latter it may be possible to deconstruct as involving categorial structures including a functional). Recall the admittedly obscure functor expounded by the *a-* of adverbs like *aware*; this is shown in (70b) above, where the functional element heads the structure. Such deconstruction is a major poorly explored area of the lexicon.

We noted the diminutive-marking or hypocoristic suffix *-y/-ie* for entitatives in Chapter 20, exemplified by *doggy/doggie* and *Johnny/Johnnie*: *-y* is another suffix ambivalent in terms of derived category, in that it is also adjective-deriving, whose sense I again label *const(itutive)*. It appears in the adjectives in (89a) with bases that seem to have their sources in noun or verb or successively both, or it is undecidable – though there is no obvious synchronic source for the base in the case of the last two (and others – such as *tiny* or the rhyming iconically diminutive *teeny-weeny*), if they are taken to exhibit this suffix.

- (89) a. dirty, funny, shiny, runny, wobbly, fiddly, rickety, rickety, silly, pernickety





Basically, these native suffixations are used syntactically to assign to (ultimately) a nominal category properties that are characterized by the presence of what the base denotes. But there may also, of course, be further metonymous and metaphorical developments, complex in the case of *fishy*, for instance. The first two items in (89a) seem to be nominally based, but the forms with discernible sources that follow could be deverbal (at least ultimately), as in the representation in (89b), which in this case rejects a possible intermediate deverbal noun – more plausible in the case of *funny*. However, (89c) assumes *dirty* has indeed a noun base – and there is a derived verb *dirty* with a converted source in the adjective.

Among the most common de-nounal adjectives in English are those derived by the suffixes *-ful* and *-less*, which are also Germanic in origin. Such formations are illustrated in (90a).

- (90) a. beautiful, masterful, thoughtful, thoughtless, merciless, peerless  
 b. fretful, resentful, tireless, dauntless  
 c. hateful, hopeful, hopeless, senseless  
 d. grateful, feckless

Notionally, typical examples attribute full possession of an entity or absence of it. Verb bases, illustrated, more or less plausibly, in (90b), are very uncommon. Instances, such as those in (90c), which might appear ambivalent between a noun and a verb base, are more easily taken as noun-based, given the prototypical semantics of the suffixes – though the noun may indeed be a conversion from verb. As we frequently find, some base sources, however, are difficult to identify. Although there may be perceived a rather opaque synchronic relationship between *grateful* in (90d) and *gratify/gratitude/ingrate, grate* (in the relevant sense) is obsolete (as is non-jocular use of *grateless*). And a synchronic source for the base is simply lacking in the other form quoted there (*feck* being non-standard – as, alas, is *feckful*, apparently).

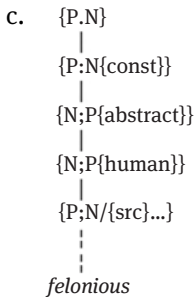
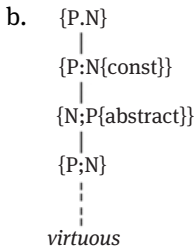
We can perhaps distinguish the two formations (*-ful/-ness*) illustrated in each of the sets of (90) by the diacritic secondary features in (91) – leaving (as, unfortunately, elsewhere) the precise semantics unexplored.

- (91) a.  $\begin{array}{c} \{P;N\} \\ | \\ \{P;N\{\text{hol}\{\text{istic}\}\{\text{max}\}\}\} \\ | \\ \{N;P\} \end{array}$                       b.  $\begin{array}{c} \{P;N\} \\ | \\ \{P;N\{\text{hol}\{\text{min}\}\}\} \\ | \\ \{N;P\} \end{array}$

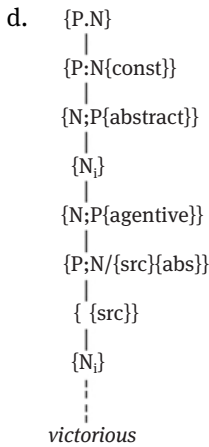
Despite the features **max(imum)** and **min(imum)**, both kinds of formation are mostly treated as gradient – as with *very grateful*. The consequences of hyperbole, of course, are everywhere – typified by *very unique* or *completest* or *very best*. *Very* and the superlative in these cases, as already observed, are often simply affective intensifiers, scarcely an extension of position on a gradient, but the gradient interpretation may be the present norm for many of these formations. However, unlike, say, *very beautiful*, *very peerless*, for instance, is very doubtful – but who knows ...?

Such formations as those in (92a), again constitutives of some sort, perhaps, are typically noun-based, once more – indeed, in some of the *-ious* instances at least, apparently doubly so, as well as having a covert verbal base, which is overt in *various*.

- (92) a. felonious, victorious, vicarious, virtuous





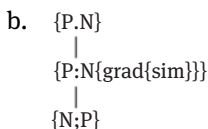


A virtuous person is a person with virtue; the adjective is constitutive. In (92c) the medial *-i-* is taken to be a distinct suffix, deriving from a concrete, indeed usually human (*felon*) an abstract noun, corresponding to *felony*. The derivation in *vicarious* is rather opaque synchronically, and the intermediate form corresponding to *vicarious*, abstract *vicary*, is now rather uncommon (as is human *vicary*, but not the specialized *vicar*). On the other hand, we can plausibly extend even further the derivation in (92b), for instance, by observing that *felon*, and even more obviously *victor*, is an agentive noun, though in English a verbal source is not overt. This would give (92d).

In other circumstances the status of medial *-i-* is less obvious. Is it derivative in *obvious* itself? Or in *obviate*? Or how about *oblivious*, with related noun *oblivion*? Or the familiar *ferocious* with related noun *ferocity*. It would seem so, for speakers who analyse such historically related forms at all. I suspect, however, that for many speakers there is at most a perception of some sort of connection between the members of such pairs. Some of the uncertainty arises again from the pre-fabricated status in English of these Latinate morpho(phono)logical formations. However, further pursuit of this here would anticipate the subsequent discussion of morphophonological structure in Chapter 28 of Part III.

Simpler in this respect are the **similative** adjectives associated with the non-Latinate *-like* suffix, with noun sources.

(93) a. sylph-like, child-like, bird-like, lifelike, dream-like, lady-like



Once more, something along the lines of (93b) seems to be appropriate. This suffix is etymologically related to, but developed quite differently from, the final suffix we shall look at in this chapter.

The latter is a suffix with diverse functions, including adjectival derivations, from both adjectives and nouns. Some of the functions of this suffix, *-ly*, are illustrated in (94).

- (94) a. lovely, worldly, lordly, manly, nightly  
 b. goodly, poorly, lowly, sickly, kindly  
 c. comely  
 d. badly, poorly, comfortably, willingly, kind(li)ly

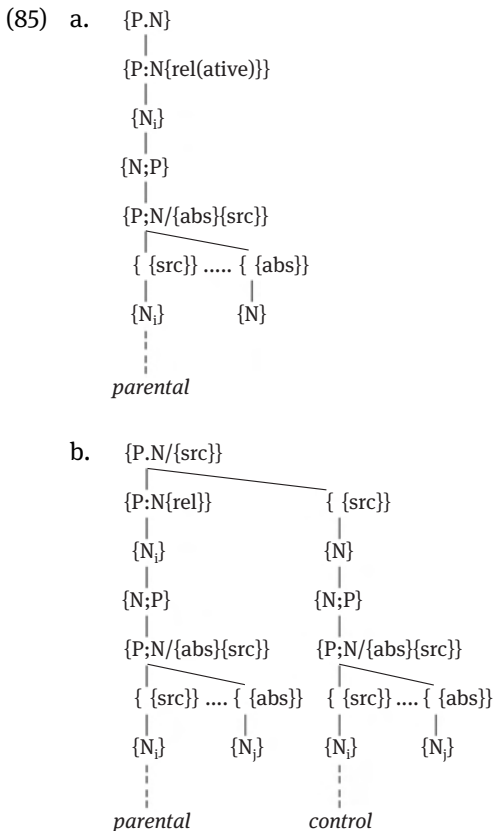
(94a) involves noun bases and the interpretation of the more transparent is not unlike the derived adjectives in (93), but established derivatives have had time to develop lexicalizations. These adjectives attribute, more or less transparently, a likeness to a particular type of entity. But the likeness is less direct, and the connection more specialized than with the adjectives of (93a): consider particularly the last derivative in (94a), where the suffix can be added to calendar words, and can also operate as adverbs. Already in Old English, the ancestor suffix of *-ly* is diverse in its functions. Moreover, association with the independent full form *like* is, of course, more transparent in expression in such as *lady-like*. We return to the status of *-like* in Chapter 30, concerned with compound elements vs. affixes.

The formations in (94b) mark the derivation of adjectives from adjectives (though historically, at least, *kindly* is more closely related to the noun *kind*). Here the derivate ‘specializes’ the sense of the base, applies it to a particular domain, especially to human conditions. Apparently derived forms such as that in (94c) lack a plausible source in Present-day English, but in its case the historical source is adjectival (meaning something like ‘delicate’) and the derivate seems to conform to the de-adjectival pattern. However, the most common role of *-ly* is illustrated in (94d), to which we return in the chapter that follows.

Let us note here finally a lexical relationship intermediate between the overt derivations and covert lexical complexity that we have already encountered. This is illustrated by so-called ‘collateral adjectives’ such as *equine* and *vernal* and the respective semantically related noun *horse* and name *Spring*. A clearly derived Latinate (or, elsewhere, Hellenic) adjective is matched by a Germanic entitative. We have **derivational suppletion**, as opposed to paradigmatic suppletion. The latter is a more familiar, indeed generally accepted, notion – discussed in Chapter 9. However, the base of the adjective formation is also changed completely from the ‘source’, as is the stem in *go* when the absolute tense of the

verbal is past. Such suppletive derivational relationships are not unknown elsewhere in the lexicon, but this subset of the collaterals that includes *vernal* is the most familiar type.

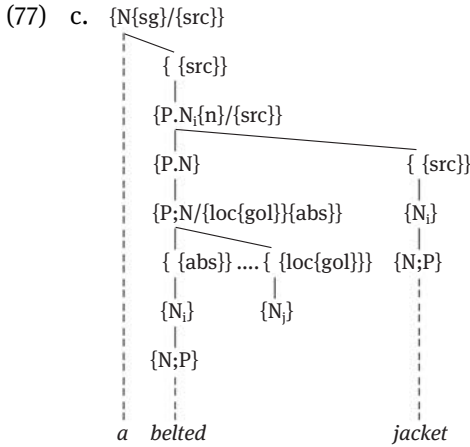
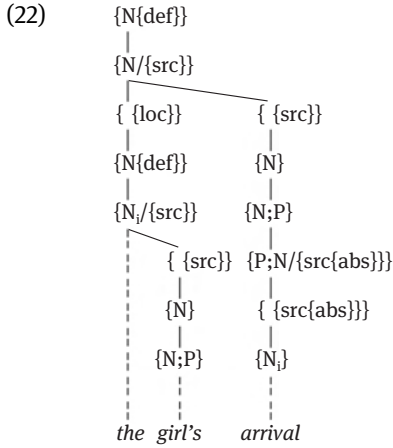
We have encountered the suffix *-al* already in the present chapter. And we illustrated the structure associated with derived relative adjectives discussed above by (85a–b).



In *vernal* even the very same *-al* suffix is involved in the expression of the collateral derivational relation.

More generally, the discussion in this and the previous chapters in Part II has revealed some fundamental similarities between verb-based noun and adjective lexical structures, including the important role played in these by the valency of the verbal bases, even when the presence of the verb is not signalled in expression. Again this involves metonymic relationships, and much coindexing.

Consistent with the notional characters of noun and adjective, the role of coindexing is, however, despite much overlapping, also distinctive in some respects. Compare, for instance, the distinctive patterning of the coindexing in the genitive structure in (22) with that in the attributive in (77c).



The former involves **coreference** between an independent determiner and a verbal argument within the nominal complex, and the latter shows simple **coindexing** between a verbal argument within the attributive complex and the subordinate noun.

Contemplating the deriving of adjectives also throws up many instances of bases that have no independent lexical existence, sources. Indeed, in such cases and others, even if transparent, it is likely that many of the derivational relation-

ships formulated here are absent from the mental lexicons of most speakers of English; they reflect a diachronic relationship only, and synchronically at most a vague recognition of similarity. And, indeed, the affixes involved may serve synchronically only as word-class markers. On the other hand, the notional regularity of many 'collateral' relationships may compensate for the derivational suppletion involved.

Even in this short chapter we have encountered a diversity of adjective-deriving mechanisms. This observation concerning English is not inconsistent with the general picture, such that there are languages where most (particularly non-prototypical) or all adjectives are derived. The adjective derivations we looked at here also remind us, by the proliferation of secondary features appealed to, of the provisional status of many (at least) of the latter. The very label '{rel}', for instance, invites more articulated investigation of the structure of the relation involved. I anticipate that further exploration of lexical structure will enable us to deconstruct these features, leading to greater explicitness and transparency in the characterization of lexical structure.

# Chapter 23

## Determinerization, Attributivization, and Adverbialization

types of determinerization and attributivization – more on comparators – the *-ly* suffix again – adverbs and their derivation – adverb as a part of speech – nouny adjectives – adjective- vs. verb-modifying and {P}-modifying adverbs – adverbs and comparators

This chapter is principally concerned with the derivational role of non-verbal non-contentives. We shall look at three areas that illustrate the consequences of these derivations for the grammar, particularly of non-verbals, which have been our concern in the preceding chapters. This mainly involve functors and determiners, including their mutual interaction, and their interaction with comparators. This involves not so much modes of signification as **modes of relationship** between modes of signification.

Determiners have already appeared in a variety of contexts, connecting entities and scenes to their relations in scenes and within arguments, and to their reference. It is also, in the first place, becoming very clear to me, particularly from the last few chapters, that there are different kinds and combinations of determinerization – conversion to {N} – to be recognized beyond what was envisaged in Chapter 8. Some clarification of this should contribute to the ongoing discussion in this Part. Let us briefly review earlier and more recently suggested derivations of this kind. The first type, represented by the redundancy (I.91a) from Chapter 8 that obligatorily subjoins nouns to a determiner, repeated here as (95a).

(95) a. *DETERMINERIZATION*

$$\begin{array}{c} \{N\} \\ | \\ \{N;P\} \Rightarrow \{N;P\} \end{array}$$

b. *PARTIAL DETERMINERIZATION*

$$\begin{array}{c} \{P.N\} \\ | \\ \{P:N\} \Rightarrow \{P:N\} \end{array}$$

c. *DEFINITE DETERMINERIZATION*

$$\begin{array}{c} \{N\{\text{def}\}\} \\ | \\ \{\langle\langle N \rangle, \langle\langle P \rangle\rangle\} \Leftrightarrow \{\langle\langle N \rangle, \langle\langle P \rangle\rangle\} \end{array}$$

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We can now give recognition to a partial determinerization that associates adjectives by subjunction to a comparator, which includes the non-dependent feature **N**, as in (95b). Its presence allows comparators to share properties with determiners proper. Both comparator and determiner can head an attributive (partitive) phrase and satisfy a partitive functor by virtue of the presence of the functional feature **N**. Non-positive comparators may be analytic, so that (95b) is not obligatory, except with positive comparators. However, the analytic comparator in *more difficult* can, like the synthetic comparators, acquire a partitive valency, given its specification as {P.N}.

(95c), which is an extension of (I.112), originally invoked in discussion of names, optionally subjoins certain categories, including {P/}, to a specifically definite determiner.

(I.112) (ACTIVE) NAME DETERMINERIZATION

$$\begin{array}{ccc} & & \{N\{\text{def}\}\} \\ & & | \\ \{ \langle x \rangle \{GENDER\} \} & \leftrightarrow & \{ \langle x \rangle \{GENDER\} \} \end{array}$$

(I.112) is optional, but necessary for (non-vocative) names to count as active, and for metalinguistic reference to inactive names (*Mildred is his favourite name*), as well as for some pronouns. This is still allowed by (95c), if the input includes emptiness of major categorization as one of its options. But subjoined to such a determiner can also be the obligatory {N} governing nouns, as well as the {P.N} of adjectives.

These last configurations in English are associated with genericness, as with the participants in *Bankers like money* and *Rich bankers like big bonuses*. Compare the singular generic in (I.87a), with an analytic {N{def}}.

(I.87) a. The dodo is extinct

(I.34) a. The workers were poor

The overtly definite plural of (I.34a) has a subjoined partitive, however, as in *the girl's arrival*. The full stop in (95c) indicates that **N** and **P** may be combined, giving a comparator; but the subjoinee cannot be null, as opposed to containing a feature combined with nothing.

Thus, (95c) allows for another possibility: **P** is allowed to be present on its own. The finiteness element can also be subjoined to a definite determiner (recall Chapter 15 on the definiteness of the finiteness determiner). It also does not apply obligatorily to finiteness, however, which may be adjoined instead to *that*, if sub-

ordinate, or occupy the root in the whole predication tree, and so subjoined only to a mood {P}, not to {N{def}}.

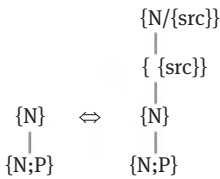
(95a) and (95b) provide a feature **N** or **P.N** which denotes the denotative sets of nouns and adjectives, respectively, while (95c) provides the products of these redundancies, along with names and finiteness, with the capacity for definite reference. Lacking the {N}s provided by (91a–b), names and finiteness do not denote: the former identify uniquely and the latter confers the potentiality for independent sentence-hood and ultimately a mood-type, if not subordinate (as again discussed in Chapter 15). And by virtue of (95c) both these categories can refer definitely.

Both names and finiteness lack **N** inherently. The other category lacking **N** is the functor, { / }, but the unmarked valency of the functor is {N}; the unmarked lexical categorization of a functor is { /{N}}. Verbals do not undergo anything like (95a,b). Though verbs may participate in (language-internal) coindexing, reference to the signification of verbs is not invoked in the grammar, merely the reference of embedded sentences, i.e. {P} dependent on {N}.

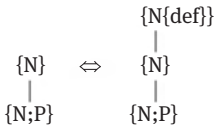
The affinity of noun and determiner indicated in their categorial representations can be associated with the availability to nouns of **super-determinerization**. This is manifested in (96a) and (b) which are lexical partitives and generics, where the unmarked value for the lower {N} is {pl}, indicating the denotational set of the noun.

(96) a. *SUPER-DETERMINERIZATION*

*PARTITIVE*

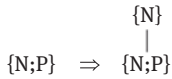
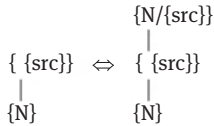


b. *GENERIC*



(96b) is already provided for as a sub-part of (95c). Here we are focusing on this other aspect, involving superdetermination, {N} subjoined to {N} – albeit indirectly in (96a). (96a) replaces (I.91c).



(I.91) a. *DETERMINERIZATION*c. *PARTITIVIZATION*

Both redundancies in (96) take the output of (I.91a/95a) as input.

$\{N/\{src\}\}$  can be specific or non-specific, and this can be differentiated by the use of *some* vs. *any* – as in (I.34b) vs. (I.86f), which resolves this aspect of the ambiguity of the simple plural, which can be definite (generic) or specific partitive or non-specific (non-definite), particularly in affective environments.

(I.34) b. Some workers protested

(I.86) f. Did any workers protest?

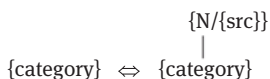
In singular expressions  $a(n)$  is ambiguous between non-specific and specific, as shown in (I.87b) vs. (I.87e).

(I.87) b. A cat is a wily animal

e. A cat comes to our garden

This concludes the first of the up-datings that are called for in this chapter.

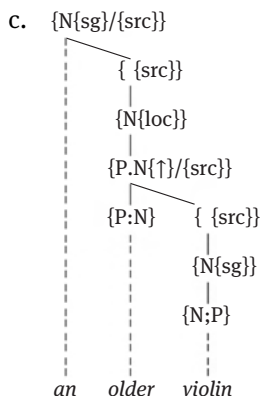
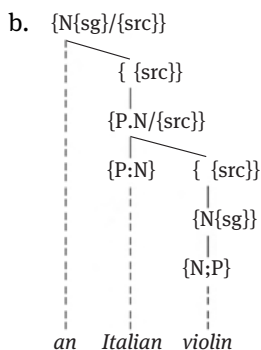
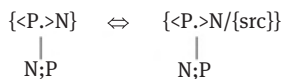
(95b) can subjoin an adjective to a comparator, but in present-day English the result is incompatible with adjunction, at the interface, of an adjective to an analytic comparator. But either adjunction or subjunction to a comparator is obligatory. This has an interesting consequence: the presence of **N** combined with **P** means that, to be a pre-nominal attributive, uncomplemented adjective configurations need not undergo the full version of prenominal attributivization (I.93d) (from Chapter 8), whereas prenominal-attributive status for other categories has been regarded as obtained by virtue of this redundancy.

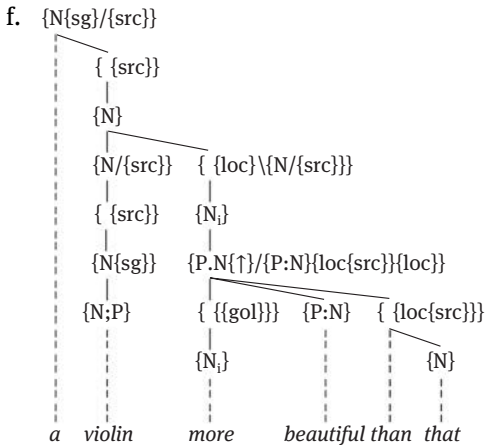
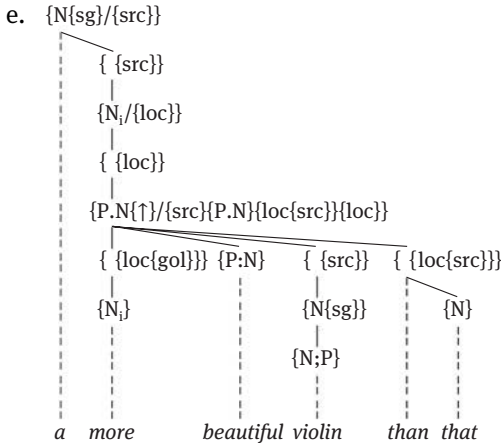
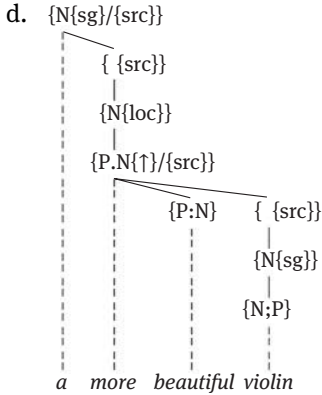
(I.93) d. *PRENOMINAL ATTRIBUTIVIZATION*

Eligible categories are nouns (including denotative {N}, adjectives, analytic comparators, inflected non-finite verbals (in *-ing* and *-ed/-en*) and functors with subjoined complements. This is the second area of conversion to functional categories that is our concern in this chapter.

Thus: to gain attributive status, adjective expressions, whether headed by an analytic or synthetic comparator, simply need to acquire a partitive valency, as in (97a), where, I have included attributivization of nouns (recall Chapter 8), which, being provided with {N} by (I.91a)/(95a), also need not appeal to (I.93d), and N;P, identifying a cross-class (and so lacking braces), is only part of the major categorization of the adjective.

(97) a. ADJECTIVE/NOUN ATTRIBUTIVIZATION





The formulation in (97a) means that (I.93d) applies essentially to non-finite verbs and functors whose complement is subjoined, rather than adjoined. An instance of such a functor might be the locative headed attributive in *a nearby house*. The attributive structure resulting from (I.93d) and (97a) is well-formed only if the category subjoined to the attributive node is not itself analytically complemented, as in (97b–c). However, analytic comparators apparently present a rather different picture.

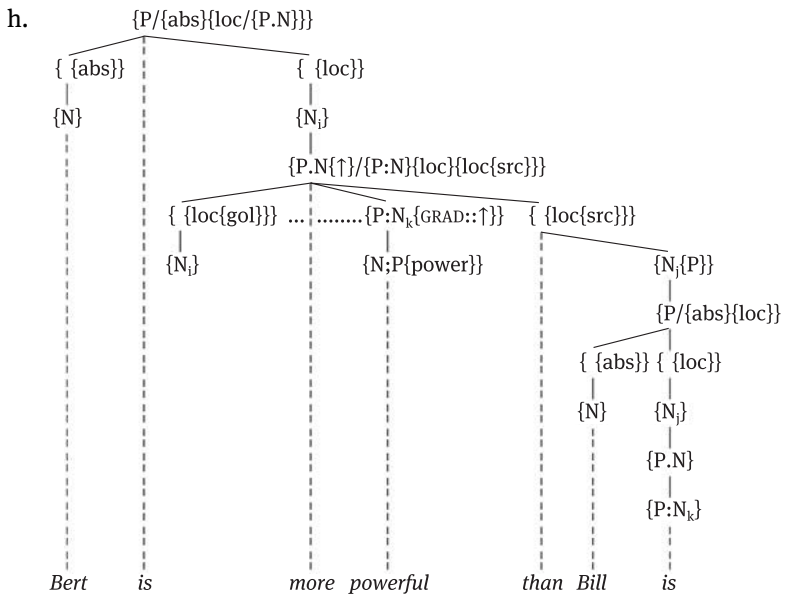
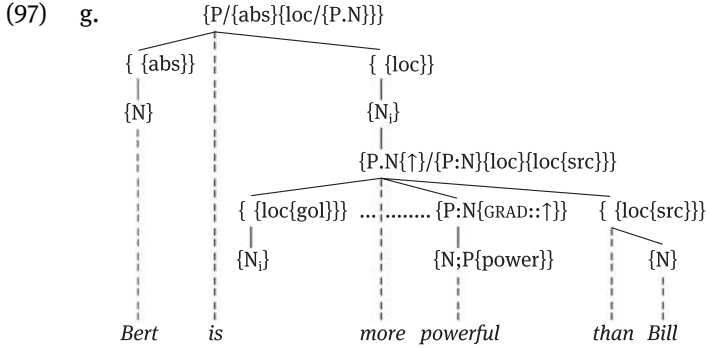
(97b) shows a positive adjective configuration that has undergone (97a), and is not overtly complemented. (97c–d) show an adjective respectively converted to and adjoined to a comparative comparator. The comparative is in both cases converted to a location on a dimension. The complemented comparator in (97d) precedes the noun; it is apparently not subject to the well-formedness condition to which any prenominal would otherwise have to conform. It is as if the sequence was treated as a periphrastic unit. But also the overt dependency is embedded in a chain of subordinations. The compared violin is not specified, as in a sentence like *I have never seen a more beautiful violin*.

However, if the comparator complex has an overt complement in addition to the adjective and the nominal source, in particular the *than* of (97e–f), either the whole attributive phrase (97f) or the directional complement introduced by *than* (97e) is post-nominal. (97f) avoids violation of the restriction on prenominal attributivization, by undergoing post-nominal attributivization (again from Chapter 8).

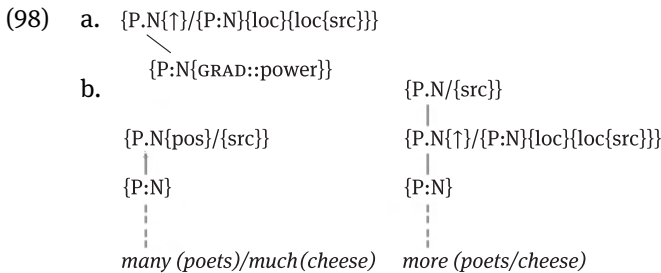
(I.93) e. *POSTNOMINAL ATTRIBUTIVIZATION*  
 $\{\text{category}\} \Leftrightarrow \{\text{category}_i \setminus \{N/\{\text{src}\}\}$

I have regarded the additional complement as an abstract locational source, realized in English as *than*. In other languages, as observed, the corresponding item is transparently also used as a concrete locational source. This complement is the source point of comparison on the dimension (here degree of beauty) along which the referent of the phrase is placed at a higher (‘↑’) point.

The directional structure suggested here for comparative constructions is perhaps clearer in the predicative structures in Chapter 21, which update the suggestions in Chapter 16, and which I now update as (97g–h), in order to make clearer the coindexing of the points on the vector of powerfulness.



(97h) compares more explicitly the placings of Bert and Bill on the power gradient. We can isolate the comparative complex as in (98a).



In (97g–h) it is not indicated that *more* is itself based on an adjective, as is acknowledged by the representation in (98b). This is more obvious when this de-adjectival comparator is converted to an attributive, as in *more poets/more cheese* vs. the positive *many poets/much cheese*. It is the presence of the comparative adjective that triggers *many/much* as a specifier (*many more poets/much more cheese*) vs. positive *very* (*very many poets/very much cheese*). *Fewer/less* are the respective comparators of the paucal (determinerized) adjective *few/little*; and, as a comparator, *less* involves a reversal of the polarity of the comparator in (98b). But there are complications, with *less* in particular, which in usage is often plural count rather than mass. And *much/many* have lost ground to *a lot*.

A final comment on prenominal attributivization. Given that adjectives are **the** attributives, it may be that attributivized categories other than adjectives and probably also nouns, which conform to (97a), are subjoined to {P.N/{src}} as in (100), which invokes the inflected non-finite verbs, the other main source of attributives, which are based on the infinitive, and derived functors including adverbs, the latter allowed for by absence of the category in the angle pair.

(97) a. ADJECTIVE/NOUN ATTRIBUTIVIZATION

$$\{<P.>N\} \leftrightarrow \{<P.>N/{src}\}$$

(99) NON-FINITE-VERB/FUNCTOR ATTRIBUTIVIZATION

$$\begin{array}{c} \{P.N/{src}\} \\ | \\ \{<P;N>\} \leftrightarrow \{<P;N>\} \end{array}$$

The combination of (97a) and (99), which amount to the statement that every pre-noun attributive is subjoined to {P.N}, enables us to differentiate more clearly between attributives, introduced by {P.N}, and determiners, by {N/{...}}.

The representation of attributives and of adverbs, the latter of which will be our third area of interest here, will both also be relevant to the chapter that follows. De-adjectival adverbs in *-ly* were illustrated by (94d) from Chapter 22.

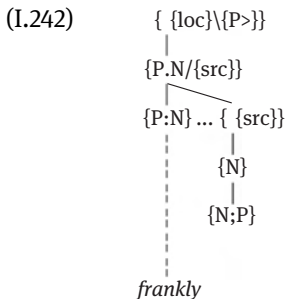
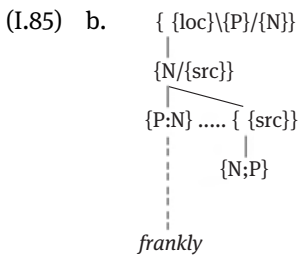
(94) d. badly, comfortably, willingly, kind(li)ly

But there are also adverbs that are apparently derived by conversion, as exemplified in (100a), the source of whose base seems to be the adjective in (100b).

- (100) a. She drives very fast  
b. She enjoys a very fast drive

In Chapter 7 it was suggested that all of these, and also even instances only of the distinctive core of what are traditionally called ‘adverbs’, such as *down* or *now*, can be associated with the status of functors which are necessarily complex internally – in the first instance (the core), by a subjoined {N}.

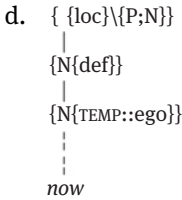
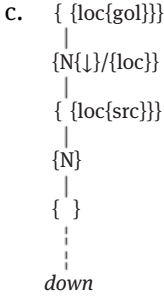
The kind of representation in (I.85b) of Chapter 7 that was suggested there for *-ly* adverbs was extended, eventually in the Conclusion to Part I as in (I.242) to accommodate a comparator and potential specifier, as in (I.85b), revised as (I.142) to allow for different kinds of verbals.



*Frankly* has an adjective base which the suffix marks as a derived locative verbal-modifying argument. More specifically, the adjective base has a partitive noun subjoined, along with the adjective to the latter’s comparator, which in turn is subjoined to the expected locative; the noun is a ‘manner’ noun. *Frankly* and other *-ly-adverbs* are typically circumstantial (as also indicated in (I.242)).

Recall too the representation for *down* and *now* suggested in (I.84).

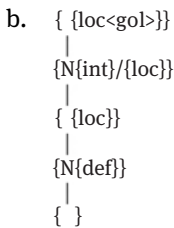
- (I.84) a. Bill fell down  
 b. She lives in Barcelona now



*Now* is a locative functor based on a temporal definite determiner that is identified as the ego-time, that of the speaker. *Down* is also a locative functor, and optionally goal, that is based on an orientational determiner, which in turn has a locative governing a spatial pronominal adjoined to it.

Similarly, adverbial *in*, as in (101a), can be represented as in (101b), where unlike the prepositional *in*, which has determiner phrase adjoined to it, the adverb includes an unspecified determiner satisfying internally the locative of the dimensional (interior) determiner and itself satisfied by a pronoun whose reference is known by the interlocutors.

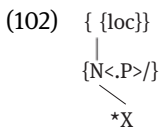
(101) a. Is she in? She went in a minute ago.



It too is optionally a goal (rather than simple) locative. Chapter 7 illustrates some of the other structural elaborations associated with adverbs; what they have in common is a core of locative functor and subjoined determiner.



In this way, as discussed in Chapter 7, there is no simplex category of adverb; an adverb is always internally complex. Moreover, this particular complexity is what identifies that part of speech. Recall that nouns are also normally part of a complex by virtue of being subjoined to a determiner, but they are necessarily identifiable as nouns not because of this but simply by presence of the simplex categorization {N;P}. Neither of the two obligatory components of adverbs is unique to that part of speech: what identifies adverb is the configuration in (102), and its lack of an analytic complement of the functor.



The latter stipulation is what distinguishes core adverbs from dimensional prepositions such as *in*.

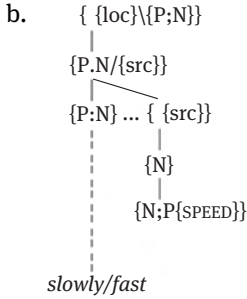
What distinguishes the adverbs in (94d) from those we have been looking at is their more extensive complexity, involving a contentive base with a clear source, and the fact that this complexity is morphologically marked, by *-ly*.

(94) d. badly, comfortably, willingly, kind(li)ly

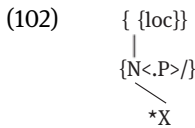
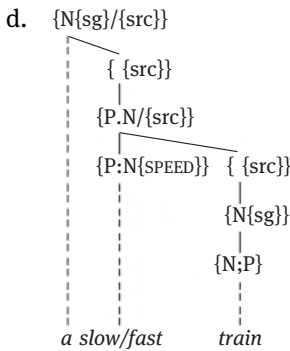
The structure in (I.83e) attributed to *slowly* in Chapter 7 indeed disguises part of this complexity, though it does exhibit their structure as an extension of the basic adverb configuration in (101), as does the extension in (I.242) from the Conclusion to Part I (both repeated above). In the light of the lexical structures we have encountered in Part II, we can improve these representations by a further deconstruction that recognizes that the adverb is based on an unserialized attributive structure. And this has intriguing consequences for our view of the adjective/*-ly*-adverb relationship.

Consider again the *-ly* adverbs in (103a), converted antonymic alternatives, and compare them with the related adjectives in the skeletal representations (103c), where the representations in (104b,d) ignore the distinctions between the antonyms.

(103) a. The train is going slowly/fast



c. a slow/fast train



The articulation of the relationship in (103b) offers something that approximates more to being the lexical equivalent of *at low/high speed*, where *speed* is a manifestation of an equivalent of the type of ‘manner’{N;P} given there. In the attempted representations (103b,d) the speed category has been swapped from noun to adjective in (103d) compared to (103b). This calls into question the relationship between adjective and adverb.

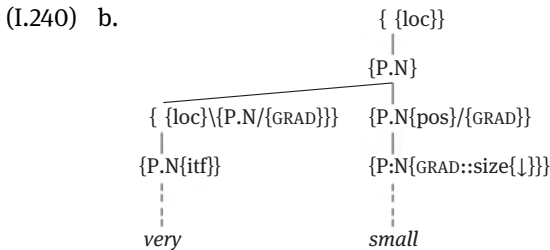
We should recall too that (103b) again recognizes the role of {P.N} as a potential attributivizer. Indeed, this also suggested that we characterize adverbs as in (102), to include {P.N} as well as {N} – somewhat redundantly. The locative in an adverb configuration has subjoined to it a determiner or comparator – indicated by the unbracketed cross-class – that is necessarily complement-taking,

as is indeed the norm with a functional category like **N<.P>**, but its complement cannot be analytic – as is also the case with non-adverbial attributives. This, and the placement of the speed category, will lead us in the following chapter towards seeing an unexpected relationship between such adverbs and corresponding attributive adjectives.

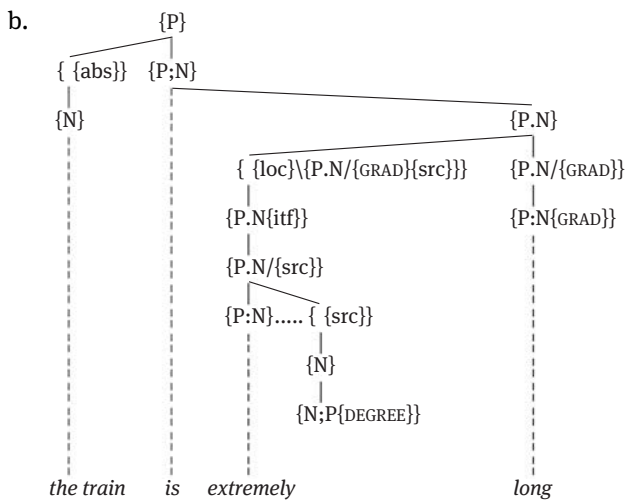
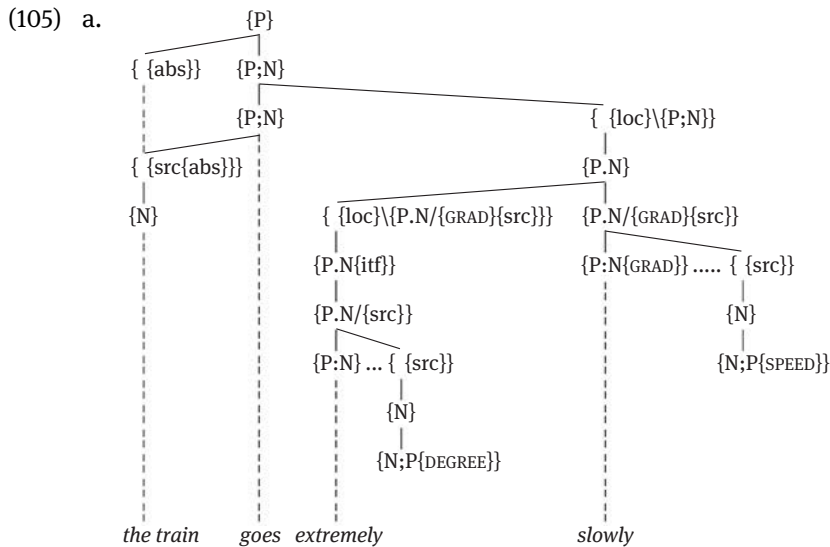
Many of the adverbs we have looked at are either verbal complements or circumstantials, locatives complementing or seeking to modify a verb – as their name might suggest. Those marked by *-ly*, however, are normally circumstantials. But other, and sometimes the same, *-ly* adverbs, as we've seen, look for an adjective to modify, whether the latter have themselves been adverbialized, as in (104a), or not, as in (104b–c).

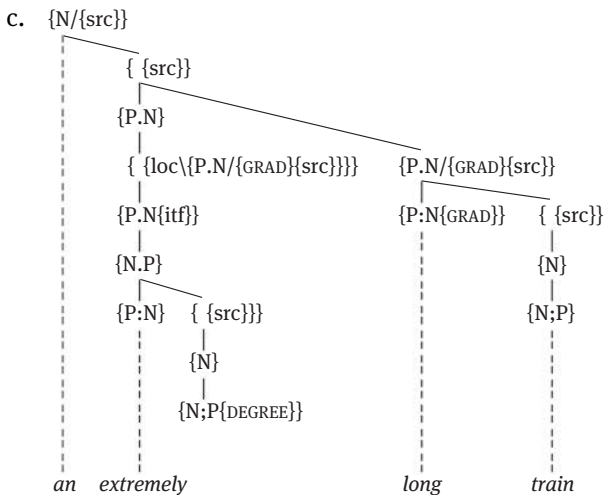
- (104) a. The train goes extremely slowly  
 b. The train is extremely long  
 c. an extremely long train

In all of these *extremely* is an intensifying adjective-based adverb that has been converted into a specifier. Recall the positive comparator specifier of (I.240b).



We can represent (104a–c), with, respectively, one adverb modifying another, one modifying a predicative adjective, and one an attributive adjective, as in (105a–c), which also recognize gradient as a minor category rather than a feature of a category.



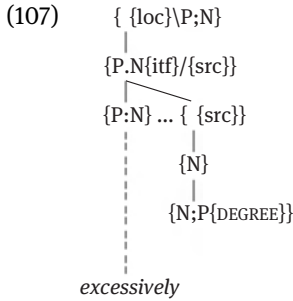


The adjectives whose comparator is modified by the adverb in (104) are gradient, but that in (104a) is itself an adverbialized gradient adjective. The other adjectives in all of (105) that have been adverbialized are converted specifically to intensifiers of various sorts; their {P.N} lacks an independent complement; the requirement of the {P.N/{src}} is satisfied internally, by the partitivized nominal structure that is part of the lexical categorization of the adverb. The {N;P} in the specifier configuration marks the gradient type involved in the manner adverb, in this case manifested as ‘degree’, as is appropriate for the modifier of a gradient adjective; whereas that in the adverb in (105a) is ‘motional’, ‘speed’. This is significant for discussion in the following chapter.

There are some adverbs, such as that in (106), that may modify either adjectives or verbs equally naturally – though, as a ‘behaviour’ adjective, *polite*, for instance, probably has its ultimate source in a verb.

- (106) a. Henry is excessively polite/thin  
 b. Henry bows excessively

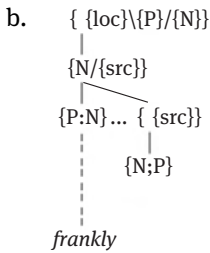
These can be represented as in (107), where the unbraced ‘P;N’ of the valency in the top line includes both ‘{P;N}’ and ‘{P:N}’ (with the latter combining ‘{P;N}’ and ‘{N;P}’).



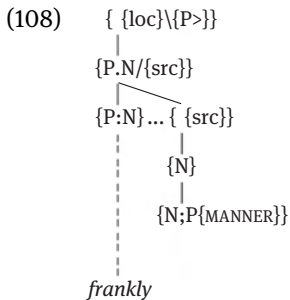
Recall here again the discussion of cross-classes and their notation in Chapter 3. When such adverbs modify an adjective it is gradient and they are specifierized, thus preceding the adjective.

Chapter 7 also differentiated between verb-modifying adverbs and finiteness-modifying. (I.85a) contains examples of the latter and illustrates the main aspects of their distribution as formulated at that point, while (I.85b) contains the deverbal categorization then suggested.

(I.85) a. (Frankly/Actually,) Isabella (frankly/actually) performed the sonata outstandingly (, frankly/actually)



We can now amplify the representation in (I.85b) a little, as in (108), which also recognizes that *frankly* can modify anything with a dominant **P**.

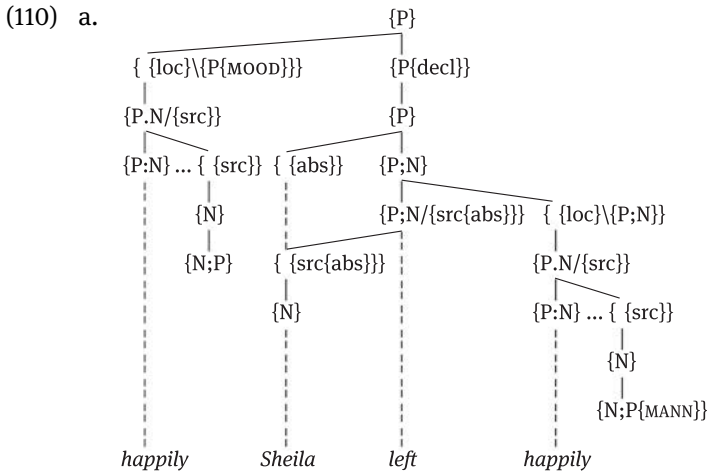


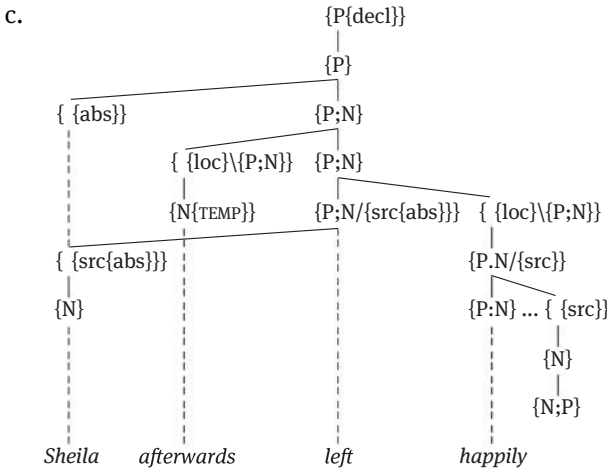
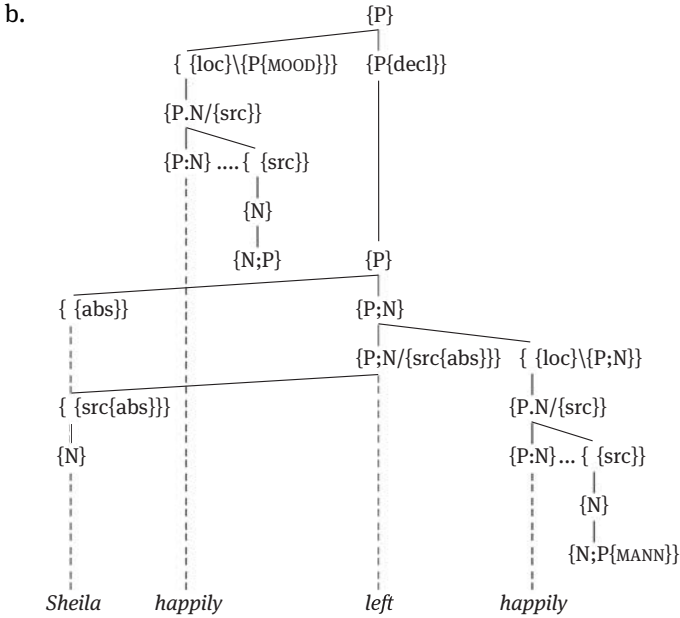
The top line in (108) distinguishes a class where **P** dominates; it contains only a dominant **P** and optionally a (dominated) **N**; and that includes adjectives, which are both {P;N} and {N;P}.

A single exemplar of both verbal-modifying types occurs in (109a), which may perhaps be lacking in felicity, but is quite interpretable in the normal way, as is even (109b), in which either adverb may be the {P} modifier, depending on intonation.

- (109) a. Happily, Sheila left happily
- b. Sheila happily left happily
- c. Sheila afterwards left happily
- d. Happily, Sheila left happy

(109c) has a non-ly verb-modifier combined with an -ly. (109a–b) are represented in (110a–b), respectively, where I have marked the {P} modifiers as specifically mood modifiers, a specification that we shall return to eventually; in (110b) the first *happily* is taken in this instance to be the modifier of {P}.

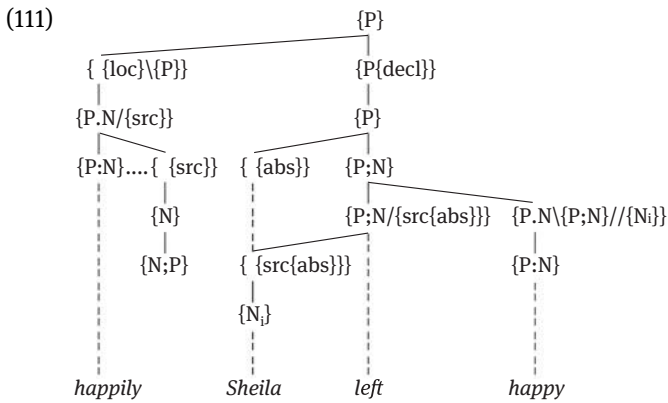




(110b) illustrates the ‘tangling’ allowed to clause-internal {P}-adverbs, whose heads are higher than that of the participant that is hosted by the free absolutive of existential {P}, i.e. the subject. The representation for (109c) in (110c) also shows this, but for a full-verbal (rather than a finiteness-verbal) modifier, and thus less severely marked off by the pre-utterance phonology. The relative heights of the adverbs continue to correlate with scope, though it could be reversed in (109c).



(109d) introduces a different post-verbal construction, based on apposition rather than simple modification.



On a naive view of the significance of distribution, the final adjective in (109d) is either in contrast or in free variation with the final adverb in (109a), and *happy* and *happily* – indeed, adjectives and *-ly* adverbs in general – are otherwise in ‘complementary distribution’. This might be taken to support the view that the final adverb and adjective in, respectively, (109a) and (109d) are indeed in free variation.

But a comparison of (110a) and (111) reveals that this is not a very helpful way of looking at the situation: the structural environment is not identical. Moreover, paradigmatic contrast and its absence, as well as complementary distribution, are simply not relevant to primary categories or parts of speech, rather than to the individual members of each category. The identity of parts of speech is established by the mode of signifying of a distinctive set of lexical items and the role in syntactic structure that distinguishes them. Nouns and verbs are in syntagmatic contrast, not complementary distribution. So too adjectives and adverbs.

The same is true of phonological structure. The primary categories are differentiated syntagmatically and by their content. The most salient distinction is between vowel, {V}, and consonants, C; among consonants we can distinguish in the same way among the distributions and substances of plosives, fricatives and sonorants. Only minor distributional differences are associated with distinctions in secondary category – so that, for instance, in codas the greater sonority of [l], {V;C}, means that in *elm* it precedes [m], {V;C{c}}. Similarly, in syntax, less nouny adjectival attributives precede more nouny. So, *young naval officers* is normal, where non-gradient *naval* is {P.N{n}}, perhaps, i.e. with a secondary {n} (recall Chapters 3 & 12): adjectives are otherwise redundantly gradient.

On both planes primary categorization reflects fundamental syntagmatic (rather than paradigmatic) contrast. Paradigmatic contrast arises only at particular points in structure where one or more of these classes is situated. Complementary distribution, or polytopicality of contrast, arises in phonology when two similar sounds have the same contrastive role in positionally different sets of contrasts. There is no place for complementary distribution in lexically-driven syntax, and apparent associative contrast is contingent on syntagmatic relations. This follows from the different status of the two planes in the representational hierarchy and in relation to the lexicon.

In the present case, adjectives are distinct from adverbs structurally, internally and syntagmatically. As we have seen, adjectives are basically contentives that are attributives or predicative; and adverbs are locative modifiers of adjectives, verbs, or finiteness, so characterized as {loc}P>, or they are locative {N} participants, as in (100a).

(100) a. Is she in? She went in a minute ago.

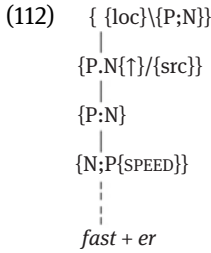
Adverbs are not contentives, though they may be based on such, as with the *-ly* adverbs; but, as we have seen, they involve the basic complex configuration of functional categories in (102), where they are also denied any adjoined category.

(102) {loc}  
 |  
 {N<.P>/}  
 ↘  
 \*X

As signifiers, adjectives attribute a property to an entity, while adverbs locate events or states concretely or abstractly. Abstract locations include degree of intensity. The two sets of lexical items, adjectives and adverbs, that are differentiated in these terms are not the same notionally or syntactically or in membership.

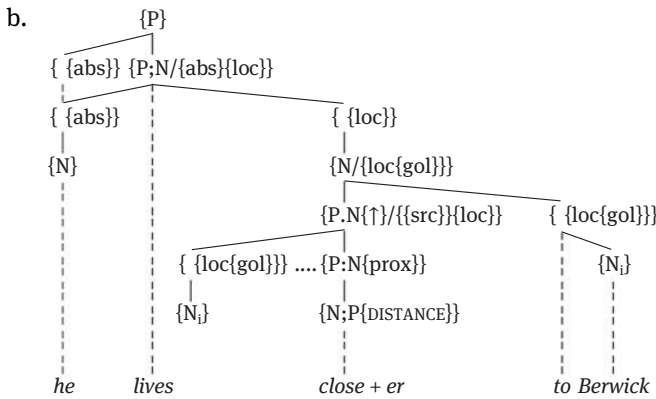
Many manner adverbs are derived from a subset of gradient adjectives by suffixation of *-ly* to the unmarked adjective, as just exemplified. Marked comparators are also derived from unmarked by suffixation, of *-er* or *-est*. Given this, forms like *happilier* or *happierly* are normally ruled out: the final suffix in each case would not be attached to a marked adjective or adverbial base. Adverbialization and comparativization are suffix-expressed alternative mode changes to locative expressions.

When the adverb is derived by conversion, however, there is no problem with a marked-comparator suffix, as in *faster* in *Walk faster!* The comparator is attached to the converted adverb, as in (112).



So too with the comparative adjective base of the orientational locative adverb in (113a), as represented in (113b).

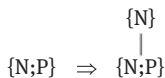
(113) a. He lives closer to Berwick



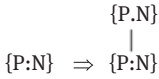
The goal requirement of the directional {N} is satisfied by *to Berwick*. As argued in Chapter 21, it is not an adjective component in such adverbial structures that takes arguments, but verbals or comparators, given that adjectives are valency-free. So much, for the moment, on adverbs.

The previous chapter's focus on common deverbal adjectives has led us to look again at the concept of determinerization in this one, with the consequence that various sub-types of this have been recognized, including crucially those in (95), applying to various categories, and (96), which applies to determinerized nouns.

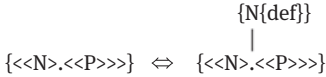
(95) a. DETERMINERIZATION



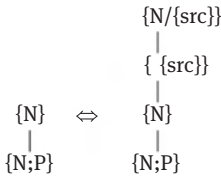
b. *PARTIAL DETERMINERIZATION*



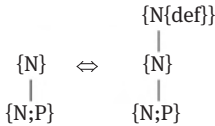
c. *DEFINITE DETERMINERIZATION*



(96) a. *SUPER-DETERMINERIZATION*  
*PARTITIVE*

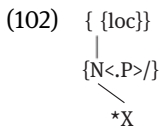


b. *GENERIC*



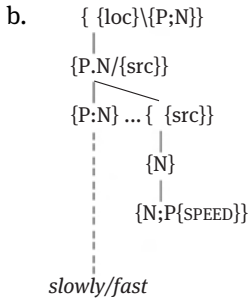
This in turn led to a reconsideration of attributivization and the role of the comparator as the unmarked attributive, followed by a further look at the role of comparators in adverbialization. The chapter has concluded with an elaboration of the differences between adjectives and the adverbs derived from them, and the different roles that adverbs can play. We distinguished the lexical structures associated with verb-modifying adverbs, finiteness-modifying adverbs, and adjective-modifying adverbs, all of them distinct from that of adjectives.

Adverbs have at least the configuration in (102), with two functional categories, which may be based on further subjoined, possibly contentive categories, particularly adjectives.

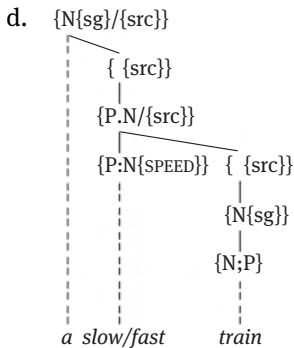


But in the chapter that follows we shall start by looking once more at the skeletal representations in (103).

(103) a. The train is going slowly/fast



c. a slow/fast train



These representations fail to recognize that the speed notions described in both (103b) and (103d) are more naturally to be interpreted as verb-modifying, as in 103b, than attributive, as in (103d). Moreover, {SPEED} has mysteriously shifted category between (103b) and (103d). Further representational elaboration is therefore necessary with the adjectives in (103a) that are the apparent sources for the corresponding adverbs. This will lead us into other derivational areas where a similar elaboration seems to be appropriate.

# Chapter 24

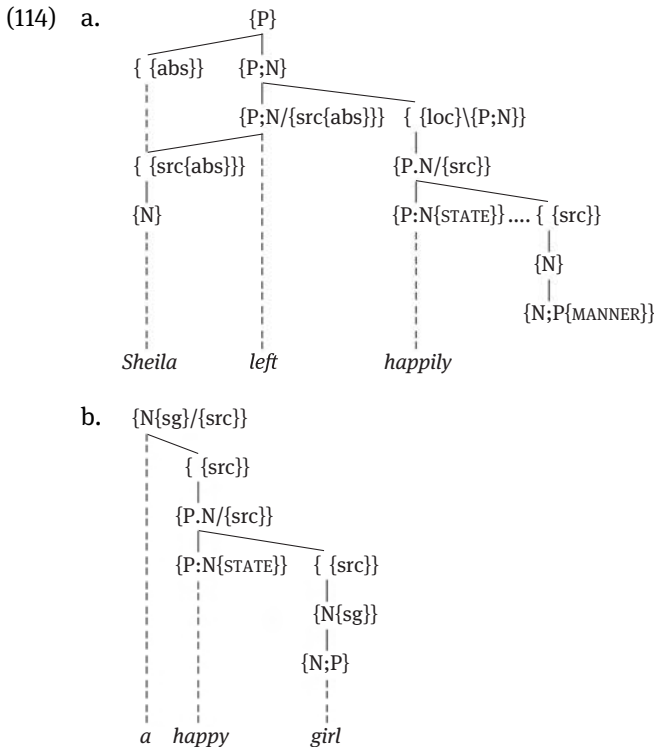
## Adverbs, Attributives, and Nominal Compounds

adjectives and back-formation from adverbs – with attributives and predicatives – attributives, back-formation, and nominalizations – attributives and nominal compounds – non-compositionality

CHAPTER XXIV, WHICH ACCOUNTS PERHAPS FOR CHAPTER XXIII

(Thackeray *The History of Pendennis*, Vol. II)

Something like the relatively simple relationship between the adjectival sources and the derived adverbs supposed in (103b) vs. (103d) may be appropriate in the case of adjectives and adverbs like *happy* and *happily*, as embodied in (114a) (the relevant part of (110c) in the preceding chapter) and (114b).

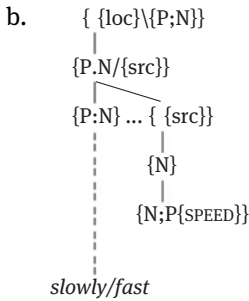


As well as being notionally derivative, the adverb is structurally more complex than the adjective, and this complexity is reflected in the morphology.

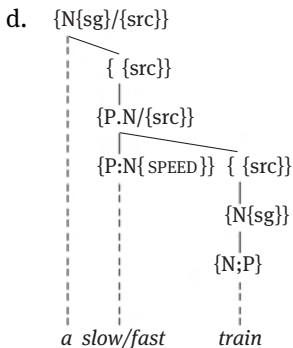
<https://doi.org/10.1515/9783110724486-026>

However, such a categorial relationship between adverb and adjective is notionally questionable in the case of pairs invoking the dimension of speed, for instance, as in (103a,c).

(103) a. The train is going slowly/fast



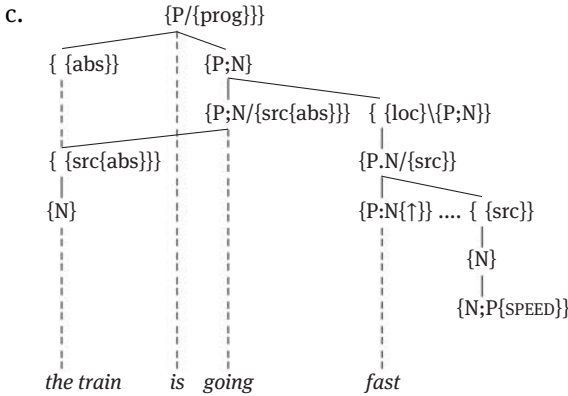
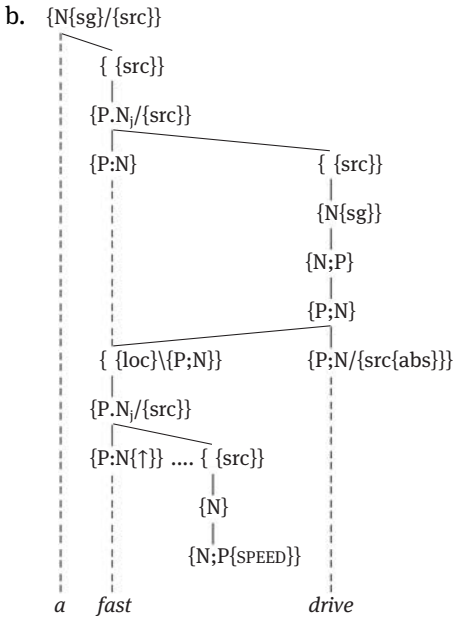
c. a slow/fast train



We have already noted the category change of ‘speed’: adjective vs. noun. The non-figurative notion of ‘speed’ is most obviously to be associated with modifiers of verbs rather than with attributive, or indeed predicative, adjectives. The adjective is notionally associated, most basically, with the manner in which the train moves: a slow train is one that (whatever else) moves slowly. Is then the derivational morphology of *slowly* misleading, in that the derivational relation of the categories somehow goes the other way? So that such dynamic adjectives as *slow* and *fast* are adverb-based, despite the morphology? This direction is obviously more easily accommodated in the case of *fast*, where there is no morphology to distract us. Let us look at how such a derivational suggestion might be implemented in its case.

What concerns me here is perhaps more immediately apparent in relation to a phrase such as that in (115a), compared with the adverb in (103b), where in both the ‘upward arrow’ feature differentiates *fast* from the ‘downward’ of *slow*.

(115) a. a fast drive

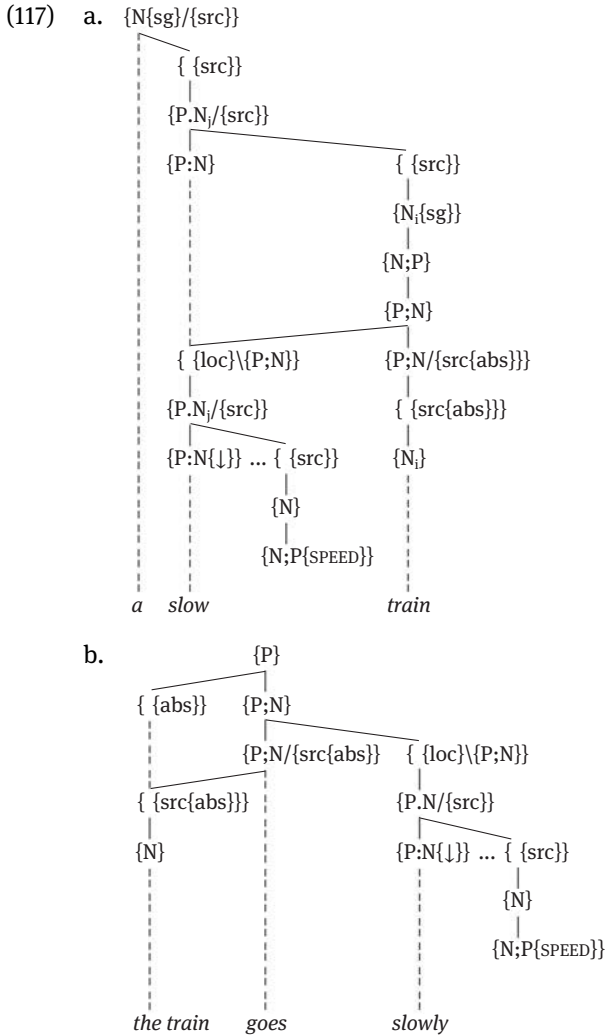


Compare the adjectival configuration in (115b) with the adverbial in (115c). (115b) recognizes not only the derived status of the noun, which is verb-based, but also the notionally ‘de-adverbial’ status of the adjective. It is interpretable via comparator coindexing with the comparator in the associated adverb configuration that modifies the verb. In this sense it is based on the adverb. The chain of categories above the adjective in (115b) constitutes a single lexical item. We have a





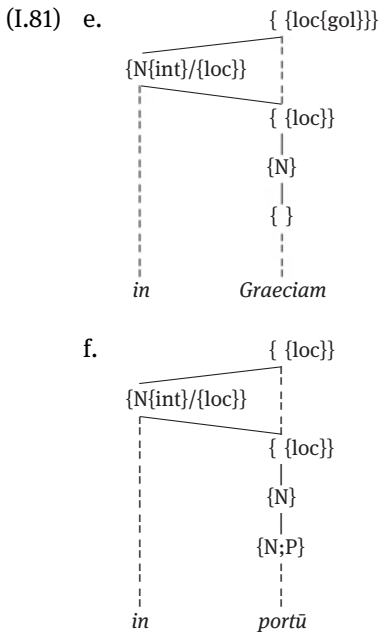
We can simply substitute in (117a) *slow* for its antonym *fast* in (116), such that in (117a) the morphology is at odds with the categorial derivation, whereas on morphological grounds the reverse direction of derivation is usually assumed.



Notionally the adjective in (117a) is based on the adverb we find in (117b), and its derived status is marked by the absence of a suffix. Here the adverb is morphologically complex; in this case morphological complexity does not match notional

or categorial complexity. The adjectival structure is parasitic on the categorial structure of the adverb via the lexical and coreferential links in (117a).

The chain of categories realized as *slow* in (117a) is a single, derived word-sized lexical item, just as the chain of categories realized by the Latin form *Graeciam* and *portū* in (I.81e–f) from Chapter 7 realizes a word.



The Latin forms differ in being inflected word forms rather than a derived word. The derived status of the adjective in (117a), however, is in this instance accompanied by absence of a suffix rather than presence.

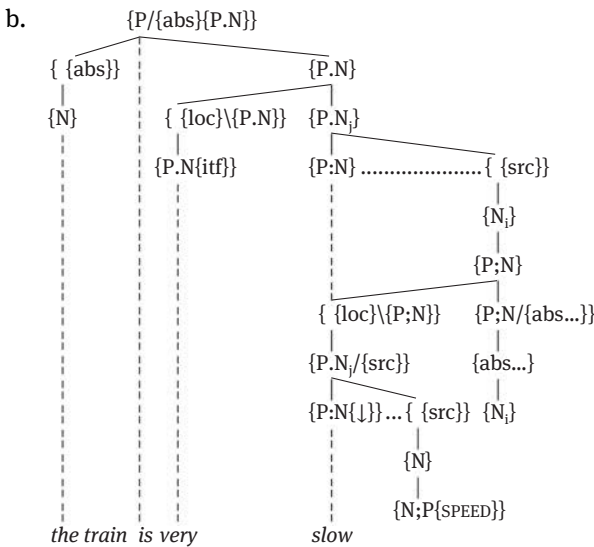
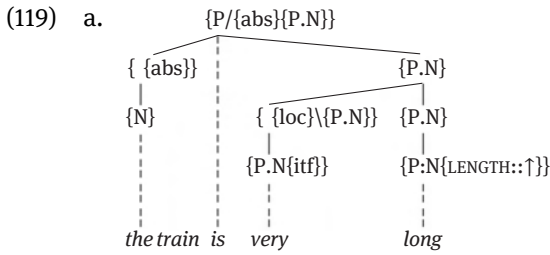
‘Back-formation’ is a term usually applied to diachronic phenomena. It is used to refer to the innovation of *televise* on the basis of *television*, for example. The morphologically more complex form antedates the simpler. Such a development may be used in relation to the development of the language or the usage of a particular speaker. One may also stretch the concept to include conversion, if what counts as complex is allowed to include categoriality. Thus the notionally deverbal ‘activity’ noun *snack* (as in *have a snack*) anticipates the present-day verb *snack* with the cognate sense (as in *she’s always snacking between meals*).

I introduce the term ‘back-formation’ here because I think it is perhaps not too far to stretch its sense in another direction, to suggest that what the analysis of the adverb *slowly* and adjective *slow* in (102a,c) illustrates is a kind of **synchronic**

**back-formation.** In this case there is a mismatch between morphological and categorial complexity. Categorial derivation reverses morphological; the morphologically simpler adjective is derived from the adverb, synchronically. This is what I intend by ‘synchronic back-formation’. A further kind of example of this is *unease*, where the unusual presence of *un-* with a simple noun reflects the source of the noun in the morphologically more complex adjective *uneasy*. But we must now consider what is going on when the adjective in such adjective/adverb pairs as we have been looking at is predicative rather than attributive.

Consider the predicatives in (118a) and (118b), characterized as in (119a–b).

- (118) a. The train is (very) long
- b. The train is (very) slow



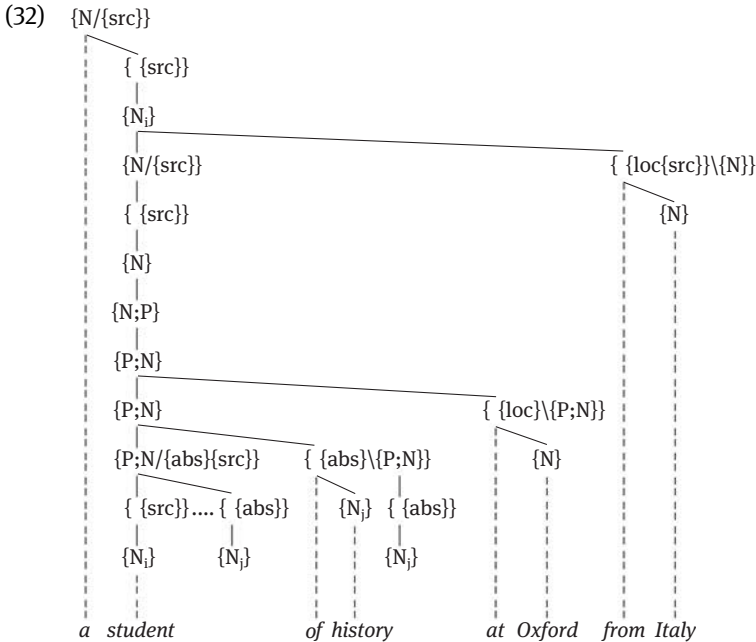
I suggest again that the more complex representation in (119b) is necessary for the description of (118b). The interpretation of the adjective and the restrictions on

what it can be most easily predicated of collectively invoke the verbal/adverbial part of the categorial representation for the adjective in (119b). This adjective is normally predicated of nominals that denote entities that move (*train, cloud*), including metaphorically, or are indeed overtly derived from attested verbs (*drive, walk*). In the former case the verb is an incorporated pro-verb of motion.

In (119b) the description of the relationship between adjective and adverb is somewhat more transparently describable as an instance of a synchronic back-formation than derivation of an adverb from an adjective. But this is perhaps even more forcibly the case with the prenominal attributives in overt nominalizations such as that in (120a).

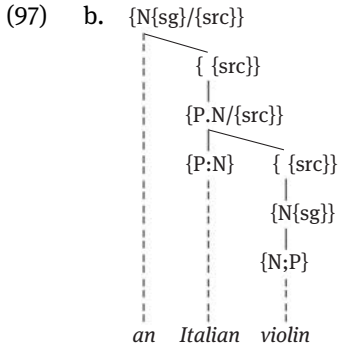
- (120) a. a recent student of history at Oxford
- b. a student of history at Oxford from Italy
- c. Boris studied history at Oxford recently

We have already encountered nominalizations with a post-nominal attributive such as (120b), which can be represented as in (32) from Chapter 19.



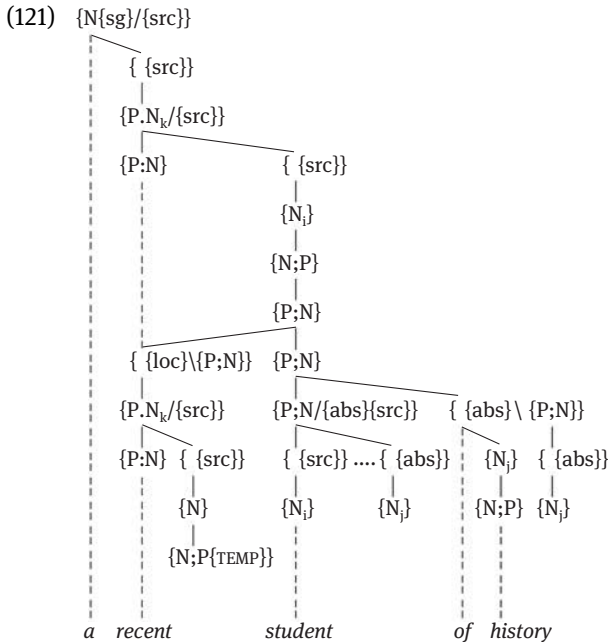
Here the attributive *from Italy* modifies a partitive {N} in the noun complex, whereas the other modifiers of *student* introduce arguments that are coreferential with the

incorporated participant of the verbal base or are circumstantial to the verb. However, prenominal attributives are configured as in (117a), or, in a more simple case, (97b) from Chapter 23.



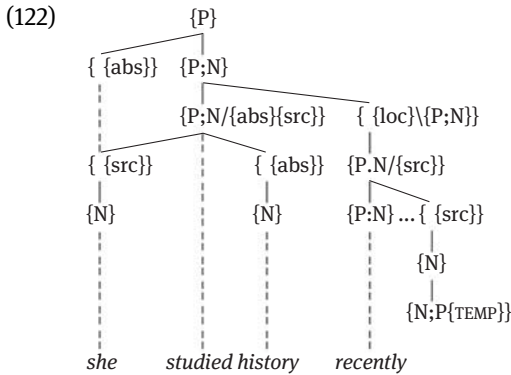
The partitive comparator of the attributive adjective has the categorial path of the noun adjoined to it.

In the light of the discussion in this chapter, (120a) would be represented as in (121), which I have simplified in various ways, notably by omitting the circumstantial in (120a), as well as any postnominal attributive like that in (120b).



Again (recall (115b)), the comparator of the adjective is coindexed with the adverbial comparator, here temporal rather than having to do with velocity.

Compare with (121) the representation for (120c) suggested in (122), which again omits the circumstantial *at Oxford*.



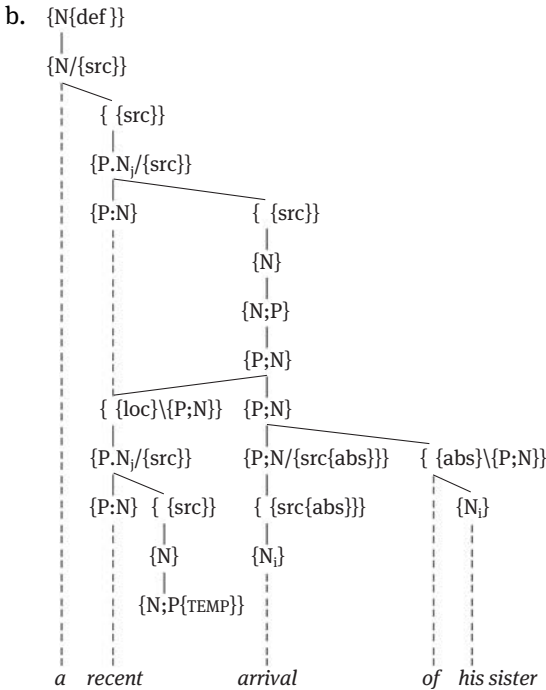
The structures in (121) and (122) are obviously related, given the (phonologically somewhat obscured) lexical relationship between *student* and *study* – though this may not be registered by particular users in particular instances. The noun in (121) is derived from a verbal base whose source appears independently in (122), and the derivation is signalled by the presence of the agentive suffix. In the nominalization structure the participants of the verbal base are incorporated as functor plus determiner skeletons, and the absolutive may be filled out by an overt-functor phrase.

But under nominalization what would be a circumstantial adverb with the independent verb corresponds to an adjective. And notionally the adjective again invokes the structural complexity of the adverb, and is linked structurally with the adverbial configuration associated with the representation of the deverbal noun. The internal structure of the adjective is expressed by the adverbial component of the derived noun. Once more the complexity of the morphology is at odds with the respective structures to be associated with occurrence of the adjective and adverb. We have synchronic back-formation – though not in the case of *study* and *student*, of course.

Such a situation characterizes many attributive adjectives that have dynamic local nouns – mobile or otherwise eventful – subordinate to them. The nouns range from overt nominalizations like (120a) or the event form (123a), as represented in (123b), to conversions like (115a) to overtly non-derived (102c).

(120) a. a recent student of history at Oxford

(123) a. the recent arrival of his sister



(115) a. a fast drive

(102) c. a slow/fast train

In all of these the adjective is parasitic upon the presence of an adverbial categorization modifying a verbal base for the noun or a pro-verb. And this can be true of nouns that are even less obviously derived or pro-verbally based, as in *Fred's recent book*.

Given the non-relationality of non-derived nouns, as attributives these often depend on covert pro-verbs for the expression of the notional relation between attributive noun and ultimate-leaf noun – unless there is only a subset-to-set relation. A hyponymous attributive to a noun, however, would often be regarded as tautologous: *\*a pig animal* – though there are established compounds like *oak-tree*. More plausible attributions are such as *giant pig*, where the attributive noun is non-prototypical in denoting entities characterized by possession of a specific attribute; it resembles a prototypical attributive, an adjective. More



common still, however, are noun attributives notionally and lexically related to the ultimate-leaf noun via a verb. A *brick/stone wall* is normally construed as ‘made of/from brick/stone’ – even if the phrase is the basis for a figure. (In the present case this is typically as a compound verb *stone-wall* in political or sporting parlance.) As illustrated and represented in the preceding, attributive nouns share this verb-dependency characteristic with many attributive adjectives. But, as with many adjectives, the verbal categories involved are not overtly expressed. I shall not pursue here the representation of this, which is, I trust, already familiar from what precedes.

And, in contemplating the verb *stone-wall*, commonly taken to be ‘compound’, we are obviously now confronted with the relevance of the present account of attributives to a further phenomenon, **lexicalization as a compound**, commonly nominal – and its relation to and difference from simple attributive structures. Compounding is the main topic in later chapters on lexical structure (specifically Chapters 30–1), but I shall anticipate this topic here as part of a tying together of what has preceded.

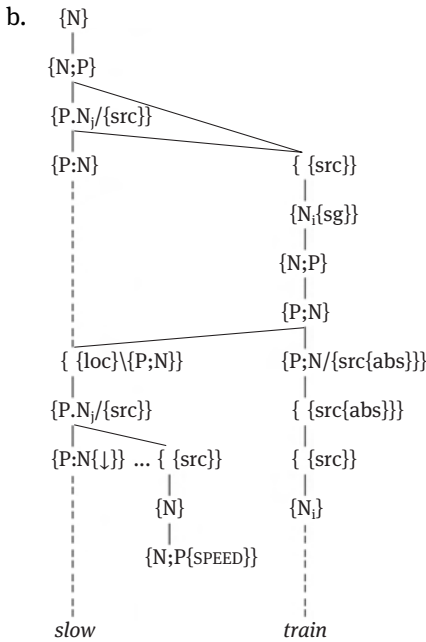
Such attributive configurations are commonly sources for lexicalization as a nominal compound – or, indeed, as a phrase with no indication of compound status – a distinction which will be a focus of these later chapters. By lexicalization I mean here recognition as a unit in the mental lexicon, and storage there. The lexicon includes all lexical items, minimally words. And derived forms are included, even common derived forms that conform to the generalizations governing such derivations; but awareness of derivational status varies from mental lexicon to mental lexicon. Knowledge of these generalizations primarily comes into play in the (re-)creating or recognizing of new formations. Storage in the lexicon applies to just any storing or listing of linguistic expressions. For instance, my knowledge of the language contains whole poems that thus constitute lexical items, as well as common sentences and other instances of expounded linguistic constructions. Lexical status may be signalled in some way, if only by the frequent collocation of the separable components of the item.

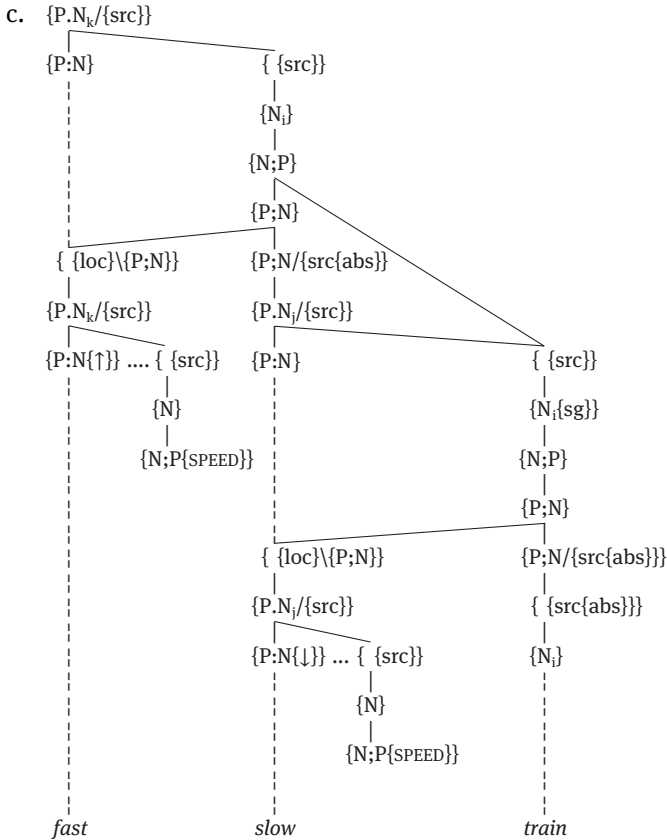
The lexical status of derived forms may lead to non-compositionality, and, more severely, idiomatization. In **compositional** formations the meaning of the formation is regularly deducible from those of its lexical components and the presence of a plausible connection for them. **Non-compositional** expressions are associated with some sense component that is idiosyncratic to the expression, as with the usual sense of *witless*; such expressions may be said to be **further lexicalized**, not merely stored. **Idiomatization** is involved when the relation of

the sense of an expression and that suggested by its components is obscure, and may be figurative, as with *leave Brenda out in the cold*. **Nominal compounds** involve the lexicalization of certain constructions as a noun, one that may develop such idiosyncrasies. This raises, of course, the persistent question of what is/are to be taken as (a) sign(s) of compounding.

If we return to the adjective attributives we have looked at in a little detail, we can take as a starting-point for a brief preliminary investigation of nominal compounds the predicative in a sentence such as (124a), where *fast* and *slow* co-occur.

(124) a. This is a (very) fast slow train





In (124a) *fast* is a syntactic attributive to a compound with its source in *slow train*, itself an attributive structure lexicalized as a compound. The distinctive **double-headed** *slow* structure of the compound is represented in (124b), where the whole attributive phrase is subjoined to a noun; *slow* is the head of the compound and of the attributive syntactic structure that is its source: we have a nominal compound.

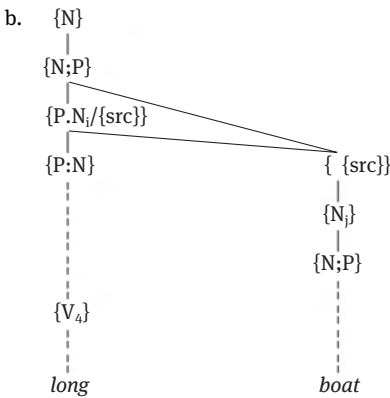
This representation continues to provide a basis for the notional reliance of the compound on a non-overt adverbial structure. The phrasal base of the compound is left-headed; and the derived category has the head subjoined to it; and the lexical head is marked by the accent, unlike in simple partitive phrases such as *large sacks*. These are often properties of nominal compounds. The compound noun as a whole is expounded by the two words of the compound. I shall accept these properties at this point as characterizing **nominal compounds**, without assuming they are uniquely such properties. That is, I am not assuming there is only one manifestation of compoundedness.

The presence of the uppermost noun category in (124b) realized as *slow*, i.e. the head of the phrase lexicalized as a noun, facilitates the potential or actual non-compositionality of the compound. As suggested, non-compositionality involves further lexicalization, distancing in the interpretation of the compound from the semantics that can be associated with, in this instance, the syntactic attributive structure that is its source. The derived noun can inject senses of its own. A familiar illustration is provided by the compound *blackbird* vs. the attributive construction *black bird*. But (124a), as represented in (124c), illustrates the idiosyncrasy of the compound by virtue of the coincidence of the incompatible speeds that would be juxtaposed if a sequence of attributives rather than attributive plus the attributive-based compound was involved. Designated ‘slow trains’, however, can differ in how fast they travel.

A *black bird* is a kind of bird, distinguished with respect to colour of feathers. We have the usual sub-type-to-type relation between attributive and noun. But a *blackbird* is a kind of *black bird*, distinguished from other ones in terms of other, lexically non-overt criteria. This is not typical of every nominal compound, but illustrates the potential for idiosyncrasy of established compounds in particular. But does the characterization of nominal compounds given in (124b–c) generalize to other kinds of compound? How common is the attributive basis for compounds?

Since the examples in (125a) merely remove the adverbial complications of (124), their attributive-based structure is equally suitable in (125b) – which indeed perhaps makes this more transparent, though the compound may again be non-compositional, though a source in a sub-type-to-type relation is suggested, as spelled out at the foot of (125b).

(125) a. bluebird, redhead, longboat



where  $i \subset j$

The examples in (125a) are non-compositional to varying extents; *redhead* involves synecdoche, for example. In (125b) I have introduced two non-identical subscripts, such that – in the absence of opaque lexicalization – we can say again that  $i \subset j$ , as is represented by the partitive relation of attributives. This is intended to indicate that the attributive relation expresses that there is a subset of  $j$  that is also  $i$ , not simply an intersection of  $i$  and  $j$ ; linguistically, there is asymmetry. The inclusion of the tonic accent,  $\{V_4\}$ , is meant to indicate that in this case too compound status is signalled by placement of the lexical accent on the initial component of the compound.

As already indicated, we pursue issues in compounding in Chapter 30. Here I have been concerned to illustrate the basis of many nominal compounds in attributive structure, even in the context of the complication of synchronic back-formation. We must question in Part III how general this attributive source is, and to what extent the left-headedness of the base and the accent placement on the left are general, characterizing properties of compounds. The first element of *brick wall*, for instance does not bear the lexical tonic in the varieties familiar to me. I take to be stigmatic of compound structure, however, the presence of the configuration whereby both the head of the phrase that is the source of the compound and the compound category to which it is subjoined govern in adjunction the other component of the compound, as in (125b), and bears the primary lexical accent. This lexical structure may of course be recursive, as in *dust-bin lid*. For the speakers I have observed, *brick wall* does not seem to satisfy the present requirements for compound status.

The bulk of this chapter, however, has been concerned with attributives in general and the evidence they provide concerning the relationship between adjectives, attributive and predicative, and adverbs morphologically ‘derived’ from them. It emerged that the lexical representations for temporal and some ‘manner’ adverbs in *-ly* are simpler than those for the corresponding adjectives, which include that for the adverb and an overt or covert  $\{P;N\}$ . I dubbed this kind of relationship ‘synchronic back-formation’. The final preview of compound-formation arose indeed from the evident attributive basis for the *slow-train* compound, which it shares with some other compounds, at least. We now turn to the fresh topic of verbs and verbalization, and their mode of signifying, completing our survey of modes of signification and particularly complex signification.

## Chapter 25

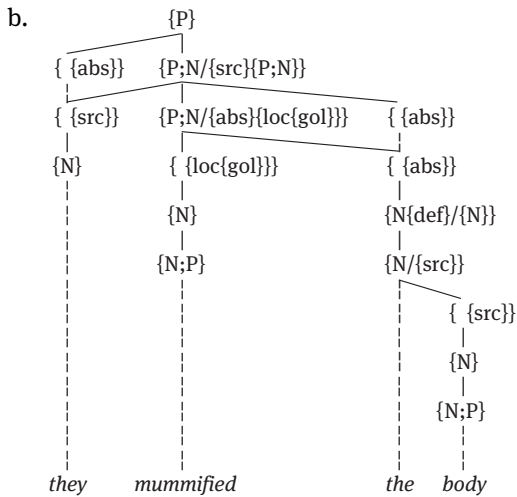
# Verbs and Non-deverbal Verbalization

the mode of signifying of verbs – denominal and de-adjectival simplex and causative verbs in *-(i)fy* – in *-en* and *en-/em-* – prefix vs. suffix – derived verbs in *-ize* – converted verbs – delocutive verbs, and nouns

Prototypical verbs represent the core of cognitive scenes, prototypically dynamic scenes, events: this is what characterizes their mode of signifying. As I suggested initially, the first consequence of this mode is that verbs are relational; to satisfy their ‘core’ function, they require or allow the presence of a varying number and kind of participating and circumstantial arguments in the type of scene to be represented. The verb-argument relations are licensed by their valencies: the verb requires the presence of certain participants, though some may be satisfied internally, but also the valency of circumstantials requires them to modify a certain type of verb. Secondly, the dynamicity of the mode of verbs attracts secondary categories that have to do with the **time** and temporal dynamics, or **aspect**, of the scene being represented. The latter will mainly concern us later, in looking at the inflected secondary categories of verbals in Chapter 29, to begin with. It is the relationality of verbs, however, that underlies much of the lexical derivation that gives complex verbs. That the bases often have their sources in arguments of the derived verb means that it typically exhibits, as well as change in mode of signifying, also the tropic mode of metonymy.

We have already encountered derivation of a verb from a noun in, for instance, (I.160a) from Chapter 14, and represented at that stage as in (I.160b).

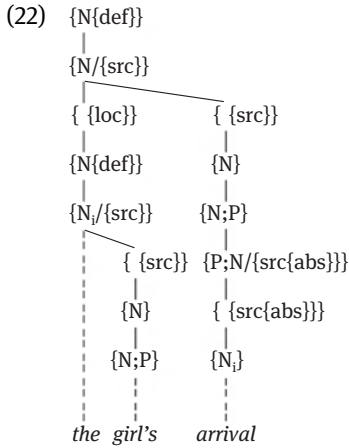
(I.160) a. They mummified the body



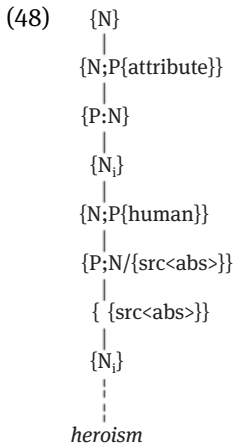
- c. {P;N/{src}{P;N}}
- d. {P;N/{src}{P;N/{loc{gol}}}{abs}}

Indeed, (I.160b), as well as retaining aspects that have been revised since, anticipates the discussion in both this chapter and the next. For, though the verb is ultimately based on an argument noun, it is an intermediate directional {P;N} that the locative noun is an argument of, and that {P;N} is subjoined to the higher verb. We have a causative verb, i.e. a verb with the valency in (I.160c), which has subjoined to it a change of place or a change of state – or more generally change or acquisition of class, i.e. a directional {P;N}, as discussed in Chapter 26, and as in the expansion of (I.160c) now given in (I.160d).

The fact that the source of the bases of many derived verbs is a potential argument of the verb contrasts with the situation with derived nouns. Recall (22) from Chapter 19, where the derivation of the noun is direct, not mediated by any functional category, and structurally with no syntactic equivalent of a {P;N} subjoined to a {N;P} as in *arrival*.



Compare too (48) from Chapter 20, where there is a path consisting of a succession of non-verbals terminated by a pro-verb and its participant.

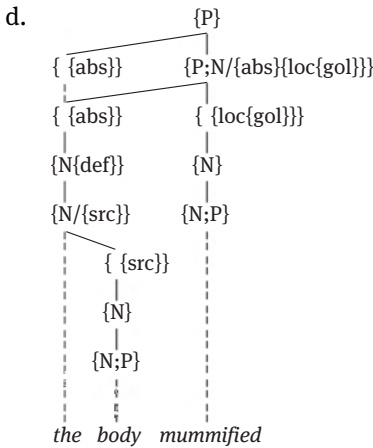


This is a dramatic illustration of the lexical relationality of verbs, as sources, goals, or intermediate stages of derivation.

Let us focus now on the derivation of directional {P;N}s that are exemplified by the lower one in (I.160b), cited above. (As indicated, we shall return to causatives in more detail in the chapter that follows.) Such a directional verb may occur uncausativized, as in (126a), and be represented as in (126d) (ignoring the circumstantials, but, compared to (I.160b), with updating of determiner phrase and relevant lexical structure).



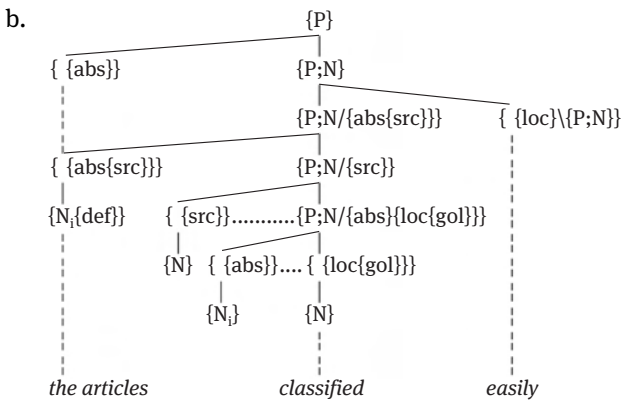
- (126) a. In those conditions, the body spontaneously mummified
- b. The body turned into a mummy
- c. The body became a mummy



The verb is again based on a goal noun; and this functor value is expressed analytically in (126b). And the verb in (126d) at least has an overtly directional root.

Many *-ify* verbs are ‘insistently causativizing’, so that, in their case, independent occurrence of the simple directional verb is unusual, or it fails to surface independently, as with perhaps *classify*. The best we can do is a **middle** (derived intransitive) variant such as (127a), which contains the middle voice of a causative.

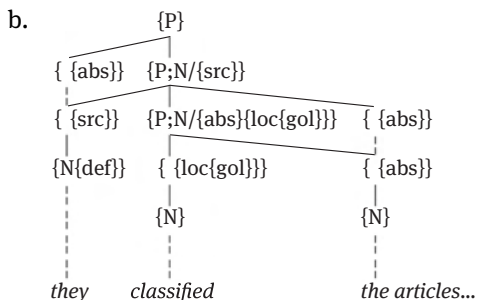
- (127) a. The articles (in that collection) classified easily



We can represent (127a), provisionally, as in (127b), where I have abbreviated the representations of the functor phrases, and again ignored morphology as such.

The source transitive verb in (128a–b) has separately expressed agentive and absolutive participants, as well as the incorporated directional.

(128) a. They classified the articles (in that collection)



In the less abbreviated structure in (127b) the absolutive has absorbed the agentive, to create the middle construction.

Recall here the classification of functor combinations in Chapter 4, creating also the middle construction in (I.44b); while the verb attracts a circumstantial.

(I.44) a. Bill works (hard)

{src{abs}}

b. The book sells (well)

{abs{src}}

Contrast the (non-derived) intransitive agentive (I.44a). The verb in (127a–b) is taken ultimately to be a further ‘derivative’, or more specifically marked **voice**, of the transitive agentive verb *classify*. Voice differences involve rearrangement of the valency only, in the first instance, and thus are minimally ‘derivational’. We again return to such ‘derivations’ in the chapter that follows.

Also, given the historical source of the suffix, many such notionally related suffixed-verb/non-verbal-contentive pairs are ‘collateral’ in the same way as the adjective *vernal* in relation to *Spring* (discussed at the end of Chapter 22). In the present case, a non-Germanic derived verb is matched by a Germanic noun or adjective, as with *petrify* – *stone* or *sanctify* – *holy* or *dulcify* – *sweet* (where there is the alternative regular derivative *sweeten*, with a Germanic suffix and base).

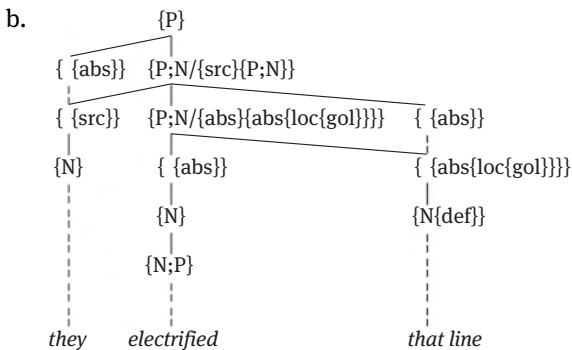
Given too the ‘pre-fabricated’ origin of many such verbs, as far as English is concerned, the base may be obscure to varying degrees, as with *modify* or *indem-*

*nify* or *stultify*. This last, in particular, can roughly correspond semantically to various adjectives – *stupid*, *futile*, *foolish* but not necessarily as a causativization of any of them. Any lexical representation of the verb will include idiosyncratic elements, as well as including causativization. This also applies to many *-(i)fy* formations that are transparently English creations (even if based on foreign elements) such as *gentrify* or *countrify*.

With some *-(i)fy* forms a different argument from the locatives in (I.160b) and (128b) may serve as the base, and/or the directional may be more specific or have a reversed orientation. Let us look at something of this variation.

Consider firstly here (129a).

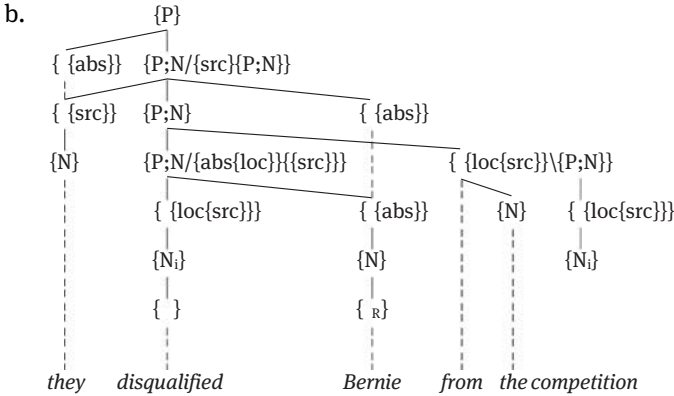
(129) a. They electrified that line



In (129a) the locative is an affected goal rather than a simple goal, and this is even more apparent with the metaphorical *Her speech electrified them all*, where the goal is a benefactive; also it is the absolutive that is incorporated, as shown in (129b). Here we have not so much a simple causative directional as a donative; a rough paraphrase would involve ‘give’ or ‘provide with’ rather than ‘make into’. So too one interpretation of *beautify*. But also an independent synchronic source for the base of *electrify* is not obvious; the form shows an alternative suffixation to both *electric* and *electricity*, though the latter of these appears to be derived from the former it is perhaps notionally a more likely source for the verb base. Such formations as *gentrify* and *countrify* may represent an extension of this donative structure whereby what is given or provided are characteristics associated with the base.

An example of reversal of directional orientation is provided by such as *disqualify*, where the simple affected absolutive is ‘deprived of’ something.

(130) a. They disqualified Bernie (from the competition)

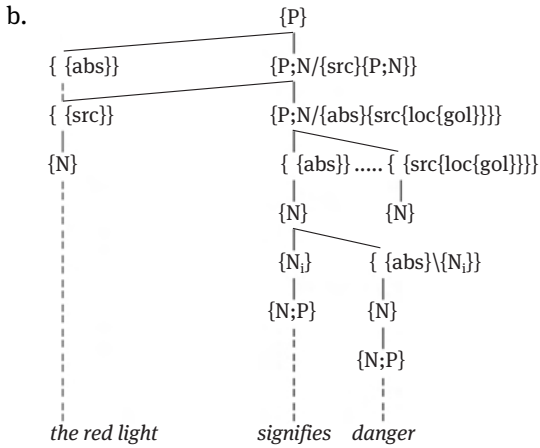


c. Bernie qualified for the competition

The incorporated {loc{src}} pronominal in (130b), which does not appear independently in English, might be one categorial structure constructed by speakers for the base, if morphological segmentation occurs at all in their understanding; *Bernie* might also be construed as a source. As represented there, the identity of the deprivation is made explicit not by the incorporated locational pronominal, but may be specified in various way by a circumstantial that modifies a verb with just such an incorporated argument. (130c) is a directional with a positive orientation that highlights the role of the prefix in (130a) in signalling the negative orientation.

Though further consideration of deverbal verbs belongs in Chapter 26, their presence is, as we have seen, also part of an account of the common type of non-deverbal verb formation we have been looking at. And other examples require further extensions of the characterization of *-(i)fy* verbs. Take, for instance, a construction like that in (131a).

(131) a. The red light signifies danger

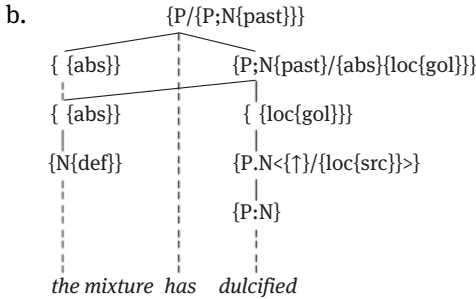


In (131a) *sign-*, as well as the source of the base, signifies something like ‘indicator’. And this noun has *danger* apposed to it: compare *The red light is a sign of danger*. In this structure, the experiencer that represents the receiver of the ‘meaning’ is incorporated along with the absolutive path that terminates in *sign-*. And this experiencer may be expressed independently, as in *The red light signifies danger to anyone entering*.

But perhaps some less complex categorization is appropriate for many speakers. Again we should recall the diversity of lexical categorizations, particularly when we are dealing with prefabricated formations. Lexical structure, in particular, is not necessarily determinate. This diversity of interpretation is part of what underlies the misunderstandings and the negotiatory character of use of language. At any rate, the construction in (131) is to be distinguished from those appropriate to the preceding instances of *-(i)fy* formations.

Now we need to look more carefully at how adjective bases participate in *-(i)fy* derivations, which, as illustrated by the correlative examples mentioned above, may also be the base of either simple directional or causative verbs. Let’s look at the non-causative collateral verb in (132a).

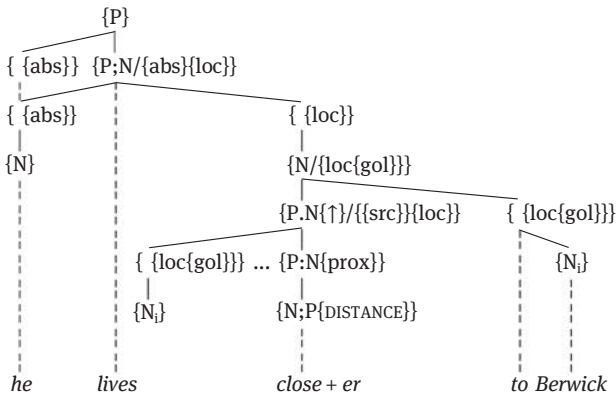
(132) a. The mixture has dulcified



Again notionally there is ‘change’, a metaphorical kind of ‘movement’: ‘the mixture has become sweet, or sweeter’. The optional subcategorization of the comparator allows for the comparative interpretation (collateral to *sweeter*). The categorial structure of the verb in (132b) will also serve for *sweeten*, whatever differences in usage there may between the two derived verbs.

Such an interpretation of the de-adjectival verb suggests that we should generalize the relevant aspect of the analysis of spatial adjectives suggested in Chapter 21 to at least gradient adjectives like *sweet* in general. (113b) recalls the locative analysis, which, however, is more articulated than (132), for instance, since more than one locational expression is involved.

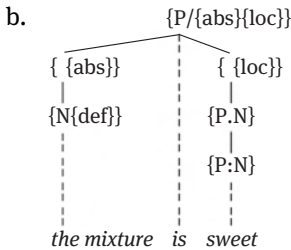
(113) b.



There we have two directional locatives within a non-directional locative. But in (132b) the single locative is directional, as with the noun bases we have looked at.

Compare now the representation for the adjective in (133a) suggested in (133b).

(133) a. the mixture is sweet



With both adjectives and nouns we can associate particularly contingent state or classification with presence of a locative, though overt expression of this varies from construction to construction – and language to language. Let us now dwell a little in more general terms, however, on the Germanic *-en*-suffix incidentally introduced above.

*-En* is based on adjectives, and a few nouns (e.g. *lengthen*), themselves based on adjectives. It can exhibit some obscurities, ranging from (*a*)*waken*, with ‘optional’ prefix, via where the corresponding adjective is itself necessarily prefixed, *awake*, or *embolden*, where there is also a prefix that can itself derive verbs (*enable*, *embalm*, *enslave*), to *listen* or *glisten*, with no obvious synchronic source for their bases – which presumably are often, in many such cases, now taken for simple forms. However, the verb *open* may be taken, in some instances at least, to be based on the adjective *open*, involving a common conversion type we come back to below; the morphologically derived adjective *opened*, with its resultative interpretation, is based in turn on the verb.

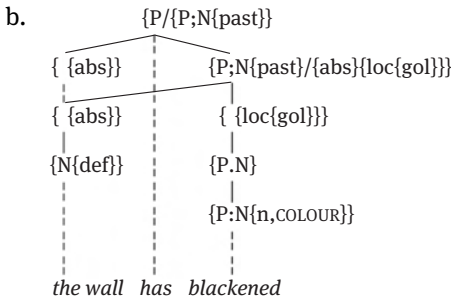
If *hasten* is related to *hasty*, we have suffix substitution, or rather alternation of suffixes, apparently attached to the activity noun *haste* (which we find in the lexical periphrasis *make haste*), unless *hasten* is derived directly from *haste*. The directionality of derivation here is uncertain, and it is not clarified by the prominent semantic specialization of *hasty*, which typically applies, negatively, to emotions. But, in view of the element of activity that pervades the set of items, the ultimate base seems to be a pro-verb. This situation again illustrates the availability for users of a lexicon of different structural interpretations, depending on their own experience, relative awareness, and other capacities.

More straightforward instances are *widen*, *deepen*, *blacken*. Many of the adjectival sources, including *wide* and *deep*, are obvious gradient adjectives, where, for adjective *x*, the sense of the verb is again most obviously ‘become/make (more) *x*’ (i.e. quality-acquiring/increasing). These and others are thus amenable to the directional or causative-directional analysis discussed in relation to (132) above. However, *blacken*, for instance, is perhaps often more saliently a change

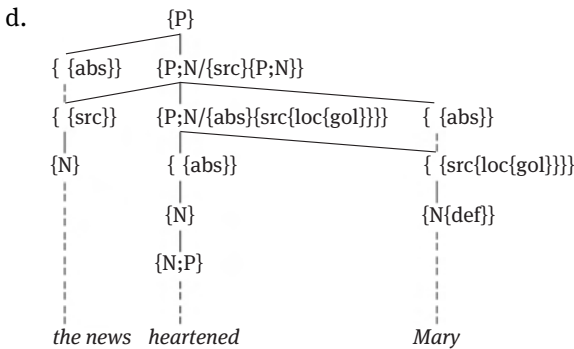
of class – including figuratively. Nevertheless, a directional analysis of some sort is still appropriate: it involves not a movement into a state or upwards in intensity of a state, as with (prototypical) gradient adjectives, or those denoting contingent qualities, but movement into a class. We can associate this difference in notional domain with presence of the secondary {n} feature I have attributed to typically non-gradient adjectives (recall Chapters 12 & 23). So too *red*, *whiten*.

Thus, the sentence in (134a), on this interpretation, might be represented as in (134b).

(134) a. The wall has blackened



c. The news heartened Mary



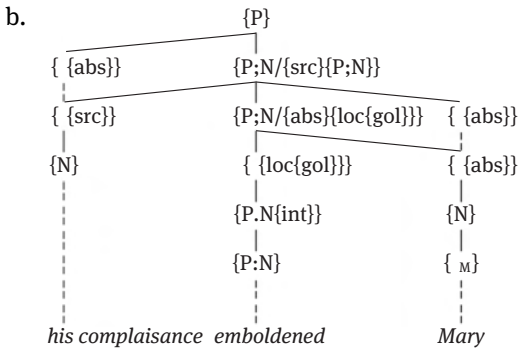
With the substitution of {N;P} for {P:N{n}}, as in (134c), a rather different analysis, though still locative, is necessary, apart from the addition of a causative layer, and a different and usually figurative interpretation – not indicated in (134d). In this case it is the absolutive that is incorporated, and the (experiencer) goal locative is realized as *Mary*.

Let us recur to derived verbs like *embolden* that have both a prefixed and a suffixed direction-expressing formative. The verb-deriving prefix *en-/em-*

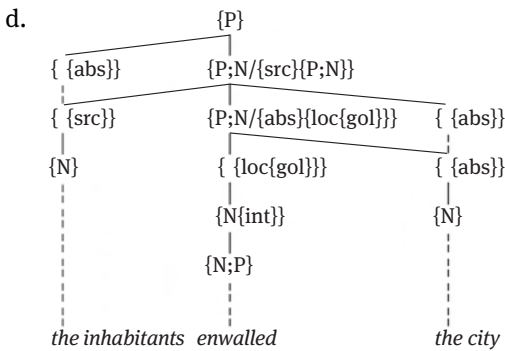


attached to adjectives and nouns is Romance in origin. In the history of English there developed a tendency for the Latin *in-* form to be preferred – thus *imbed* rather than *embed*, for instance – a preference that in general has waned. Both *enable* and *imbed/embed* types are unusual for a prefix, in deriving a different part of speech. Also, in combination with suffix *-en* or alone, the prefix introduces (possibly figurative) goal-interiority. Locative is incorporated and overt expression of it is given by the prefix. Thus, (135a) can be represented in outline as the causative directional in (135b) – though the adjective *bold* itself is based on a pro-verb.

(135) a. His complaisance emboldened Mary



c. The inhabitants enwalled the city



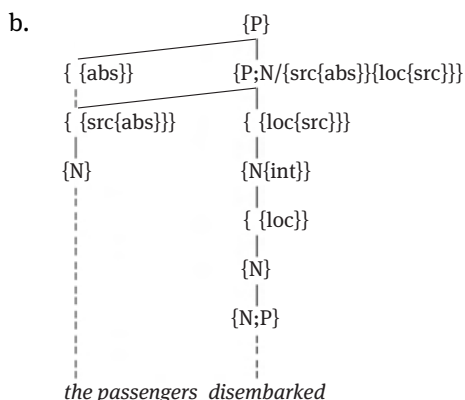
e. His departure enlivened the party

The prefix, as well as the suffix, is associated with the internal lexical structure of the item, the suffix with the derived category. This suggests that *Mary* in (135a–b) is put into a state rather than receiving it.

The more concrete noun-based instance in (135c) attracts the analogous representation in (135d), though it is implemented morphologically only by prefixation, as is the more abstract *empower*. (135e), on the other hand, is a denominal with both the interiority prefix and the verb-deriving suffix, as well as final voicing of the base, as in the adjective. The situation expressed there could be conceptualized with either the party or life as the moved entity; but the attachment of the prefix suggests the former is being represented, as in previously discussed examples. But in all these cases alternative conceptualizations are possible.

The noun-based derived agentive intransitive verb in (136a) has two prefixes, which both again reflect the internal structure of the form, as shown, once more in outline, in the noun-based, with an obsolescent source, (136b).

(136) a. The passengers disembarked



Once more, interiority is marked by the *-em-* and the negative orientation ('from') again by the *dis-*, here in combination; and there is no suffix. Usually a disembarkation succeeds an embarkation – though one might imagine a disembarkee being the product of an accidental or dedicated floating obstetric facility. We might also create a negative-prefixal equivalent on the basis of (135e), giving *His arrival disenlivened the party*, perhaps as an understatement.

The privative prefix in *disable* and the positive in *enable* involve lexically internal equipollent opposed directionalities, but the prefixes also signal the category change from adjective to verb. In comparison, the adjectives *able* and *unable* differ in simple polarity. The absence of *-en-* with *disable* allows the interpretation that there hasn't been an enabling. This pair, then, lack a primary-category-changing suffix, whose function is performed by the prefix. However, affixes that indicate

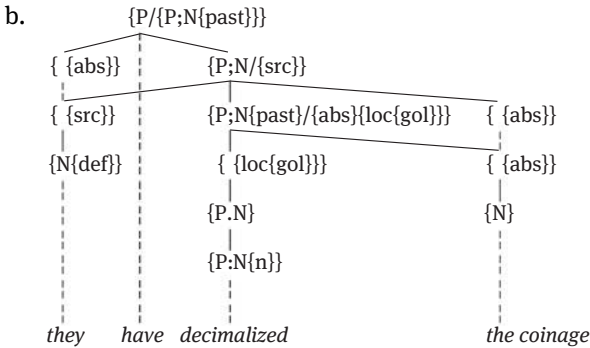
a change of primary category are generally suffixed, whereas affixes reflecting internal structure are prefixed. But in the present cases, with *dis-* and *en-/em-*, the prefixed derivational signals are, in a sense, intermediate between overt signaling of the derived category by a dedicated suffix, the norm, and conversion, no signal; their marking of category-change is cumulated with an expression of the internal structure of the derived category.

Many prefixes show a negatively oriented change in directionality, as with *displace* or the deverbal *undo*. This conforms to what we found in Chapter 22 with respect to affixation in derived adjectives, so that we have suffixed *restful* (primary category change) vs. prefixed *unlike* and *impotent* (negative). Consider too noun-based nouns like *ex-convict*, with a source that signals that the state is not current. Other prefixes signal positive location. But often prefixes do not change primary category. However, recall also the suffixal expression of a minor sub-class change in the derived adjectives *goodish*, *goodly*, and the like. Perhaps then, at this point, we should say, more exactly, that prefixation typically betokens location and negativity (a kind of location), rather than expressing just any change that doesn't change primary category; and, moreover, concede that locational prefixation can be associated with major-category change.

Despite a long and eventful history there is a dearth of recently coined examples of the suffixed *-en* formation – though, given the transparency of many instances of formations marked by *-en*, the suffix is productively viable. This paucity of new formations is, however, in marked contrast with, in particular, another non-Germanic suffix, *-ize*, as well as with non-Germanic *-(i)fy*. The former suffix again is attached to adjectives or nouns; cf. also *marginalize*, *containerize*. And the derived verb often permits either a simple directional interpretation or causative-directional interpretation, as with, say, *crystallize*, giving an 'ergative' pattern to its distribution. But there are instances with only a transitive possibility, as with the figurative interpretation of *lionize*. And, as we have seen with *-ify*, adjective sources can be both gradient (as in *familiarize*) or not (*decimalize*, *legalize*).

This last means that both gradient and non-gradient adjective sources can be verbalized as involving directionality. Thus, if *decimalize* is interpreted as 'change into', again a goal locative is the base. So that, on such an interpretation, something like the relevant part of (134b) is appropriate here too. So that (137a) might be represented as in (137b).

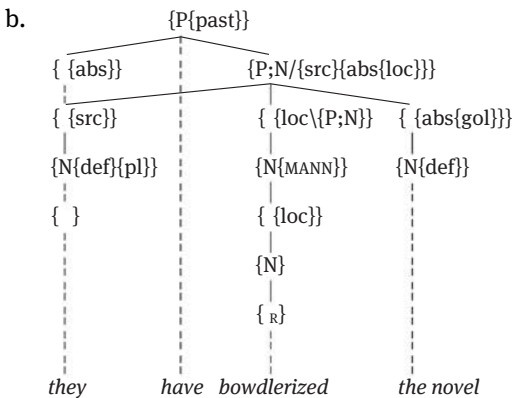
(137) a. They have decimalized the coinage



However, there is much idiosyncrasy in particular instances, including opacity of base, as ultimately in *decimalize*, or as in *pulverize* – though some speakers may store this as a ‘collateral’ verb with respect to the noun *powder*; the source (*powder*) and the base (*pulver-*) are both ultimately latinate, however.

Sometimes, among the transitives, and particularly with names as source of the base, the verb is derived via a manner element of the character of ‘as, like’, as with *bowdlerize* or *Macadamize*. We thus might represent (138a) as in (138b), where the incorporated manner circumstantial is marked as a modifier by ‘\’.

(138) a. They have bowdlerized the novel



Here, on a simple interpretation, the source of the base is the manner circumstantial that modifies the agentive and affected-absolute verb; here the argument that provides the base is not a participant, and not a contentive. The precise interpretation of the effect of the action on the novel referred to depends on ency-

clopaedic knowledge of the activities of Dr. T. Bowdler – to the extent that the language user finds the formation at all transparent. We also find instances of the simple causative pattern, in particular, in derived verbs based on adjectives derived from names, as with *Gallicize*.

As well as there being in many cases the ‘ergative’ pattern that we have been encountering – that is, with potentially a derived verb with {src} (transitive agent) vs. simple {absolutive} as its overall subject – we also encounter verbs in *-ize* with an apparently intransitive-agent subject. Such are *temporize* or *syllogize* or *agonize* or *deputize* or *womanize* – though many of these might be interpreted as transitive but with an incorporated absolutive realized as the nounal base. This variation in apparent valency follows the example of the Greek source of the suffix.

Given this amount of variation with *-ize* in the nature of the derivational structure and the many idiosyncrasies, it may again be that many speakers are aware of at most only some vague connection between the etymological source of the base and the derived item. I suspect that this situation may be complicated by the not insubstantial number of commonly-occurring verbs that end in the same phonological sequence but are not instances of the historical *-ize* suffix, as illustrated by *prise*, *surprise*, *circumcise*, *televise*, *surmise* – not to mention nouns such as *merchandise* or *enterprise*. These latter formations are varyingly opaque.

Another familiar non-Germanic verb-former is the suffix *-ate*, originally a Latin past-passive participle ending, which, not unusually, developed as a verb-based adjective, and then verb form, and eventually an English verb. These once more are often susceptible to an ‘ergative’ or (causative-)directional interpretation, as with *ameliorate* or *desiccate*, which seem to be adjective-based, though, as is quite general with *-ate*, the formation is pre-fabricated and the base obscure in the absence of specialized knowledge. There are possible native items such as, in the cited cases, *better* and *dry*, to which *ameliorate* and *desiccate* could constitute ‘collaterals’; but the native forms can themselves be converted to verbs. But a ‘collateral’ possibility and the valencies involved are not so obvious with, say, *fascinate*, or *asseverate* (despite the latter’s notional and graphophonological similarity with *severe*). Also, adjectives with ‘collateral’ verbs can be interpreted as ‘resultative’ in relation to the ‘collateral’ verbs. But adjectives in *-ate* derived historically from the Latin past participle such as *separate* (or less current *situate*) do not necessarily have this sense in relation to the causative verb *separate* (or *situate*) – though the English-derived adjectives *separated* and *situated* can. The derived nouns *separation* and *situation* may have either a state or a process or an activity sense. Concrete nouns are particularly associated with conversion, most plausibly from the adjective: *separates*, *degenerates*.

We find a variety of other varyingly opaque patterns with *-ate* verbs. *Luxuriate* is intransitive, but typically agentive, and is apparently based on a noun,

perhaps in a ‘manner’ relation with the verb. (A different suffix gives us the adjective *luxurious*.) Similar in this respect is perhaps the transitive *assassinate* – in so far as it is at all compositional. But what do we make of the synchronic relations among *differentiate*, *different*, and *difference*, all, it would seem, ultimately based on the verb *differ*? Derivation of the *-ate* verb from the noun is perhaps suggested by their sharing an argument introduced by *between*, and of the adjective and noun from the simple verb by their all sharing a possible argument introduced by *from*. At least we can trace an ultimate synchronic source for the base in this case.

Any independently-attested source for the base of *venerate* (and the adjective *venerable*) is quite unclear synchronically. Equally unclear, perhaps, are *procrastinate*, *fulminate*, *reverberate*, and *scintillate*, which syntactically are typically intransitive. *Perpetrate* seems to be a transitive that typically takes an actional noun, usually with pejorative connotations. For the most part it may be that for the language user *-ate* simply marks an item as a verb; and the ‘base’ merely differentiates it from other *-ate* verbs without involving independent manifestation as a source lexical item. As just observed, however, the Latin participle also lies behind adjectives in *-ate*; but the suffix in these is typically reduced under low stress, as with *separate*, *consummate*, *accurate*. To add to the picture there are also denominal nouns in *-ate* such as *consulate*.

*-Ate* is obscure enough; but it scarcely competes with the problem of the synchronic status, if any, of the other descendant of a Latin past participle, the *-t* of *reject*, *intersect*, *inspect*, *reflect*, *direct*, *perfect*, and a number of other verbs, many of them lacking the *-t* in some varieties (illustrated in novels by Galt, for instance). How salient is the *-(ec)t* ending in these verbs? The reader may well have noted, too, that the last two examples, for instance, could once again also be an adjective (how related, if at all, to the verb?) but with initial accent in adjectival *perfect* (resultative derivative?); and the first example, *reject*, could be a noun. And, indeed, I could have illustrated something of the range of problems in dealing with pre-fabricated morphology in previous chapters in relation to derived adjectives and nouns. But I have delayed dwelling upon (wallowing in?) this until now because of the additional complications introduced by the variety of relational structures that can be associated with verbs.

Identifying a base is, of course, not a problem when we come to verb-forming conversions – though the notional basis for the directionality of these is sometimes in doubt: which are the derivatives and how are they related (*catch a thief/a ball/a cold/a fish/what he said/my breath*)? Even if this is potentially clear, complexity comes in the roles that denounal bases can assume in relation to the derived verb. This presents a variety almost entirely lacking with adjective sources. The discrepancy follows from the observation that nouns but not adjectives typically appear in predications as the leaf of arguments of a wide range of

participant and circumstantial functors dependent on verbs. This parallels the range of functions that derived nouns correspond to in relation to a base with a verb source.

The reader may recall from the commentary on Chapter 19 the borrowed table that I now harmonize with the present framework as Table XIV.

**Table XIV:** Verb-to-Noun Conversions

| Base Type                       | Examples          |
|---------------------------------|-------------------|
| {src}                           | cook, spy         |
| {abs} in existential {loc{gol}} | win, guess        |
| {loc{gol}}                      | drop, dump        |
| {abs{gol}}                      | smoke, drink      |
| {P;N}                           | run, climb, smoke |

And this variety follows from the notional differences between verbs and nouns, specifically relationality on the one hand and discreteness (non-relationality) on the other. Adjectives are intermediate in this respect, at least to the extent that they are not leaves (unless predicative). But let's now look at some examples of the analogous variety among conversion-derived verbs.

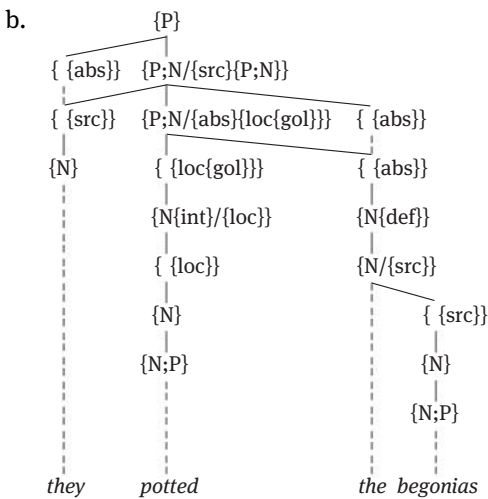
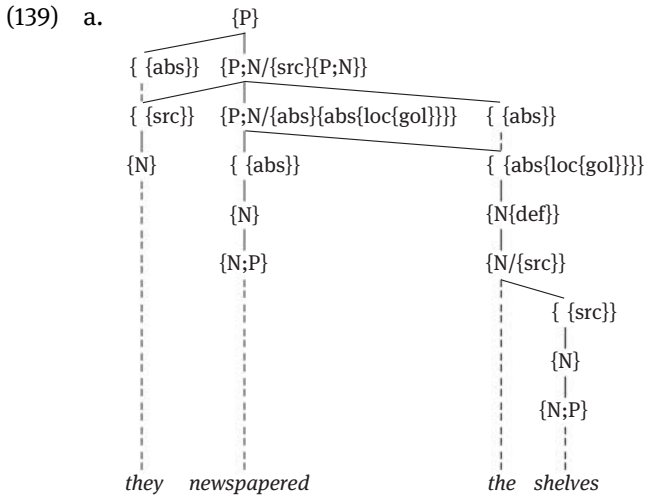
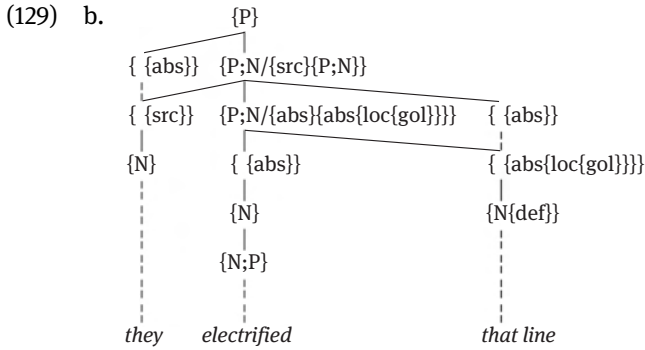
Some typical examples are included in Table XV.

**Table XV:** Noun-Verb Conversions

| Base Type                   | Examples                                                  |
|-----------------------------|-----------------------------------------------------------|
| {abs{gol}}                  | newspaper the shelves, rouge the cheeks                   |
| {loc{gol}}                  | pot the begonias, table, garage, field, ground, seat, can |
| change {loc{gol}}           | cripple the man, crumb the bread; the trail forks         |
| temporal {loc{src,gol}}     | winter in California, overnight at the White House        |
| instrumental {loc{src,gol}} | (bi)cycle, nail, knife                                    |

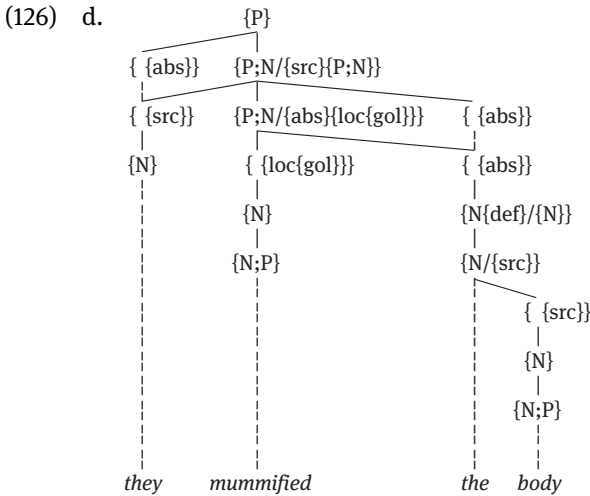
We need to look more carefully at one or two of these.

The first type in Table XV conforms to the pattern proposed for the suffixed form in (129b), where the base is absolutive in a directional predication, as in (139a), which however should include a dimensional {N}, equivalent to *on* in the normal interpretation of such a predication.

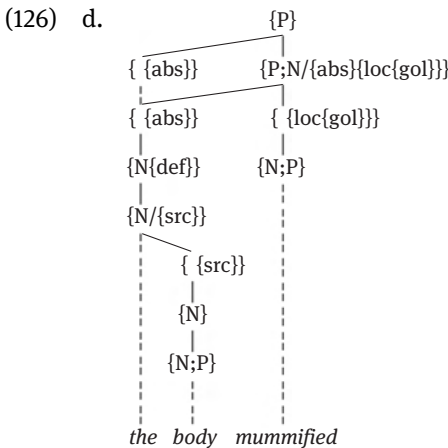




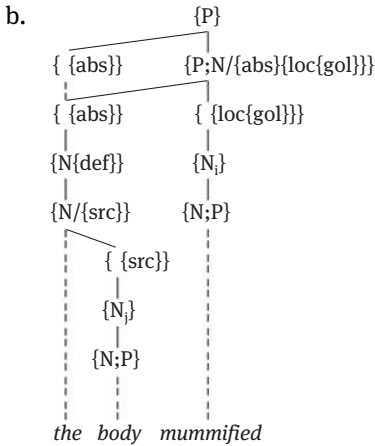
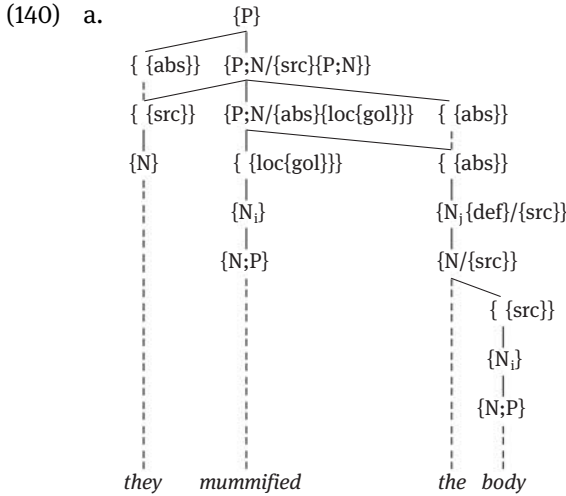
Likewise, the second type in the table looks as if it should be characterized as a (more concretely spatial) version of (I.160b), repeated initially in this chapter.



But more careful comparison with (139b) reveals something that is missing in (I.160b), and indeed (126d), that is included in (139b): a dimensional  $\{N\}$ , which should be included in (139a). While (139a–b) indeed involves a simple spatial movement, the suffixed items in (I.160b) and (126d) involve not a simple spatial movement involving distinct entities but a change, specifically a narrowing, of denotational class.

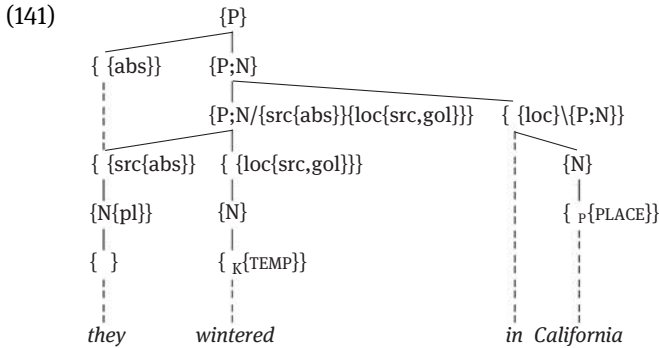


We can express this as in (140a) and (140b).



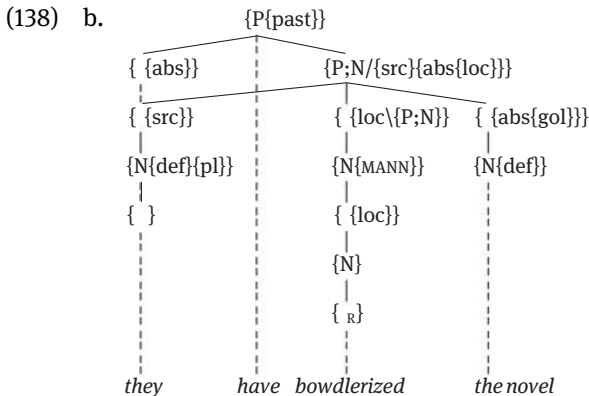
Here the referent of *the body* is assigned to a subclass, mummified bodies, given the inclusion relation between the indices, where  $i \subset j$ . (140a–b) are also appropriate as models for the third set of converted examples in Table XV, except that the last of these, *The trail forks*, is also metaphorical.

The fourth set of verbs is based on temporal path participants, as represented in (141).

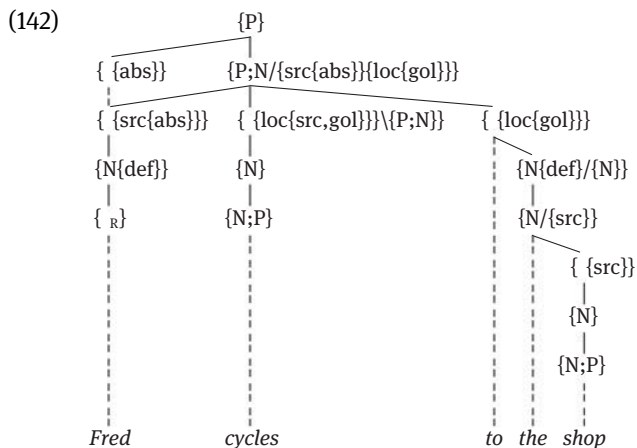


The temporal path noun is converted to an intransitive verb, commonly agentive, as in (141). The verb is an agentive directional verb whose path argument is satisfied by the base cyclic temporal name *winter*.

In the remaining sets (the manner and the instrumental) the verbs are based on nouns in a circumstantial relation to the derived verb. This is more common with converted rather than affix-derived verbs – though the name on which the affixed-derived verb of (138b) is based is in a manner relation.



The manner circumstantials in Table XV requires a representation like that in (138b), but with a simple noun source rather than a name. (142) offers a structure for sentences containing the instrumental type of Table XV.



This involves a similar configuration, with a circumstantial base, to that in (138b).

So much for simple conversions to verb, though we have looked at only some of the common variations. But here must also be mentioned delocutive verbs. These are based on conventionalized utterances of various sorts. In various languages such utterances are a source for converted verbs in particular, and sometimes for a derivation by affixation. Delocutive nouns appear to be less common, but various types of delocutive verb have been recognized. Most common in English are perhaps expressions that constitute acts of greeting and other routinized speech acts, including forms of address.

This may be illustrated by the following (from P.G. Wodehouse's 'The Mating Season' Chapter 21). 'Dame Daphne oh-really-ed, and I very nearly said 'Indeed, sir?' Here a past-tense verb with a delocutive source is conjoined with a non-delocutive verb introducing a quotation as the argument satisfying the verb's absolutive requirement. And the following is a noun-formation (from the same work, Chapter 4).

... she is the sloppiest, mushiest, sentimentalest young Gawd Help us who ever thought the stars were God's daisy chain, and that every time a fairy hiccoughs a wee baby is born.

However, we also find onomatopoeic (verbal or nominal) formations, such as *miaow* or *tut-tut* based on animal or human noises.

One of the many virtues of the works of P.G. Wodehouse is the wealth of coinings of delocutive verbs and nouns of the non-onomatopoeic type. In the following from 'The Mating Season', Chapter 3, we have a delocutive noun and then a delocutive verb.

It was difficult to know how to carry on. A ‘There, there, little woman’ might have gone well, or it might not. After thinking it over for a moment, I too-badded.

The following (again from the same source) has a nominalized delocutive verb.

At this point she seemed to become aware that we had skipped the customary pip-pippings for she took time out to say how nice it was to see me again after all this time.

And recall from the prelude to Part II the even more extended delocutives (from ‘Eggs, Beans and Crumpets’, Chapter 3).

And after a bit of Well-here-I-am-back-again-ing and Oh-hullo-Mr-Purkiss-did-you-have-a-good-trip-ing, as is inevitable on these occasions, Purkiss said ... .

In the next instance we have a progressive (from the same source).

A moment later, he was on the telephone with Mrs. Bingo’s silvery voice are-you-there-ing at the other end.

We even find mediated de-gestural nouns in such as the following (from ‘The Mating Season’, Chapter 25).

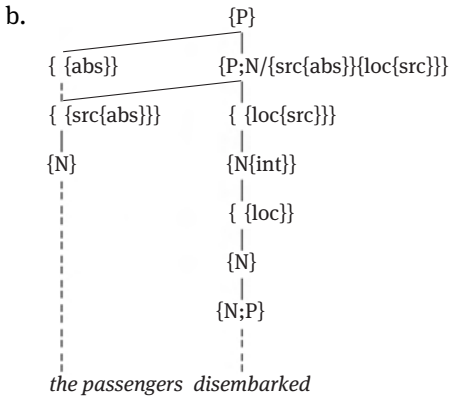
Pulling a quick Stern Father, he waddled up to the happy pair and with a powerful jerk of the wrist detached his child and led her from the room.

However, that’s probably enough, for the moment, of my indulgence in Wodehouse (whose work, for those who don’t already recognize this, is also a plentiful source of other instructive linguistic material).

As well as such delocutive formations, we have encountered a variety of means of deriving verbs from other contentive categories, including several suffixes, varyingly active or obscured, and a range of types of conversion mediated by the semantic relations of the derived verb’s valency. Prominent among the suffixations are exponents of derived directionals and causativizations, where one of the arguments of the derived verb is the base. These include abstract directionals involving change of class, as illustrated in (140) above.

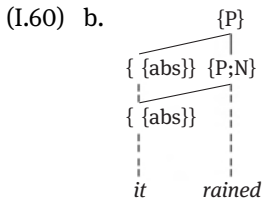
We also find intransitive agentives such as that in (136).

(136) a. The passengers disembarked

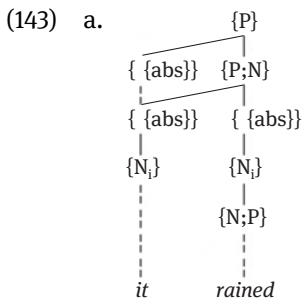


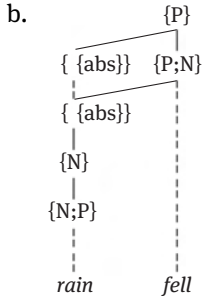
(136a–b) also illustrates the prefixes discussed above, one indicating negative orientation, the other reflecting the presence of the interior locative that relates the noun base to the negatively oriented functor subjoined to the verb.

We can also now give some content to the apparently valency-less verb of (I.60b) from Chapter 5.



This is shown in (143a), which again recognizes the derived status of the verb. Once more the source of the base is an argument of the verb.





Such an argument is overtly realized in (the abbreviated) (143b).

Many of the morphological derivations in this chapter have involved non-native elements, including prefixes. Both prefixation and directional and causative formations will figure prominently in the chapter that follows, which is concerned with deverbal verbs. The latter occupy an important place in the characterization of lexical structure, including that of common verbs that are inherently complex, without evidence of derivationality, either by morphology or by conversion. These provide further illustration of the dependence of the lexical structure of verbs on their relationality, as well as of the even more striking poverty of morphological expression of verb-to-verb derivation.

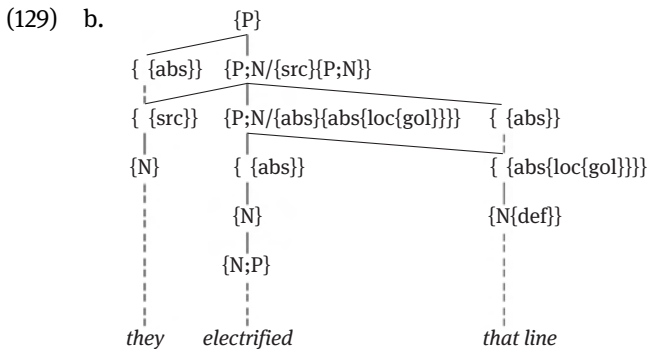
# Chapter 26

## Deverbal Verbs

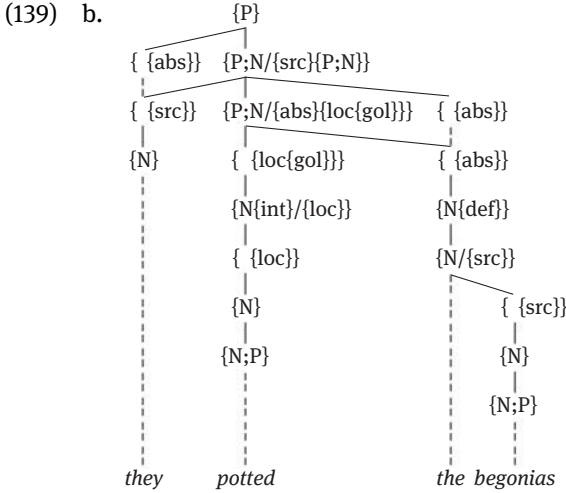
non-deverbal causatives – diathesis: middles and holistics – derived directionals – prefixes: participant and circumstantial – privatives: verbs, adjectives, and nouns – covert lexical structure – lexical categorial structure and morphology

It is also striking how dependant on borrowed suffixes English is in the morphologically-marked derivation of verbs from other primary categories, and how idiosyncratic are the lexical structures involved. We shall now find that suffixation of any kind is uncommon in the derivation of verbs from verbs, supporting an impression of the poverty of morphological mechanisms of verb derivation in English, particularly of native ones. We have, however, already encountered two common sources of verb-verb complexity in the course of the survey of non-deverbal verbs in the preceding chapter, each illustrating a different mode of derivation.

(129b) and (139b) illustrated lexical causatives, in the first case as part of derivation by suffixation from a noun base, and in the second by conversion from a noun, each involving a deverbal verb, a causative based on a directional, a distinction not lexically overt.

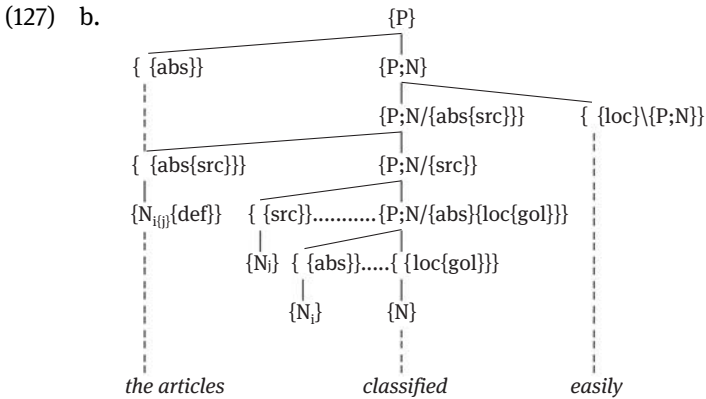




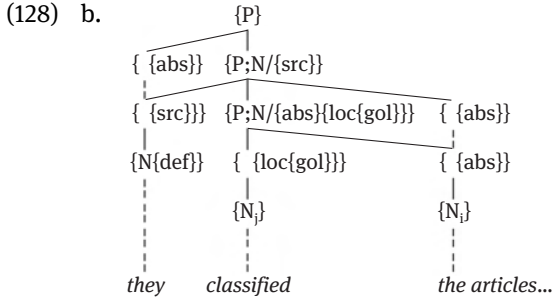


These causative structures are a common type of lexical configuration. But we have also encountered, even more incidentally, another apparent type of verb-to-verb derivation.

This was illustrated by the internal structure of the further ‘derivation’ of the denominal causative in (127b).



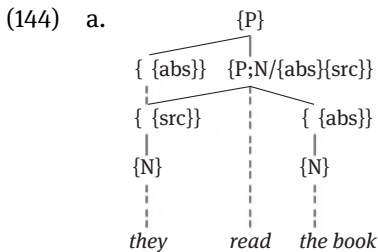
Compared with (128b), (127b) shows derivation by diathetic adjustment: the features in the valency are redistributed, to give a **middle** construction, as made explicit in a comparison of (127b) with (128b); in the structure of the latter I have represented the feature re-assignment in terms of a subclass indexing, so that lower unexpressed  $\{N_j\}$  (127a) is re-assigned to the  $\{N_i\}$  subclass: ‘j’ is included in ‘i’.

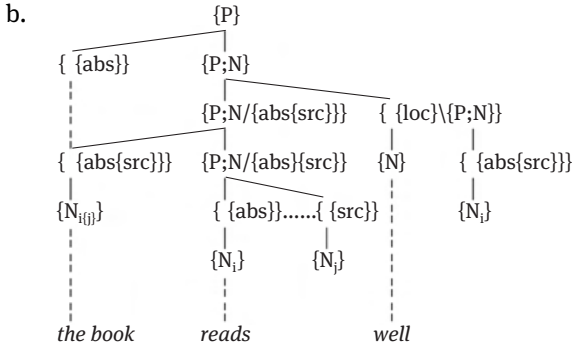


The source feature of (128b) is no longer independent in (127b), but appears as a tertiary to an absolutive that is coreferential with the absolutive of the lower {P;N}. There is no category change, but a re-arrangement of the valencies, of the diathetic mode of a particular verb. The incorporated absolutive is of course also bound by coreference to the subject of (127b).

However, as it stands, the representation in (127b) does not capture the near-obligatory character of the manner circumstantial. And circumstantials associated with diathetically deverbal verbs differ from simple circumstantials, in that a specific type of circumstantial is strongly expected – but not specified in the above representations.

The nature of the basic diathetic relationship is more transparent if we choose a simple transitive verb rather than a derived form such as *classify* and eliminate even more irrelevant parts of the structure, as in (144).

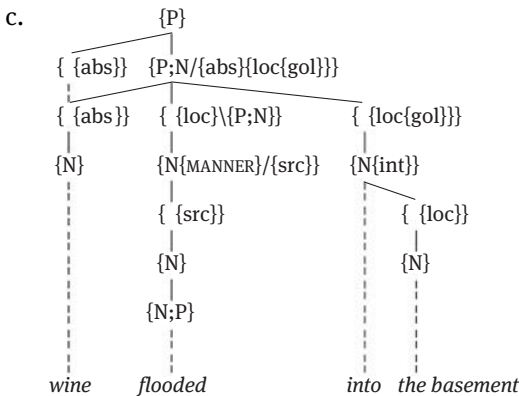


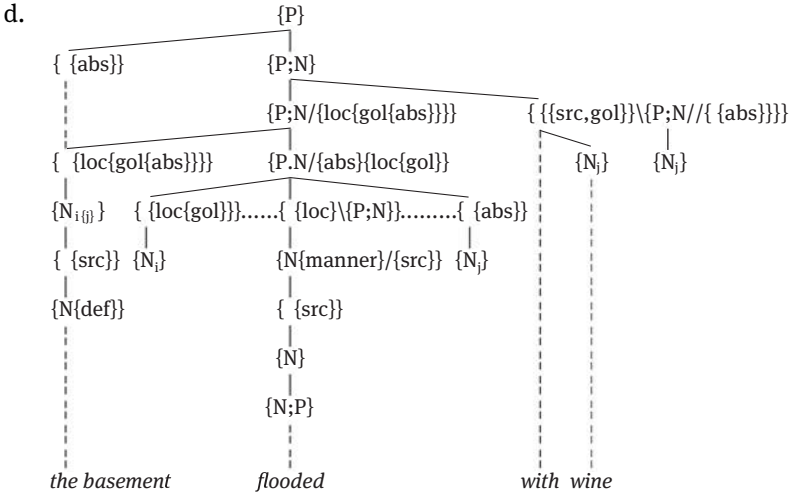


The evaluative manner circumstantial in the middle in (144b) – whose internal structure is again omitted here – is bound by coindexing to the subject; the adverb is apposed to the kind of configuration we find in (143b), which otherwise seems to be incomplete. Completion is satisfied by the apposed circumstantial, with its appositional status shown by the presence of the index on *the book* showing that it expects a coindex.

We do not thereby derive in (144b) a novel lexical item but again an alternative, marked diathesis, as with the passive participle. This is a marked diathesis, as usually absolutive is subordinate to a non-locative source with which it is combined. A similarly marked diathesis occurs in (145b), based on the valency associated with (145a), whose structure is suggested in (145c), where the verb is based on a manner circumstantial introducing the notion of ‘flood’.

- (145) a. Wine flooded into the basement  
 The basement flooded with wine





In (145a), *the basement* is the argument of a simple, though interior, directional locative, as shown in (145c), whereas in (145b) it is also absolutive: recall the holistic role of such an absolutive mentioned in Chapter 4. Acquisition of the {abs} is at the expense of the participant status of the independent {abs} of (145a), a more drastic change of valency, as shown in (145d). I have collapsed the representation of the base of the lower verb, which is taken to be a noun in an incorporated circumstantial manner phrase.

The two basic valency adjustments, or rearrangements, giving **middle** and **holistic**, can be formulated as in (146a–b), respectively.

- (146) a.  $\{P;N/\{abs\}\{src\}\} \Leftrightarrow \{P;N/\{abs\}\{src\}\}\{loc\}\{P;N\}$   
 $\quad \quad \quad \downarrow \quad \downarrow \quad \quad \quad \downarrow \quad \quad \downarrow$   
 $\quad \quad \quad \{N_i\} \{N_i\} \quad \quad \quad \{N_{i(j)}\} \quad \quad \{N_i\}$
- b.  $\{P;N/\{abs\}\{loc\}\{gol\}\} \Leftrightarrow \{P;N/\{loc\}\{gol\}\{abs\}\}\{loc\}\{P;N\}$   
 $\quad \quad \quad \downarrow \quad \downarrow \quad \quad \quad \downarrow \quad \quad \downarrow$   
 $\quad \quad \quad \{N_i\} \{N_i\} \quad \quad \quad \{N_{i(j)}\} \quad \quad \{N_i\}$

In each instance there is in the unmarked diathesis an independent absolutive and another participant; and in the marked diathesis the latter is merged with the absolutive. A dual valency is reduced to a monovalent with a complex absolutive; and the most subject-worthy feature in the (a) valencies is made subordinate to, apposed to the other feature(s). By virtue of (146a) the original agentive source argument is not expressed – or only indirectly by the manner appositive –, while

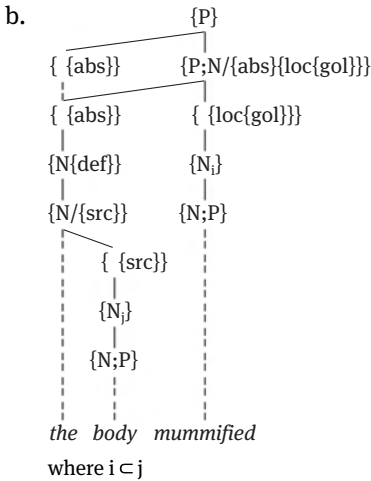
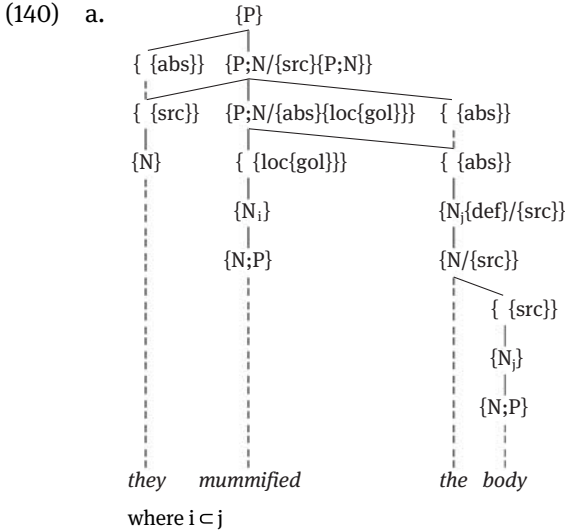
in (146b) the original absolutive is expressed by another type of appositive, again some kind of ‘instrumental’, but thus also locative. The appositives are apposed specifically to verbs of the derived valency type, as expressed by the coindexing relations into which they enter.

In the case of the English passives the diathetic relation is established analytically: *He got/was debarred*; here only the second finite is an auxiliary. In this case the marked, periphrastic diathesis, with an incorporated source to which a circumstantial can be apposed, is signalled by the presence of a periphrastic head and demotion of the verb to non-eligibility for finiteness, marked morphologically.

The diatheses associated with (146), however, are rather simple diathetic conversions. But in other languages both the middle and passive may be expressed simply morphologically, without loss of finiteness, and, indeed, in some Indo-European languages, for instance, by the same suffix – along with a range of other diathetic variants, with some of whom (reflexives, reciprocals) the presence of coreferential relations is familiar.

However, these relationships are not our primary concern here: the role of diathesis will have further attention in Part IV. They are introduced here to illustrate a different kind of ‘derivation’ with which to contrast simple lexical derivationality, as well as to provide further evidence of the relationality of the grammatical behaviour of verbs. Now we must return to our concern with lexical derivation of one verb from another – and the question of non-overt lexical complexity. Before consideration of the latter, the paucity of verb-to-verb affixation will return us to conversion, which is also characteristic of non-diathetic deverbal derivation of verbs. What we have already found is not untypical in this respect.

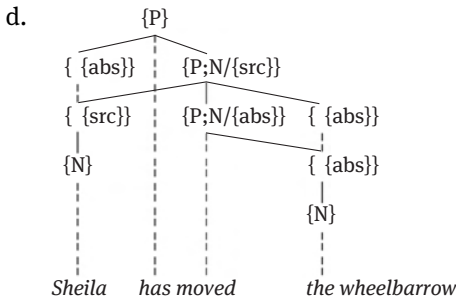
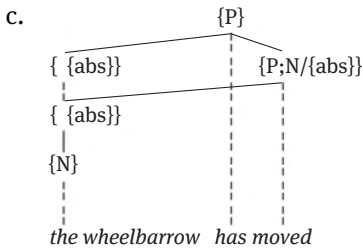
The classic ‘ergative’ patterning is pervasive. As well as the abstract, noun-based instances of ergativity such as the relation between the verbs in (140a) and its conversional source (140b), which shows an agentive with non-agentive subjoined, there are numerous instances of simple (intransitive) verb-bases with an absolutive subject being overtly converted into transitives with the source of the action as subject and the intransitive subject as ‘object’.



Indeed, the present examples, from the preceding chapter, anticipated the discussion in both this chapter and the next. For, though the verb is ultimately based on an argument noun, it is an intermediate directional  $\{P;N\}$  that the locative noun is an argument of, and that  $\{P;N\}$  is subjoined to the higher verb. We have a causative verb which by conversion has subjoined to it a change-of-state – or more generally change of class, or, more generally still, directional.

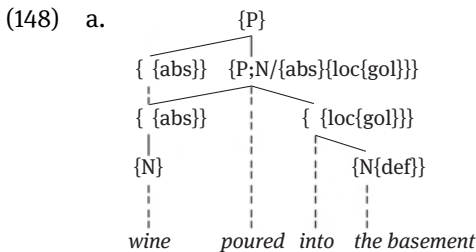
A simple verb-to-verb conversion is illustrated by the pair in (147a) and (147b).

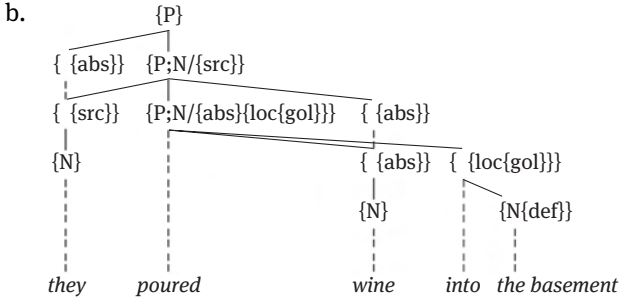
- (147) a. The wheelbarrow has moved  
 b. Sheila has moved the wheelbarrow



We can represent the relevant lexical and syntactic structure of these as in (147c) vs. (147d), though I have ignored there their status as directionals (and much else not immediately relevant, such as tense), as well as ignoring here the possibility of an agentive intransitive *move*, as in *Sheila has moved to Glasgow*.

An equivalent of (145c) – i.e. the variant with the unmarked valency – and lacking the manner base that motivates the availability of the marked valency, is illustrated by (148a), with the causative derived from it in (148b).

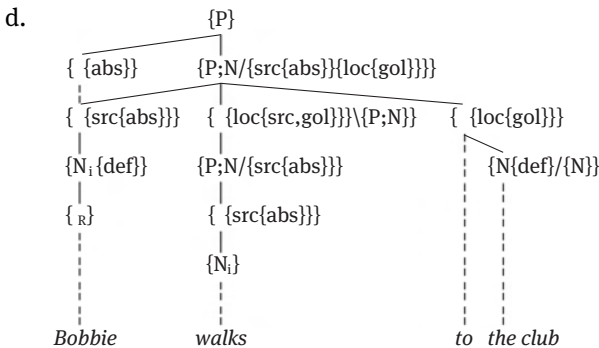
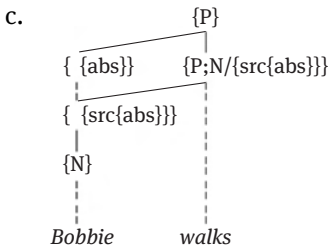




Again we have a conversion. Verbs that are insistently inherently holistic, such as *fill*, on the other hand, prefer the marked, holistic valency as the base for conversion to causative. *They flooded the basement with wine* rather than *?They flooded wine into the basement*.

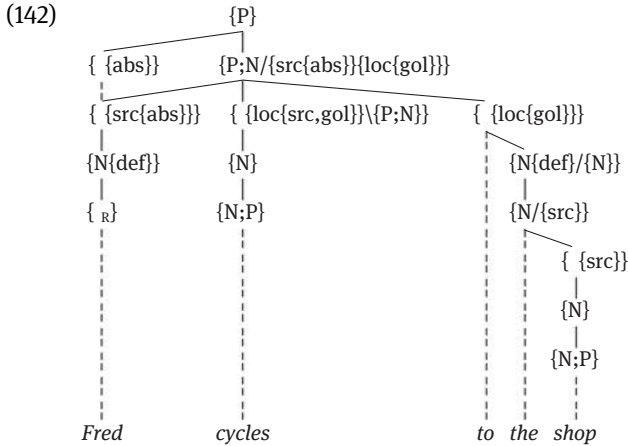
Another conversion type involves a base that is an instrumental circumstantial. In this way a verb of means of locomotion can be the source of the base for a directional, as in (149b), whereas in (149a) we have undirected locomotion, possibly even on the spot.

- (149) a. Bobbie walks (a lot)
- b. Bobbie walks to the club





In (149d) the ‘walk’ verb is the source of a base via incorporation of an ‘instrumental’ modification of a directional verb. Between the verbs in the representations in (149c) and (149d) we have a conversion relation analogous to that in (142) from Chapter 25, though the source of the latter is a noun.

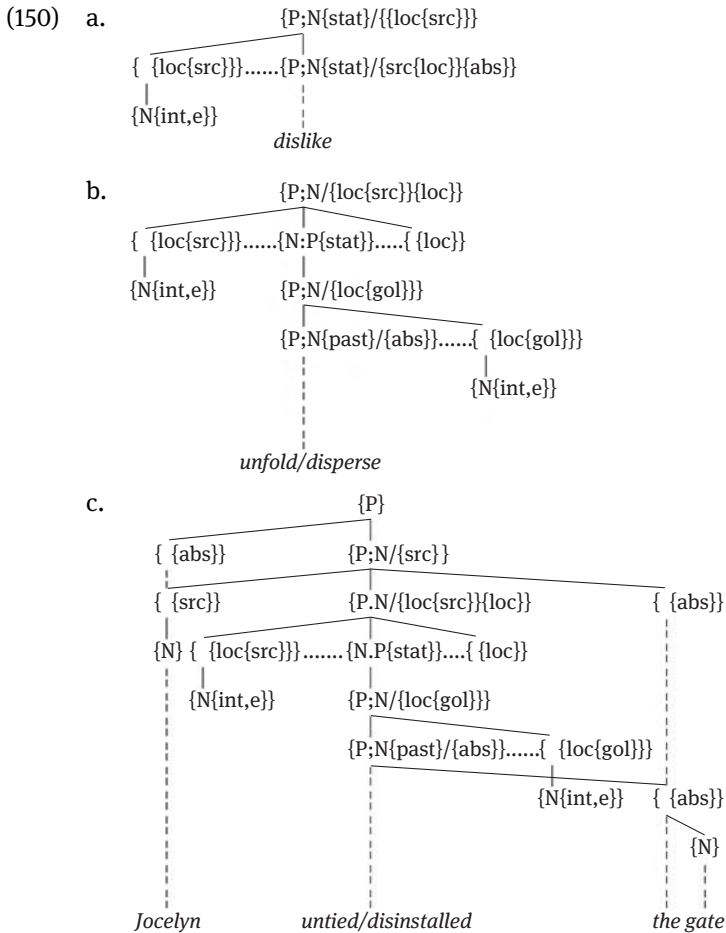


The verb base in (149d), on the other hand, introduces via ‘instrumental’ modification a base verb with an intransitive agent coreferential with the subject of the sentence.

Verb-to-verb suffixes may be in short supply in English, but there is some variety of prefixes, though mainly non-Germanic in origin. We have already encountered in Chapter 25 the prefix *en-/em-* (*embark*), which reflects the (positively-oriented) locative relation that mediates derivation from the participant noun base, as well as the privative *dis-* (*disqualify*, *disembark*). *Disembark* derives a privative locative verb ultimately from a noun subordinate to a locative {P;N}: directionality is reversed. *Dis-* commonly derives privative verbs from other, usually positively-oriented verbs, such as in *disagree* or *disfavour*.

I take ‘transitive’ *favour* itself to be like *prefer*, but in *favour with* it is a verb like *provide with* in involving an alternative diathesis, signalled in part by the absence or presence of *with*. I take this up at the end of this chapter. *Agree*, on the other hand, is interpreted as a less concrete instance of the ‘accompaniment’, or ‘comitative’ type. Hence the more obvious near-synonymous metaphors in *He goes along with that* and *He goes along with you (on that)*, or *Let’s run with that*, or the non-directional *I’m with you on that*. This is another type we return to later, in Part III, under the rubric of ‘phrasal lexical items’. Here I want, for the moment, to keep the focus on prefixes, and specifically ‘negative’ ones, and ones with simpler bases than the above.

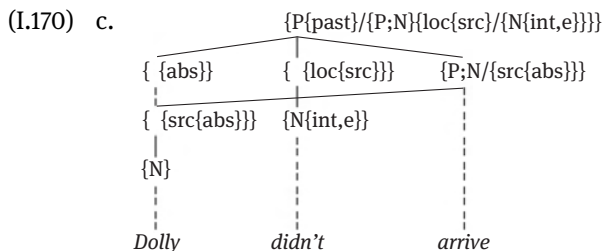
With noun bases we associated verb-formations in *dis-* with, most concretely, removal from a place, as with *disembark* or indeed *displace*. In the former the place is a space, indicated by *-em-*. With verb bases we have removal or absence from a state. The second of these is evidenced by stative verbs such as *dislike* or *disapprove*, which are close to analytic negations. With *disassemble* or *unfold* we have the removal of a state (*assembled*, *folded*) resulting from the action of the base verb: we have de-resultatives, notionally similar to the denominals. We might represent, in abbreviated form (in e.g. lacking a governing {P} and subjective free {abs}), the simple negative state and the de-resultative (directional, ‘go out of existence’ – hence the unrealized {loc}) as in (150a) and (150b), respectively, where the latter is given here an intransitive interpretation – and the second example therein is obscurely based.



I have included the feature {stat(ive)} in (150a–b), which is prototypically redundant with experiencer verbs and adjectives, to remind us that this property is shared by the representations, though the state in (150b) is normally, as indicated there, the result of a previous action creating the situation that the upper verb undoes (cf. *disembark*). However sometimes the presence of a previous ‘positive’ action may not be salient, or may indeed be absent – as with, say, *dissolve*. Recall in connection with these examples the interpretation of negation as a locative source existential (‘a being or going out of existence’) in Chapter 15, for instance.

The configuration in (150b) can, of course, be the basis for formation of a causative, as is indeed normally the case with the *untie* or *disinstall* in the sentence of (150c). The structure in (150a), on the other hand, is notionally closer to ‘negative’ adjectives such as *unfit*, *impossible*, or *dissimilar* – despite the difference in contentive categoriality, to be sure. So too is the negativity with nouns and adjectives prefixed with *non-*, such as *nonconformist*, *non-committal* or *non-event*, though often they have a figurative interpretation. In some established, further lexicalized forms (often with obscurity) the prefix is accented: so *nonsense*, *nonage*, *nonchalance/nonchalant*.

It may be helpful to compare the above lexical structures with the syntactic negative in (I.170c), from Chapter 15.



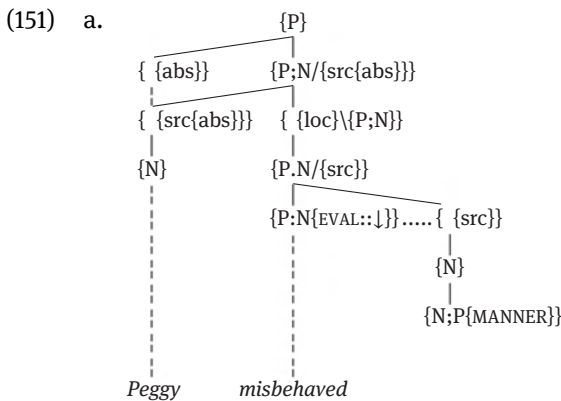
Here the negative locative is dependent on {P}; however, we have found that it also depends on {P;N}, as exemplified in (150). Similarly, in (I.170c) the tense feature is associated with {P}; but again we have encountered circumstances where the past verb of (150b) has a syntactic role to play – specifically in the structure of the perfect periphrasis (see further Chapter 35). And from the beginning of Part III we shall be looking at prefixation itself, along with other morphological mechanisms expressing complex lexical structure.

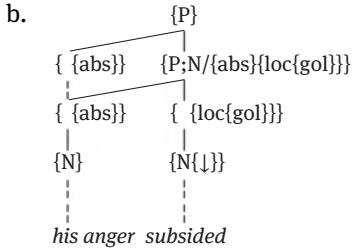
As we have seen, with *dis-* sometimes the positive locative element is made overt, as in *disembark* or *disendow* or *disenchant*. But many forms with *dis-* are var-

ingly opaque (*discuss, disperse, dissolve, dissipate*); this is intensified by the fact that many of these borrowings from Latinate languages are not only pre-fabricated, but also may already have undergone some figurative or other culturally-motivated development in the immediate donor language, as well as (a possible series of successive) receiver languages.

This is true of many other of these borrowed Latinate prefixes, such as *ab-*, *ad-*, *co-*, *com-*, *de-*, *in-*, *mal-*, *ob-*, *per-*, *pre-*, *circum-*, *pro-*, *sub-*, *super-*, and their variants, as well as those from Greek, which are often cognate with Latinate ones (*ana-*, *apo-*, *cata*, *hyper-*, *hypo-*, *meta*, *peri-*, *pros-*, *syn-*, etc.). Such prefixes also attach to other parts of speech, but typically there is a verbal base, overt or covert, to be discerned – as with *malappropriation* or *malodorous*. Semantically, the suffixes mostly involve, where transparent, the signalling of location, including goal, source (including negation), and orientation (again suggesting a verbal base), but also other circumstances. The Latinate prefix *re-* is generally associated with a circumstantial sense corresponding to ‘again’ when attached to bases from native sources, as in *reread*; though in fully Latinate words it often corresponds to the participant ‘back’, as in *recede* or *requite*. Also distinctive is *mal-*; think further of *maltreat*, *malfunction*; and even the obscured *malign*, which all introduce a pejorative circumstance, analogous to ‘badly’. So too, as we have already observed, with forms including Greek-derived *dys-* – in contrast with its positively antonymic *eu-*.

There is also a pejorative circumstantial that is native. This is *mis-*, but it is often closer to ‘wrongly’ than ‘badly’, as in *misapply*, *misbehave*, or *miscarry*. We might indicate the basic categorial structure of such pejoratives as in (151a), with a low evaluation associated with the manner of performance.



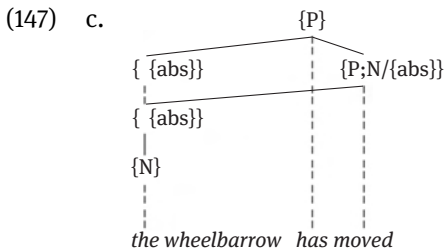


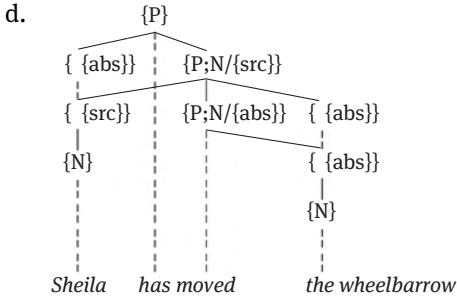
(151b), however, illustrates another, concrete variety, involving oriented direction: it includes a Latinate orientational prefix that satisfies the goal valency of the verb.

But it is combinations with another native prefix, *un-*, mentioned above, that have been very productive, particularly in my experience, or relative lack of it, except in unusual communications via so-called ‘social media’. Thus, *unfollow* can be used to indicate a decision to fail to or, more commonly, desist from a particular sense of *follow*, a derivative difficult to parse in the traditional ‘concrete movement’ or even ‘logical’ sense of the positive verb, except as a dynamic negative existential.

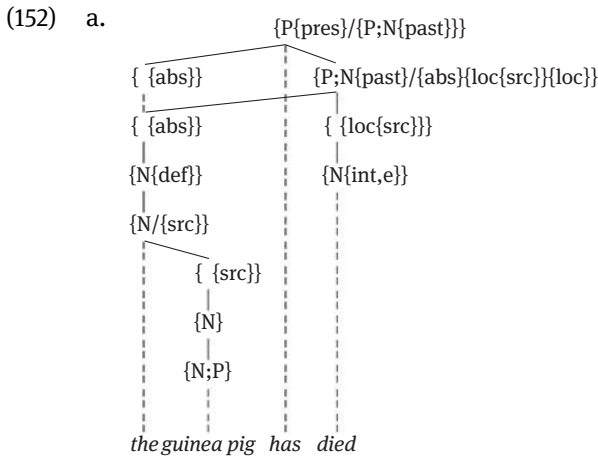
Much of the derivational complexity of verbs depends on conversion, however, as we have already encountered in various places, including in derivations with ultimately non-verbal bases. And there is, indeed, much such complexity that is revealed to us only by the complex valency and semantic interpretation of a particular form: we have lexical structure that is covert as far as expression of the lexical item itself is concerned; and there may be similar verbs that make the complexity overt. The relational complexity of the verb means that this is particular salient in the case of verbs that have a verb, rather than a non-verbal, contentive subjoined to them. There are, for instance, covert lexical causatives that complement the conversions examined above.

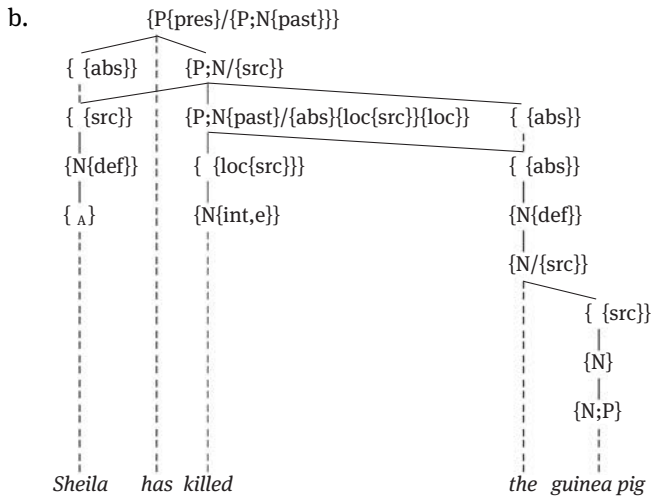
Thus, beside (147d), converted from (147c), which, for simplicity in showing the causativization, ignore directional elements, we find other forms that are related notionally in a similar way, but which are unrelated in exponence.





This is further illustrated in (152), a representation which in this case includes the (existential) directional elements, with unspecified goal, as well as fleshing-out the representation in various, mostly familiar, ways – though without any acknowledgment of, for instance, the name status of *Sheila* or the compound status of *guinea pig*.





Here the verbs fail to signal the presence of a lexical relationship which in other languages may be expressed morphologically. But the ‘ergative’ relation in valency and the kind of notional difference involved are the same, whether expressed by morphology or conversion, or lexical syntax, or not.

It is, of course, not being suggested, by positing these relationships, that *kill* is equivalent to or in some way based on *cause to die* (yawn!). These expressions may share properties, but the mere observation that the representation in (52b) is lexical and not syntactic rules out equivalence. One consequence of this difference is that modifications of the individual components in such a representation as (52b) are restricted in terms of mutual compatibility. Thus, an expression such as *On Tuesday Sheila’s actions killed the guinea pig on Wednesday* appears to be contradictory – unlike *Sheila’s actions on Tuesday caused the guinea pig to die on Wednesday*. Syntax does not feed the lexicon synchronically; quite the reverse is the case. But lexicon and syntax do share substance-based syntactic categories and subjunctive dependencies – and even linearity of signs, in the case of some phrasal lexical items and compounds.

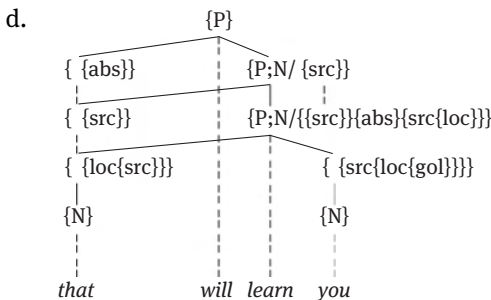
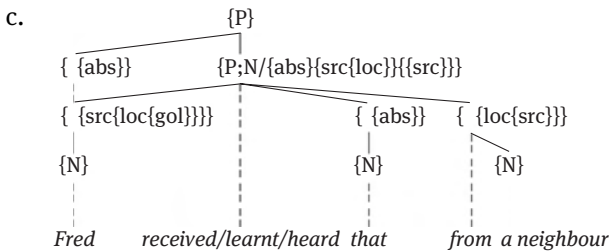
More striking instances of covert structure are those where the complexity of valency and meaning is less directly related to those of a simpler form than they are in (152b) – or (147d). The relationship between the sentence in (153a) and either of those in (153b–c) does not involve simply addition of a higher {P;N}, as in (147) and (152).

- (153) a. The children learned English from Sophia/watching TV movies  
 b. Sophia/??Watching TV movies taught English to the children  
 c. Sophia/??Watching TV movies taught the children English

In the first place, the alternative to *Sophia* denotes a less plausible or, at least, less prototypical, agent (as indicated by the query marks in (153b–c)). But also the prototypical interpretation of all of the sentences involves an agentive subject. (153b–c) are not causativizations of (153a) as most obviously interpreted.

There are circumstances in which the subject of *learn* might be interpreted as non-agentive, but as a receiver, such as in (154a), where we might also use *heard* (if we wish to specify the medium of information-flow, as an incorporated ‘instrumental’).

- (154) a. Fred learnt/heard that from a neighbour  
 b. Fred received that from a neighbour

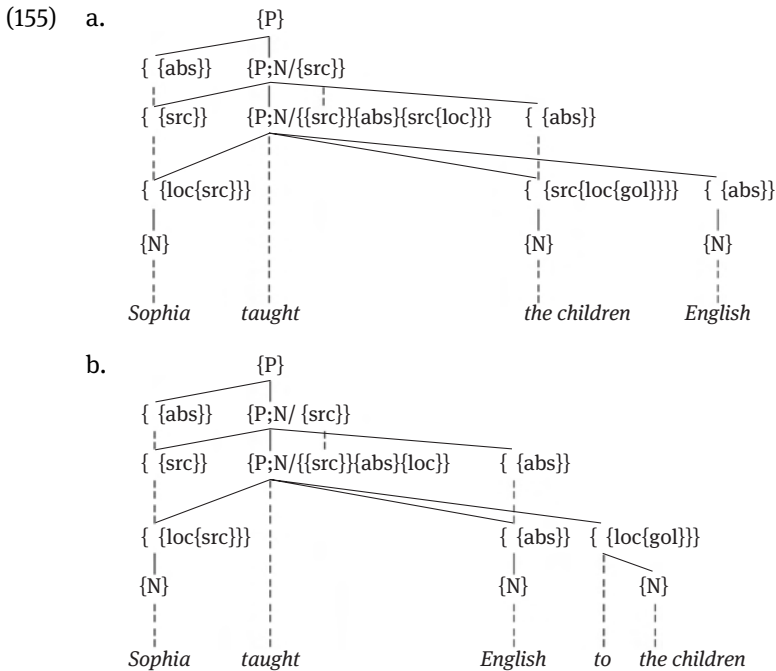


The valency pattern in (154a) matches that of *receive* in (154b) – though of course I’m not suggesting that the sentences, possibly characterizing different domains, are otherwise semantically equivalent. We might represent the categorial structure skeleton of such interpretations as in (154c). We have an experiencer which is a goal in the presence of a tertiary source, as elsewhere (recall once more Chapter 4). Such an instance of *receive* and the like could serve as the base for a converted causative, as with *The ambassador received his guests in the antechamber*, which lacks a distinct specified {loc{src}}, though interpretable as subjoined to the agent; and it is rather specialized. In various varieties of English, we have a rather different causative expounded by *learn*, as illustrated by the cliché *That*



*will learn you!*, as represented in (154d), where the absolutive of the directional is unexpressed. Here the locative source is the same as the agentive of the causative – with lexical linking of the two. ‘Lexical linking’ was introduced in a different context in Chapter 18 (and is illustrated further immediately below).

However, there is also the more ‘standard’ covert causative with a linking of the causative and locative source in (153c). We can represent (153c) as in (155a).



The agentive source of the causative is again linked lexically with the locative source of the directional verb: they are associated with the same argument. The **benefactive** experiencer in (155a) is hosted by the free absolutive of the causative {P;N}. However, the causative *teach* can also have subjoined a non-experiencer goal-directed predication, as represented in (155b), where the absolutive is hosted by the higher free absolutive.

In certain circumstances the semantic difference between (155a) and (155b) can be made salient. Compare the pair in (156).

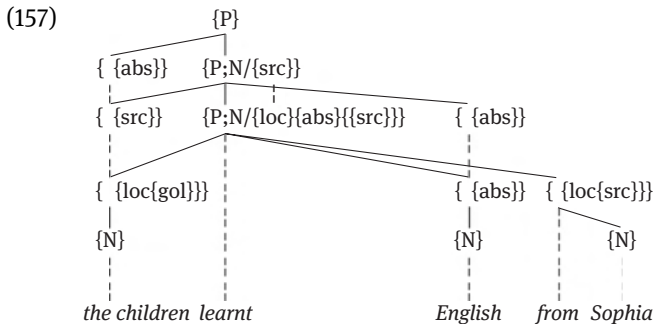
- (156) a. ?\*Sophia taught an empty classroom Greek  
 b. Sophia taught English to an empty classroom

The presence of the experiencer in (156a) introduces an expectation that this locative might be able to experience the result of action; but there is no such expectation in (155b) or (156b) – though it may be a strange response to a student strike. We have something like alternative diatheses involving the status of the goal.

Let us now, however, return to the relationship between the causatives in (153a) and (153b–c).

(153) a. The children learnt English from Sophia/watching TV movies

In (153a) we have another causative involving a transaction in the same semantic domain as the others but with a different organization of the subordinate directional, particularly the nature of the linking. There the causative source is subjoined, as elsewhere, to the free absolutive of {P}, but the locative goal is subjoined to the agentive itself. Consider the representation in (157).

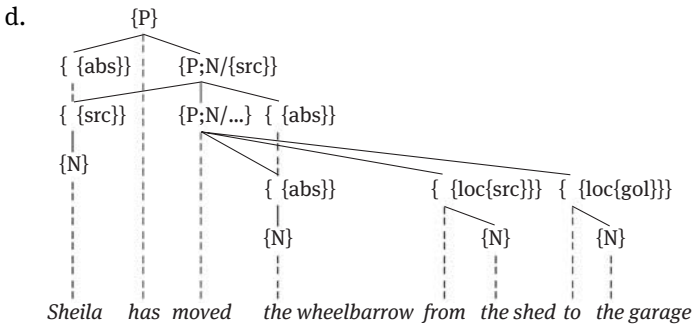
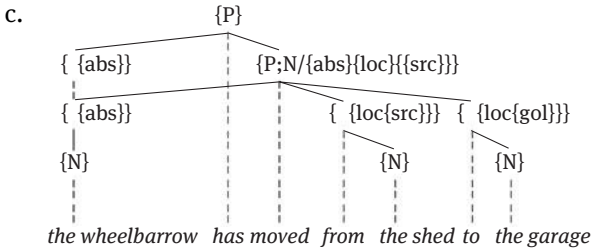


Compared with (155b), the directionality of the lower clause is re-aligned with respect to the participants, and it is the goal of the directional that is linked lexically with the causative agent. The two verbs are lexically related; they can signify the same situation within a particular relatively abstract domain, presented from the point of view of different participants.

(155) and (157) are related embodiments of a localist view of lexical structure. A simpler and more concrete locational is associated with (147a–b), a conversion illustrated above, and more obviously (if no more excitingly) if we include analytic directional participants, as in the sentences in (158a–b), to which I assign the respective structures in (158c–d).

(147) a. The wheelbarrow has moved  
b. Sheila has moved the wheelbarrow

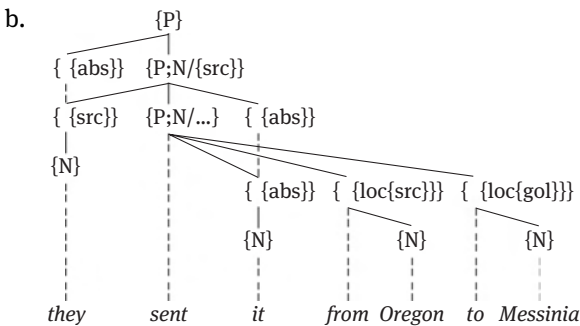
- (158) a. The wheelbarrow has moved from the shed to the garage  
 b. Sheila has moved the wheelbarrow from the shed to the garage



In (158d) there is none of the lexical linkings that are required for the more complex articulation of the more intricate and rather more abstract scenes depicted in (155) and (157).

So too with the structure projected by the covert causative directional in (159a), as represented in (159b).

- (159) a. They sent it from Oregon to Messina

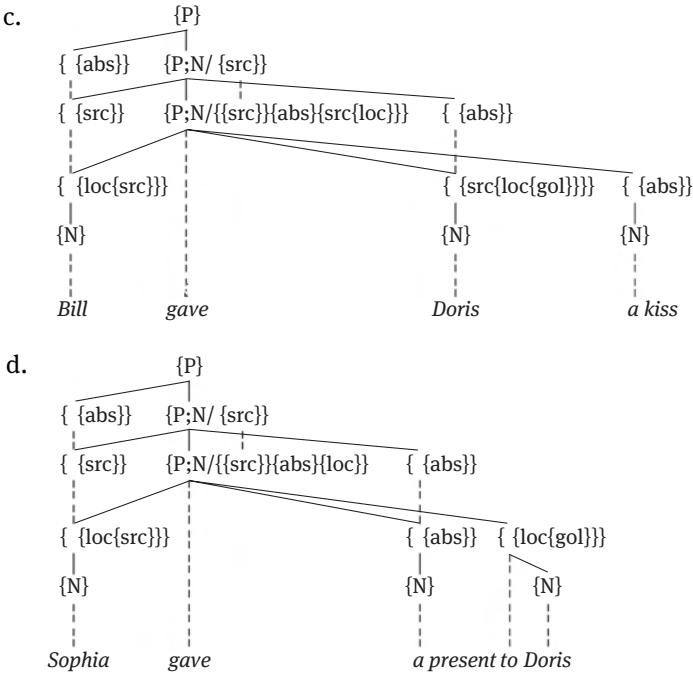


- c. She sent Freddie a letter from Mexico

Even the causative based on an experiencer locative in (159c) is more complex than (159a–b) only in this respect and its obvious consequences.

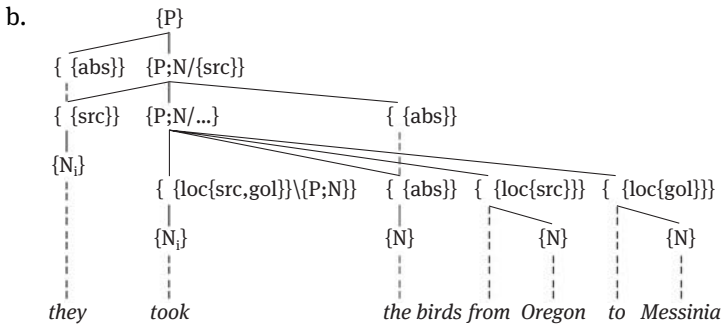
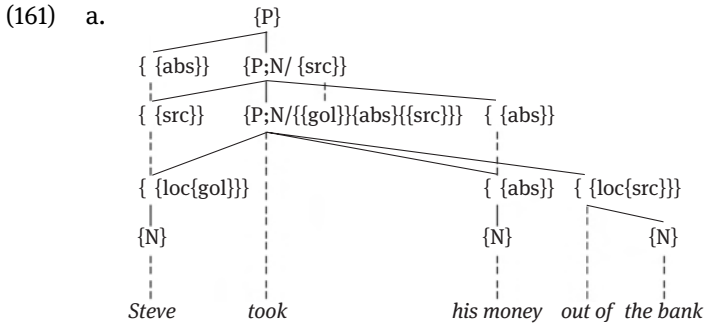
With the representation of the slight increase in complexity of interaction associated with the transactional scenes depicted in (160a–b), however, lexical linking becomes appropriate, both with the experiencer and the non-experiencer variants.

- (160) a. Bill gave Doris a present
- b. Bill gave a present to Doris



We have the same categorial structure as for the abstract *teach* verb in (155), a pattern associated with a number of verbs.

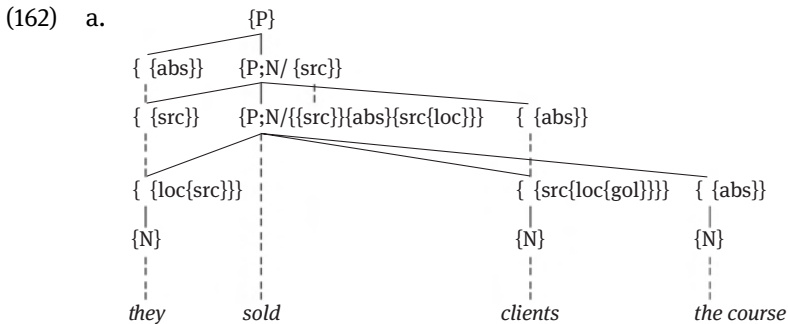
And for one of the verbs realized as *take*, we have a structure like that in (157), as illustrated by (161a), but *take* in (161b) exemplifies a different pattern, involving a distinctive extension of the structures for *send* in (159a–b) by inclusion of an incorporated circumstantial coindexed with the subject.

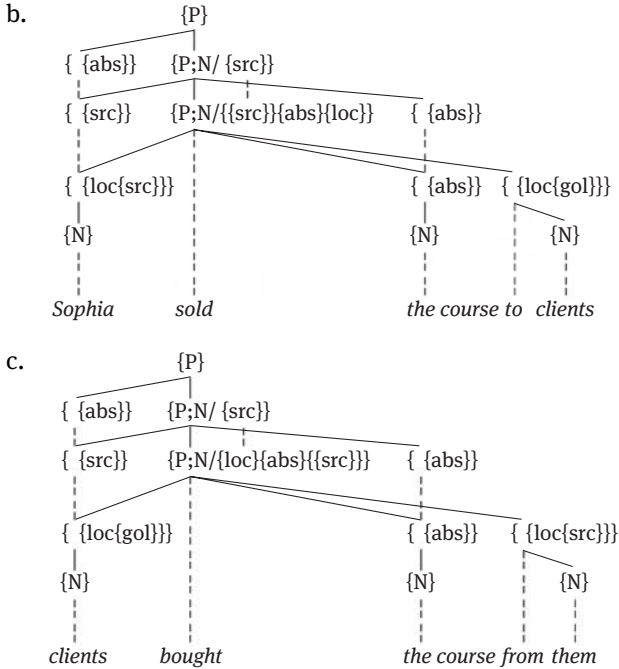


c. They took the birds with them

In (161b) the agentive is coreferential with the carrier, or immediate instrument of transport (whatever else might be involved). Compare (161c) where this identity is signalled by the pronoun in the circumstantial.

When ‘commerce’ comes into the picture, as it usually does, we have the same pattern as with the ‘educational’ verbs in (155) and (157), as is exemplified by the representations in (162a–c), figurative or not.

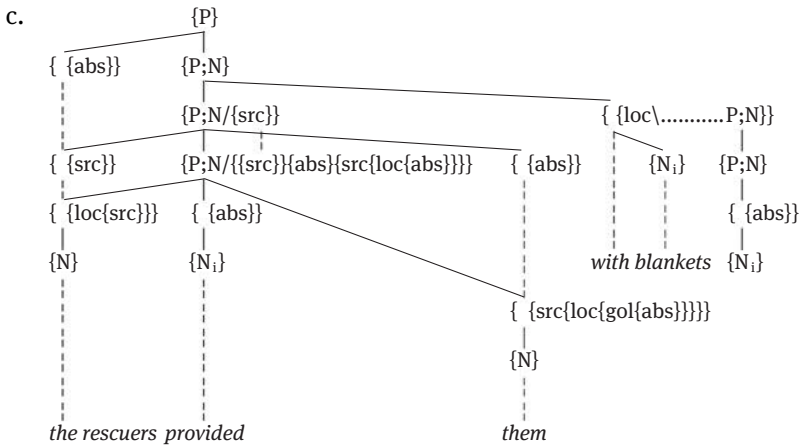




*Buy* and *sell* and *learn* and *teach* have, respectively, the same categorial structure; they structure their notional domains in a similar way; and again we have alternative diatheses. And I find structure (162a), with the benefactive experiencer, more susceptible than (162b) to a ‘persuasion’ interpretation, as well as – or even instead of – the ‘exchange of money’ sense. Again, there are reflections of the benefactive vs. simple goal distinction. But also, with (162c), a sense involving ‘persuasion’ is more accessible if the locative source is not overt, as in *They bought the idea*.

Let us approach the end of this brief survey of instances of the prevalence of non-overt categorial complexity in verbs with, as promised, a final variation on the causative directional skeleton. This concerns verbs like *provide* and *present* and *favour*, causative verbs which, when there is a benefactive present, show a *with* instead of a simple absolutive; the argument of the expected absolutive seems to have been displaced as a *with*-phrase, as in (163a), compared with (163b), an alternative diathesis.

- (163) a. The rescuers provided them with blankets  
 b. The rescuers provided blankets (for the victims)



As shown in (163c), we have again the lexical linking of the agentive and spatial sources; but also the simple absolutive is incorporated and is coindexed with an apposed circumstantial. This ‘displacement’ of the overt argument that would otherwise have satisfied the simple absolutive is associated with the presence of another, holistic absolutive – as generally in holistic clauses (recall (145d)). The latter is realized as *them*.

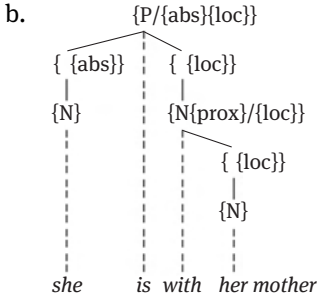
This participant is the holistic benefactive experiencer anticipated in Ch. 4 (though ‘malefactive’ might be more appropriate in that instance), the counterpart of the affected receiver experiencer of the subject in (I.41b), whose verb was finally analysed there as in (I.41g).

- (I.41) b. Frieda suffered from anxiety attacks  
 g. {P;N/{src.abs{loc{gol}}}}{loc{src}}

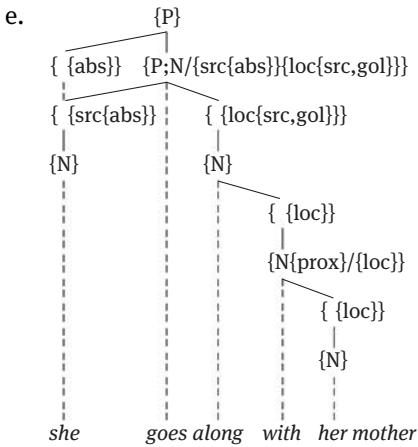
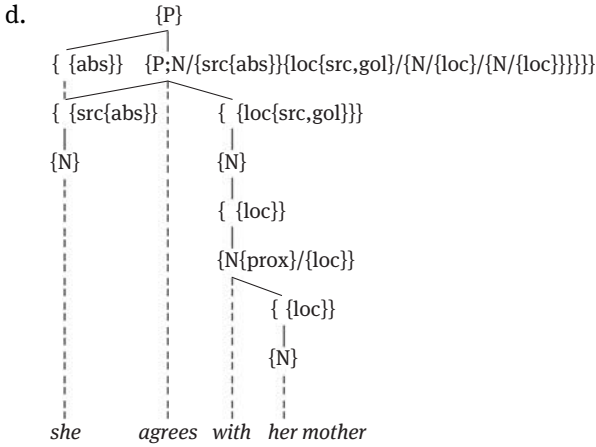
But we should also compare the diatheses available to *provide* and the like with those associated with *give* etc., involving the presence vs. absence of benefaction, as well as the contrast in orientation distinguishing *buy* and *sell* and other such pairs. These are all part of a system of alternative manifestations of the diathetic variations on the causative-directional skeleton; these alternations are only partially associated with difference in lexical item, except when, in particular, there is lexical linking.

As elsewhere, much more needs to be explicated in this fertile lexical domain of covertly complex verbs. And, in general, valencies, especially involving complex functors, deserve much more attention. As well as the *with* of (163c), for instance, we find that *with* can serve as a comitative, as in (164a), which requires something like the complex structure of (164b), where the locative {N/{src}} might be glossed as ‘company (of)’ – and the internal structure of *her mother* is ignored.

(164) a. She is with her mother



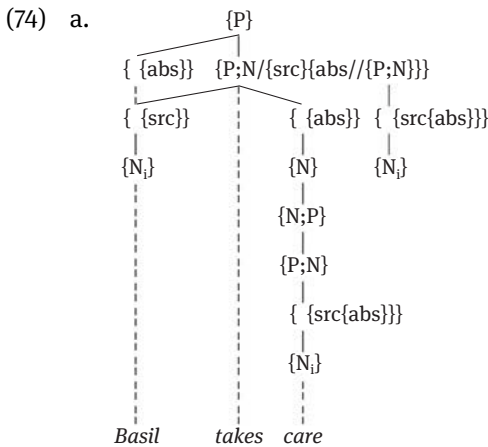
c. She agrees with her mother





A slight complication of the representation of comitative *with* gives (164d) as a representation for (164c). This structure is unpacked a little in the directional clause of (164e) that is the basis for a metaphor that is close in sense to *agree with*. The complex valency of the {P;N} in (164d) is an indication that *agree with* is a lexical unit; we have a phrasal verb. This representation is also skeletal: the various {N}s, for instance, need to be identified. But enough! That is another story.

Let us just note that the complex valency is reminiscent of lexical periphrases such as that represented in Chapter 21 as (74a).



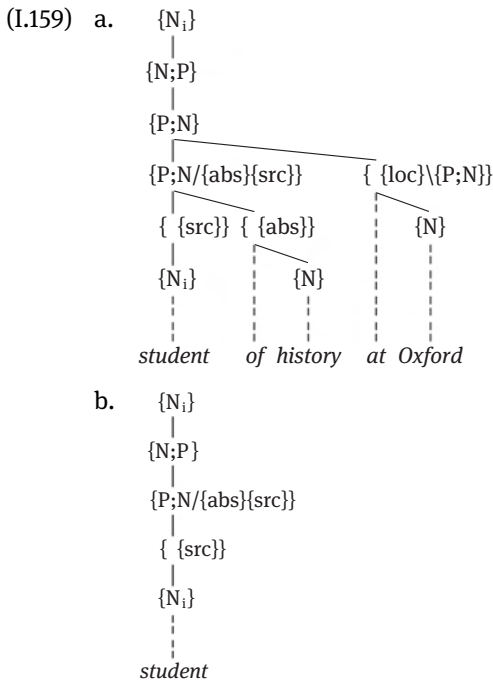
But *agree* is scarcely a simple periphrast; it requires a rather specific non-verbal dependent whose content it projects, whereas lexical periphrasts can be generalized as ‘re-verbalizers’ of activity nouns.

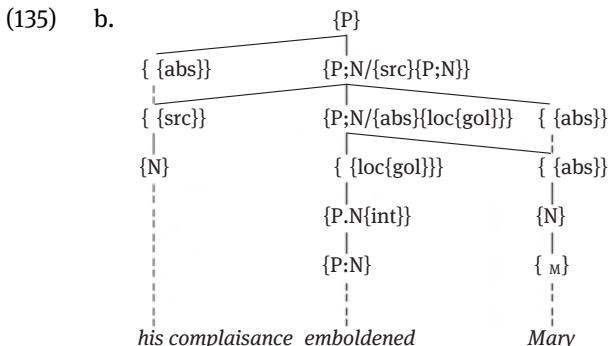
We have seen that what is perhaps most striking about verb-to-verb subjunctions in English is the poverty of morphological signalling of these, and particularly of causatives – compared with such languages as Turkish – or even French with its typical syntactically distinctive causatives. The English system of non-overt relations among, in particular, causative directionals, assisted by some conversions, is extensive – though, as noted, such relationships are again found in other languages along with more extensive morphological signalling. This is an area we shall return to in Part IV, however, as part of a discussion of notionally minimal verbs, among other aspects of syntax.

## Conclusion to Part II

In the lexicon, almost all the categories of the signified pole of the sign are familiar from those motivated by their role in syntactic structure in Part I. But we have not found evidence in the lexicon for the presence of {P/} internal to complex lexical structures, unlike {N/} and { /}, which are common. Given the limitations of the coverage here, we can at least suggest its presence internal to lexical structures is unusual, though {P} includes several lexical items, such as modals. Internal {P.N/} seemed at first to be not common, appropriately, perhaps, given its intermediate status between {N/} and {P/}. But its presence is increased by the recognizing (in Chapter 21) of the general presence of {P.N/} above {P:N}, just as {N;P} is subjoined to {N/}.

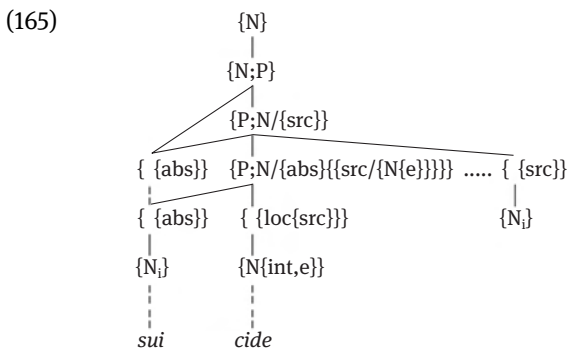
{N}s, comparators, and functors play a role in valencies and their interaction with incorporated elements (which satisfy valencies ‘internally’), as illustrated, in provisional form, in (I.159) – cited in Part I in Chapter 19 – and the abbreviated (135b) from Chapter 24.





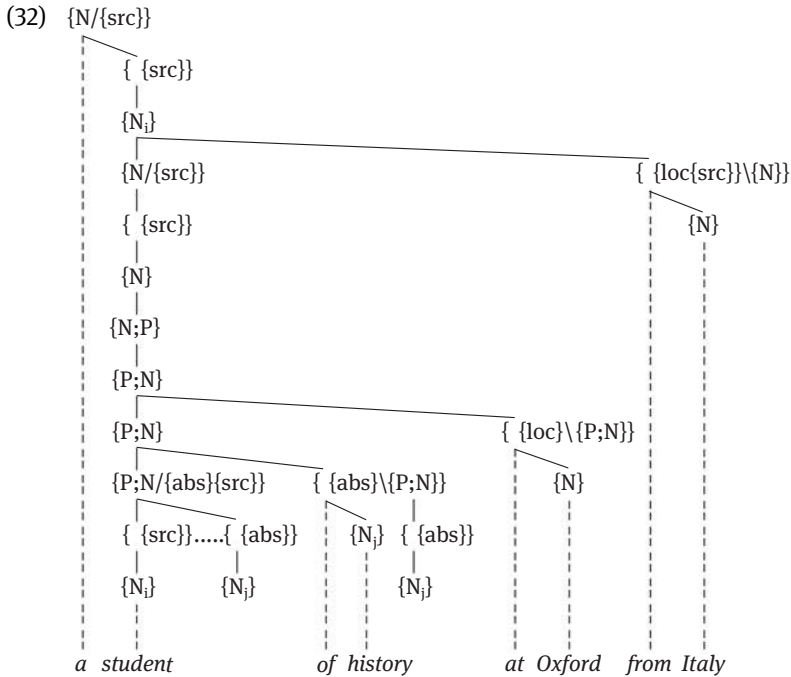
The lexical structure in (I.159b) is connected in part by coindexing among {N}s, and the presence of the verbal valency of functors is involved both in this and in accounting for the apparent arguments of the derived noun included in (I.159a).

However, the role of even {N} is limited: not only is it largely limited to incorporations, but also internal {N} does not refer extralinguistically (as opposed to participating in coindexing and internal satisfaction). To add to examples like (I.159b) and other types we have looked at, consider the interesting type of the action noun *suicide*, which I have represented as in (165), on the assumption that it is a compound such as *homicide*, *regicide*, *fratricide*, etc., as well as native *self-slaughter*.



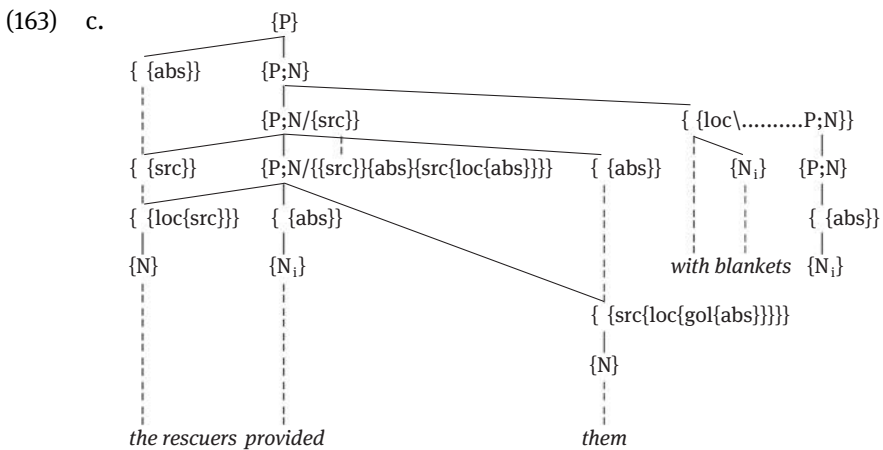
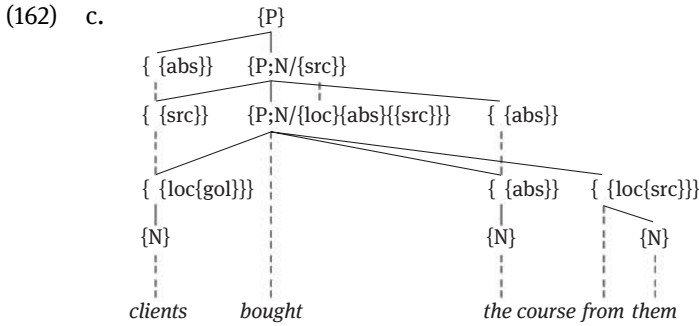
Here agent and victim are coindexed. In the case of the agent noun *suicide* (denoting someone who kills themselves) the topmost {N} would join in the coindexing. Any (extralinguistic) reference would be via a superordinate of that. The word order is anti-syntactic, as it is also in *self-slaughter*, but the accent is initial, to be followed up in Part III.

If we extend (I.159a) as suggested in Chapter 19 to allow for the optionality of the apparent complements of nouns, i.e. as (32), then we reveal that there are coindexed subscripts that are satisfied in syntax rather than in the lexical representation itself.



Here the absolutive  $\{N_i\}$  of *student* anticipates a potential apposition to the  $\{P;N\}$  of which it is an incorporated complement, here satisfied by the *of history*.

A phenomenon related to coindexing that is also characteristic of lexical structure is lexical linking, introduced in Chapter 18 in relation to its role in idioms. In terms of lexical linking, functors in the valencies of different components of a complex item are associated in the lexicon and so share their argument in the syntax. This is illustrated with the roles of *clients* in (162c) from Chapter 26, which is both agent to the upper  $\{P;N\}$  and goal to the lower; and in (163c) we find both lexical linking and coindexing with an incorporated  $\{N\}$ .

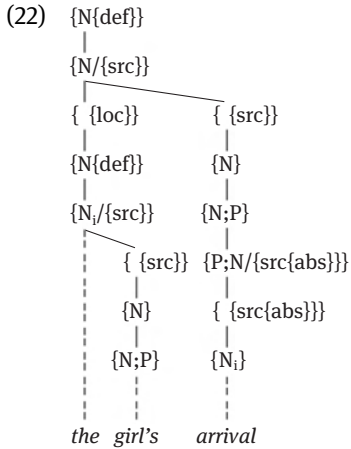


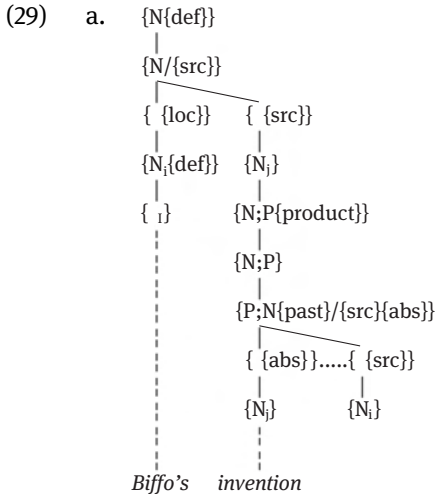
All of these last representations provide very radical examples of the instrumentality of lexical structure in the construction of syntax.

This is possible largely because syntactic structures in the lexicon show both the dependency relation and a large overlap with the set of categories also associated with syntax. But the minimal lexical item has only subjunction and this would be true of lexical phrases that are potentially serialized in the syntax (as with *leave out in the cold*, etc.) – though the serialization is no doubt usually stored in such non-minimal lexical items. And the lexicon also shows recursion, including dependencies holding between contentive categories without intervening functional category, as again illustrated in the representation in (32), repeated above. Thus, as well as the sharing by syntax and lexicon of syntactic categories and dependencies, relational categories (functional and verbal) in the two

modules share their valencies, whereas nouns and adjectives, lacking valencies, may appear in configurations in the lexicon that are not paralleled in the syntax. We seem to find a possession of shared properties where the different roles of these two linguistic components allow it. This suggests that structures in the lexicon is diachronically parasitic upon syntax: lexical items are abbreviations whose elucidation in conversation, for instance, may have recourse to syntax (as well as gesture, of course). This establishment of shared properties between lexicon and particularly syntax, and the limitations on them, culminates in the chapters on iconicity and figurativeness in Part III.

The present Part has been concerned principally with the derivation, potential and actual, of one part of speech from another, and the differences in signification that accompany such derivations. We have looked successively at the derivation of nouns from verbs, and from adjectives and nouns. Derived nouns can be based on a verb or a verb plus an argument, as illustrated by (22) vs. (29a).

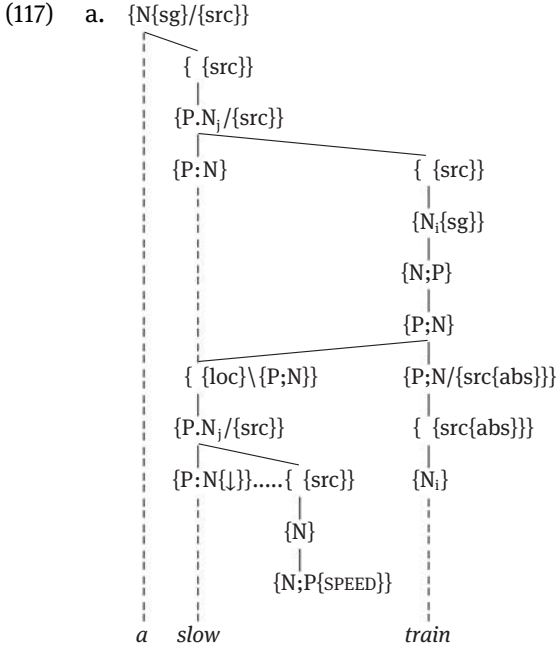




The second of these also illustrates the role of the role of genitive phrases in nominalizations, which it is argued is not equivalent to subjecthood and its hierarchy of subject selection.

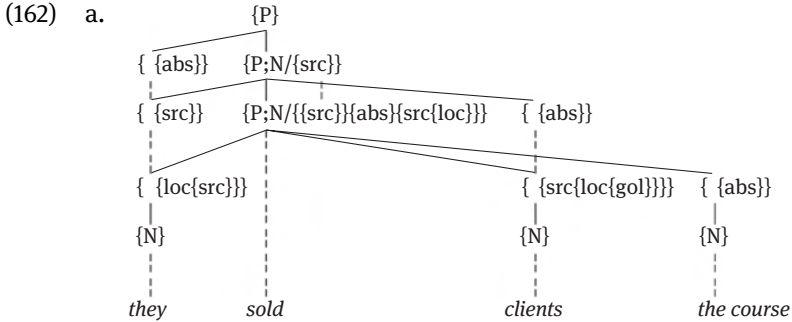
An interlude in Chapter 21 considers, in the light of there being so many verb-based derivations, as well as the paucity of nominal valencies in the syntax, whether we should not expect nouns, as well as adjectives, to lack valencies – unlike their corresponding functional categories. Thus even nouns denoting basic family relationships, such as *father* or *daughter* are argued to be based covertly on participants of verbs.

Then consideration of the derivation of adjectives in Chapter 22 introduces discussion of the roles of adjectives and of the possibility that adjectives may show ‘synchronic back-formation’ from adverbs (Chapters 23–4). The latter was illustrated by (117a).

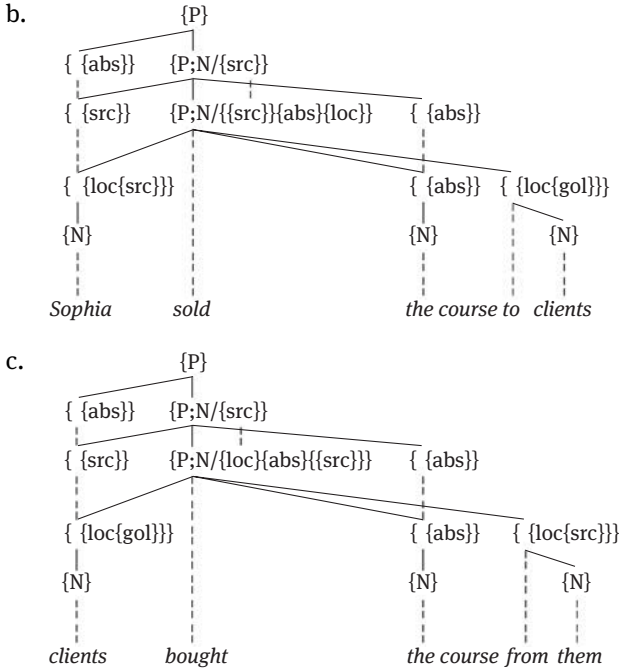


Here the adjective is based on the adverbial modifier of a pro-verb. The morphologically complex category is the base for the morphologically simple one. Chapter 24 also anticipates discussion of attributive structures as the source of many compounds examined in Part III.

Chapters 25–6 are concerned with the sources of derived verbs, and introduce something of the complexity of lexical, including morphological, structure, the latter of which engages our attention in Part III, as well as illustrating the structural complexity of both conversions and covertly structured verbs. The latter are strikingly seen in (162).







Such representations also remind us that, though {P} does not seem to figure internally in lexical structures, it is present in these syntactic structures as the ultimate relational category, the root of the tree.

As a further compensation for its internal absence in the lexical structures we have looked at, we shall find in the very beginning of Part IV, on syntax, that {P} itself dissolves into a variety of {P}-types that constitute a considerable lexical structure on its own. We have already anticipated this complexity in recognizing the distinction and relation between the mood {P} and the existential – not to mention topicalizing {P}s and potential modal {P}s.

However, before focusing, in Part IV, on a taxonomy of common syntactic constructions, we owe it to the discussion of derivational relations that has been a prominent part of our look at modes of signification, and how they can combine, to study first of all the other pole of particularly minimal lexical items, the pole whose structures expound derivational relations and secondary relations associated with different lexico-syntactic categories. Part III, in Book 2, will therefore draw together aspects of the adjacent Parts of the present work by looking at morphological structures associated with the lexical relations of the content pole of minimal signs surveyed in the Part we are now concluding and the exponents of morphological representation by the lexical phonological structures developed in Part I.

# Subplot: Commentary on the Text

## On Preface

This work is concerned with the notional and perceptual motivations for grammatical and phonological and lexical distinctions, and the reciprocity of these non-linguistic and linguistic relationships once established. Even the coining of individual items reveals the reciprocal relationship between cognition and linguistic expression as does changes in sense, such that, for instance, Dickens' *impersonation* is not our *impersonation*, or consider the extension of the adverb *hopefully* to speech act modification. Other usages can be more serious, however, more manipulative.

A simple example is provided by the existence for some time of the French (usually definitized, as with names of countries) name *la francophonie*, which gives such a concept the status of an entity, one that implies the presence of motivations for the positing of such a unit beyond the obvious, including a possibly defensive possessiveness (though less of the aggressive insecurity apparently underlying the coining of the name *Françafrique* – with its complex relation to French *négritude*). For a recent sketch of the historical struggles in which *Françafrique* and *francophonie* are embedded, see R.W. Johnson 'Danger: English Lessons: Review of R.T. Howard (2016) *Power and Glory: France's Secret Wars with Britain and America, 1945–2016* (London: Biteback),' *London Review of Books* 39,6, March 16, 2017: 24–6, as well as consulting the book itself, of course. With language, we are on dangerous ground.

Similarly, but differently, introduction of the derived name *Team GB* insists on a human, almost personal, and unitary status much more than *the British team*, as well as being journalistically 'snappier'. Compare too the consequences of the habitual metonymic use of (*Great*) *Britain* or *UK* to mean the Westminster government, or other teams, let alone the pervasive use of *England* to refer, ecliptically, to Great Britain or the UK. An early example of this confusion is in the well-known bombastic 'scept'red isle' speech from Act II, Scene i of Shakespeare's *Richard II*.

The reflection of social change on usage is also simply illustrated by the fate of individual lexical items. In my encounters with current British English usage it is apparent that the once familiar initialization *V.I.P.* is obsolescent or at least narrowed in denotation. What is now over-familiar as a social status noun is *celeb*, to which is added *subleb* and *A/B-list celeb*. This, it seems to me, is associated with profound changes in ideas of status. *Ordinary people*, on the other hand, has been promoted (?), in news items, for instance, to *regular people*, or maybe just

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*fans*. Another aspect of changes in linguistic fashion is the present penchant for clipping (*tech* etc.), capitalizations (*AI* etc.), and (semi-)blending (*threequel* etc.) rather than compounding, while an earlier period favoured acronyms (*dinkies* ‘partners with double incomes, no kids’ etc.), and still others where none of these were prominent. Conversions like *genius* the adjective have been around for a long time. A not-so-far-back is the more inventive *kodaking* the progressive verb form (as used by Sinclair Lewis in *Dodsworth* [Library of America edn.], p. 1251). I refrain from trying to predict the further development of fashions in a social medioc world.

But such crudely instrumental (ab)usage is linguistically trivial compared with the notional richness of the lexical and syntactic structures of English. However, in terms of subject matter, this book does not attempt a systematic account of social and geographical variation, though occasional invocation of particular varieties will be relevant, particularly, for practicality, in discussion of phonological systems. I will also offer no account of the writing system(s) commonly associated with English, despite the interest in how, largely from inertia, as well as standardization (which contributes to the former), they diverge over time from endeavouring to differentiate contrastive segments to the extent permitted by considerations of symbol economy (as with pre-generative ‘phonemicity’). So that long-established spelling systems bear in their sub-regularities the imprint of earlier phonological systems. That’s an interesting story, indeed history, in its own right.

I am assuming that alphabetic writing attempts to represent contrastive aspects of speech segments as economically as possible. Such systems have difficulties in representing neutralizations of contrast in particular positions (without uneconomic use of an ‘archigraph’) and contrasts that are not limited to one segment but extend over well-defined sequences (requiring ‘prosodography’). And, and even apart from this, the Latin alphabet is obviously inadequate when applied to many phonological systems, necessitating the intervention of diacritics and/or exotic letters. But, most relevantly here, alphabets are also inappropriate as phonological (and even phonetic) transcriptions, despite their prevalence (Anderson [2014b]), and their convenience for some purposes.

Typical current instances of reliance on particularly electronic corpora show little awareness of the problems confronted by the pioneering work on usage of Hockett (e.g. 1961), Bolinger (e.g. 1961), Quirk (e.g. in the latter part of the papers gathered in Quirk [1968]) and many others. Presentation of conclusions based on spoken corpora have also the problem of representation of the material, unless somehow the presentation includes acoustic recordings of the contents of the corpus and, better still, also visual records of the context of the discourses concerned.

Of course, in studying the language of past periods, problems are multiplied by the necessary recourse only to written records – graphic records of ‘shed skins’ – if available, as well as other evidence of the culture of the time, and what help in reconstruction can be elicited from knowledge of later or collateral stages. But, as I was, to begin with, lamentably slow to become fully aware of, this activity requires prolonged immersion in the texts and in other accessible aspects of the culture, not projects based only on edited texts following modern conventions and/or on examples culled from previous analyses, and certainly not, as more recently is the fashion, on ‘tagged’ corpora, which additionally, in wearing such conceptual straitjackets, predetermine what can and cannot be readily discovered by the investigator much more severely than any conceptual assumptions of that investigator.

On the importance in the study of earlier (states of) languages of immersion in genuine original texts, though this itself is not enough, see Allen (1992: §2, 1995: §10.4.5). And a salutary illustration of the misguidedness of relying on ‘grammatically tagged’ corpora is provided by Alcorn (2014), whose failings are compounded by the author’s (and the tagging’s) related failure to recognize instances of well-known and well-supported (despite the unhelpful label) structural concepts such as ‘ethic dative’ that are crucially relevant to the topic under discussion, and might offer some resolution of the author’s indecisive conclusions.

On the non-scientific status of grammar/linguistics, see already Householder (1995:101) on Sextus Empiricus, for whom: ‘... a science of language is impossible’, and unpredictable variability in usage, including acts of accommodation, is unavoidable. But the possibility of there being any contemporary ‘science’ is doubtful in terms of Sextus’ Pyrrhonian sceptical stance on knowledge (cf. e.g. Sextus Empiricus [1998]); and the crucial word ‘τέχνη’ can be and has been translated in various ways in different contexts and sometimes in the same context: ‘science/discipline/skill/craft/art/...’. And even physics contemplates randomness in particular domains.

However, other than linguistics, obvious non-sciences that are sometimes labelled as scientific range from ‘domestic science’ to ‘cognitive science’. Also unscientific are most applications in such areas of statistics, which typically recognize too few variables. A striking example of an area where conclusions based on tests and statistical methods are typically questionable is in the evaluation of educational attainment, particularly in cross-cultural surveys, where relevant variables are out of control.

Such misapplications of the term ‘science’ result, I think, apart from many laymen’s (perhaps mistaken) respect for disciplines they don’t understand, from participants in these disciplines taking themselves, rather than their discipline,

over-seriously and/or, to be more cynical (but fed by my own experience), their hoping thereby to attract funding.

In what follows I shall necessarily refer to differences in usage among users of English. My attempts to localize these varieties are very crude, given the volatility of language use and particularly in present-day globalization, and particularly the limitations of my knowledge, direct or indirect, of such variation. My localizing labels, such as they are, are intended to be helpful to the reader, without being too particular.

## On Part I

As explained at the end of Chapter 1, I apply the ‘Parts of Speech’ of the title of this Part of the present work to both syntax and phonology, as covering the primary classification of the basic units on which the structures in both planes are built. Traditionally, as noted there, the term has been applied to syntax only, and we shall find as we proceed that there is some basis for this restriction, if one takes part of speech to apply to those classes of word that have a distinct sense, distribution, and lexical membership. As observed at the end of that chapter and that of Chapter 2, some of these word classes, such as adverb, are not associated with a simple syntactic categorization but with a combination of categories that can themselves constitute parts of speech. And there is no analogy to this in the phonology. What I shall describe as phonological parts of speech are also related to simplex primary categories, though indirectly, and in another way. But sequentiality and content define the parts of speech of both phonology and syntax.

Discussion of the parts of speech of syntax has varied in the kind of evidence adduced – notional, morphological, distributional – sometimes inconsistently by the same grammarian. And views on their status have split along various dimensions: scholars have disagreed on the number of parts of speech to be attributed to particular languages, and others have claimed, on the other hand, that the set is universal. Even among the latter the number of classes proposed varies, with the ‘interjection’, for instance, holding a precarious place among the traditional eight inherited from the tradition of Latin grammars, and with ‘article’ as a problematical interloper.

The text points out that, in his grammar of Latin in English, Lily distinguishes eight parts of speech, divided into two groups, distinguished as ‘declined’ and ‘undeclined’.

| Declined   | Undeclined   |
|------------|--------------|
| Noun       | Adverb       |
| Pronoun    | Conjunction  |
| Verb       | Preposition  |
| Participle | Interjection |

This distinguishes pronoun and noun, but includes what are now usually distinguished as adjectives with nouns, as well as not distinguishing between nouns and names. And many grammars of English have adhered to something close to this. But there are other influences on early grammarians of English, including classical Greek philosophers and grammarians, and later developments in continental Europe, particularly France and Germany.

A related but slightly different tradition with different roots is embodied in classifications such as Jones' (1724) three-way division.

Noun – comprising, roughly, (substantive) noun, adjective, participle, pronoun

Verb

Particle – comprising, roughly, article, adverb, preposition, interjection

The usage illustrated by Jones (1724) is still to be found in e.g. Poutsma (1926). But more recent usage has been less consistent than the 'all indeclinables' tradition, in characterizing a more specific set of 'particles'; the 'particle' label has apparently been being used for different sets of words thought difficult to classify in terms of conventional terminology. What has come to be the 'particle rag-bag', traditionally the set of indeclinables, has an unfortunately persistent history in the study of language as a refuge for some group of items that 'doesn't fit'.

The debates surrounding the parts of speech are well illustrated for the early modern period in such surveys as those by Michael (1970), Vorlat (1975), and Padley (1976–1988), of which the outer two are, to my knowledge, the more reliable. Similar debates continue into the subsequent period, though with some atrophy around the notion of roughly eight parts of speech, despite some instability in early Modern treatments of even the system of Latin (Michael [1970: Chapter 8]). In grammars of English there developed a basic four-way system of substantive, adjective, verb, and particle, but this was often challenged after 1700. On later developments see Leitner (1986), and more generally Leitner (1991). This instability reflects a failure to assign a consistently based overall system to the set of parts of speech, given that the morphological bases for the system offered by Latin are largely absent from the vernacular languages of Europe.

In discussing the common assumption that Greek and Latin categories would of course be suitable for the vernaculars, Michael (1970: 492) comments on a

phenomenon that is important to the understanding of different attitudes to the grammatical tradition that developed into the twentieth century.

The universality of Latin appeared also in the semantic definitions which were sometimes preferred, for elementary teaching, to definitions based on form. If a noun was the name of a thing which could be seen, felt, heard or understood ... or if a verb expressed action, passion or being ... this would be as true of English as in Latin. Such attempts at elementary definitions of Latin categories were a powerful influence on the development of English grammar.

This could have led to the development of a substantively-based syntax, not just the intended pedagogical tool. But the tendency to appeal to such vague and overlapping semantic definitions, even if mixed with morphological and distributional criteria (or indeed partly because of that), made what was conceived of as ‘traditional grammar’ an easy target for the structuralist reformers.

However, Fries’ (1952) classification, for instance, based on eligibility of a form to occur in carefully chosen frames emerges as not very unlike the traditional classification – which might suggest that the latter influenced the choice of frames, or perhaps something more important. And the basis for the classification remains non-explanatory: why can these particular distinctions be motivated – to the extent that they can? And why are such frames to be thought decisive? As a result of such developments and their aftermath, the twentieth century in most respects did not contribute much to our understanding of the syntactic parts of speech.

One negative contribution was the hardening of insistence on ‘formal’ (including crucially distributional) criteria in syntax, an insistence associated with one previous tradition, particularly associated with de la Ramée (Ramus). This insistence characterizes the work of the American structuralists, such as Fries, and their ‘transformational’ successors. For the latter, distributional frames became more abstract and interdependent, reliant on the evidence of the abstracted relative distribution of posited categories. But what distributions are crucial and why remain unclear. In this respect the situation associated with the traditional frameworks persists, and its instability. The status of the interjection, for instance, remains unresolved. And the alleged reliance on distribution only increases the instability. Questions remain concerning which aspects of distribution are to be preferred, and why? Such uncertainty invites recourse to fumbling in the ‘particle rag-bag’, as in Kayne (1985), or Jackendoff (2002: §6.6).

There have been attempts at clarification based on integrating some categories regarded as distinct within some earlier traditions, such as prepositions and subordinating conjunctions (Emonds [1976]), based on functional similarity and membership overlap. On the other hand, there were attempts to differentiate from the latter the clause initiator *that*, which came to be dubbed ‘complementizer’, on

the basis of a perceived difference of function. But the bothersome ‘particle’ has kept reasserting itself (as in Culicover and Jackendoff [2005: §1.6]). And arbitrary selection of the distributional factors to be taken into account has led to obfuscatory stipulations such as the parallelism in projection attributed to different word classes by ‘X-bar theory’ (as in e.g. Jackendoff [1977]). Other innovations that increased instability include the introduction of the notion ‘specifier’ (Chomsky [1986]), whose status and application continues to be uncertain.

The fundamental problem remains: the lack of a systematic basis for the postulated set of parts of speech. Given this, the proliferation of ‘functional categories’ that occurred in the latter part of the twentieth century (and beyond) resists principled limitation. Nevertheless, the adoption of a distinction between ‘functional’ and ‘lexical’ category has given explicit status to a traditional insight that had hovered on the edge of earlier discussions of the parts of speech. Such a distinction seems to underlie, for instance, the treatment of ‘minor’ word classes (e.g. auxiliary verbs, articles) as ‘signs’ of the ‘major’ classes (e.g. Lily [1567]). Chapter 3 below offers a characterization of such a distinction that offers a principled basis for the distinction between what I call ‘functional’ and ‘contentive’ categories and their relationship. And Part I as a whole provides an account of the categories and parts of speech that I believe it necessary to propose in relation to English. And latterly it returns to the parts of speech of phonology.

## On Chapter 1

The conception of what has been referred to as ‘representational grammar’ or ‘substance-based grammar’ is the result of the progressive generalization to all areas of linguistic structure of the idea that that structure is not autonomous, but reflects requirements imposed by other aspects of mind on their representation by language. Linguistic structure itself is taken to be a cultural artefact that seeks to meet these requirements in formulating a semiotic system based on conceptualizations of suitable aspects of human perceptual capacities, and relying on these and motoric capacities. Anderson (2000a) offers a schematic account of the ontogenesis of language framed in these terms.

The general idea of substance-based grammar is not unfamiliar in pre-structuralist linguistics, though already by the late nineteenth century there were, for instance, attempts to interpret the established logical notion of ‘subject’ as a purely formal, autonomous syntactic or syntactico-morphological concept. And at the same time the focus of linguistic research shifted from conceptually based syntax of the eighteenth century and early nineteenth, the latter typified by the work of Horne Tooke, to concentration on Tooke’s weakest point, the study of



etymologies, and thus ‘genetic’ relations among languages and the ‘sound-laws’ that were intended to account for their differentiation (Morpurgo Davies [2014: §§2.1-6]).

In the twentieth century, as I have indicated, the development of structuralism saw ‘formalism’ come to be enshrined as a basic tenet – though not always strictly adhered to (Anderson [2005a]). Re-implementation of the ideas underlying representational grammar in twentieth-century linguistics was gradual, uneven, and very slowly expansive, and, of course, contrary to the major trends in the linguistics of that century, despite attempts at ‘functionalism’, notably in the work of Dik (1978) and Halliday (1994). And, with the withdrawal of the tide of ‘generativism’ in recent years into a desperate cave of ‘biologism’, we have come back to the chaos of ‘traditional school-grammar’, in pursuit of ‘constructions’ and ‘usage’, and particularly so-called ‘grammaticalization’, with the help (or hindrance) of computerized corpora, many of them unfortunately ‘tagged’, and often pursued on the basis of various ramshackle conceptions of grammar.

The present commentary is intended to provide, among other things, some historical background to the general representational approach that is presented here. Here and in the commentary on subsequent chapters, there will also be offered amplifications that would encumber the unfolding of the main text, as well as introducing some bibliographical information – and occasionally suggestions even more tentative than those in the main text, but concerning related issues that are, I hope, of interest in their own right.

Perhaps the earliest – and most forceful – structuralist re-statement of the extra-linguistic cognitive basis of syntactic categories is Hjelmslev’s (1935–7) formulation of the traditional ‘localist’ theory of case (on which tradition see the penetrating survey in Fortis [2018]). ‘Localism’, as I interpret it, asserts that all the distinctions associated with case forms in language, and their equivalents, are based on spatial, including directional distinctions, and that these, semantic, or notional, distinctions determine the distribution and form of the cases. On such a view, these ‘formal’ properties are not to be neglected; they are indeed something to be explained. A more recent variant of such a theory, as developed in, for instance, Anderson (1971a, 1977) and Böhm (1982, 1986, 1993) and much subsequent work, is outlined in Chapter 4 below. Later, taking as a starting-point Lyons’ (1966) reconsideration of traditional ‘notional’, or ‘ontologically-based’ grammar, Anderson (1997) argued further that such a theory of case – or, more generally functors, in the terminology introduced below in Part I – is an instance of, or part of, a ‘notional’ grammar of all of syntax (see too Anderson [1989, 1997, 2006a: Part III], Böhm [1998a,b, 1999, 2000a, 2001]).

In these terms, syntactic structure in general is grounded in cognitive ‘substance’: the identification of categories and their distribution is based on their

cognitive character. As indicated in the main text, use of the term ‘substance’ is not intended to deny the relationality of cognition (which Hjelmslev [1948], for instance, recognized), but rather to differentiate between linguistic structure and those aspects of cognition (‘substance’) that language gives one kind of form to, as part of a semiotic system. The re-instatement of ‘notional grammar’ represents an important step in reclaiming for theories of language pre-structuralist insights into the substantive basis of language structure. A representational, or substantively-based, grammar includes notional grammar/syntax as describing one plane of language, with the other, the phonological plane, being equally based on representation of substance, in this case, the perception of sound, and specifically those sounds articulated by humans.

Alongside these developments there evolved ideas concerning the extent to which there are structural similarities between the forms of ‘content’ and ‘expression’ (in Hjelmslev’s [1943 – 2<sup>nd</sup> translation 1961] terms). Hjelmslev again argued for a strong position on such correlations: the forms of the two planes are homologous. Anderson later (1987a, 1992) suggested that perceived similarities in the substance on which content form and expression form are based, combined with their elaboration using the same mental capacities, leads to the pervasive presence in them of analogies in structure. However, that is to anticipate a little. For, although some structuralists acceded, at least in part, to Hjelmslev’s (1943: 90 – 2<sup>nd</sup> translation 1961: 101) conception of the homology between the two planes of language, content form and expression form, the more obvious physical reception and implementation of the mental domain represented by expression form, phonology, meant that in practice most phonologists recognized the relevance of phonetic ‘substance’ to the determination of phonological categories and their distribution, but there was not necessarily a syntactic parallel to this. Hence, particularly in twentieth-century linguistics in North America, there developed an asymmetry in the treatment of the two planes that frustrates the formulation of even similarities, let alone homology. In this area too, Hjelmslev’s – along with Saussure’s (see especially Joseph [2012]) – fundamental contributions to twentieth-century linguistics has remained almost entirely unrecognized as unparalleled. Saussure continues to attract some lip service, at least.

For the early American structuralists, the phonology was basic to greater or lesser extents, largely because it was most obviously associated with physical manifestations. Later, conversely, with the change in ideology that accompanied the development of the ‘transformationalist’ variant of structuralism in North America, syntax was seen as dominant over phonology, and independent of it. Indeed, it came to be argued by some that phonology be excluded from the ‘universal grammar’, or ‘language faculty’, that was taken to characterize our linguistic capacities, precisely because it was thought that the nature of phonology

could be accounted for in extra-linguistic terms (cf. e.g. Burton-Roberts [2000]). Alternatively, to avoid such a conclusion, it was argued that phonology should be rid of its dependence on phonetic substance (cf. e.g. Hale & Reiss [2000]). Both planes are then independent of substance, thus freeing the grammarian to focus on the properties of the respective ‘computational devices’ that allegedly construct the planes of the language faculty. For similar, but more detailed and more extensively documented, views of this history of ‘autonomization’, see again Anderson (2005a), as well as Anderson (2011a, vol. I: Chapter 1).

Representational or substance-based grammar, on the other hand, re-asserts the substantive basis of both planes, where both substances are mental. The substance of phonology is perceptual, specifically our perception of sound, as that of syntax is cognitive, where much of cognition may also have a general perceptual basis in images. The perceptual particularity of phonological substance has led to a confusion of that substance with acoustic records and/or the articulatory movements that produce speech sounds. But the substance of phonology is in itself no more ‘physical’ or external than syntax. The ‘physical’ phenomena involve communicable implementation of linguistic structure by means of distinct motoric capacities, of articulation and auriculation.

In terms of representational grammar, linguistic structure is a result of the interaction between our perception and the logical apparatus we bring to bear on it. Pervasive, including universal, aspects of linguistic structure follow from universal aspects of these two non-linguistic mental capacities; there is no ‘universal grammar’ (or ‘language faculty in the narrow sense’) that is autonomous from these (see e.g. Anderson [2006b, 2011a, vol. I]). In the context of groundedness, linguistics is the study of the range and extent of linguistic diversity, manifestations of inertia as well as of creativity, rather than the pursuit of ‘universals’ in the form of any (relatively trivial, as recently proposed) ‘formal’ properties of language that might not be perceptually based. Cross-linguistically pervasive aspects of linguistic structure reflect universals of cognition, though some very common properties may reflect conventionalization or what I shall refer to as motivated routinizations, relative loss of notional content, which is a function of usage.

Representational grammar is thus the outcome (for the moment) of an antithetical development to the ‘autonomizing’ history described here as characterizing much of the twentieth century, which in one form results in the claimed ‘encapsulation’ of some or all of the components of language. In terms of representational grammar, ‘notional grammar’ is embraced within a substance-based conception that includes phonology and is articulated in terms of a set of re-representations – configurational, sequential, phonological – each of which is substantively based. These re-representations mediate between representation of cognition and representation of the perception of sound.

The building of linguistic structure thus involves a set of re-representations, or interfaces between members of a cumulative set of representations. Important in this conception of linguistic structure is the exponence relation that holds between a representation and its re-representation in another medium. This relation is embodied crucially in the sign, which unites representations in the two planes, and which is identified by the substances it unites. The role of the lexicon is to contain signs and the redundancies that govern their structure: some such signs are minimal, words, others phrasal, phrases that are commonly used and/or non-compositional. Other signs are constructed synchronically by the sub-modules or interfaces that create the syntax of the content plane, on the basis of the categorizations of signs taken from the lexicon. The character and role of the sign will thus continue to occupy us in subsequent chapters, including in relation to asymmetries between the planes.

The minimal linguistic sign involves a simple association between two poles of diverse mental content, but even it shows evidence of the iconicity that characterizes parts of language structure. Moreover, the groundedness of both planes in substance and the application to the structuring of these substances of the same logical and imaginative capacities leads us to expect transplanar analogies. However, the different semiotic roles of the two planes underlie breakdown in precise analogy, as well as allowing some dis-analogy, as illustrated by the asymmetry, and non-iconicity, of the typical sign. In particular, the role of content form in representing complex scenarios demands structural elaboration unthinkable in expression form, given its correlation, via implementation, with reception and transmission of sound.

Much of the present chapter is based on the work reported in Anderson (1992, 1997, 2006a, 2007a, 2011a, vol. I), and Böhm (1998, 1999, 2018), and Colman (2014). See too my contributions to Andor (2018). And indeed much of what follows in the work as a whole is ultimately derived from the same sources, as well as their sources, and more immediately from Anderson (2011a). On re-representation and modules, and groundedness of linguistic categorization and structure, see especially Anderson (2011a, vol. I: Part I, vol. III: Chapter 1). For a fuller discussion of the distinctions among sense, denotation, and reference, see Anderson (2007a: §3.2), which draws on Lyons (1977: Chapter 7). Anderson (1997) provides an earlier discussion of notional grammar, prototypicality, and grammaticalization (or more precisely routinization); for more recent accounts see particularly Anderson (2005a,b, 2006a: §2.5, 2006b). Anderson (1992: Chapter 1, 2006b) discuss the planes of language and structural analogy. The history of ideas of analogies among different cognitive domains goes back to classical Greek and Latin philosophers and grammarians at least. And the intensive Carolingian discussion of structural analogies between music and language and its background, for

instance, are discussed in Sullivan (2011). Conversion is illustrated in e.g. Colman & Anderson (2004), and there is some discussion of figurativeness and creativity in Anderson (2006a: Chapter 13, 2014a). On the origins of language and biological developments contributing to our 'language-readiness' see particularly Hurford (2007, 2011, 2014) and references therein.

Creativity and particularly figurativeness are crucial in enabling language to accommodate representations of non-concrete scenes. This capacity corresponds, I think, with the concept of Quine's (1960: 270–6) adopted by Lyons (1989) that the former unhelpfully labelled 'semantic ascent'. However, though languages can vary in what abstract domains they represent and how, I am unconvinced by Lyons' 'guess': that the answer to 'the question whether all languages have syntactically distinct classes of second-order extensional and intensional expressions' is 'no' (1989: 179–80).

## On Chapter 2

That the minimum units of word and segment have internal non-sequential structure – componentiality – is generally acknowledged, and it can be said to be implied by the recognition of classes of sound segments ('fricatives', 'liquids', etc.) in earlier work. In modern times it seems that explicit recognition of the componentiality of linguistic categories originated with eastern European work on phonology (e.g. that of Trubetzkoy, Jakobson). As also noted, componentiality is embodied in the framework for both planes that culminates in Hjelmslev (1943). And in the 'generative' tradition it was eventually adopted in relation to syntax by Chomsky (e.g. 1965) and his colleagues in the form of binary features (as already adopted in their phonology). In this framework minimum sequential units are composed of categorial features, and the value of the categories is given by choice of positive or negative, which are equipollent values. Consonants thus all share the value '+' for the 'consonantal' feature, non-consonants being '–'.

In the present notation the categorization of minimal sequential units is associated with what combination of monovalent (simplex, privative) features is present. Consonants, for instance, all show the presence of the **C** feature; and the tense category associated with verbs may have the feature past or lack it. Motivations for the choice of features and feature type (here monovalent) include the extent to which they possess the capacities to characterize cross-classes, to reflect markedness (as discussed in the chapter that follows), and to embody hierarchical or gradient relationships (such as, in the phonology, vowel-height, or relative sonority, as discussed in Chapter 6). These considerations favour the feature notation adopted here as a characterization of the familiar notion of componentiality.

Also far from novel is the distinction made here between primary and secondary categories, where primary categorization is the major determinant in distribution. But previous accounts don't necessarily involve the further kind of difference between them assumed here. It was observed in the text that each primary category is defined by a combination of features (so that an adjective is identified by possession of an equal combination of the two features **P** and **N**), but a secondary category is typically associated with a disjunction of features (as past and its absence, as terms of the category of tense, or masculine vs. feminine) – though we shall find that particular secondary features may combine – as indeed in the case of singular and plural. Also, I anticipate that many secondary features will turn out to be 'stop-gaps', or (better) abbreviations, decomposable into configurations of more basic features, as indeed will be suggested here in relation to the tense features. On the decomposition of some secondary features, see already Anderson (2011a, vol. II: §3.5).

In English, traditional gender inflections are present only on personal pronouns. And in some languages gender is expressed not inflectionally but by the presence of an independent (and possibly extended) set of 'classifiers', a kind of determiner – which need not concern us here, I think.

In connection with primary vs. secondary features, a notational convention employed here also warrants some comment. In (13) in the text the status of a feature as secondary is indicated by placing it within inner braces in the representation, within braces of the primary feature or features.

- (13) a. {N{feminine}}  
 b. {P{pres}/{P,N}}

The primary-secondary relation can be interpreted as an instance of dependency, as discussed below. 'Square' brackets (braces) are used in morphological structure, as in the informal transcription [liv[d]]; here the inner brackets enclose an affix, arguably again dependent on the base – though I will suggest that morphological representations are indeed unheaded.

I pointed to the expression of gradience in terms of feature combinations and the effect of combination on the strength of the features involved. And within the classes distinguished by the notation there are members that are more and less central, prototypical, and judgements of this may differ from speaker to speaker. Such gradient phenomena, manifest in various aspects of linguistic structure, are an important factor in language change; see, for instance, Denison (2001). This is a major problem for reconstruction of historical or, even more, pre-historical stages in language development.

‘Participant’ and ‘circumstantial’ are based on Halliday’s (1994: §5.1.2) ‘participant’ and ‘circumstance’, though I do not draw the distinction quite as he does. On gender and agreement see e.g. Greenberg (1978) and Corbett (1991), as well as Anderson (2011a, vol. III: Chapter 6). The Kathlamet Chinook of (12) is cited by Mithun (1999: 98), from Hymes (1955: 304).

The terms ‘vocoid’ and ‘contoid’ are due to Pike (1943), but here they are viewed as perceptual, and the present conception of their physical implementation is somewhat different. As indicated in the text, **V**, the vocoid property, is a perceptual feature associated acoustically with the presence of solely periodic energy, and **C**, contoid, a perceptual feature associated with suppression of periodicity, particularly through the presence of a non-periodic sound source (giving friction) or, even more severely, through occlusion of the vocal cavity (stopping of the air flow). On acoustically-based features, whose labels I shall use to ‘anchor’ the perceptual features assumed here, see e.g. Jakobson, Fant, and Halle (1961). And see Anderson (1997, 2006a, 2011a, vols. I, III) for a fuller discussion of linguistic categorization in general in a precursor of what is presented in this and the following chapter.

In talking about dependency relations in both syntax and phonology, the text dispenses with the term ‘adjunct’ in favour of ‘modifier’ when comparing the two planes. This is because the term adjunction is pre-empted here by another usage, introduced in Chapter 5. I concede that ‘modifier’ also has its problems, since it is often used to refer to the dependency relation in general, as in ‘head-modifier constructions’. Since, however, in the present framework all constructions involve dependency such locutions as ‘head-modifier constructions’ are unnecessary. I shall refer to heads and dependents, where dependents in syntax may be either complements (= syntactic participants) or modifiers (= syntactic circumstantials), as introduced in this chapter.

As indicated in the commentary on Chapter 1, Hjelmslev (1935: 110) claimed that

It turns out that the two sides (the planes) of a language have a completely analogous categorial structure, a discovery that seems to us to be of far-reaching significance for an understanding of the structural principles of a language or in general of the “essence” of a semiotic.

This very strong claim aroused a lot of controversy at the time. More recent proposals concerning ‘structural analogy’ between the planes are more cautious, in acknowledging factors acting against analogy. Various proposals concerning ‘structural analogy’ are surveyed in Anderson (1987a) and Bauer (1994) – though some grave misunderstandings lessen the value of the latter. Application of the assumption of ‘structural analogy’ and limitations on its occurrence are dis-

cussed in Anderson (1992, 2006b) and Staun (1996), for instance, as well as in Anderson (2011a, vol. III). See also Anderson (2006b, 2011a, vol. III, 2013a) on the significance of structural analogy for ideas of ‘universal grammar’.

The allusions, whether detailed or in passing, to languages other than English in this commentary are intended to illustrate something of the variety of alternative resolutions of the representational problems facing linguistic systems and the cognitive apparatus that is applied to them. The success of such illustration is, of course, limited by my own knowledge, or rather ignorance.

## On Chapter 3

For further discussion of linguistic categorization along the lines suggested here, including the possibility of asymmetrical combinations of features, see again Anderson (1997, 2006a, 2011a, vol. I: Chapter 3), as well as, on phonology and the role of sonority, Anderson (1986, 2011a, vol. III: Chapter 2), Anderson & Ewen (1987). The limitation of the primary categories of phonology exhibited in (24) is appropriate to English and many other languages. However, more marked combinations of the features may be found in a number of languages. For instance, the equivalent of the adjectival representation – {V:C}, i.e. {{V:C},{C:V}} – may be appropriate for the medial consonant of Czech *Dvořák* and, of course, elsewhere in the Czech lexicon, a segment-type slow to be acquired.

Markedness is revealed in various ways, including ontogenetic timing and relative commonness in languages, though the timing of first-language acquisition of a segment-type may be affected by other factors (such as visibility to the learner of the articulation involved, or fineness of motor control required). For some discussion see e.g. Heijkoop (1998). In terms of the concerns of this chapter, the relative inherent markedness of fricatives and plosives is revealed more directly by, for example, the observation that there are often fewer fricatives in a particular system than stops (Nartey 1979). But, as noted, markedness relations may be ‘reversed’ in particular contexts. However, on the difficulties in applying notions of markedness, see especially de Lacey (2006).

The use of ‘lexical’ as one term in the lexical/functional distinction is so well established that I have hesitated to drop it here, despite the prominent other uses of ‘lexical’ in particular, such as denoting ‘what pertains to the lexicon’. There is some motivation for the ‘lexical/functional’ terminology in so far as lexical categories do indeed typically possess more lexical content than functional categories. But, as indicated, I have preferred the term ‘contentive’. On functional categories in syntax, in the present sense, see Anderson (2006a: §§8.1–2, 2011a, vol. III: Chapter 5, 2011b). On some of the problems in interpreting Peirce’s terminology,



including ‘symbolic’ and (especially) ‘indexical’ see Lyons (1977: §4.2). A range of alternative views of ‘finiteness’ is presented in Nikolaeva (2007). The present interpretation of finiteness derives from Anderson (2007b, 2011a, vol. I: Part III), but includes major modifications concerning its distribution. On conversion, see again e.g. Colman & Anderson (2004) and Anderson (2006a: §13.2.4, 2007a: particularly Chapter 9, 2011b, 2012a). Determiners are discussed in the second last of these and in Anderson (2007a: particularly Chapter 7). Dixon (1977/1982) discusses the status of adjectives in various languages. And for some discussion of and references to the debate concerning the universality of the noun/verb distinction see e.g. Anderson (1997: §2.3.1, 2006a: §10.2.2), Mithun (1999: §2.3).

On inflections as functors, marginal in English, consider the expression of goal by an accusative in the Latin of (ia), in addition to the neutralizing subject-marking of the nominative.

- (i) a. Missī lēgātī Athēnās sunt  
sent envoys:NOM Athens:ACC are (‘Envoys were sent to Athens’)
- b. In Graeciam pervēnit  
in Greece:ACC s/he.arrived (‘S/he arrived in Greece’)
- c. In portū nāvīgō  
in harbour:ABL I.sail (‘I’m sailing in the harbour’)

In (ib), containing both a case inflection and a preposition, the goal functor is apparently signalled by accusative, whereas the preposition seems to be associated with a different kind of notion, ‘interiority’, to do with ‘dimensionality’. A comparison of (ib) and (ic) suggests that *in* is neutral between goal and simple location; it signals ‘interiority’ of either goal or of simple location.

These Latin examples are cited in Anderson (2006a: Chapter 2) from Gildersleeve & Lodge (1968), and the status of functors is the concern of particularly Anderson (2006a: Chapters 8 & 9, 2011a, vol. II: Chapter 5), as well as of the chapter that immediately follows in the present work. The discussion in Hjelmlev (1935/1937) of ideas on ‘case’ also remains relevant, though it underestimates the extent to which earlier (pre-nineteenth-century) proposals recognized the ‘equivalence’ of adpositions and morphological case, as well as of position. For a more general account of the history of ideas of localism see especially Fortis (2018).

(i) illustrates the kind of complication in the expression of functors that, together with their dubious closed-class status as adpositions, demands a separate chapter at this point, devoted to this particular functional category, as already anticipated. This is appropriate too in view of the important role of functors in articulating the structure of predications – which will be one of our concerns in the chapters that follow Chapter 4 dealing with the syntax of further categories.

## On Chapter 4

On asymmetrical combinations of the semantic-relation features see particularly Böhm (1993). There is also some discussion along these lines in Anderson (2006a: Chapters 6 & 8). The former chapter in the latter also discusses, with references, the notion of ‘holisticness’. See too §3.5 in Anderson (2011a, vol. I).

Anderson (2008) gives a succinct account of the kind of ‘localist’ view of ‘case’ outlined here, and Part II of Anderson (2006a) provides a fuller discussion and references to earlier related work. There too there is some acknowledgment of antecedents to this tradition, especially the framework detailed in Hjelmslev (1935), noted in Chapter 1. Hjelmslev also provides a view of work on ‘case’ previous to his, both ‘localist’ and ‘anti-localist’, as well as intermediate positions. His work offers a distinctive, but succinct perspective on the evolution of linguistic theorizing in the preceding centuries. On localism and lexical structure see Magnusson & Persson (1986b).

The following illustrate expression of a transitive action in Turkish and its morphological causativization.

- (i) Kasap et-i kes-ti  
butcher meat-ACC cut-PST (‘The butcher cut the meat’)
- (ii) Hasan kasab-a et-i kes-tir-di  
Hasan butcher-DAT meat-ACC cut-CAUS-PST  
(‘Hasan had the butcher cut the meat’)

For discussion see Anderson (2005c, 2006a: §9.3.3). I illustrated a directional causative in Turkish with the English lexical causative *They sent the parcel to Budapest*.

Here I should like to amplify motivations for the proposed hierarchy of non-primary functor features by drawing together observations relevant to the hierarchy that mostly occur in different places. Of categorization by simple secondary functor features, only an absolutive functor is obligatory in a predication; and it is prototypically present in any contentive’s lexical valency, and if not, a ‘free’ absolutive is introduced in the lexicosyntactic interface (Chapter 5). Moreover, as indicated in the text, only absolutive functors occur more than once in a single predication, as in equatives such as those in (47).

- (47) a. The tall man is her brother  
b. Her brother is the tall man

Occurrence in subject position obviously cannot be decided in such an instance in terms of any hierarchy of functor types, as further illustrated by the availability of both (47a) and (47b). The decision is determined pragmatically – though we return to such structures in more detail in Part IV. Also, in English an absolutive that is not a subject is normally distinguished positionally in non-equatives as an object, and with pronouns may be signalled as such by morphology.

(iii) (S)he kissed him/her/them

Even the non-subject in equatives may indeed be so marked rather than being distinguished by sharing the morphological case associated with subjects, particularly colloquially, as in (iv), rather than the distinctive prescriptive (v):

(iv) That man is not him

(v) That man is he

We shall also find that an absolutive has a special role to play in subject formation and other syntactic phenomena.

In other languages, specifically in fully ‘ergative’ systems, absolutive has a status like subjects, in being the goal of neutralizations and in its syntactic roles. Other languages are systematically ‘mixed’, and others show still other non-subject-based syntactic systems.

Simple sources (agentives) too figure prominently in the grammar of English. They are the preferred subject in a predication, and the prototypical imperative sentence has only secondary-source subjects (though it may be combined with a dependent absolutive). And, as is very familiar, their role in subject-formation means that agentives have a widespread pertinence in complex sentences, such as (vi):

(vi) That forced him to hide himself from public scrutiny

Here what is marked by position, morphology, and ‘syntactic potential’ (cf. e.g. *He was forced ...*) as the object of *forced* is what would otherwise figure as the subjective agent of *hide*. Additionally this element continues to ‘control’ the occurrence of the reflexive in the lower clause. As we shall see, an extensive role in complex sentences also characterizes the syntax of absolutives. Indeed, the special status of absolutive seems to be more basic, earlier, than the routinization associated with subjecthood, which is absent from or marginal in a number of languages, notably, as observed above, in so-called ergative languages.

Locatives, including directionals (with tertiary features), are the functors in English and many other languages most generally given overt expression in the

form of adpositions and, relatedly, are typically not eligible as subjects or objects, except as ‘equative’ arguments. And I also hypothesize that all circumstantials involve secondary locative, as in the examples we have looked at, but also (in Chapter 23) with circumstantials formed on *-ly* and many other adverbs, which are all lexically complex locatives. The directional locatives manifest less expressional prominence than simple locatives, in frequently being absent syntactically when called-for by a verbal valency.

Any combinations of locatives with (actional) source and absolutive usually lose prepositional expression in English. Indeed, serving as a tertiary to actional source, as with experiencers, locatives are associated with functors that are preferred subjects, like simple source, though they are not typical subjects of imperatives. They also share with simple source, as well as a source with a tertiary absolutive, preference for being associated with human entities.

Intransitive agents – {*src{abs}*} – are naturally plausible imperative subjects as well as preferred subjects in general, but otherwise their grammar is shared with simple absolutive, though perhaps attributable to the dominant presence of source they lack the special properties of simple absolutive, such as appearance in equatives, and are less pervasive in the grammar. In ergative languages their syntax and case inflection (where present) are shared with the simple absolutive, though in other types of language they are differentiated morphologically, and sometimes indeed grouped morphological and syntactically with simple source or otherwise differ in their morphosyntax from simple absolutes. The alternative dominance in the {*abs{src}*} functors of middle verbs, in the absence with them of a simple source, are, as with simple and agentive absolutes in such circumstances, preferred subjects, but generally {*abs{src}*} middles in English, and predominantly in, say, Greek, are derived from agentive transitive verbs.

I observed that English middles typically are accompanied by a manner circumstantial; these are also typically evaluative adverbs. But, representatives of a different type, which are rather striking exceptions to this, are offered by Thackeray’s ‘... about half past four o’clock the journey ended, by the vessel bringing up at Margate Pier’ (*A Shabby Genteel Story*, Chapter VII), where we have concrete location, and Hardy’s circumstantial-less ‘<i>t seemed as if hardly any time had passed when she heard the household moving briskly about, and breakfast preparing;’ (*The Woodlanders*, Folio edn., p. 156).

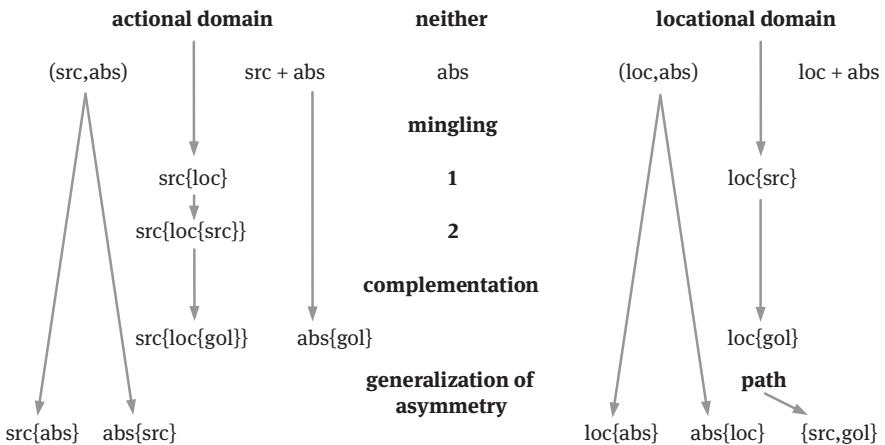
As the combinations of features complicate, distinctiveness in their grammar diminishes. But at least the directionality of the valency of the quaternary-featured verb in (41b) is signalled by the *from*, just as its subject formation indicates that the selected participant is absolutive and source, as in (41g).

- (41) b Frieda suffered from anxiety attacks
- g. {P;N/{abs.src{loc{gol}}}{loc{src}}}

Languages differ, however, in the extent and ways in which more detailed, delicate combinations are given distinctive overt expression. Even more fundamental distinctions like ‘experiencer’ vs. agent can be less or more sharply distinguished in different languages. In some language the former are often inflected distinctively (as ‘datives’) and display more distinctive syntax.

Otherwise, it is sometimes difficult to differentiate putative functor distinctions from encyclopaedic knowledge, and languages may again differ in this respect. It has been argued that we should differentiate among agentives in terms of prototypical human volitional agency and non-volitional (*He broke his own leg*) and non-human agency (*The storm blew the house down*) and ‘instrumental’ agency (*The key unlocked the door*). However, it is not clear that these distinctions are a matter of the grammar of finiteness or semantic relations in English, for instance. But, whatever else may differ among languages, it is plausible to assume that all representations of functors involve only (combinations of) absolute, locative, and source, and, derivatively, goal.

The figure here amplifies Table II by spelling out the range of combinations discussed in the text and showing some of the relationships among them.



**Figure III.b:** Minor Functor Feature Domains and Feature Combinations

The first line of combinations shows the basic content of the valencies allowed within the domains. Features joined by a + represent distinct participants, and the combinations enclosed in round brackets are not utilized as such, since

asymmetric combinations are preferred, as shown in the last line. Exceptional is (41), with dominant {abs.src}. Asymmetry is first introduced by the mingling of the actional and locational domains in asymmetric combination. On the left, this may be extended by a quaternary source, and given that, a quaternary goal – under ‘complementation’ in the diagram. Here too absolute and locative may be extended to goals in the presence of a source in their shared valency. At the bottom right, the formation of paths departs from the usual pattern in involving a simple combination – as well as being an alternative in valency satisfaction to a separate source and goal. For related discussion see Anderson (2006a: §13.2.3).

It is to be acknowledged that there is some variation in the acceptability of some of the English examples in (50). Such sequences as those in (50), as well as other possibilities like *from inside*, also suggest that such lexical complexity is a part of what is involved in the Latin examples of (ib,c) noted in the commentary on the preceding chapter, where a single participant may manifest both a preposition and a case inflection:

- (3i) b. In Graeciam pervēnit  
       in Greece:ACC s/he.arrived (‘S/he arrived in Greece’)
- c. In portū nāvigō  
       in harbour:ABL I.sail (‘I’m sailing in the harbour’)

Latin *in* is a dimensional preposition that apparently is associated with either a goal interpretation, as in (3ib), or a simple locative, as in (3ic). The goal is marked accusative.

The accusative in (3ia) also marks a goal, but there is no dimensional preposition.

- (3i) a. Missī lēgātī Athēnās sunt  
       sent envoys:NOM Athens:ACC are (‘Envoys were sent to Athens’)

And a simple dimensionality-neutral inflectional locative occurs in (vii), the *tōtā Asiā*.

- (vii) a. Menippus tōtā Asiā disertissimus  
       Menippus all:ABL Asia.Minor:ABL the.most.eloquent  
       (‘Menippus, ... the most eloquent man in all Asia (Minor)’)
- b. Sīc itur ad astra  
       thus it.is.gone to stars:ACC  
       (‘This is the way to the stars’)

- c. Rōmulus urbem Rōmam condidit  
 Romulus city:ACC Rome:ACC he.founded  
 ('Romulus founded the city of Rome')
- d. Dēcēdit ex Galliā Romām Naevius  
 withdrew out-of Gaul:ABL Rome:ACC Naevius  
 ('Naevius withdrew from Gaul to Rome')
- e. Quinque milibus passuum ab urbe distat  
 five thousand:ABL paces:GEN from city:ABL is.distant  
 ('It is five thousand paces from the city')

Notice too that in (viib) the goal is signalled, with apparently some redundancy, both by the non-dimensional *ad* and the non-dimensional accusative. Moreover, the simple accusative can also mark an absolutive (actional) goal, as in (viic). And it is thus the *ad* that indicates that a location rather than the goal of an action is involved – and it is therefore not entirely redundant. Also, the ablative, as well as appearing alone, appears too with various locative source prepositions, multi-dimensional and not, as exemplified in (viid) and (viie) respectively. Again, a preposition expresses dimensionality, a nominal property, but it is the inflection that specifies the basic semantic relation. The role of the inflection is like that of the initial preposition in *from inside*. This is significant for an analysis of the Latin functor system. Indeed, all these factors demand attention in establishing the Latin system.

However, whatever else, the correlation of dimensionality with preposition and semantic relation with inflection is pervasive. The relation in (3ib,c) – repeated above – between the functor signalled by the inflection and its noun is mediated by the preposition *in*, as in (50b), which makes explicit the complex dimensionality. This again presumably involves a nominal. And the inflection and the preposition in (3ib) are respectively equivalent in some sense to the *-to* and *in-* of *into*. As indicated, we take up the more explicit characterization of such Latin structures in the commentary Chapter 7. The Latin examples of (vii) are again from Gildersleeve & Lodge (1968) via Anderson (2006a).

Hjelmslev (1935) anticipates something like the distinction made here between simplex and complex functors in his recognition of a basic 'dimension' of 'direction', basically *from – at – to*, though this rough gloss vastly oversimplifies what he proposes, in so far as he also invokes something like componentiality and asymmetry. This 'dimension' is implied by two further 'dimensions', which for him are also themselves related implicationally. And indeed the choice of 'direction' as the first distinction is not uncommon. Here the further dimensions are associated with subjoined {N}s. The lexical complexity and analytical complexity (as in *on top of*)

resulting from this underlies the extensibility of even such as the ‘catalogue’ of preposition-like expressions in English provided by Strang (1962: §155).

The proposal concerning the internal structure of complex functors and the Latin ‘case’ system (which is further elaborated in Chapter 7) differs from the proposal made in §8.3 of Anderson (2006a) in suggesting a head-modifier relation between the (casual) functoral and (prepositional) dimensional components. The same dependency relationship would apply to the description of such extensive systems of morphological case as are exemplified by Tabassaran: see Hjelmlev (1935: 138–59) and Anderson (2006a: §8.4). The morphological cases of Tabassaran signal dimensional as well as simple functoral distinctions, and by distinct suffixes. On this, and Hjelmlev’s (1935) proposals, see Anderson (1998: §6).

The history of the Latin preposition-plus-case constructions merits careful explicit investigation, given their role as a stage in the apparent evolution of many of the prepositions from (a) ‘adverbs’ juxtaposed in some relation with case-marked phrases to (b) dimensional nominals dependent on a case-realized head (as proposed here for classical Latin in Chapter 7) to (c) the heads of functor phrases containing an independent nominal (as in the modern Romance languages). I’m not sure that the preceding is even an appropriate informal manner of describing the evolution.

There is some discussion of complex lexical structures that are not expressed morphologically (or even by conversion) in Anderson (2005b: §3.2, 2011a, vol. I: Part I, 2012a). The positing of the kind of structures assumed here involves the claim that much (at least) of lexical semantics is concerned with relations between the same categories as are manifested in the syntax. And the claim extends to the presence within both lexicosemantic and syntactic structures of the dependency relation introduced explicitly in the chapter that immediately follows.

## On Chapter 5

The projection of dependency and linearity relations in syntax, including the adjunction/subjunction distinction and the characterization of participants vs. circumstantials, are discussed, in the same terms as in their present representation, in Anderson (2007a: §2.3), where also reference can be found to earlier presentations. On the status of the dependency relation in grammar see Böhm (2018), which also offers a corrective to a recent widely promulgated misrepresentation of the traditional concept.

On finitization, free absolutes, argument-sharing, and subject formation, see Anderson (2006a: Part III); routinization is discussed particularly there in §13.3. Insistence on the derivative status of linearity in syntax has character-



ized from the start the tradition of localist case grammar and notional grammar (see e.g. Anderson 1971a: Chapter 10). On inalterability (sometimes discussed as preservation of dependency and linearity) see §3.1.2 in the same volume. Inalterability bans synchronic syntactic re-structuring of both configurations and linear order. An extensive discussion of the properties of syntax and restrictions on them is to be found in Anderson (2011a, vol. I).

The assertion here of the dependence of the erection of syntactic structure on lexical categorization and specifically valency and circumstantial adherency – ‘valency’ in the wide sense, jointly embodying colligation – will be reminiscent for many readers of the combinatorial mechanisms of categorial grammars (see e.g. Ajdukiewicz 1935, Lambek 1961, Montague 1973, 1974, and contributions to the collection in Portner & Partee 2002). On the other hand, the extensive feature-componential treatment of categories offered in earlier chapters is also to be associated with, for instance, developments of extended phrase-structure grammars (as in Gazdar et al 1985, Pollard & Sag 1994) and especially ‘lexicase’ (Starosta 1988) – though these are autonomous in their approach to syntax, and adopt binarism. The present account is obviously also distinguished from ‘phrase-structure grammars’ by its adoption of dependency as the basic configurational relation. Dependency in grammar too has a considerable history: for references see Marcus (1967: Chapter VI, §3), Anderson (1977: §2.2 & endnote 25), Percival (1990), and once again, crucially, Böhm (2018) and Fortis (2018).

For other presentations of dependency theory as applied to syntax see e.g. Hudson (1984, 1990). For some further discussion, positive and negative, and further references, see too Anderson (1977: §2.2, 1992: particularly §2.1), Hudson (1980a,b 1987), Dahl (1980), Zwicky (1985), and Anderson & Durand (1986: §2). For dependency structures in phonology, see the commentary to Chapter 6. On dependency in the lexicon, including morphology, see Anderson (1984, 2006a: especially §13.2, 2011a, vol. II).

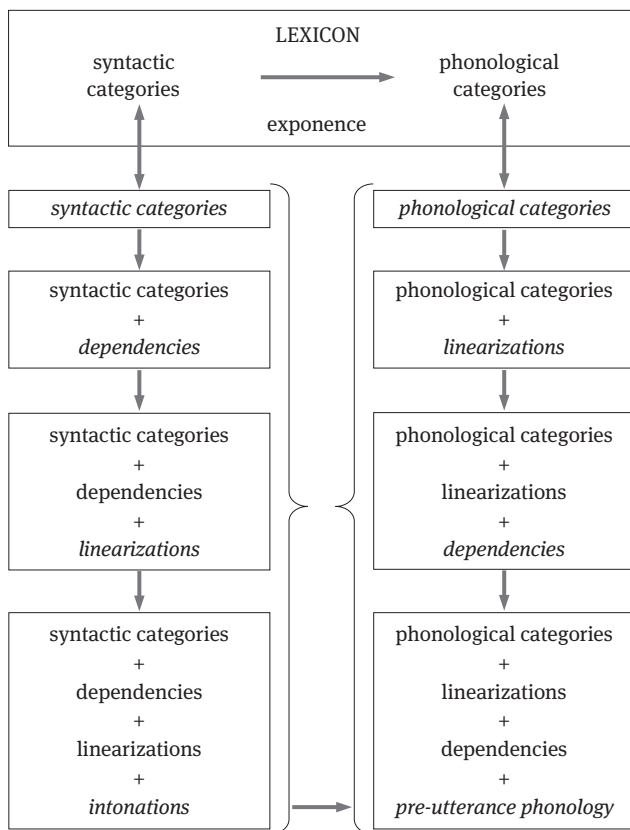
It seems to be necessary to explain (especially to those who have misguidedly consulted Wikipedia on ‘dependency grammar’ and have not yet been disabused by Böhm [2018]) that the presence of subjunction is not to be confused with constituency, though a consequence of both is that the number of nodes in a graphic representation will exceed the number of word forms realizing them. But this is a trivial consequence of two very different situations. The ‘excess’ of nodes in constituency representations results from the presence of nodes that are expounded by more than one word form, by phrases. There are no such nodes in a dependency grammar, with or without subjunction. The ‘excess’ of nodes in dependency representations that include subjunction results from the fact that more than one node may be associated with the same word form. However, any particular node is expounded by a single word form, not a phrase. Trying to distinguish depend-

ency and constituency representations in terms of the ratio between nodes and word forms thus involves a rather basic error in understanding of the distinction.

Some other languages permit more ‘tangling’ than English, but this is usually compensated for, by, for instance, the presence of morphological or adpositional elements, which indeed permit more flexible use of word order.

The radical view of the status of syntax presented at the end of the text implies, for instance, that all of the additions on the left-hand side of the following figure adapted from Anderson (2011a, vol. I: 410) are performed at the lexico-syntax interface.

The sub-modules are re-representational stages in the interface, whose staging is determined presuppositionally. This is taken up in the Prelude to Part III. There I retain in the figure the differences between the syntax and phonology in the sequence of modules as suggested in the course of Anderson (2011a), as well as here.



**Figure IV:** Substance, Modules, and Re-representation

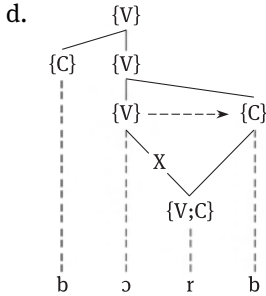
## On Chapter 6

On complements and modifiers, and thus transitivity, in phonology, to which such notions are not commonly attributed, see e.g. Anderson (2006b); on (the more familiar) sonority and linearity see Anderson (1987b). Anderson (1986) discusses syllable structure, onset maximization and dependency maximization, as well as looking at higher-level structure and the distinction between lexical and pre-utterance phonology. All of these aspects are addressed in Anderson (2011a, vol. III: Chapters 1 & 2). On tangling (non-projectivity) see again Marcus (1967: §6.10).

An alternative way of looking at the structure of rhymes in RP (for example) that departs from what is proposed in the text, and has some promise, is to regard what have been regarded as intransitive or free vowels as consisting of a {V} plus a consonantal segment that, as a semi-vowel, would act as complement. Complementation would then be obligatory in non-reduced syllables. Thus, diphthongs in [-i] and [-u] would have the respective categorizations {V} + {V;C{i}} and {V} + {V;C{u}}. Diphthongs in schwa would be {{V} + {V;C{ } }}, and long/intransitive monophthongs would be {{i/u/i;a/u;a/a:u}{V} + {V;C{ } }}. The vowel quality with them is a prosody realized throughout the nucleus (vowel plus complement). Transitive vowels continue to be complemented by the following consonant. {V;C{ }} is, as before, manifested as [r]; in non-rhotic varieties the manifestation of {V;C{v}} will alternate between schwa and {r} (the so-called ‘linking-r’ and ‘intrusive-r’ phenomena). The suggestion of there being obligatory complementation is, when compared with the account in the text, equally consistent with the distributions within rhymes that we have looked at. Under both accounts, the situation will be different in other varieties of English.

The insistence in the present work on the prevalence of loss of a dependency connection and interruption of the vowel by the liquid seems to be what is happening in the forms in (i) in some dialects of Scottish Gaelic, as indicated in the skeleton representation in (id).

- (i) a. borb ‘savage’ [bɔrɔb]  
 b. arm ‘army’ [aram]  
 c. fearg ‘anger’ [ferag]



In these dialects, the monosyllabic form in each case is pronounced as roughly shown in the transcription, but without showing any independence between the two vowel portions or assuming the prosodic characteristics of a disyllable. We have a monosyllable with a ‘vowel-medial’ consonant. Here the dependency relation between the immediately post-vocalic consonant and the vowel has apparently been lost, so that, as represented in (id), the consonant is free to drift into the timing area occupied by the vowel. It is heard as interrupting the vowel. The quality of this vowel is a prosody of the rhyme.

The Gaelic dialects illustrated in (i) are discussed by Hind (1997: §5.3), drawing on Borgström (1941) and Oftedal (1956). Hind observes that a similar shift in timing is to be observed by comparing Winnebago ‘fast sequences’ (Miner 1979, Steriade 1990) with cognates in related languages. Miner also lists the following properties of ‘fast sequences’ in Winnebago.

Using the formula ‘ $C_1V_1C_2V_2$ ’ for the ‘fast sequences’:

- a.  $C_1$  is a voiceless obstruent (/p k č s š x/);
- b.  $C_2$  is a sonorant (/m n r w y/);
- c.  $V_1 = V_2$ ;
- d. the sequences are spoken (and apparently sung) faster than other CVCV sequences;
- e. the sequences may be reduplicated just as CV sequences may, and are the only CVCV sequences which may reduplicate.

The final two properties suggest monosyllabicity, and Miner adduces other phenomena in support of this. However, in determination of accent placement, in different circumstances  $V_1$  and  $V_2$  behave as if they count as one vowel or two, suggesting the interpretation of (non-) timing varies. See further Anderson (2011a, vol. III: §2.5.2) and references therein. Again, a prosodic treatment is suggested.

The controversial ‘fast sequences’ of Winnebago invite a similar account of the dependency relation in syntactic structure that embodies a large-scale ana-

logical claim about structure in different linguistic domains (cf. Anderson 1992: especially Chapter 2, and references therein). Volume III of Anderson (2011a) also provides an exploration of a range of analogies, as well as of limitations on analogizing between the planes and the major motivations for such limitations.

## On Chapter 7

On participants and circumstantials as introducing arguments governed by functors see Anderson (2007a: 215, 2011a, vol. I: §3.2). The idea of grouping together prepositions, adverbs, and conjunctions is not unfamiliar, given the lexical overlaps and the obvious distributional motivations (see e.g. Radford [1988: 133–7]). But the status and homogeneity of an extended class of adverbs remain controversial. The situation is not helped by some confusion between ‘adverb’ as a category and ‘adverbial’ as an alleged function. I would account for some of this uncertainty over adverbhood in terms of the lack of evidence for adverb as a simple, basic category rather than as a part of speech, which may be categorially complex.

Thus Poutsma, for instance, in a chapter on adverbs (1926: Chapter LIV), declares: ‘Nouns, or word-groups whose chief constituent is a noun, that may be used as adverbs are very numerous’ (p. 657). The locution ‘used as’ is always suspicious. Poutsma calls these ‘Adverbial Adjuncts’. But in this case, all this means is that *tomorrow* and *the day after tomorrow* can both be converted to locative functors without this being overtly marked by the presence of a preposition. Nor is there an ‘adverbial function’, since adverbs serve various functions, including that of participant, all of which are a consequence of being derived locative functors.

These determiner phrases can also be converted to absolute functors, as in (i) and (ii):

- (i) Tomorrow/The day after tomorrow will dawn without her having returned
- (ii) They chose tomorrow/the day after tomorrow for the outing
- (iii) We shall meet tomorrow/ the day after tomorrow

In English, however, many kinds of temporal determiner phrases can also be converted to (particularly circumstantial) locative functors, as in the repeated examples in (iii). There is no call to invoke ‘adverb’ or ‘adverbial’ here. Compare these with the words discussed in the text, which might be said to be dedicated participant or circumstantial locative monolexical items, such as *now*, which may be converted to non-locative functors – *Now is the time*. The expressions discussed above in this commentary are determiners converted to different kinds of functor,

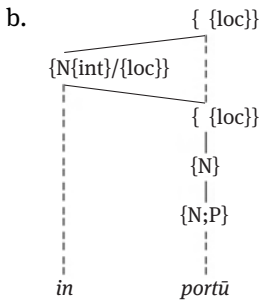
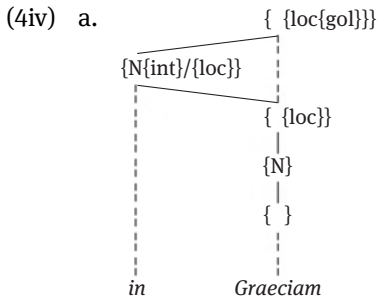
by virtue of the notional domain of the determiner phrase. But overt functor forms are retained – *At dawn is the time*.

The brief discussion of adverbs in the text benefited particularly from the treatment by Hartvigson (1969) of the intonational and positional behaviour of what he terms ‘the so-called sentence modifiers’.

The discussion of complex functors and dimensional nominals makes more explicit the claims concerning complex functors adumbrated in Chapter 4. For comparison, I include a representations of the functor phrases in Latin (4i), representations that seek to recognize the dominance of the inflections that are often regarded as ‘governed’ by the preposition.

- (4i) a. In Graeciam pervēnit  
in Greece:ACC s/he.arrived (‘S/he arrived in Greece’)
- b. In portū nāvigō  
in harbour:ABL I.sail (‘I’m sailing in the harbour’)

(4i) is again example (i) from the commentary on Chapter 4. In both of these examples ‘interiority’ is signalled by the preposition, and goal versus static location is apparently distinguished by the inflections, as in (iv).



But the overall configuration is like that of the complex prepositions in English. The difference is that the inflection retains the functor function that in English is absorbed into the dimensional {N} by subjunction of the latter to it. In the representation of the noun form we have here another instance of argument-sharing: the governing locative and the locative that satisfies the dimensional preposition share the same argument. But in this case the sharing is determined lexically, not in the syntax, as with configurations involving a free absolutive. We have lexical linking of categories (here locative to locative), which is also found elsewhere, as we shall see.

That is, the direction of rection on preposition + case languages is the reverse of what has often been assumed, but is now increasingly questioned. Roger Böhm has drawn my attention to recent critiques, such as Abraham (2001) and Zwarts (2006), of developments of the traditional position on government in relation to the similar situation in German. The proposal made in (iv) concerning Latin is different from the ‘solution’ offered in Anderson (2006a: §8.3) to what is called there ‘Kuryłowicz’s problem’. The latter account assumes something like the traditional position that the preposition governs the case inflection. Here there is preferred an analysis developed on the basis of the discussion in Anderson (2011a, vol. II: §5.3), where the dependency relation is reversed, with the inflectional functor being the governor.

However, this last analysis is not, I suspect, what Edgar Allan Poe had in mind when he described an intention of the ‘Folio Club’ as being to ‘overturn the Government of Noun and Pronouns’ (*Tales*, p. 13, Nonsuch, 1914). But it is reminiscent in some respects of Kuryłowicz’s (1949: 24) otherwise problematical diagram of the constituency of *extra urbem* ‘outside the city’ shown in (v), which groups the preposition and the inflection together as a unit, in establishing a strong link between preposition and case inflection, with the stem analysed as interrupting the functional unit.

(v)  $\text{extra} \boxed{\text{urb}} \boxed{\text{em}}$   
           II    I    II

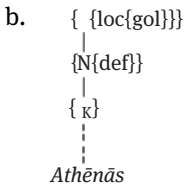
However, the structure in (v) ignores the well-motivated syntax/morphology boundary: *urb-* and *-em* are syntactically a unit.

Let us spell out more details concerning the system of functors in Latin, as representative of a dual system of functors as found in other languages, including earlier English and other Indo-European languages. As already observed, the Latin system illustrates well a stage in the proposed integration of locational adverbs into the functor system, in the form of prepositions, but prepositions that co-occur with a reducing but active system of cases that also may be used independently of any preposition. Hence case inflections have a dual function, and a dual categorization.

Let us start from the structure in (iv). The determinerized noun or name here has been converted to a locative functor that is associated lexically with a (goal or simple) locative, realized as either accusative or ablative. And the preposition is a {N} with a locative valency that is satisfied by the noun/name complex. *In* is thus relational, and this is one reason for not treating it as a noun, which I shall argue are not relational; *in* also exhibits no overt evidence of a determiner, however. The representation of the names here anticipates Chapter 9. It is sufficient for our present purposes that in structures such as that in (81d) the names are (derivatively) (definite) {N}s.

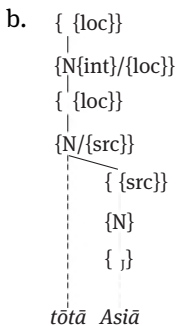
In (via), however, the non-dimensional functor to which is subjoined the determinerized city name *Athens*, viewed as a point goal, lacks a dimensional preposition, as represented in (vi).

- (vi) a. Missī lēgātī Athēnās sunt  
 sent envoys:NOM Athens:ACC are  
 ('Envoys were/have been sent to Athens')



This also is true in the case of the non-directional locative, expressed by the ablative, in (vīia), where *tōtā Asiā* counts as a location, so that the relevant nominal construction is schematically represented in (vīib), where the functor is expounded morphologically in both the quantifier {N} and the name {N}.

- (vii) a. Menippus tōtā Asiā disertissimus  
 Menippus all:ABL Asia.Minor:ABL the.most.eloquent  
 ('Menippus, ... the most eloquent man in all Asia (Minor)')

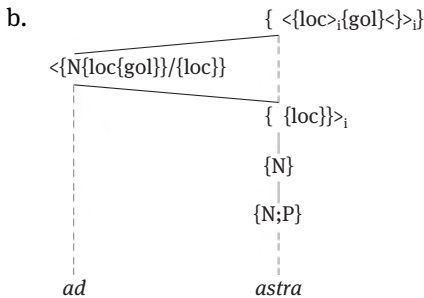




Compare (vii) with (4i). Naturally enough, indeed iconically, expression of the complex locational expression in (vii) requires a more complex mechanism, i.e. (vii), than the latter, (4iv), despite the linking involved in it.

But use of the simple accusative to express locative goal (what Gildersleeve & Lodge [1968: §337] appropriately, though rather alarmingly, call the ‘terminal accusative’), is restricted to ‘Names of Towns and small Islands’ and a few other place expressions. And simple {loc{gol}}, though not multi-dimensional, typically requires supplementary prepositional expression with other than these, as in the familiar – but not as a NASA slogan – (viiia), represented in (viiib).

(viii) a. Sīc itur ad astra  
 thus it.is.gone to stars:ACC (‘This is the way to the stars’)



c. Rōmulus urbem Rōmam condidit  
 Romulus city:ACC Rome:ACC he.founded  
 (‘Romulus founded the city of Rome’)

And (except with town names etc.) the presence of the preposition distinguishes between locative goal and non-locative (actional) given in (viiic). This is expressed in terms of the coindexed angle brackets in (viiib), indicating a link between the presence of a locative-goal accusative and the presence of *ad*. In the absence of the angles, locative is redundantly present, triggered by the presence of {gol}. We have a dual system, and some of the morphological cases have a dual categorization, either as an independently functioning functor or as requiring on one interpretation the presence of a locative {N}.

However, that, as illustrated by (vi) (above) and (ix), the simple accusative can also express locative goal complicates the picture further.

(ix) Dēcēdit ex Galliā Romām Naevius  
 withdrew out-of Gaul:ABL Rome:ACC Naevius  
 (‘Naevius withdrew from Gaul to Rome’)

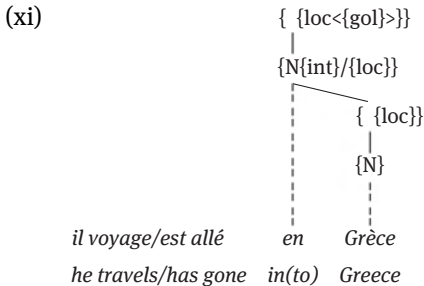
Absence of a preposition with the accusative has two different functions.

This is ignored in the representation of the accusative in the first line of (x), where I have presented only the non-primary categorial representations.

|            |               |                         |
|------------|---------------|-------------------------|
| (x)        | <i>simple</i> | <i>with preposition</i> |
| Accusative | {<loc>{gol}}  | {loc{gol}}              |
| Ablative   | {loc}         | {loc<{src}>}            |

The purely locative use of the ablative in (x) is illustrated by (vii) above. The presence of the locatives in the simple column is associated only with certain nouns as lexical subordinates, or when the locative is figurative (such as when applied to ‘time’). In (viiia), represented as (viiib), the presence of a dimensional preposition is also associated with a locative interpretation of the ablative with other nouns. But the ablative requires a locative preposition if it is to express source, as in (52d) (which also, as noted above, has a simple locative goal accusative). This assumes that (52d) is redundant in the same way as *ad* + accusative: both preposition and case express spatial source, though in some circumstances, also, the ablative alone may express source. This is in accord with the history of ablative, but at some point it will have simplified to being simply locative. (4ib) represents the main possibilities, but the situation is much more complex, so that, for instance, the simple ablative also figures as a metaphorical source, as in expressions of ‘cause’.

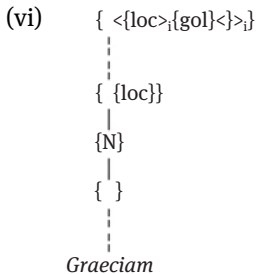
The system outlined here for Latin functors would represent a late stage in the integration of the dimensional adverbs into the full functor system. Here the adverbs are integrated and made subordinate to the case marked noun. Perhaps at an earlier stage case-marked nominals could be apposed to independent dimensional adverbs. By the stage described above the cases have re-asserted their primacy, while acknowledging reliance on the integration of such adverbs. A subsequent stage would result from the loss of the inflections. Almost the whole burden of signalling unneutralized distinctions in functor (excluding subjecthood etc.) is then carried by the prepositions, characterized as in English – or in Romance languages such as French, as represented in (xi).



This involves the simplification of the configuration formerly signalled by the presence of an inflection to take the preposition in subjunction, with some resultant neutralization (in the absence of the equivalent of *to*).

This historical scenario remains, of course, rather speculative. And, however that may be, English, as we have seen, and many other languages show a similar distinction to the Latin between multi-dimensional locatives and simple ones, but nothing of this is signalled by a dual mechanism involving differences between simple case vs. preposition + case. In other languages still, such as Tabassaran, both complex and simple functors are expressed morphologically – though such languages may also possess some adposition-like elements. I do not pursue this here; my purpose in the present work has been simply to contextualize the functoral system of English, without interrupting the main discussion any more than I have already done.

The analysis of Latin is itself achieved at the expense of introducing what might seem to be a rather unusual configuration-type in which a complex category involves components united in the lexicon by association rather than subjunction, as in the lexical representation in (vi) for an accusative noun such as that in (81d), a lexical structure extracted from (iva).



But Anderson (2006a: §10.3.3), for instance, makes a case for a similar analysis of genitive construction in determiner phrases. And we shall find as we proceed that such associations in the lexicon are not unusual (and see already Anderson 2006a: §13.2.2, on lexical ‘argument-linking’). Chapter 21, however offers a rather different analysis of complex functors in general, on the basis of discussions in the intervening chapters, and Chapter 19 suggests a rather different analysis of genitives from that suggested in Anderson (2006a).

Chapter 7 has attracted a rather lengthy commentary. Perhaps this is to be expected, given that the chapter deals with the historical core of the syntax of this (and other) representational grammar(s), the status of functors and their expression.

## On Chapter 8

All of the topics in this and the following chapter, in particular determinerization, partitivity, definiteness, and generics, are discussed in a lot more detail, and with a range of further references, in Anderson (2007a) – but see also Anderson (2006a: §10.3, 2011b). The first of these discussions draws particularly on Mill (1919 [1843]: bk. I, Chapter 2), Kripke (1978 [1972]), Lyons (1977: Chapter 7), and Allerton (1987).

In other languages than English both partitive and non-partitive (generic) definiteness are expressed analytically, as in French *les femmes* ‘(the) women’, which may or may not be generic. Also, whereas specific partitivity in French is normally expressed, as in *des femmes* ‘(some) women’, in English this is not necessarily the case. This means that in French the referentiality of a noun is normally overtly signalled – though the (definite) generic/partitive distinction is neutralized. Non-specificity in French is normally signalled only in negative sentences, as in *Il n’y avait pas de rats dans la maison* (Camus) ‘There weren’t any (*de* not *des*) rats in the house’.

These comparative distributions are laid out in Table III, where a horizontal line in any box signifies the absence of an independent determiner.

**Table III:** Plural Determiners in French and English

|                 |                | Specific      | —    |                |
|-----------------|----------------|---------------|------|----------------|
| —               | (some)         | des           | (de) | (any)          |
| <i>Definite</i> | the            | les           | les  | —              |
|                 | <i>English</i> | <i>French</i> |      | <i>English</i> |

This table deals only with plurals. But the situation with mass expressions is similar. However, singular will require some particular attention, as illustrated for English in Table IV.

**Table IV:** Singular Determiners in English

|                 |          | Specific | —     |
|-----------------|----------|----------|-------|
| —               | a (some) | a (some) | a/any |
| <i>Definite</i> | the      | the      | —     |

Here all the example boxes are normally filled except that for non-partitive (generic) definites.

Compare with (88a) the Greek equivalent in (i). Unlike in the representation for English singular predicatives in the former, in Greek, except in special circumstances, even the singular predicative normally involves a copula which apparently takes a noun as complement directly. In Greek the ‘equivalent’ of *a(n)* is, in various respects, not as clearly differentiated from the form representing the numeral ‘one’.

- (88) a. He is a lawyer  
 (i) Ine δikiyoros  
 he.is lawyer

A distinct determiner is normally absent in the absence of referentiality, but not in the case of the *a(n)* of English singular count predicatives, where it signals count singular.

On predicative nominals in Greek, see e.g. Holton et al. (1997: §2.5.3), where it is observed that ‘<s>subject and object predicates normally appear without an article’ (p. 282), but that ‘the indefinite article may optionally accompany the predicate if the noun is made more specific in some way, e.g. by an adjective’ (p. 283), as in (ii).

- (ii) ine enas kalos kaθiyitis  
 he.is a good professor

They also note the absence of an article with non-specific subjects such as that in (iii):

- (iii) yineka pu den ayapai ta peδia ine likena  
 woman who not loves the children is she-wolf  
 (‘A woman who doesn’t love (her) children is a she-wolf’)

(Holton et al. 1997: 284).

The complex categorization I have attributed to the noun in this chapter is interesting to compare with what is illustrated in a language where all the adjectives are derived (from nouns or verbs). Cherokee comes close to exhibiting this situation (Lindsay & Scancarrelli 1985), as I understand it. The noun in English is always subjoined to a determiner, whereas the Cherokee adjective is always itself derived. This makes the latter much more marginal than the status we can attribute to the English noun. But both differ markedly from the situation with adverbs, where none of its components is unique to the adverb. It is an inherently complex part of speech, whereas the presence of {N;P} in English is sufficient to

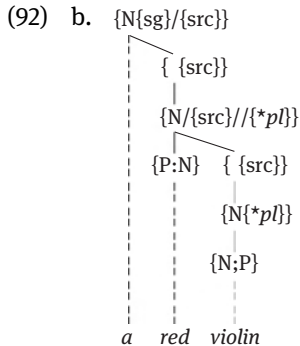
identify a noun, as is the presence of {P:N} in Cherokee sufficient to identify an adjective.

A distinctive kind of group noun from *committee* is illustrated by *sort*, which is a sort (!) of hybrid, as illustrated in (iv).

- (iv) a. Those sort of books  
 b. That sort of books  
 c. Those sorts of books

Unlike in (ivb-c), the *sort* word in (iva) doesn't agree in number with the determiner.

The source requirement suggested for attributives, as shown in (92b) becomes overt only in special circumstances, such as for emphasis:



Consider, for instance, the structure of the final phrase in the following, from Walter Scott's 'St. Ronan's Well' (Border edition, Nimmo, 1893, vol. I, Chapter XII): 'In the meanwhile, the gallant captain seemed to experience as much distress of mind, as if some stain had lain on his own most unblemished of reputations'. In some other languages, of course, an adjective, attributive or predicative, can show number and gender.

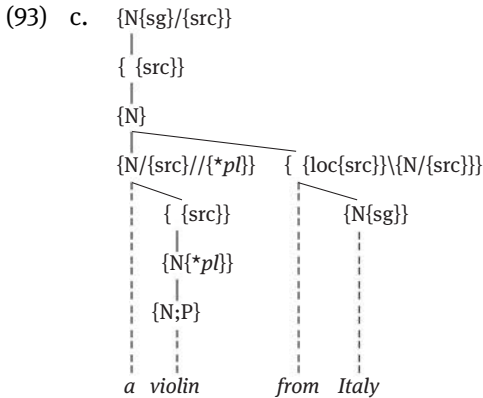
There have been several studies concerning the factors determining the order of prenominal attributives. Bache (1978), for instance, provides a much more differentiated or detailed ('nuanced' is the current fashionable word) account than the vague indication I have attempted here. He also recognizes a comma in such sequences, as well as the occurrence of *and*, as indicating coordination. His classifications are, of course, notionally based. We come back to attributive sequences, however, in Chapter 40 in Part IV.

The distinctions within derived nominal structures between 'participant', 'circumstantial', and simple attributive such as those in (96a) are reflected in

the predicative occurrences in (v), compared with post-nominal attributive occurrences.

- (96) a. a student of history at Oxford from Italy  
 (v) a. \*the student is of history vs. a student of history  
 b. the student is at Oxford vs. a student at Oxford  
 c. the student is from Italy vs. a student from Italy

The predication in (va) is unacceptable; and, even with *student*, associated with an educational establishment, present, that in (vb) can be interpreted as involving simple concrete location at the town as an alternative to enrolment in the institution. But that in (vc) is transparently related to the relevant, attributive part corresponding to (93c).



These differences reflect the relative verbliness of the components of (96).

Lexical phrases that have been converted into adjectives, as thereby syntactically simplex, occupy a prenominal position. Thus, a converted phrase like *down to earth* occurs prenominally rather than postnominally: *She is a very down-to-earth person* (see further Chapter 32 in Part III). We shall also return in Chapter 9, as well as in Part II, to a more explicit account of apposition, including its role in nomination structures such as are invoked in the commentary that now follows.

## On Chapter 9

The nature of the semantics of names has long been controversial, both in philosophy and in linguistics, not to mention onomastics itself (see Colman 2015: §§1–2).

Anderson (2007a, 2015), in attributing to the sense of names only gender distinctions, departs only in a minor way from the position of Mill, who, unlike ‘descriptivists’, denies them sense. On the present view, the encyclopaedic information that has been associated with active, assigned names is rather a perceived property of the individuals identified by the values of the subscript in such active names. The minimal sense, i.e. gender, shared by names and the third person singular personal pronouns in English, is revealed in their role as traditional gender-differentiators: thus we have either a *billy-goat/he-goat* or a *jenny-goat/she-goat*, compounds one component of which is not a contentive. The three-way gender system of Zapotec that differentiates ‘females’ and ‘males’ and *muxes* ‘mixeds’, based on traditional social role, reminds us (if that is necessary) that (‘non-grammatical’) gender differences among humans may involve not just sexuality (which itself is not clearcut).

There has been more agreement among scholars, apart from some of the Stoics, concerning the syntactic-categoriality of names: traditionally they are a kind of noun, a view reinforced by the absence of difference or inconsistency (e.g. usages such as *bird names*) in nomenclature in many languages. The position of Anderson (2003a, 2004c, 2007a, 2015) and Colman (2008, 2014, 2015), again adopted here, is rather different. Names are, like pronouns, a different category, and in English they differ from pronouns in belonging to an extensible onomasticon whence they are made active by being taken, via nomination, to identify an individual. Pronouns are ‘temporary names’. And they too, despite the precedent of Latin grammars, have typically been regarded more recently as a kind of noun. But again this is incompatible with their syntax and semantics. Pronouns are another necessarily complex part of speech. Names are only derivatively so, via nomination or metalinguistically.

On names as the basic entitative, see particularly Anderson (2007a: §8.2.3). On the ontology of names, compare Quine (1960: 80–124) on the ‘ontogenesis of reference’ – and, for discussion of this, again Lyons (1977: §7.6). On the non-referentiality of nouns compare Lyons (1977: 208).

... reference is an utterance-bound relation and does not hold of lexemes as such, but of expressions in context. Denotation, on the other hand, like sense, is a relation that applies in the first instance to lexemes and holds independently of particular occasions of utterance. Consider, for example, a word like ‘cow’ in English. Phrases like ‘the cow’, ‘John’s cow’, or ‘those three cows over there’ may be used to refer to individuals, whether singly or in groups, but the word ‘cow’ alone cannot.

This position is not too far from that of the Port-Royal grammarians, as described by Vorlat (1975: 242) – despite their caution concerning articles, and their lack of a distinction between denotation and reference.



Though not judging the article absolutely necessary in a language, the Port-Royal grammarians consider it quite useful, as it provides a means of singling out one or more particular referents of a common noun, which by its very nature has an unspecified and indefinite referring function.

However, as she points out, they do not clarify how the article performs the functions attributed to it, and their account of article behaviour is heavily biased towards French.

Anderson (2007a) refers to subscripted upper-case indices such as that in (i) as indicating a ‘fixed reference’.

- (i)     {<sub>r</sub>{masc}}
- ⋮
- Ferdinand

Here I try to avoid the misunderstandings that might arise from this usage, given the pragmatic character of (simple) reference, whereas the terminology was meant to emphasize the role of the (active) name in identifying a referent. I have since then substituted the term ‘(fixed) identity’. That book also ignores the metalinguistic use of names (as in *Margaret is an ugly name*), whose recognition accounts for some other differences there from what is suggested here.

The present account of names, however, has similarly focused on the prototypical personal name, and has ignored non-personal names, including place names and plurals of names or nouns derived from names and vice versa. The plurals are of particular interest in that they are governed by an overt definite determiner, as in name-based tribal nouns, from familial to national nouns (*the Campbells, the Romans*). These are basically generics, though they can also refer to sub-groups bearing these names. They thus are exceptions to the generalization in English that generic definites, singular and plural, involve subjunction, not adjunction, to {N{def}}. Plural place names show a similar phenomenon, at least as far as presence of a definite article is concerned: *the Pyrenees, the Bahamas*. The definite article also accompanies (some members of) some classes of singular place names (*the Atlantic, the Nile, the Matterhorn*). Also neglected here are temporal names and other cyclical or sequential names, whether basic or noun-based.

I have also not explored the combination of names other than combination of core personal names, the baptismal or equivalent name, with a family name and with each other. In various circumstances I have been addressed or identified as *John* (or once or twice *Johnny* – jocularly, I think [thank you Giota]) – but never *Jack* or *Jock*), *Ando* (at primary school), *John Anderson*, *John Mathieson Anderson*,

*John M. Anderson, J.M. Anderson, Anderson*, sometimes with accompanying titles (*Master, Mr., Dr., Prof.*) in addition, or instead, or by substitute familial names *Dad, Papou(s)*. The structure of such items or sequences and the situations encouraging their use is one of the many areas I have neglected. (On the latter, I remember the day that one of my teachers, when I had just become a colleague rather than a student in the university department concerned, took to addressing me as ‘Anderson’ rather than ‘Mr. Anderson’ – an event with a heavily situation-bound significance.)

Also neglected has been the conversion of titles to names and the combination of names with numerals to aid identification, which can complicate the relations involved, particularly when combined with metaphor. Consider, as a simple (non-metaphorical) complication, Thackeray’s sequence of entitatives: ‘... the Holy Father himself (it was Gregory sixteenth of that name) ...’ (*The Newcombes*, vol. II, Chapter I). Even the treatment of central concepts such as nomination is rather cursory here. It should, however, be unnecessary to continue citing what is omitted concerning the behaviour of names in this work; and indeed Anderson (2007a) illustrates, unnecessarily again, the impossibility of adequately encompassing the proper interests of onomastics in one volume, even if we exclude non-names such as the often misclassified *kestrel* or (non-figurative) *rose* (see e.g. Colman [2015] and references on the arbitrary scope of traditional onomastics). This confusion is widely illustrated in onomastic journals and the proceedings of conferences of the quaintly titled ‘onomastic sciences’.

The greater complexity in the role of the result of (112) is associated with the apparent paradox that though we often behave as if each name identifies a unique individual there may be a number of individuals with the same name.

(112) (ACTIVE) NAME DETERMINERIZATION

$$\begin{array}{ccc} & & \{N\{\text{def}\}\} \\ & & | \\ \{ \langle_X \rangle \{\text{GENDER}\} \} & \leftrightarrow & \{ \langle_X \rangle \{\text{GENDER}\} \} \end{array}$$

Each value of ‘X’ in (112) identifies a particular individual, but in different situations that particular ‘X’ may not satisfy the ‘i’ that is being referred to. The active name is uniquely identifying, but the name converted by (112) refers according to the situation.

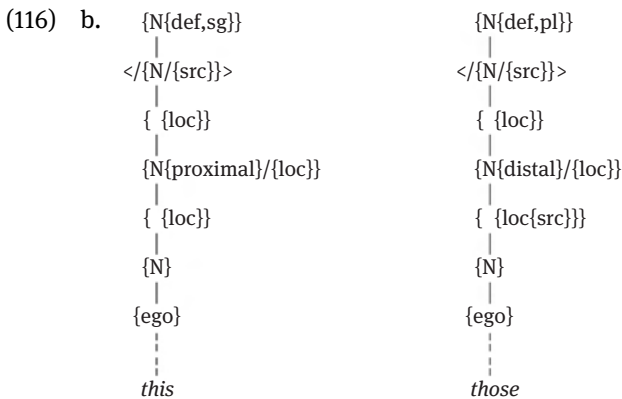
In some languages the complexity of referring active names is overt. In Greek, names used as arguments normally are accompanied by a definite article, as illustrated in (ia).

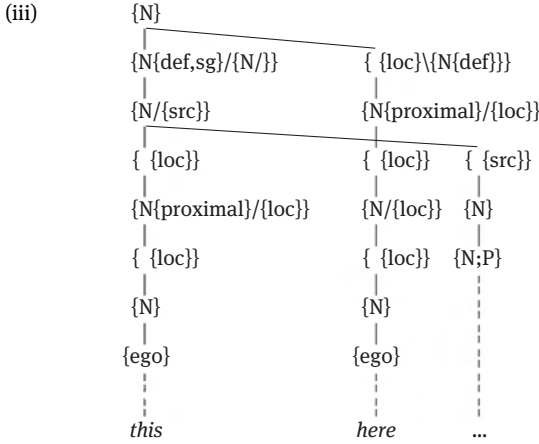
- (ii) a. O Stefanos fevyi  
       the Stephen is.leaving  
       b. Onomazete Stefanos  
       he.is.called Stephen

In the nomination in (iib), however, there is no article, in accordance with the pre-activation representation on the left of (108). In Greek, definite determiner status for a name is prototypically manifested syntactically, rather than by conversion (though inherently definite genitives of names often lack an article). Similarly, definite reference for definite phrases containing nouns in Greek is marked by presence of the definite article, even when the phrase is generic: *i eleftheria* '(the) freedom'.

For many speakers 'royal we' and (at least in my case) 'authorial we' are not anomalous: the former may include the ruler and the ruled, and my 'authorial we' is meant to include the reader. Likewise my reference to previous publications of mine 'in the third person', which apparently puzzles some readers, emphasizes that two different minds are involved. But English does not have pronominal differences marking formality (except perhaps solely author-referring authorial *we*), though varying formal and informal features can be distinguished, of course, particularly in address. This is especially noticeable with the supplementary system of titles, which also frequently have different terms of reference vs. address.

The text following the representation of deictic pronouns in (116b) mentions varieties of English that include usages headed by 'reinforced' deictic determiners such as *this here poker* and *those there parrots*.

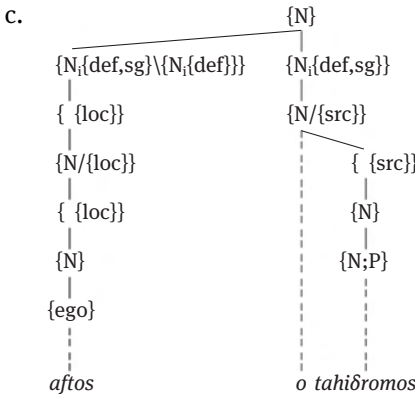




Thus, expression of the deictic orientation is reinforced/intensified (for a variety of possible reasons – emphasis, familiarity, routinization, for instance) by a locative deictic attributive, as roughly represented in (iii). (iii) manifests two different conversions of the locative deictic, one to definite determiner, the other to appositive; repetition gives prominence, whatever else.

Greek, for example, on the other hand, regularly separates out definite article from deictic determiners syntagmatically, as in the nominatively-inflected (iva), represented as in (ivc).

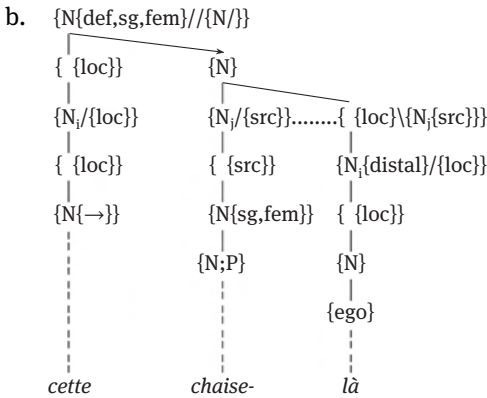
- (iv) a. Aftos o tahiðromos  
           this/that the postman
- b. to biblio sou  
           the book you.SG.DAT/GEN ('your book')



The deictic *aftos* is unmarked as to proximity, but intensifies, often involving familiarity or distancing; there is a distal demonstrative, however. Similarly, possessives and the definite article are expressed distinctly in Greek, as in (ivb).

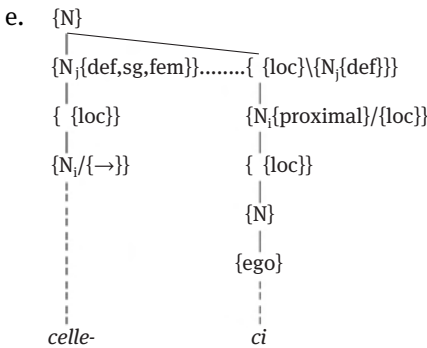
Another possibility is illustrated in French, where the deictic orientation of the demonstrative pronoun and determiner is expressed distinctly by combination with the subordinate noun. Thus *cette* in (va) neutralizes the {distal/proximal} distinction, which is differentiated by the syntactic suffix/component on the noun, associated, for the distal instance with *-là*, with the structure in (vb), where the long arrow here again represents subordination, not necessarily immediate dependency, and the ‘→’ invites deixis.

(v) a. *cette chose-là/-ci*



c. *cette petite chose-là/-ci*

d. *celle-là/-ci*

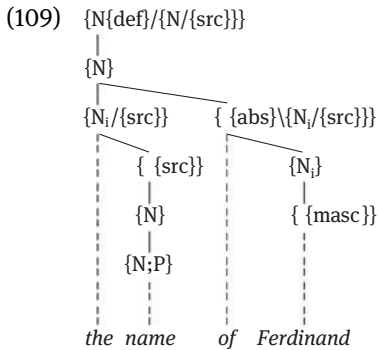


The deictic degree attaches to the final {N;P} in the determiner phrase in (vc), hence its positioning belongs to the lexico-syntactic interface, like the English

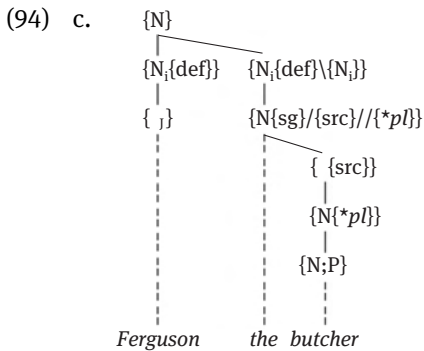
genitive, where the ultimate placement is suffixation to a syntactically determined item. If there is no analytic dependent of the root – i.e. we have a pronoun – the suffix attaches to the root, as in (vd). The relevant structure for the proximal is suggested in (ve). Again the discontinuous horizontals in (vb,e) indicate absence of syntactic ordering; the sequencing is ultimately part of morphology in this case.

In some languages there is a three-way demonstrative contrast, with the presence of a demonstrative associated with the addressee, as well as with the speaker and another with neither. And varieties of English have a *thon/yon* distinction involving distance from the speaker, in space or time, for instance.

We can contrast the paratactic apposition invoked in (ve) with the hypotactic apposition of (109).



But also paratactic are such as the phrase in (94c).

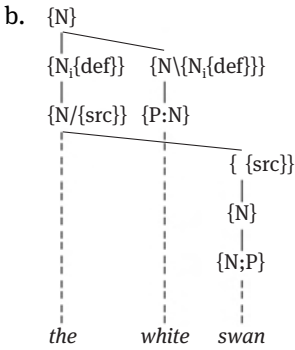


Here again the apposed element is a modifying determiner phrase whose  $\{N\}$  is coreferential with  $\{N\}$  in the modified configuration.

Non-restrictive attributives are also paratactic. The prenominal version of this rather different kind of paratactic is illustrated by the subject of (via), on

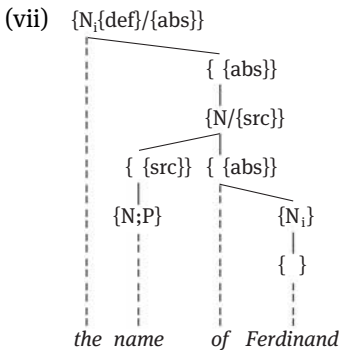
the assumption that we're not distinguishing this swan from, say, a set of black swans.

(vi) a. The white swan was a feature of the adjacent pond



I do not develop this here, but return to non-restrictive attributives in Part IV, Chapter 37.

Anderson (2007a: §8.3.2) proposes that the two upper {N}s in such as (108) are separated by a functor, { {abs}}, as in (vii).



I shall again not pursue this further here, since it will be apparent that I favour a different analysis of the post-nominal attributive, but also the relevant section of (vii) is motivated by a wish to avoid, in the syntax, a configuration whereby a category, particularly a functional category, takes a dependent of the same category – two {N}s in the case of (108). And this may be something we cannot avoid elsewhere, anyway, as with {P}; the desirability of this restriction is not yet well-established.

The text presents, as well as the activation of names by nomination, the role of vocative names in identifying and attracting the attention of the addressee.

Identificatory titles can have a similar role (*Waiter!*). On vocatives, compare the vocative Greek names in (viii) with the nominatives in (ii) (though with some names and nominals in Greek the vocative inflection is not fully distinctive).

- (viii) a. Stefane!  
Stephen!  
b. Ela εδο, Stefane!  
come here, Stephen!
- (ii) a. O Stefanos fevyi  
the Stephen is.leaving  
b. Onomazete Stefanos  
he.is.called Stephen

But also, these Greek vocative names, like names in nominations, are not headed by a definite article. The name here is active, however; it is attached to an identity. It is its capacity to identify that is intended by the speaker to enable the hearer to identify her/himself as the addressee.

Greek is not alone in signalling overtly the distinction between names with definite reference and names in nominations and address. Marlett (2008) points to a similar distribution for names in the Seri language of northwestern Mexico; see also Anderson (2007a: §6.2.4) on both Greek and Seri.

Personal names in English and many other languages are not preceded by a definite (or other) article, even when referring definitely (or otherwise). Presence of an article is rather an indication of conversion to a noun, as in (ix).

- (ix) a. the Paris I used to know  
b. a Paris I didn't recognize

Here reference is to temporal instances (nouns) of the place identified by the name. Such converted names may alternatively refer to instances of entities that bear the same name, as in *the Bill that lives in Cardiff*, or one instance *I've met a Priscilla that isn't prissy*.

I remark finally, with some amusement, that the addition of the category of name to the original set of syntactic parts of speech of Table I, to give Table IV, brings the number of parts of speech in English to the traditional eight – though not quite the same eight as in the different versions of the main tradition. Recall again Lily's list referred to in the initial commentary to Part I with Table V from the text of the present chapter.



| Declined   | Undeclined   |
|------------|--------------|
| Noun       | Adverb       |
| Pronoun    | Conjunction  |
| Verb       | Preposition  |
| Participle | Interjection |

**Table V:** Primary Syntactic Categories (completed)

| Functional |        | Contentive/Non-Functional |         |
|------------|--------|---------------------------|---------|
| Operative  | {P/}   | Verb                      | {P;N}   |
| Comparator | {P.N/} | Adjective                 | {P:N}   |
| Determiner | {N/}   | Noun                      | {N;P}   |
| Functor    | { / }  | Name                      | { <N> } |

Most of the absences from Lily's list in Table V have already been accounted for (at least in a preliminary way), including that of pronoun, and in Chapter 7, of 'adverb' and 'conjunction'; but 'interjections' await our attention. New in Table V are the functional categories determiner, comparator, and operative, as well as the non-functional name and adjective; and preposition corresponds to (one manifestation of) functor, the final functional category. Independent syntactic manifestations of the functional categories in general are not as salient in Latin.

## On Chapter 10

Modularity and interfacing are much-researched fields in recent-ish linguistics, and one connected with debates concerning the degree of encapsulation of each module. An extreme position envisages interaction between autonomous modules only at their interfaces as well as a hierarchization of the modules (see e.g. Reiss 2007). Modularity as described in the present chapter is similar, but differs in that the modules are substance-based and there is no semantic module as such; and that which follows also recognizes the asymmetry of the re-representational interface relation that is held to obtain between modules and sub-modules, and of course also recognizes the counter-direction in encountering modules, parser-oriented re-representation (cf. Anderson 2011a, vol. II). And the sub-modules that constitute interfaces are substantively-based, as well as the planes themselves, and introduce partial iconizing of the re-represented module. I also recognize a distinct lexical-phonological interface and a syntactic one.

In relation to this substance-based attitude, the significance of iconicity in re-representation has been much debated in the past, and deserves more serious consideration than it is now commonly given. As concerns phonological expone- nence of categories of content, onomatopoeia seems to be marginal, but just how marginal is controversial. On ‘cuckoo’ words see e.g. Ullmann (1957: 88), who also discusses emotive and expressive effects (1957: 102–5). On iconicity in general see Lyons (1977: 102–5) and, more fully, Haiman (1985a, b). And iconicity will be the focus of Chapter 33 in Part III. We can already observe that we readily adapt to novel iconicities: consider the convention in coloured narrative films of indicat- ing a flashback or memory by switching to black-and-white (or at least reduc- ing the brightness of the colour), even though the film times depicted may both precede the introduction of colour film. Loss of colour (or its intensity) iconizes a retrospectivity in time.

Modularity as presented here thus attributes modular differences to distinct- ness of substance. Each module or sub-module is associated with a distinctive set of basic elements that are differentiated from those of other modules by substantively- based properties – in the lexicon and pre-utterance syntax by the presence of two; and these elements contribute successively to an internally invariant level of rep- resentation. The sub-modular re-representations that relate the representations of the modules to each other, such as the configurational, linearizational, and phono- logical sub-modules relating lexicon to a full syntactic representation, constitute an interface that guides the transition to this representation. This conception forms a natural extension of the attitude underlying ‘notional grammar’, as presented in Chapter 1. Modularity is a further manifestation of the substantive basis for linguist- ic organization. These ideas on modularity depend on Anderson (2011a).

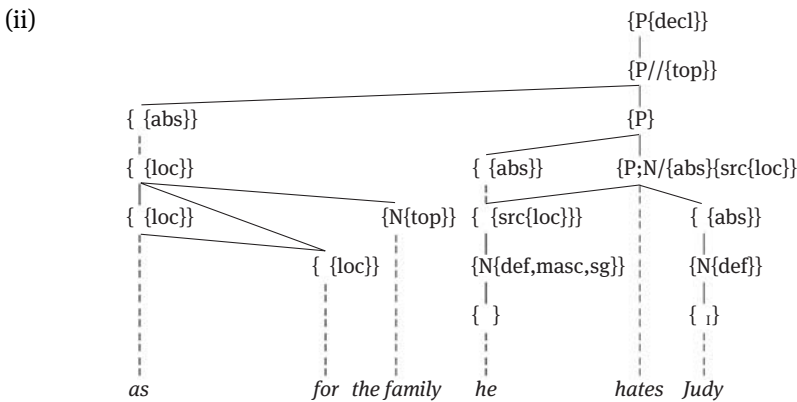
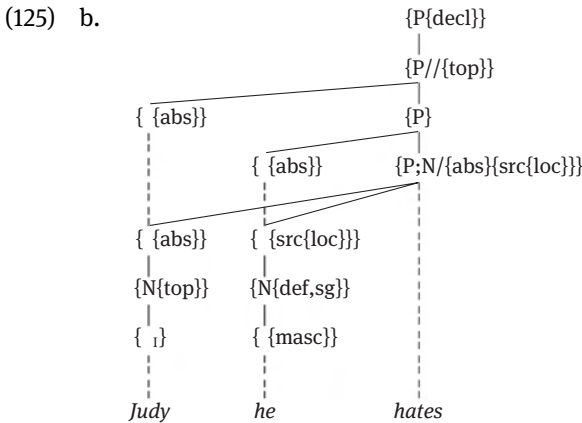
As indicated in the text, the characterization of the various ‘mood’ features is provisional only, and is developed further in Chapter 15 and particularly in Part IV. It should already be apparent that I depart here from the classical tradition that relates moods simply to forms of the verb, so that in that tradition there is, for instance, an ‘infinitive mood’, as well as declarative (or ‘indicative’), imperative and subjunctive (as in Meiklejohn (1892: 39–41). The Dutch tradition in English grammars, as represented by Poutsma (1926: Chapter XLIX), is more discriminat- ing, and helpful, in this respect, and follows the classical tradition exemplified in recent times by Gildersleeve & Lodge (1968) and Rutherford (1888, 62: §112). In Latin and English, at least, the infinitive lacks a mood role comparable to those of the indicative and imperative forms, though this is not universal. And the mood interrogative is not expressed by a form of the verb. The status of the subjunct- ives is discussed here in Chapter 36. In the course of the interview reported on in Andor (2018) I represent the mood {P} as introducing a free absolutive, like other {P}s, for simplicity, since the mood system is not under focus there.

As concerns the discussion in the present chapter, as well as acknowledging the absence of an account here of the distinction between ‘inversion’ and ‘non-inversion’ interrogatives, we must also recognize, for instance, the occurrence of the feature of notional contrast on items other than the operative. Along with the predicational insistence signalled by (129a) we also find such as (i).

- (129) a. She is leaving
- (i) a. She is leaving
- b. She is leaving

The contrasts in (i) are between alternative lexical items rather than being predicational.

Finally here, let us note alongside the topic of (125b) topicalization structures such as (ii).



In (ii) an initial compound locative introduces the topic, and there is no syntactic connection between the topic and the structure of the arguments in the following clause: the locative topic is independent of the colligational restrictions within the following structure. Interpretation depends on encyclopaedic knowledge and/or inference. We look at compounding and the double-motherhood property, as in (ii), involved in its representation, in Part III, particularly Chapters 30–31.

Dickens provides a rather strikingly delayed topic in *Bleak House*: ‘Where the throng is thickest, where the lights are brightest, where all the senses are ministered to with the greatest delicacy and refinement, Lady Dedlock is’ (Folio edn., p. 647).

## On Chapter 11

The substance-based dependency, or configurationality, and linearity sub-modules of syntax are replicated in the phonology: this illustrates a further inter-planar analogy. However, the present chapter suggests that there is an important disanalogy, which reflects the different substances of the two planes and the asymmetry of their relation. In syntax, dependency relations are projected at the lexicosyntactic interface from the categorial specifications of the set of categories involved, primarily their colligational requirements; and sequence is determined in context by both categorization and the products of the dependency sub-module. But in the phonology, both sequencing and dependency within the syllable are based primarily on a very particular aspect of categorization, namely relative sonority, though vowel transitivity (valency) also plays a role in determining the well-formedness of codas, as well as specifier status again being a factor, as discussed at some length in the text. Botma & Ewen (2009) and Botma et al. (2008) are also critical of the ‘appendix’ notion in relation to coda sequences, but suggest a rather different solution.

As concerns rhyme specifiers, I venture to introduce a further speculation here. In Chapter 13 there is introduced the notion ‘stray syllable’. This is a word-initial unaccented syllable such as that in *above*. Lexically, it lacks a preceding accented syllable to attach to (on the assumption that feet are governed from the left: a foot begins with an accented syllable (as outlined in Chapter 13). Such a ‘stray syllable’ will attach itself to a head that precedes it in an utterance, as with the first syllable of the last word in *the shelf above*, say. Perhaps these ‘extrametrical’ coronals we have just been considering are equivalent to ‘stray segments’, which will attach themselves to the onset of a following syllable, as with the stem-/base-/word-final coronals in *ounces*, *wonted*, *painter*, or *point at*. We have a ‘provisional’ nasal plus homorganic obstruent cluster in the simple forms.

For some discussion of syllable structure, in these terms, see Anderson (1987b). Anderson (2006b) argues that, as well as transitivity, phonology also shows the specifier relation, as adopted in the present chapter. As suggested in this chapter, both specification and complementation are relevant to the determination of syllable structure, despite the overwhelming importance of sonority – and linearity in the case of complementation, though of course position is itself determined by sonority. See too Anderson (2011a, vol. III: Chapter 2).

Discussion of the consequence of the [s] + plosive onset for theories of phonological representation has a long history, along with other alleged contributions to ‘neutralization’ and ‘archiphonemes’, such as the mid-foot ‘flap’ associated with some varieties. Twaddell (1935), in particular, provided a forcible argument that such phenomena are incompatible with traditional ‘phonemic theory’, a view supported by Anderson (2014b: §2). I accept here that the ‘phoneme’, ‘taxonomic’ or so-called ‘systemic’ (see again Anderson 2014b: §3), is phonologically irrelevant, and I refrain here from trying to give it yet another sense. Slogans such a ‘once a phoneme always a phoneme’ are orthographically not phonologically motivated.

It is a pity that little attention has been paid to Twaddell’s argument or Firth’s warning (1934): ‘A word of warning would appear to be necessary with regard to the word “phoneme”. What does it mean?’ We might have been spared the ‘orthographic phoneme’ of the ‘post-Bloomfieldians’ and the ‘morphological phoneme’ of the ‘generativists’. The adoption of the ‘emic’ concept almost vies with that of synchronic structural mutation in syntax (‘transformation’) as the most significant deterrent to the development of our understanding of language to emerge in the twentieth century. Of course, there have been earlier deterrents, such as appeal to the graphophonic hybrid *littera* (as discussed in Anderson [2014b: §1]), or the confused interpretation of *nomen* as a syntactic category (see e.g. Anderson [2007a: Part II]), whose consequences persist, indeed.

Concerning (132d), which allows [s] to precede any consonant, with the exception of plosives that are voiced or aspirated, as in (132e), we need also to exclude [sr-] here.

- (132) d. onset {\C} precedes C  
 e. {\C{\*VOICE,\*ASPIRATION}} is onset initial

But [r] also rejects any preceding initial voiced fricatives. And, as observed in the text, just as [r] rejects preceding [s], so [l] rejects [ʃ]. A different neutralization generalization seems to be involved.

Chapter 11 introduces the concept of prosody, in my interpretation of one part of the Firthian usage, Lass’s (1984: §10.2.3) ‘word prosodies’. It is my impression

that the occurrence of such is limited in the lexical phonology of English. But, as has been generously illustrated elsewhere, the situation is rather different in other languages, particularly those manifesting vowel or consonant so-called ‘harmony’, manifestations of more extensive prosodies that are not perceptible only in incompatible segments, which may indeed block the range of implementation of the prosody.

‘Harmonic’ sequences manifest features of higher morphological units or of lexical items. However, as the prosody is implemented by articulation, which occurs in real time, this implementation proceeds from-left to right in a graphic representation of the time dimension. This means that the ‘spread’ may be interrupted at various points or even blocked from ‘spreading’. But these are implementational phenomena not phonological; there is no contrast involved in the ‘spreading’. The phonological domain of a prosody is not merely a sequence of ‘harmonizing’ segments; it is the presence of the prosody that is contrastive, with its absence.

Chapters 11 & 12 remind us that sequencing of syllables is given in the lexicon. And other aspects of suprasegmental structure reflect syntactic categorization, either directly from the lexicon or via the syntax. There is thus both a lexical and a pre-utterance sub-module of phonology, as a consequence of the organization proposed in Figure I. On the lexical/pre-utterance distinction in phonology see e.g. Anderson (1986: §17) and Anderson & Ewen (1987: §3.3). This modularization partly cuts across the other distinctions in modularity within the phonology plane. See further Chapters 13 & 42.

## On Chapter 12

This chapter discusses contrastive segments, including especially those involving associative contrast, in the phonology of English. In relation to this, as indicated in the preceding commentary, I eschew, as indicated, the term ‘phoneme’. The polysystemicity assumed here, illustrated most obviously from the English vowel systems, but also by the systems at consonantal positions, means that the ‘same’ or a very similar segment may belong to different systems at different positions, rather than being variants of a more general monosystemic contrastive segment type. So that, to revert to phenomena from Chapter 11 for a striking illustration (also referred to in the text of the present chapter), the neutralized plosives following initial [s] cannot be non-arbitrarily grouped with plosives elsewhere. This is close to the position argued by Twaddell (1935), referred to in the commentary to Chapter 11 (and discussed in Anderson (2014b: §2)).

The fricative in *spit* is a slightly different case; it too belongs to a different system from the fricatives in *sit* and *slit*; it belongs to a different phonological part

of speech: The initial pre-plosive contrasts only with its absence, while the others must be differentiated from a range of other possibilities. And they too belong to different systems, in that, for instance, *sip* contrasts with *ship*, but before [r] we find only [ʃ], as in *shrew*, whereas [ʃ] occurs only in a few loanwords, and this fricative is also absent before nasals (bar similar exceptions). There is neutralization of the two fricatives before sonorants: only either [s] or [ʃ] occurs in this environment. Thus the {C;V} in *sip* has a rather different contrastive value from that in *slip*, but in terms of quality they can be said to form a polysystemic contrastive element. More drastically in contrastivity, there is no need for a categorization for the onset pre-plosive [s]: there is rather {\{C}}. However, {\{C}}, unlike its specificities, is at least redundantly like the [s] that occurs elsewhere.

The prosodic status of [h] is discussed in the text. The Ancient Greek ‘rough breathing’ seems to have been similar, but if anything even more restricted. Contrastively, it occurs before a word-initial vowel, where it is in opposition only to its absence; but it is obligatory, so non-contrastive, with instances of the most sonorant liquid, [r], as well as with whatever vowel was spelled with upsilon (whose character is controversial, I gather).

In the terms adopted here, ‘phonemics’ can be seen as not a hypothesis about phonology but, as Pike’s (1947) sub-title puts it, ‘a technique for reducing languages to writing’. See especially again Firth (1948); also Anderson (2011a, vol. III: Chapters 2 & 4). Partly as a consequence of rejecting the ‘phoneme’, I also do not differentiate between phonetic symbols surrounded by ‘/ /’ and those enclosed between ‘[ ]’. The former could be used to enclose locally contrastive (polysystemic) representations, members of a particular phonological part of speech; but such representations are given more transparently and accurately by the system-dependent feature notation. And I therefore dispense with transcriptions using phonetic symbols enclosed in ‘/ /’, except in Part III to demarcate phonological sequences that are ‘extrametrical’ with respect to some redundancy, notably involving accent-placement. And the ‘transcriptions’ given here enclosed in ‘[ ]’ have no systematic status; and they are misleading if taken to be so, rather than as simply an aid to the reader familiar with such practices; and orthographic symbols sometimes replace these.

In relation to the discussion of contrast as manifested in the two planes, and particularly in the characterization of the syntactic parts of speech, I have taken as a starting point my reaction to a paragraph that Sweet calls the ‘Connection between Adverbs and Adjectives’ (1891: §376). The paragraph begins innocuously enough by observing that ‘<a>n adjective after a link-verb often approaches in meaning to an adverb’, illustrated by *He stood firm*, for instance. But the conclusion that ‘<i>n some cases adjectives are used as complete adverbs without any change of form’, exemplified by *He worked hard*, undermines the part-of-speech

framework. *Hard* here is not ‘used as’ an adverb, it is an adverb, converted from the adjective, as is *fast*.

The question arises as to whether there is an analogy to phonological neutralisation in the other plane. Perhaps the most obvious candidate is the subject functor complex, which is neutralized not only in expression but is semantically opaque. Of course, given the subject selection hierarchy and knowledge of the valency of particular verbs, the identity of the subject relation can usually be deduced. But there are verb forms that are associated with more than one valency. So that the subject of the verb *learn* may be agentive-goal or simple recipient, an ‘experiencer’ goal (as discussed in Part II, Chapter 26). And this often can be disambiguated only by virtue of context.

Normally, of course, English speech sounds are articulated on an egressive pulmonic airstream. Other languages show contrastive series based on a glottalic egressive airstream (ejectives) or ingressive airstream (implosives), or a (ingressive) velaric airstream (clicks), which last can be combined with an egressive pulmonic airstream. These are illustrated, with references, in, for instance, Anderson & Ewen (1987: Part II, §5.5). Glottalic series differ from pulmonic obstruents, particularly plosives, by intensifying their consonantality, and can be represented by the presence of a minor feature {c}. Thus, Amharic contrasts, among plosives, {C} (voiceless) vs. {C{v}} (voiced) vs. {C{c}} (ejective), with similar distinctions among fricatives. In combining with a pulmonic egressive airstream, clicks can be formed in conjunction with a range of other sound types, but the effect is again intensification of consonantality (a type of specification?).

As presented in Table VII of RP vowels, the first, transitive set constitutes a triangular system of the vowels that are specified for a secondary feature or features, with a centralized vowel that is specified no further than being transitive. The smaller Scottish transitive system is linear, provided we regard the *v* of [ɛ] as redundant, as suggested in (i).

- (i) {i} [ɪ] {i, } [ɛ] { } [ʌ]  
 ↓  
 {i,v}

Non-redundantly, [ɛ] in this variety of the transitive sub-system is a vowel that involves *i* in combination. Here we have minimal specification, but not non-specification, as in the case of [ʌ] and the coronal consonants.

Comparison of the representations in (i) with those of the non-Scottish transitive set in Table VII also illustrates the **system-dependence** of contrastive lexical representations. For many speakers of Scottish English, indeed, the transitive vowel system is reduced even further when the vowels are complemented by [r].



Instead of the contrastive system of (i) we find only a central vowel. So, in this circumstance, the transitive system consists simply of {V/}. Anderson & Durand (1988a,b, 1993) discuss the role of an unspecified segment in various languages with asymmetric systems.

The characterization of consonants in Table VI allows us to readily represent the context in which most intransitive vowels in Scots and Scottish English are longer than elsewhere. There is some variation among speakers, but (ii) covers a common pattern.

- (ii) a. Scots Vowel Length Environment  
 /\_\_\_<{V<,C{v}>><}> ]#  
 b. examples: buy, tied, size, tyre, bias

Length occurs in word- and stem-final position (\_\_\_<}> ]#), or immediately before a voiced fricative – i.e. {C;V{v}} – or immediately before [r] – i.e. {V;C{v}} – or immediately before a vowel. In general, this is an aspect of implementation, more marked than in most other varieties of English.

The stem-final vowel in *tied* and the stem medial in *tide* are morphophonologically determined variants but phonologically contrastive. Voiced sibilant stem-finals, along with the voiceless sibilants, are separated from the following inflection, however, by an intercalated vowel. Lengthening fails before the lateral, which is simply {V;C} (no contrastive secondary {v}); thus *pile* has the short version, which is usually also qualitatively different (and may develop contrastively).

These vowel-length differences among Scottish (etc.) intransitives are usually phonologically contrastive only with pairs such as *tied/tide* and *knee'd/need*, and the salience of only the former is strengthened by a marked difference in quality. There are signs of the development of contrastivity in some instances, before [l], for instance. Otherwise, as I've said, these length differences are a phenomenon of implementation rather than phonology.

The most common exception among intransitive vowels to the variation described by (iia) is [ɔ]. In terms of the work of Anderson & Durand alluded to above, this is the empty vowel, in being isolated, as being, in articulatory terms, a back rounded intransitive with no corresponding front unrounded intransitive. Interestingly, as dialectally more widespread, the 'corresponding' diphthong [ɔɪ] commonly collapses, given its foreign source, with the short version of the vowel illustrated in (iib): so, *boil* and *bile* rhyme on [ʌɪ]. So too, even with a following voiced fricative such as that in *poison*, contrary to (iia). But these are also pronunciations that Sam Weller would recognize.

Anderson (forthcoming: §8) describes some of the asymmetries in subsystems of English as follows.

The English consonant system is also in no hurry to remedy the state of ‘marginal’ contrastive units that contribute to asymmetries. From being apparently ‘allophonic’ in Old English, i.e. occurring only in exclusive positions, the dentals in English are almost non-contrastive only finally in words, where only the voiceless segment occurs except for a few etymologically verb-marking morphophonological formations (*bathe, seethe, lathe, breathe, mouth*) or in the coda of some pluralized nouns (*mouths, sheaths*), often recessive. And initially the voiced segment signals the presence of a subset of function words (*that, they, there, then, thus*). ‘Minimal pairs’ are scarce (and *ether/either* ‘works’ only for some speakers): voiceless medials are mainly loanwords, and voiced medials are a curious lot (*mother, smother, bother, dither, leather, feather, lather, further, gather*), plus the function words (*hither, thither*).

Another well-known established asymmetry involves the English nasal consonants. The velar does not occur initially, unlike the labial and alveolar. The nasal contrasts with the other nasals formative-finally (*sing, singing, singer*, but does not occur immediately before comparative and superlative suffixes, where the corresponding voiced stop must intervene. There is similar variation finally in the prefix *con-*, where occurrence of the variants depends on accent-placement and speaker. The nasals agree with the place of articulation of a following voiceless plosive (*limp, lint, link*); here the nasals are associated with coda prosodies, since place of articulation is a property of the cluster. The non-coronal nasals do not appear before a coda-final voiced plosive: we have a neutralization expounded by the coronal.

## On Chapter 13

There is a brief discussion in Anderson (2004a: §5) and a fuller one in Anderson (2011a, vol. III: Chapters 5–6) of some of the discrepancies between the substances that the phonology and syntax interface with, discrepancies that favour the presence of disanalogies between the planes.

The examples in the text from Kwakw’ala are from S.R. Anderson (1985: 179). On gender and agreement see e.g. Corbett (1991), Anderson (2011a, vol. II: Chapter 6). As suggested in the text, and as illustrated with tense, syntactic non-primary features are usually specific to a primary category. An apparent exception is the sharing of {loc} by functors and names, as suggested in Chapters 4 & 8 respectively. But this can be said to be a property of the cross-class that lacks a primary feature, whether generally relational (functors) or externally non-relational (names and pronouns). However, there are also place nouns, which suggests that {loc} is a functor feature that has spread to contentive entitatives, entities seen as places.

Grammatical gender, where present in a language, is also promiscuous, but generally limited to nominals (including adjectives, which are ‘half-nominal’). But in some languages gender is expressed on verbal forms as a consequence of concord; as with other verb concord phenomena, I associate such expressions with incorporation of a functor-pronoun complex in the internal structure of the verbal, as with person-number concord.

The suggested reduction in the set of phonological features and its generalization over both primary and non-primary categorization and over vowels and consonants draws heavily on the work of van der Hulst (e.g. 1994, 1995, 2000, 2020) on the application of the ‘radical CV’ system of representation even more generally. See further Anderson (2011a, vol. III, §7.2) for specific suggestions closer to that tradition than what is suggested in the text here.

Elsewhere, Anderson (2011a, vol. II, Chapter 2) discusses the character of the rules of morphophonological expression that govern the expounding of the morphological structure expressing morphosyntactic categories. And, for immediately relevant discussions of suprasegmental representations see e.g. Anderson (1986) and Anderson & Ewen (1987: Chapter 3). On ‘reinforced chest pulses’ see Stetson (1951). And on pre-tonic and tonic cf. Halliday (1967). However the tonic and ictus introduced here are regarded as mental phenomena whose physical correlates are sometimes not obvious. And the boundary between the implementation of linguistic tone in particular and non-linguistic functions is uncertain.

In drawing on, for instance, Stetson (1951) and Halliday (1967), the suprasegmental representations suggested here are certainly rather conservative, not to say ‘out of date’. This manifests my own partialities. But to some extent it also reflects continuing uncertainties concerning the representation of intonation in particular (cf. e.g. Ladd’s [2008] review of Jun [2005]), uncertainties that I do not aspire to resolve here, except to observe that most work in so-called ‘laboratory phonology’ is not relevant to grammar. There has, on the other hand, been a recent resurgence of concern with the syntactic role of intonation, especially placement of the tonic (‘sentential stress’). Kahnemuyipour (2009) provides a survey of some of this work, as well as some original proposals, couched within an ‘antisymmetric minimalist’ framework. We return, however, to my conservative representation of the syntactic role of intonation in Part IV, Chapter 42.

The suprasegmental skeleton adopted here for English is not necessarily to be extended to other languages, even if accepted as appropriate to English. For instance, from the point of view of that skeleton, a language like French lacks the distinction between  $\{V_2\}$ , syllabic, and  $\{V_3\}$ , ictus; all vowels are the composite  $\{V_{2/3}\}$ , except for schwa, which is only  $\{V_2\}$ .

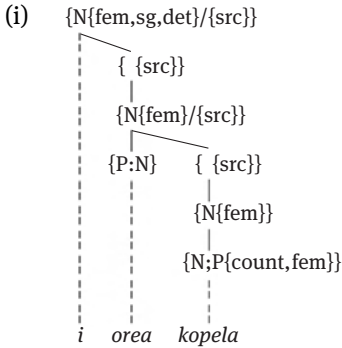
The major extension to the schema of phonological structure in (156) is the metrical structure of verse. In this units of a new sub-module containing

line and perhaps stanza structure may supplement a schema such as is offered in this chapter (in (156)), associated with the regularization of ictus placement (metricality). I take this up briefly in Chapter 34, as part of a discussion of figurativeness.

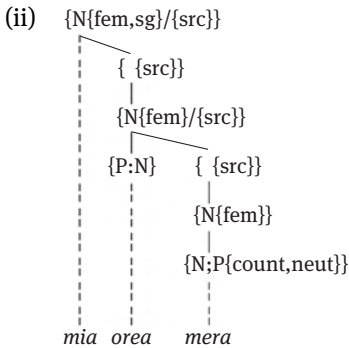
## On Chapter 14

On the complex syntactic constructions discussed here see e.g. Anderson (1997: §3.6, 2006a: Chapters 11 & 12, 2011a, vol. I, Chapters 4–8). These complexities are contrasted with the restricted possibilities for recursion associated with phonology in Anderson (2011a, vol. III, Chapter 6). On the role of functional categories, and particularly functors, in rendering syntactic and phonological structure disanalogous, see particularly Anderson (2011a, vol. III: Chapter 5). Anderson & Ewen (1987: Chapter 3) and, more recently, Böhm (2018) provide an overview of dependency tree structures, and restrictions on them, in syntax and phonology. Mood and finiteness, examined here in a little more detail in the chapter that follows, are discussed in Anderson (2007b, 2011a, vol. I, Part III). The non-mutative (inalterability-maintaining) treatment of ectopicities is briefly introduced by Anderson (2006a: beginning of Chapter 11), and illustrated in some detail in Anderson (2011a, vol. I). On specifiers and on sentence-initial *that* as a specifier, see the respective sections in Anderson (2011a: vol. I, §§5.2, 6.2.3). The description of adjectives as ‘the basic intensifiable’ comes, of course, from Bolinger (1972: 168–72).

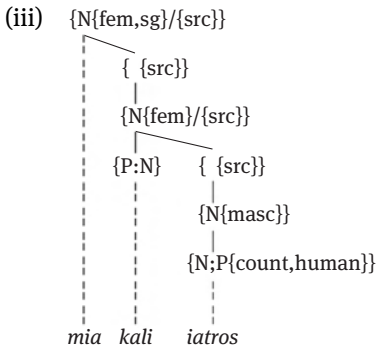
On gender and the role of {N} in mediating such agreement, see Anderson (2011a, vol. II: esp. §6.4.1). There, lexically, a gender {N} is said to govern a {N;P}, and a distinction is drawn between grammatical gender, which is a property of that {N}, and the natural gender of the noun. The natural gender is in an obvious way notionally appropriate to the denotata of the noun. But it is typically the grammatical gender that takes part in agreement within determiner phrases, but the likelihood of naturalization and indeed referentiality increases with distance from the noun. In English, gender agreement holds between {N}s, but is determined by the {N} of the noun or name/pronoun, which must be matched in the lexicosyntactic interface by the appropriate form of the agreeing attributive, and predicative. The full complexity of such systems is not apparent in the Greek (nominative) phrase *i orea kopela* ‘the lovely girl’, as represented in (i), where the grammatical and natural gender values agree, as feminine.



But consider (ii), representing *mia orea mera* ‘a lovely day’.



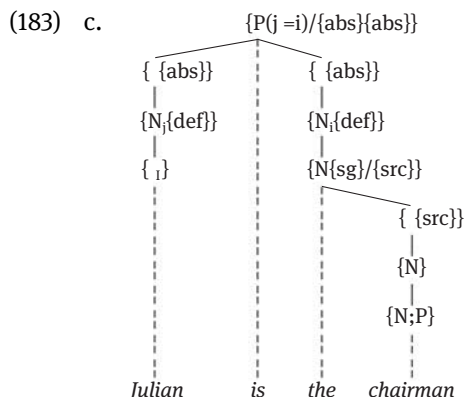
Here the natural gender of neutral does not ‘spread’, but rather the grammatical gender must be agreed with. However, the grammatical gender may be overridden by referential gender in determiners and attributives (and predicatives), as in (iii), representing *mia kali iatros* ‘a good doctor’.



In (iii) neither the grammatical gender, masculine, nor the natural gender, epicene, is reflected in the higher {N}s, which are feminine, indicating the gender of the referent. This should not be interpreted as the ‘emergence’ of the natural gender: the noun is epicene, though subjoined to a determiner that is masculine: it denotes both feminines and masculines, but is inflected for masculine gender. We return to this analysis in Chapter 29, however, and I suggest differences that are more appropriate to our present assumptions. More generally on gender and agreement and the ‘agreement hierarchy’, and references to the overriding of grammatical gender, see once more Corbett’s (1991, 2006) careful survey.

## On Chapter 15

We have already seen that, rather than {N{def}} being optionally ‘/{src}’ itself, I have suggested that in most circumstances definite partitivity is expressed by subjoining of {N/src} to {N{def}}, as in (183c) from the text.

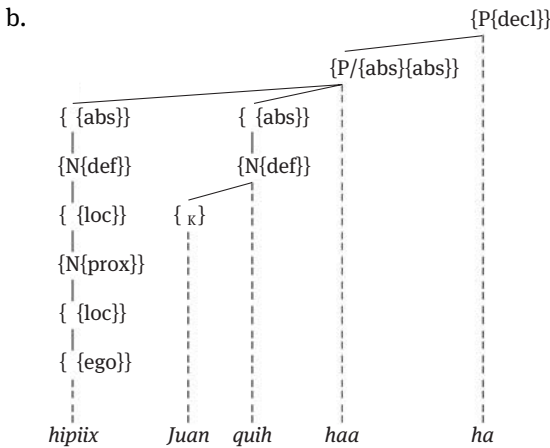


The second absolutive in the equative shows such a situation in its argument.

On the kind of deconstruction of finiteness suggested here, with one kind of {P} subjoined to another, mood, {P}, see Anderson (2011a, vol. I, Part III); and we return to this in Part IV here, particularly in Chapter 35, but with a rather different view from that proposed in 2011a. On location, existence, modality, and truth, see particularly Lyons (1977: §15.7, and elsewhere).

The two most pervasive instances of {P}, mood vs. basic {P}, occur separately in the sentence from Seri in (i) (see Marlett 2008), where *haa* realizes an equative copular {P}, and *ha* the mood {P} (declarative), and the two determiners are equated by the predication.

- (i) a. Hipiix Juan quih haa ha  
 this.one Juan the EQ DEC ('This is Juan')



(i) also illustrates the presence of a distinct definite {N} with non-vocative active names (as mentioned in Chapter 8).

Even the equative in English possesses special properties, though maybe not to the extent envisaged by Trollope’s Miss Baker, as she reacted to having been confronted with the estrangement between her niece and the latter’s affianced lover.

But Miss Baker ... would not believe that the matter was hopeless. The quarrels of lovers have ever been the renewal of love, since the day when a verb between two nominatives first became possessed of the power of agreeing with either of them. There is something in this sweet easiness of agreement which seems to tend to such reconciliations. Miss Baker was too good a grammarian to doubt the fact. (*The Bertrams* [Folio Society edn.], pp. 246–7.)

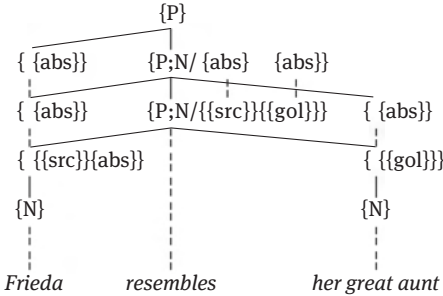
Some non-operative verbals apparently occur in ‘equatives’, but except for *resemble*, perhaps, they are grammatically asymmetrical, as in (ii).

- (ii) a. Bert became the chairman  
 b. John seems the man for the job

Here, reversing the participants gets an odd result, suggesting a rather different scene, because (iia) is directional, as in *Bert came to be the chairman*, and the two participants belong to different subclasses; and (iib) attributes an appearance specifically to the first participant, as in *John seems (to be) the man for the job* – cf. *The man for the job seems ?\*(to be) John*.

*Resemble*, too, is directional, but more easily seen as bidirectional in many cases, depending on the context.

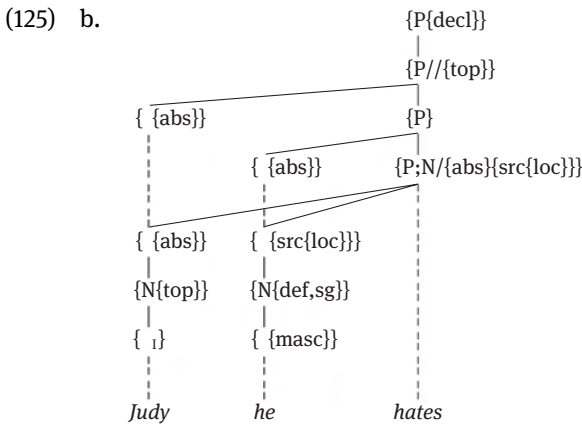
- (iii) a. Frieda resembles her great aunt
- b. Her great aunt resembles Frieda
- c.



We might take (iiia), for instance to be a **blend** of equative and directional, as represented in (iiic), where selection of which upper participant is linked to which lower is often usually contextually determined. The most obvious interpretation of (iiib) would involve topicalization of *her great aunt* to overcome the unmarked sequence in (iiia). We return to blends in Part IV. See too Hockett (1961) and Bolinger (1961).

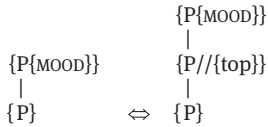
Davies (1986) discusses imperatives in English in detail. In §5.3 of that book she contrasts imperative subjects and vocatives. For a detailed discussion of ‘sentence adverbs’ in English see Hartvigson (1969). We again return to further consideration of this topic in Part IV.

Structures like those in (171) allow for two {P} nodes below the mood {P} – which last is not itself shown there, however, and in the structures in (172) the sequence of {P}s is further extended. (125b), involving the topicalization redundancy of (125c), had already been introduced in Chapter 10.





c. TOPICALIZATION



I should recall to us here that not all topics involve the topicalization of a functor phrase, as illustrated by *Leave her I can't* and many other types.

Related here is the most obvious exception to the absence of finitization of non-verbals. This occurs when a predicative adjective is focused on in such sentences as *Happy/Unhappy the man (who/that) knows his own limitations!*

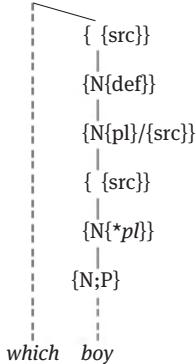
In the text, there is no discussion of the internal structure of the questioned expressions in the second example in each of (173b-c).

- (173) b. When did Dolly arrive?/What time did Dolly arrive?
- c. Who has arrived?/Which of them has/have arrived?

The first example in each is initiated by an argument realized as a simple open pronominal determiner, but in the second we have an articulated phrasal argument, headed by an overtly transitive {N/}.

In the case of the *which* of (173c) we have, then, a partitive with a dependent definite, as too in (iva), with the phrase terminated by a noun.

- (iv) a. Which of the boys is responsible?
- b. Which boy is responsible?
- c. Which boys are responsible?
- d. Which do you prefer?
- e. What of this chaos is your fault?
- f. What do you want?
- g. {N{spec,sg,0}/{src}}



But this internal structure need not be overt, as (ivb) illustrates. Such a singular determiner as that in (ivb), with a singular verb, requires that the dependent noun be morphologically singular, even though the existence of a definite subset is presumed. Depending on the context different ‘nuances’ may be associated with the two expressions. For instance, I find (va) more likely if ‘the boys’ have been contrasted with another relevant set – say, rather obviously, ‘the girls’. (ivc) involves a subset of a subset. The set involved may be indicated only by context, verbal or not, or by deictic gesture, as typically in the interpretation of (ivd). *What* normally lacks an overt definite, unless its noun is mass, as in (ve), and it need not be invoking a subset of the denotational set of a subordinate noun, and it too can lack such a noun, as in (ivf). The rather striking structure of (ivb) is represented in (ivg): not only is a definite {N} subjoined to a functor – whereas the definite in (iva) is adjoined, as usual, to an independent *of* – but the number on the noun is required by that of the independent {N}, which ‘overrules’ the plural above the noun in the subjunction path.

As well as with imperatives such as that in (177a) – *leave!* –, there may be absence of a subject with some declaratives. This is common in informal speech with declaratives of verbs of emotion, such as those in (v).

- (v) a. Love you
- b. Hate to bother you, but ...
- c. Don’t care

And informal interrogatives such as those in (vi) are normal.

- (vi) a. Like it?
- b. Want to go?
- c. (You) Coming?

In (v) the incorporated subject is {ego} rather than {tu}. In (vi) {tu} is again involved, but more strikingly the verb in (vic) is clearly non-finite in form (whereas (via–b) are ambivalent). Unusually, the non-finite is converted to a finite as well as there being incorporation, the product of routinized grammatical ellipsis. This is also not uncommon in narratives, where a subject is identified only in the first of a sequence of sentences. We come back to grammatical ellipsis in Chapter 42.

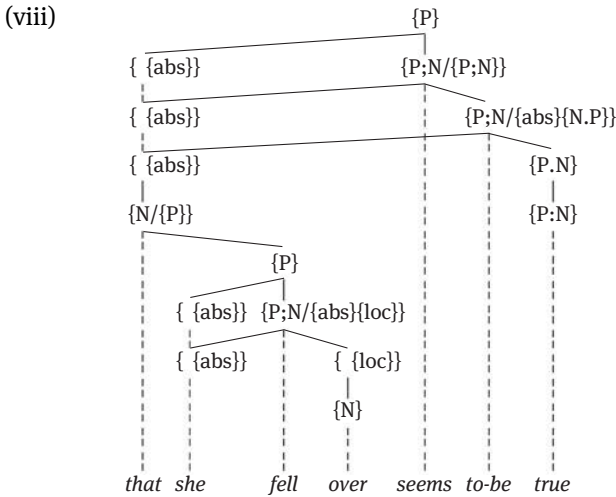
I attributed the ungrammaticality of (185c), compared with (185a), to the lack with the former of a semantic relation, inhibiting subject formation.

- (185) a. That she fell over came as no surprise
- b. It came as no surprise (that) she fell over

- c. \*That she fell over seems
- d. It seems (that) she fell over

In that case the reader might want to enquire about what is happening in (vii), where *seems* seems to have a subject, and (viii) might clarify what is going on here.

- (vii) a. That she fell over seems to be true
- b. It seems to be true (that) she fell over



The *that*-clause in (viii) has an absolutive by virtue of satisfying the valency of the copula; it thus assumes subject status. This absolutive than shares its argument with the free absolutives of the *seem* {P;N} and {P}. The non-valency of the adjective anticipates later developments. In (viib) the ‘complementizing’ pronoun does not seem to have an absolutive relation to the copula, and so fails to become a subject, and is not eligible for the serial hosting we find in (viiia)/(viii). Instead, an expletive is again introduced, as in (185b,d). Once again the attribution of a semantic relation to the ‘complementizer’ is apparently optional. But see further particularly Chapter 38 in Part IV.

Koster (1978) questions the subject status of such as (185a).

- (185) a. That she fell over came as no surprise

And he points to the awkwardness of an inversion such as (ix), which is acknowledged in Chapter 16.

(ix) ??Did that she fell over come as no surprise

Koster suggests that the subordinate clause in such as (185a) is ‘topical’. But, unlike topics, sentential subjects can control concord, as in (x).

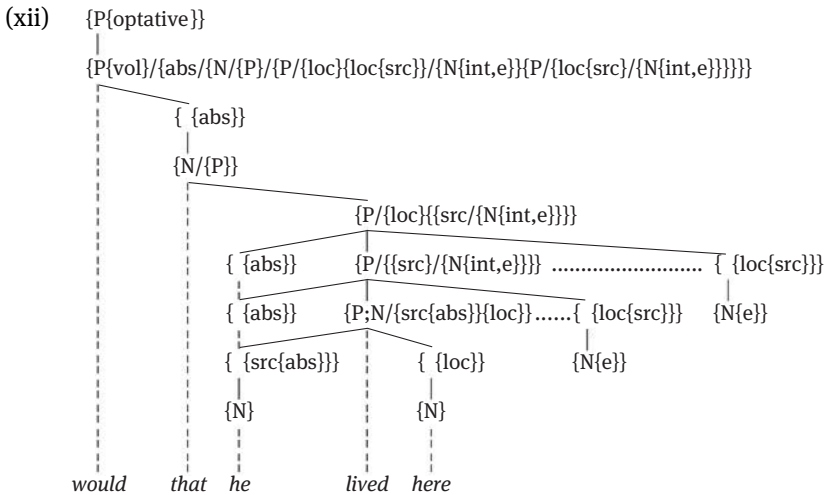
(x) That he is talented and that she envies him are equally obvious

At most, the fronting of the non-prototypical determiner in (x) exhibits an awkwardness that might be partly associated with the interruption introduced by the complexity of its subject complement, which in ‘inversion’ introduces a complication of parsing, in terms of ‘centre-embedding’.

The finiteness determiner also plays a part in the structure of the non-prototypical modal-based mood expressed in (xi), where it is normally overt.

(xi) Would (that) he lived here

I suggest a schematic structure for the overt determiner version of such optatives as (xi) in (xii).



Here the mood incorporates the subjunctive volitional modal that introduces a finiteness determiner that in turn introduces a {P} that is thus marked as subordinate; this {P} is a negatively oriented eventative (dynamic) existential that takes as subjoined participant another such {P}, the basic {P} with a verb subjoined; the latter {P} is a simple (static) negative existential (contrafactive), whose

contrafactivity is anticipated by the subjunctive volitional *would* (as articulated in the representation of the valency of the modal). Overall, we have a wish that the non-existence (contrafactivity) of the scene associated with the verb should cease to be the case. This is appropriately expressed by the subordinate ‘preterite’ subjunctive.

Swearing by something or someone, is a minor speech act expressed by a performative verb: *I swear on my mother’s grave/by Mary and Jesus*. And ‘sacred’ names may be the source for another act, also called ‘swearing’, to express, as an alternative to terms for genito-urinary/anal functions, surprise, displeasure, anger, or emphasis, or is used merely conventionally: *Mamma mia!, Jesus!, Balls!, Shit!* Emphasis on particular lexical items may involve insertion of a ‘swear word’ act inside a word in another speech act, as in the much invoked *Abso-bloody-lutely*. We return to non-prototypical moods and the subjunctive, as found, in one variant, in (xi), and identified with the subordination in (xii), in Part IV, Chapter 35. On ‘inversion’ in English, see Hartvigson & Jakobsen 1974).

## On Chapter 16

The membership of the traditional class of subordinating conjunctions is diverse. And despite the provision of lists by e.g. Poutsma (1926: Chapter LXI, §6), one of ‘primary conjunctions’, and another of ‘other words which do duty as conjunctions’ (Poutsma 1926: 816), it remains unclear from such accounts how the class as a whole is delimited, as well as how exactly the subordinating is articulated structurally. Subordinating constructions can include phrases and words that are clearly part of the non-subordinate clause (*on condition, after*) as well as others (notably *that* in English) whose relation to both the superordinate and the subordinate clause can seem to be more opaque. And there are quite a few that share their form with prepositions and/or adverbs, such that this has been taken by various scholars to motivate sharing of word class, or primary categorization, by all three of these traditional parts of speech – and to allow differentiation between them in terms of valency requirements (see e.g. Radford 1988: 133–7). The diversity of subordinating constructions and the large non-overlap in the memberships of the three parts of speech combined by Radford present problems for such a simple equation as this, however.

And the even graver problem of characterizing what distinctive property ‘conjunctions’ as a whole have in common remains. ‘Subordinating conjunctions’ introduce sentences; ‘coordinating conjunctions’ join expressions of the same category or configuration, not necessarily just sentences. It is not clear why they should be

considered to be members of a single part of speech. As already expressed, I take the term ‘part of speech’ to apply to a set of possibly categorially complex lexical items (prototypically single words) that share a distinctive class meaning and a distinctive distribution. What is the ‘class meaning’ shared by *that* and *after* and *if*, and all of them and *and* and *or*? Distributionally, on the traditional view, they have little in common, beyond preceding something that they are in some sense ‘in construction with’, and connecting it with something else – but in very different senses in terms of the view I have espoused; and ignoring these, the traditional ‘conjunction’ embraces members of at least all functional categories.

On the locative basis for many ‘subordinating conjunctions’ (especially circumstantial) see Anderson (2006a: §9.2.3). Poutsma (1926: 815) groups together ‘conjunctions’ and what he calls ‘conjunctive pronouns’ (relative pronouns) as indicating ‘a relation between two members of a complex’, but distinguishes between them in so far as the latter class ‘form part of one of the two members. In this member, they co refer with something in the other, and thus bring about a kind of union’. It should be apparent that the distinction is drawn in slightly different terms in the present text.

On ‘inversion’ and interrogatives, and topicality, cf. Anderson (2011a, vol. I: §4.6). On passives, see e.g. Anderson (2006a: §12.2.2, 2011a, vol. II: 150–1).

In discussing the finiteness determiner, I suggested that Radcliffe’s ‘The idea of Valancourt, and that she should see him so soon, alone occupied her heart’ (from *The Mysteries of Udolpho*) involves coordination of the *the*-phrase and the *that*-phrase. It might be suggested that the *of*-phrase and the subordinate clause are coordinated as an apposition to *idea* (cf. present-day English *the idea that she should see him so soon ...*). But Radcliffe’s *idea* here is rather different: typically it denotes a familiar mental image, as in ‘When he perceived Emily, he advanced to meet her, and presented her to the Countess, in a manner so benign, that it recalled most powerfully to her mind the idea of her late father, ...’ (p. 519 of the same edition). ‘that she should see him soon’ in the sentence quoted in the text is scarcely part of such a sense of *idea*. But even if the *that*-clause is coordinated with the *of*-phrase, *that* here must, as a determiner, have been itself converted to a functor.

Consider too, however, ‘... the sense of restriction and compression, and that his own house was fast becoming alien territory to him, made him pounce upon the gentlemanly organist’ (Meredith *Sandra Belloni*, Chapter VII).

The analysis of ‘indirect questions’ in the text assumes that the finiteness determiner satisfies the absolutive of the upper clause. This seems just to the extent that passives like those in (ii), corresponding to (201a–b), are viable, as they seem to me.

- (ii) a. When Bill died wasn't asked
- b. When Bill died wasn't known

See here Anderson (2013b: §1.3). On ellipsis and the comparative construction see Anderson (2001, vol. III: §5.2); but there is a much fuller syntactic treatment of the variety of comparatives in Huddleston (1967). See too Fillmore (2002), Hasegawa et al. (2010). On ellipsis in general see further Chapter 41.

In the text the *than* of comparison is interpreted as a 'negative' locative, a source, as is made overt in other languages. Negativity is more evident in the usage of 'Jo' documented by Dickens in '... it makes me more cumfblor nor I was afore' (*Bleak House* [Folia edn.], p. 644)

## On Chapter 17

Once more and again, there is obviously much more that can be said about 'coordinating conjunctions', also. For one striking instance, not only have I ignored the distinctive behaviour of the adversative *but* and its varied syntax, but I have also neglected the correlative *not only ... but also*. I have focused here on what seem to me to be the central prototypical expressions involving coordinating conjunction, including correlatives. However, as not merely peripheral, the adversative and other facets of coordination will receive some further attention in Part IV.

*But* appeared in a range of roles in the past that are (in my experience) mostly now uncommon, in my experience. Many of these are illustrated in, for instance, Trollope's *Mr Scarborough's Family* of 1883, along with much use of simple adversative *but*. Consider: '... We had better leave her alone in our present conversation. Not but what I have a strong regard for her.' (Folio edn., p. 199); 'He was not sure but that the lady had planned it' (p. 204); 'He has nothing for it but to leave us when we attacked him altogether,' (p. 474); 'He had not become so dead to honour but that *noblesse oblige* did still live within his bosom.' (*ibid*); 'There we will part with them, and encounter them again but for a few moments as after a long day's ramble they made their way back to a solitary but comfortable hotel among the Bernese Alps.' (p. 509). With the last passage that contains usages that are still current, I shall not pursue *but* here, not but what there is a notional similarity within the various articulations.

Sweet (1891: §404) asserts: '<C>onjunctions are purely connective words: they connect without governing; and this is what distinguishes word-connecting conjunctions from prepositions'. But since rection of case is marginal in English and absent from many languages, this is scarcely a reliable criterion (like, in

my experience, almost all other single phenomena claimed as criterial). Moreover, even in English, we encounter such expressions as *Bill and me are very happy*, where the case of the pronoun following *and* is apparently that ‘governed’ by prepositions, as in *for me*. In *for my wife and I* the rection does not extend to the second conjunct, unlike in *for both him and her*. Consider too *Me and my wife walked out*, or *Her and me don’t agree*. Rection is variable in its domain and its trigger. And though sentence-connecting conjunctions like *because* are not in the domain of Sweet’s criterion, they clearly involve subordination of the following expression to another one, as do prepositions. Moreover, Sweet ends up having to conclude concerning even the ‘coordination’ in *Two and three make five* that ‘from a grammatical point of view we are obliged to regard *three* as joined on to the other word, and so subordinated to it’ (again 1891: §404).

An instance of the ‘delayability’ of the coordinating conjunction and its dependent is provided by the following (from Dorothy Dunnett’s *Scales of Gold*, Chapter 13 – p. 193 in the Penguin edition of 2000).

Nicholas reflected, without envy, that he was only five or six years older than Diniz but was more used to suspicion than compassion. And was not fatherless.

Nevertheless, the absence of ‘governing’ as a defining property of coordination, at least, continued as a basic assumption throughout the twentieth century, despite sporadic dissent. The debate up to and beyond the mid last century is reviewed by Dik (1968), who maintains the traditional position, while insisting that coordinations have very distinctive properties. He thus adopts the traditional assumption that ‘in a coordination of type  $M_1$  co  $M_2$  the structure is such that  $M_1$  and  $M_2$  are on the same level, while co holds them together without being any more closely connected with any one of them’ (1968: 52). Dik (1968: Chapter 1) is also critical of Bloomfield’s (1933: see esp. p. 195) attempt to re-state this view in more explicit terms, based on distribution, and offers instead a ‘functional’ solution – which I shall not pursue here, in so far as I am departing even from the traditional assumption he paraphrases above and takes as his starting-point. He is also highly critical of the transformational approach to coordination. Nevertheless, an interpretation based on the traditional view of the ‘equal value’ of the ‘conjuncts’ in ‘coordination’ remains pervasive in the various developments originating in ‘transformationalism’ – even in work, such as that reported in Culicover and Jackendoff (2005) that rejects much of the paraphernalia of the ‘transformational’ mainstream, and even in Hudson’s dependency-based approach (1990). However, recognition of the asymmetry of the ‘coordination’ construction has been given in a number of places, such as Johannessen (1998) and Zhang (2010).



The Babungo examples are from Schaub (1985: 87). There are discussions of coordinators and comitatives in Teng (1970) and Somers (1987), for example. Somers (1987: 167) comments on (217), cited in the text:

- (217) a. Janet and John are going to live in London  
 b. Janet is going to live in London with John

'<(217a)> does not indicate who is the principal occupier of the house in the way that <(217b)> does'. This is certainly one possible interpretation, but one of the arguments in (217b) is not necessarily the 'principal occupier'. We have an interesting blending, with eventual plural concord, in Meredith's 'Barto Rizzo, with Battista and his wife on each side of him, were among the spectators' (*Vittoria*, Chapter X).

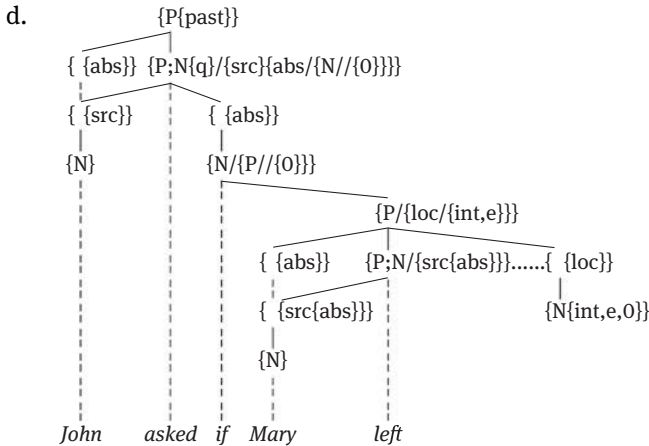
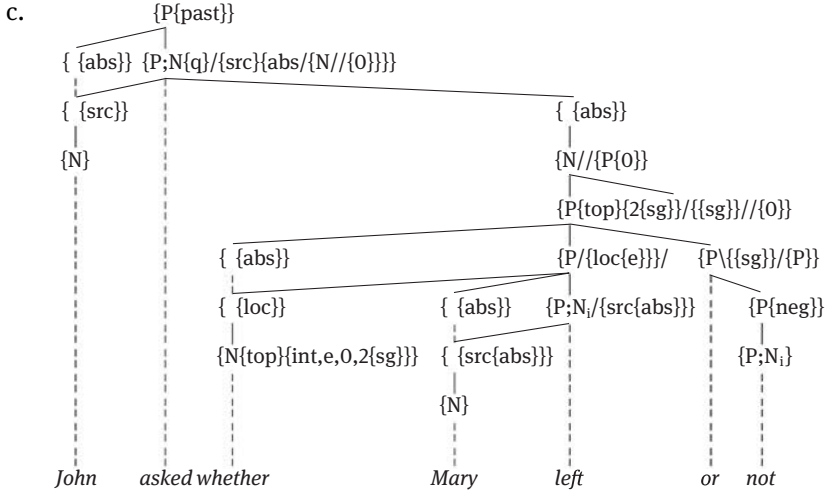
It is misleading to regard *Do that again and I shall punch you* as involving a 'conditional reading of *and*' (Culicover and Jackendoff [2005: 475]). Such a conditional as *If you do that again I shall punch you* is one way of conceptualizing and grammaticalizing a warning or threat, as is also an 'alternative' 'conjunction' like *Refrain from that or I shall punch you*, as well as the *and* construction cited by Culicover and Jackendoff. That does not mean that it's necessary or even helpful to imply the conceptual reduction of one possibility to another, on the basis of rough paraphrasability. These different constructions can form the basis for a derived speech act of warning by virtue of their own individual properties.

The feature of binarity associated in the text with *either* embodies one prescriptive tradition concerning its use. A different tradition is exemplified in a passage from Chapter X of *Lady Audley's Secret* by Mary Elizabeth Braddon: 'Four or five gentlemen! But did either of them answer to the description of my friend?' A similar instance comes from Meredith's *Vittoria*: 'The hour was too full of imminent grief for either of the three to regard this scene as other than a gross intrusion ended' (Chapter XLIII). I focus here on the binary construction, both in relation to (225) and to the coordinative role of *either*.

- (225) a. They didn't know either of the men  
 b. They didn't know either man

In (ia) we have a combination of disjunction and indirect interrogation, and the representation of (ia) in (ic) spells out that basic {P}s are existential predications.

- (i) a. John asked whether Mary had left or not  
 b. John asked if Mary has left (or not)

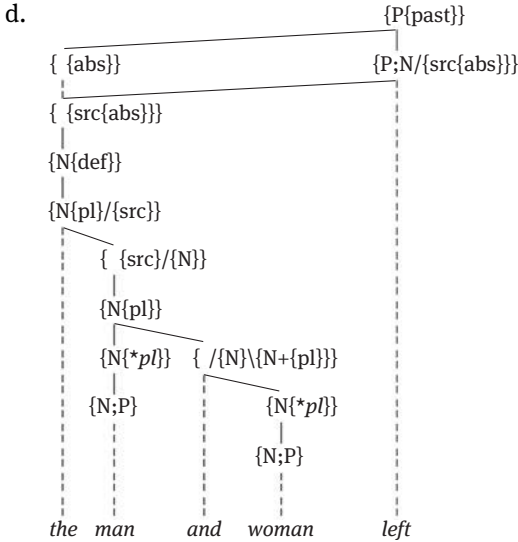


The representation in (ic) claims that what is in question in (ia) is the truth of the predication – i.e. its existence, or localizability, in some world. {P{neg}} in the second conjunct of (41c) abbreviates a negative existential. This existential character is a property of the basic {P} in general – though it has not been relevant so far here to introduce this information into representations. (id) illustrates a non-correlative questioning of truth, but *if* too can occur in a disjunction. And both may introduce multiple disjunctions as well as simple or binary existentials.

This reference to indirect interrogative structures, however, is an aside – though it is appropriate to have illustrated something of how correlation and questioning can be combined.

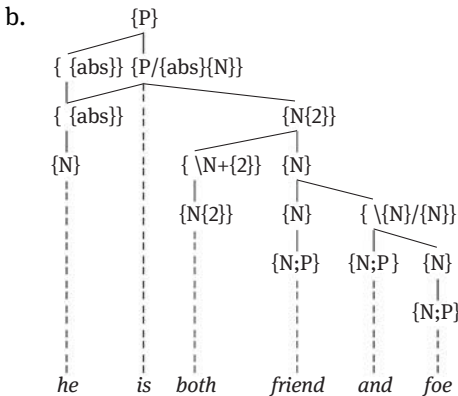
In the text apparent ‘coordination’ of nouns exemplified by (234a) was interpreted as coordination of the {N}s to which they are subjoined lexically, as in (234d).

(234) a. The man and woman left



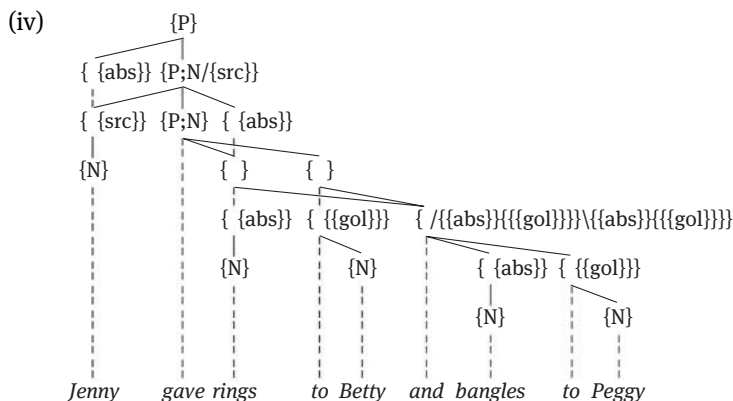
Perhaps such examples as (iia), on the other hand, where the nouns are predicated of the same referent, exemplifies basic-noun-coordination, as expressed in simplified form in (iib).

(ii) a. He is both friend and foe



The text considers ‘coordination’ only of mono-categorial expressions, and not all of the possibilities. But perhaps more of a gap has been left by the absence of ‘polycategorial’ coordination.

The following is another attempt at the representation of one kind of multi-categorial coordinative expression, to compare with (233d) in the text.



Here *and* conjoins pairs of complements of *gave*, interpreted as the lexical causative of a directional predication – hence the two levels of {P;N}. But the same basic conjunctive structure as elsewhere is invoked, except that, to match the two mothers of *and*, the coordinator category has two daughters, as expressed in its valency. There is an extensible symmetry within the asymmetry, so that three heads (potentially including circumstantials) are matched by three complements or circumstantials in *Jenny gave rings to Betty on Tuesday and bangles to Peggy on Wednesday, and pendants to Frou-Frou on Thursday*, and so on.

In the text, however, I prefer an analysis of such ‘ coordinations ’ that avoids the unusual diverging/converging structure of (iii) in favour of an elliptical and coreferential analysis of (233d).

Sometimes, also, a coordination may require a neutralization of distinctions elsewhere in the structure. Thus, in Chapter XIV of Sheridan Le Fanu’s *Uncle Silas* we find.

I had already discovered that she could shed tears whenever she pleased. I have heard of such persons, but I never met another before or since.

Here, given the context, the circumstantial *before* would prefer to modify a past perfect verb structure but *since* a perfect. These are neutralized as a simple past.

Another complication involves phenomena linking the concerns of this and the preceding chapter. I am not aware of this interaction between relativization and coordination as being very common, but the following sentence from Thackeray illustrates the possibility of a relative pronoun that is also the first conjunct in a coordination.

So away went Clive to walk with his cousins, and then to see his old friend Miss Cann, with whom and the elder children he walked to church, and issuing thence greeted Lady Ann and Ethel (who had also attended the service) in the most natural way in the world.

(*The Newcomes*, vol. II, Chapter IV).

It is my impression that relativization of the first conjunct is less likely than of the second.

I suggest as the basic patterns of ‘conjunction’ for English what is given in the Appendix that follows this commentary to Chapter 17, where ‘LEXICAL’ indicates lexical subjunction of conjunct to the ‘conjunction’: Chapters 16 and 17 are based on work reported in Anderson (2013b). But both there and in the text here the syntax of *neither* and *nor* deserve more attention than they receive. The sequences in (iv) illustrate just one aspect of this.

- (iv) a. Bill didn’t leave, (and) neither did Frank
- b. Bill didn’t leave, (and) nor did Frank

After a negative clause we can find either of these negative coordinators, in a verb second construction. Compare the positive in (v).

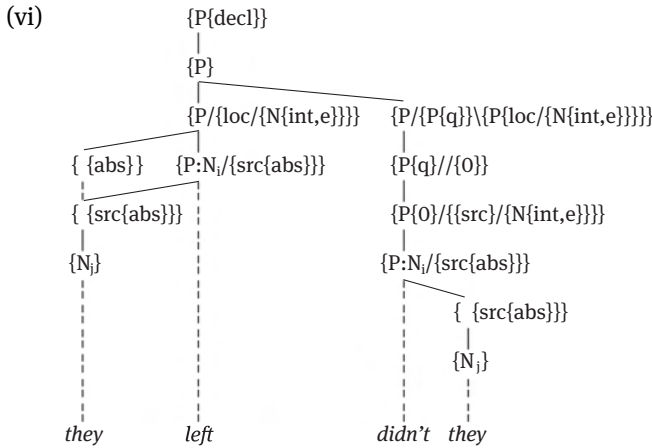
- (v) Bill left, (and) so did Frank

Part IV looks at the role of items like *so*, as well as negative determiners. There too we look at the deconstruction of universal quantifiers, such as *both* and *all*, as involving double negations.

Another kind of structural connector than those we have looked at in Chapters 16 & 17 is exemplified by *therefore/thus* or *nevertheless/however* or *in addition*, which connects two propositions, indicating a logical or pragmatic or supplementary relation between them, or a relation that is in itself less explicit. They occur in ‘adverb positions’, often initially. More striking is the ‘free relative’ or ‘similitudinous relative’ exemplified by the second sentence in Thackeray’s ‘... little creatures were always prattling on their shoulders, queer little things in night-gowns of yellow dimity, with great flowers, and pink, or red, or yellow shawls, with great eyes glistening underneath. Of such the black

women seemed always the happy guardians' (*A Journey from Cornhill to Cairo* [same volume as *The Great Hoggarty Diamond*], Chapter VII, p. 234 of Smith, Elder & Co. edn.). This construction shares the topicalized construction with ordinary *wh*-relatives, but its antecedent lies in a preceding sentence not the independent sentence that contains the *such*. *Such* can also be complemented: thus, *of such creatures*.

I note finally here that a configuration like that for coordinators also seems to participate in the formation of the blending that constitutes 'tag questions', one variety of which is suggested in (vi).



(vi) omits tense and the internal structure of *left*, as not directly relevant. Depending on the intonation, (vi) can be interpreted as a reaffirmation or assertive rhetorical question ('Well, didn't they?') or a request for confirmation of what the speaker believes could be declared ('They did leave?'). This may be what Smollett describes as 'a Digression which some reader may think impertinent' (*The Adventures of Ferdinand Count Fathom*, Chapter VIII). It should, however, prepare us for Chapter 35 and the interaction of moods.

We can extend the impertinence, however, by alluding to the old fashioned 'quasi-moodal' initial and final tags in this utterance from Dorothy Sayers' *Murder Must Advertise* (Folio edn., p. 50): 'I say, er, how about, er, coming and honouring me by taking in a spot of lunch with me, what?', typical of (characterizations of) certain strata of English speakers of English.

**Appendix: Conjunctional Expressions**

Examples

*Non-locative Participant Subordination of {P}*

{N/{P}} *that* + LEXICAL (non-overt) (203)

*Subordination to { {abs}}*

{ {abs}} (204/205d)  
 |  
 {N/{P}} *that* + LEXICAL

*Apposition of {N/P}*

{N{def}} (197a-b)  
 |  
 {N}  
 / \  
 {N<sub>i</sub>{src}} {N<sub>i</sub>{P}\{N<sub>i</sub>}} *the fact (that)*

*Locative Subordination of apposed {N/P}*

{ {loc}\{P;N}} (191/192)  
 |  
 {N}  
 / \  
 {N<sub>i</sub>} {N<sub>i</sub>{P}\{N<sub>i</sub>}} *now that, until, etc.*

*Relativization via that of {P}* without *that* with *wh-* (199a-b), (200)

|                                                                                    |                                                                      |                                                                                                     |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <p>{N/{P}\{N/{src}}}</p> <p>└───┬───</p> <p>   {P}</p> <p>┆</p> <p><i>that</i></p> | <p>{N/{P}\{N/{src}}}</p> <p>┆</p> <p>{P}</p> <p>┆</p> <p>LEXICAL</p> | <p>{N/{P}\{N/{src}}}</p> <p>┆</p> <p>{P//{top,def}}</p> <p>┆</p> <p>{P}</p> <p>┆</p> <p>LEXICAL</p> |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|

*Indirect interrogative formation* (disjunctive)

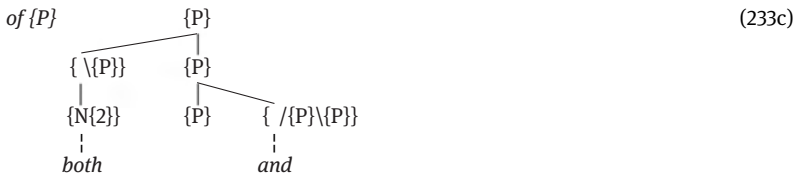
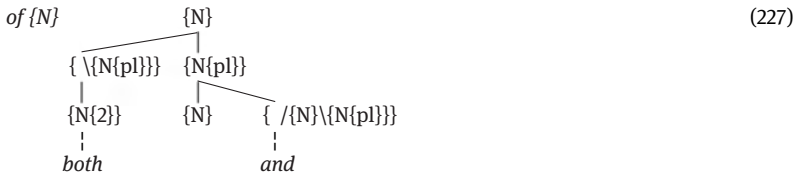
|                                                                           |                     |                          |                     |
|---------------------------------------------------------------------------|---------------------|--------------------------|---------------------|
| <p>{N/{P//{0}}}</p> <p>┆</p> <p>{P{top}//{0}}</p> <p>┆</p> <p>LEXICAL</p> | <p>(LEXICAL)</p>    | <p>(LEXICAL)</p>         | <p>(201a), (ic)</p> |
|                                                                           | <p><i>wh-if</i></p> | <p><i>whether or</i></p> |                     |

*Subordination of {P;N} attributive*  
 { /{P;N} } (to) { {loc{gol}}/{P;N}\{N/{src}} } to (212b/206)

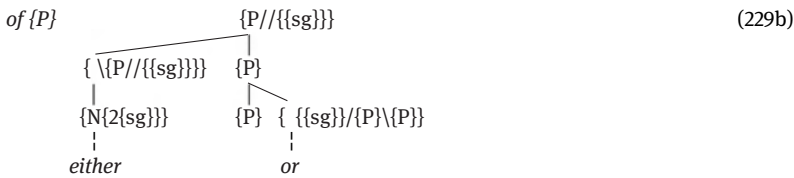
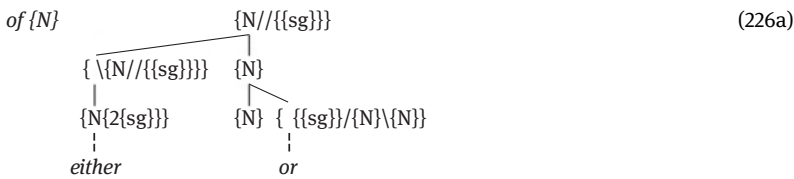
*Simple Coordination (non-disjunctive)*  
 { /{N}\{N+{p1}} } { /{P}\{P} } { /{P;N}\{P;N} } (227), (229a), (231a)  
 and

*Disjunctive coordination*  
 { {sg} } / { /{N}\{N} } (226b)  
 or

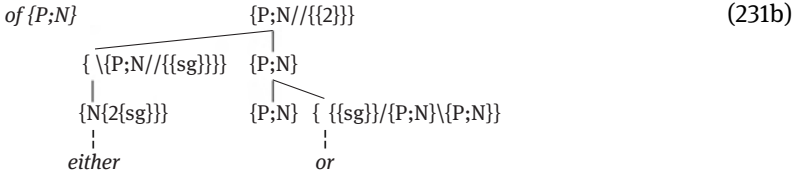
*Correlative coordination (non-disjunctive)*



*Correlative Coordination (disjunctive)*





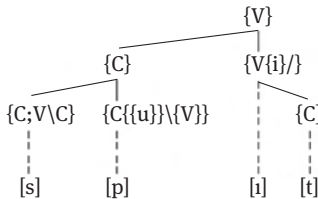


Recall that with ‘coordination’ of nouns the subordinate {N} is an active modifier, and adds plural to the {N} it modifies; also active are the disjunctive correlatives. And I have ignored in the listing ‘coordination’ of non-constituent expressions, as in Commentary on Chapter 17 (iii) above.

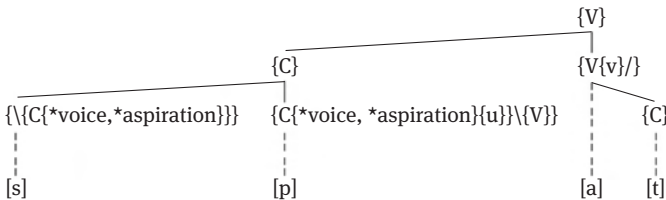
### On Conclusion to Part I

Another way of representing the neutralisation of plosives after initial [s] in *spit* etc. was recalled in the text, in the form of (132f) rather than (132b), substituting secondary categories for secondary features.

(132) b.



f.



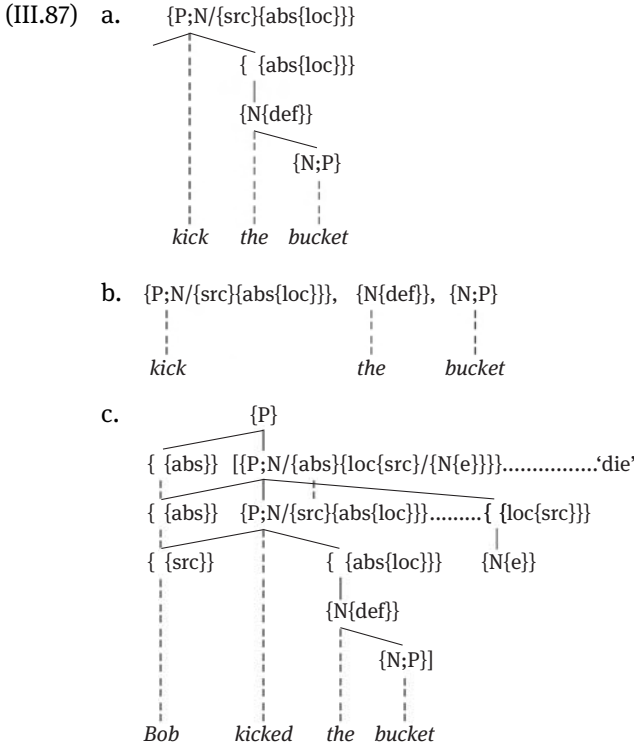
The formulations would differ as in (i) (in CV notation) and (ii), which apply to all the plosives, not just {C} with a subscript {u}:

- (i)  $\{C\{v/c\}\} \Leftrightarrow \{C\} / \{ \setminus \{C\} \_ \}$
- (ii)  $\{C\{VOICE/ASPIRATION\}\} \Leftrightarrow \{C\} / \{ \setminus \{C\} \_ \}$

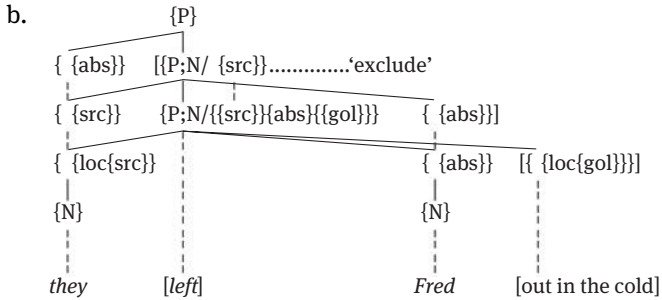
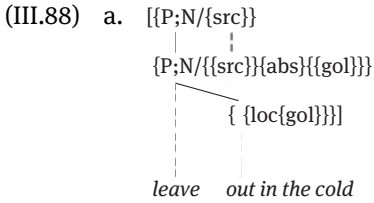
Once again, { \setminus {C} } is realized as [s]. However, categorial absence, seems more appropriate with reference to categories whose features are never contrastive in

the language concerned. And this depends on having some idea of the set of categories available for distinguishing contrasts in language, concerning which there is some uncertainty.

The problems of arriving at the number and the characterization of the syntactic parts of speech include the analysis of phrasal idioms such as those which at various times have been used as rough equivalents to *occasionally*. *From time to time* is relatively transparent compared with *once and again* (common in Hugh Walpole’s writings, for example), *ever and again* (de la Mare), and *now and again/then* (recently common). These appear to be typically circumstantials (like *occasionally*), but are they adverbs? They can be considered so by fiat, or default if we superimpose on the idiomatic structure a plausible adverbial one, which might be notionally appropriate. Such superimposition will be discussed in Part III, involving representations such as (III.87c) from Chapter 32.



(III.87a–b) suggest a structure and a lexical entry for the non-idiomatic reading of *kick the bucket*. Cf. too (III.88), with a rather obvious characterization of a more transparent idiom.



However, in the case of the ‘*occasionally* phrases’ mentioned above, there seems to be an even bigger gap between the idiomatic structure and the notional interpretation than in the metaphorical (III.88). But perhaps a temporal circumstantial adverb dominating the coordination isn’t too implausible. Maybe the reader might like to try it – or something else?

## On Part II

The notion ‘modes of signifying’ is adopted and adapted from the usage of the medieval grammarians centred in Paris who are generally referred to as the ‘modistae’. The syntactic framework appealed to by the modistae, though based almost entirely on the traditional Latin categories of the Priscianic tradition, shows similarities to the present approach. These include the centrality of valency in forming constructions and of a ‘dependency’ relation (though generally what is here the head was seen as ‘dependent’, as requiring its valency to be ‘saturated’), as well as the importance of finiteness, as crucial in ‘perfecting’ the construction of the sentence: see e.g. the brief account in Lepschy (1994: 296–7) and Bursill-Hall (1995); also, more fully, Bursill-Hall (1972: 99–117).

However the adoption of the term ‘modes of signifying’ is not meant to imply an adoption here of the entire set of attitudes – or rather sets of the attitudes – that the modistae espoused – and certainly not of the realist position implied by Law’s (1997) description of the work of Martin of Dacia (later thirteenth century). Law offers the following (1997: 175) paraphrase of the basic components of Martin’s idea of the different ‘modes’.

... Martin takes us step by step through the process whereby linguistic categories are derived from real-world categories. He tells us that real-world things have many properties: action, rest, passivity, uniqueness, plurality and so on. These properties help to distinguish one thing from another. All these properties of real-world things are called their ‘modes of being’, *modi essendi*. When we begin to think about a thing, the mind grasps its nature – what makes it unique – by apprehending its properties. We form a concept of the thing and of its properties, the *modi intelligendi* (literally, ‘modes of comprehending’). When we want to signify that content to someone else, we have to utter a spoken word in order to express it, in just the same way as an innkeeper hangs out a sign to indicate he has wine for sale. The spoken word is the sign of the concept, and – most importantly – the properties of the sign are derived from the properties of the concept. In other words, the linguistic ‘modes of signifying’ (*modi significandi*) which ... are the grammatical properties of the word classes, are derived ultimately from the real-world properties of the things which words, via concepts, ultimately denote. As Martin says, ‘The *modus significandi* is the unique quality of the thing consigned in a spoken word ... The *modus significandi* is the form of a word class in that it gives existence and distinguishes it from all other word classes’.

For more detailed descriptions of the proposals of the modistae and different views of what they achieved, see again Bursill-Hall (1972), and Rosier (1983), for example.

It is unnecessary here to recount the criticisms of such a realist view that were levied by contemporary scholastics and humanists and have been voiced by many others since. What is worth pointing to as rendering such a view as unac-

ceptable, in the present context, is the variability of the relationship between concept and sign and between concept and ‘real-world thing’, and the absence in a realist account of room for ‘non-real’ worlds. Conceptions of the ‘world’ vary, and expression of the ‘same’ concept varies, though certain relationships are prototypical – hence the robustness of some syntactic-categorial distinctions throughout language. And much of linguistic structuring of conceptual domains is based on metaphor and other figures. Kelley (1992) is relevant here, despite its idiosyncrasies.

However, such strictures do not necessarily apply throughout the modistic framework. Thomas of Erfurt, for instance, treats the syntax (‘diasynthetica’), as opposed to the establishment of the modes of signifying of the *partes orationis* (‘etymologia’), as independent of the modes of being as such.

... at this stage reality no longer controls the mode of signifying; they are nonetheless important but with this difference: the modes of signifying, although they control the relationship of dependent and terminant, must however do so in terms of the further requirements of congruity and completion. These modes of signifying in fact create the construction but the act of combination is performed by the external factor of mind. The construction has thus come into being and it will be the function of the final principle (*principium finale*) ... to state the result of the construction, and this is to express a compound concept of the mind. This really amounts to the sum total of the other principles, since it represents in effect the constructibles, their realisation and combination, the pertinent modes of signifying, the mind which causes them to combine, the mental concept which caused them, and the mental concept they express.

(Bursill-Hall 1972: 100–1).

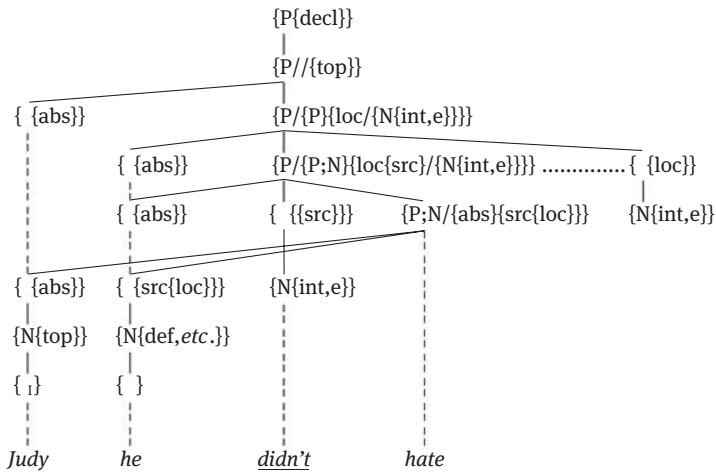
The modistae also fail to provide a necessary complement to the theory of parts of speech in the shape of a framework of illocutionary ‘modes’ such as concerned us in Chapter 15 (and we shall return in more detail to in Part IV). Nevertheless, the notion of modes of signification, taken together with the other similarities alluded to above, finds an appropriate place in the kind of ‘notional grammar’ we are developing here. Consider e.g. Bursill-Hall’s summing up of the most basic distinction in mode, that between the essential modes associated with nouns and verbs: ‘... the Modistae ... set up the essential mode of the verb as signifying change and becoming (in contrast to the permanence and repose of the noun ...)’. And the distinction and the relationship between *modi significandi* and *modi intelligendi* remain fundamental challenges to theories of language. From the point of view adopted here, the two modes are interactional. Covington (1984) illustrates and assesses the range of modistic work and its background and consequences.

## On Chapter 18

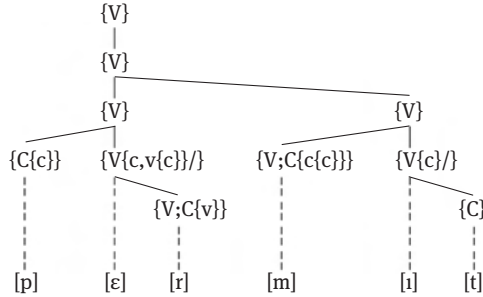
For a preliminary account of some of the derivational relationships discussed in this and the following chapters see Anderson (1984); more recently Colman & Anderson (2004), Anderson (2006a: §13.2.4). However, these studies have been supplemented here by consultation of a range of relevant work on lexical derivation generally and specifically on English. Much of the work cited in the Commentary to Chapter 27 with reference to morphological structure is also relevant here and to the immediately following chapters concerned with the lexicosyntactic derivational structures that, on the view taken here, are expounded by the morphology. The framework developed here differs in fundamental ways from most of these other contributions, but has benefited, I hope, from awareness of controversies prevalent in the field and their illustration. I should also acknowledge that we shall also be concerned in Part II with lexical structures that are not expounded morphologically, nor even involve ‘conversion’ (so-called ‘zero-derivation’), but which are motivated notionally and by distribution.

It is perhaps also worth remarking that the hierarchy of {P}s in (I.172c) cited in Chapter 18 is more like the phonological hierarchy in (I.154) than the derivational hierarchies of lexicosyntactic contentives with which the latter are compared in the Prelude.

(I.172) c.



(I.154) a. *noun*

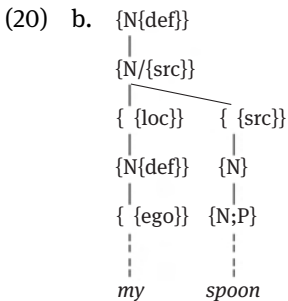


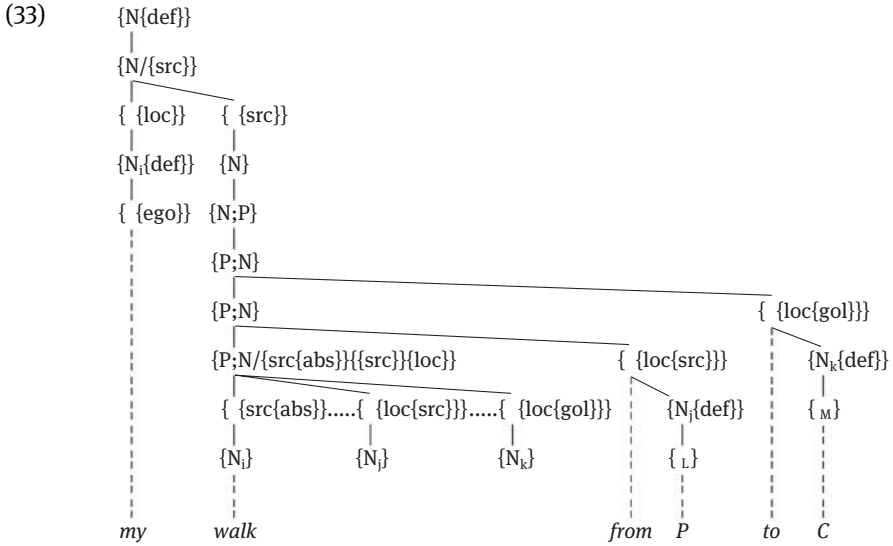
Both of these representations involve subjunction paths involving instances of the same category.

## On Chapter 19

On genitives see Anderson (2006a: §10.3.3). I dwell in this chapter on the marked differences between genitives and subjects (and ‘objects’), on account of the prevalence of a distinction drawn in both traditional and more modern grammars between ‘subjective genitives’ and ‘objective genitives’, vs. ‘possessive genitives’. Poutsma (1914: Chapter XXIV), for instance, distinguishes between the ‘genitive of agency or subjective genitive’ and the ‘objective genitive’. In my view no genitives are based on subjects and ‘objects’, or helpfully distinguished in these terms. Determiner phrases are just not organised in such terms.

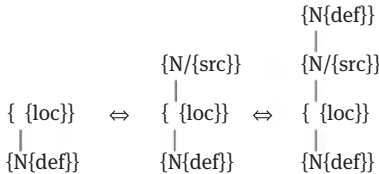
It may be that the ‘possessive’ structure in (20b) is the prototype for the development of such as the more complex (33), with a subordinate deverbal noun.





That is, the redundancy that creates (20b) originates as a derivation that involves only determinerization of simple locatives, as in (19d), and not necessarily interaction with the coindexed partner of the ‘possessor’ element in the valency of the verbal base of a nominalization, as in (33).

(19) d. GENITIVIZATION VIA ATTRIBUTIZATION AND DEFINITIVIZATION



The development of (33) and the like would then be an extension of the use of the genitive in simple ‘possessive’ nominal constructions. This development involves simply coindexing between an element of the genitive and an argument of the verbal base (and not necessarily the ‘subject’ (as in (33)).

Deverbal nouns in *-ant/-ent* are usually interpreted as habitual or professional or formal in some way, in addition to agentive, and this is also often the case with *-er* formations. This ambivalence is well illustrated in the following interchange from Scott’s ‘Peveeril of the Peak’ (Border edition, Nimmo, 1893, vol. II, Chapter XIII).



“Most exquisite Chiffinch, thou art turned micher as well as padder – Canst both rob a man and kidnap him!”

“Micher and padder – what terms be these?” said Chiffinch. “Methinks these are sounds to lug out upon. You will have me angry to the degree of falling foul – robber and kidnapper!”

“You mistake verb for noun substantive,” replied his lordship; “I said *rob* and *kidnap* – a man may do either once and away without being professional.”

The *-er* suffix is also associated with other kinds of valencies. It is not just that *-er* can also be associated with experiencers, {src{loc}} (such as *admirer*) and also with specifically ‘subsidiary agents’, or ‘instruments’, as in *cooker*, where in this instance the full agent involves conversion, *cook*, rather than overt derivation. But we also have, for instance, an *-er* that derives a human noun from names or nouns of place: *Londoner*, *villager*. Even the core ‘agentive’ sense of *-er* has been further eroded in usage, as in the use of *faller* with reference to a horse that has fallen in a race. Recently, too, I have encountered *attendees* applied to active participants in some communal event; *attendant* has been pre-empted in these circumstances, but also what of *-er/-or*?

**Table:** Verb-to-Noun Conversions  
[Colman & Anderson (2004: 555)]

| Type        | Examples          |
|-------------|-------------------|
| AGENTIVE    | cook, spy         |
| RESULTATIVE | win, guess        |
| GOAL        | drop, dump        |
| PATIENT     | smoke, drink      |
| ACTIONAL    | run, climb, smoke |

Various verb-to-noun conversions are illustrated in Jespersen (1942: §§71–3). And Colman & Anderson (2004: 555) provide examples in their Table 2, roughly classified in terms of the mediating semantic relation, except for the last, which illustrates the actional type, with merely a change in the mode of signifying.

Concerning the *walk* conversion, things get more complicated when we take into account (i), where *walk* denotes a simply mode of locomotion, as a verb or noun

- (i) a. We decided to walk
- b. She has a funny walk

These seem to be more basic than the directional verb in (I.1), which can be interpreted as incorporating the mode-of-locomotion predicator.

(I.1) I walk to the surgery

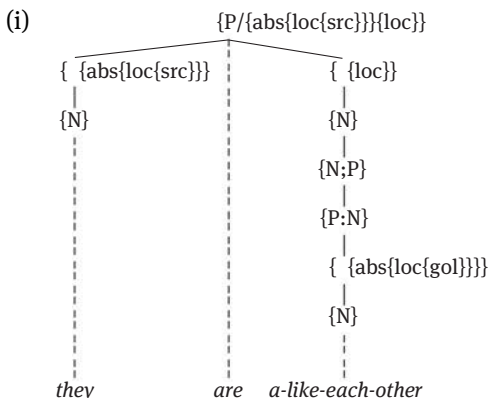
(see further Chapter 26).

With conversions, where a form has a meaning that is prototypical for neither of the two categories that its syntax shows us it belongs to, there can be some doubt concerning the ‘direction’ of the conversion. Even *cook*, which has been taken here to be basically a verb, is regarded as a verb formed from a ‘substantive’ by Jespersen (1933: §7.8<sub>1</sub>). I think that, synchronically, the evidence is against Jespersen’s view in this instance: the noun is an agent type defined by its activity, as in *baker*. But it may be in other cases that with non-prototypical forms conversion may operate in contrary ‘directions’ in the lexicons of different speakers, particularly in the apparent absence of salient syntactic evidence of greater complexity of one or the other of the categorial possibilities.

## On Chapter 20

On adjectives converted to nouns see the extensive discussion and illustration in Poutsma (1924: Chapter xxix). There is specifically a treatment of what he calls ‘partial conversions’, which include the two types illustrated by (39b-c), in §§13–28 of that chapter. There Poutsma illustrates something of a diachronic and synchronic variation and categorial uncertainty that my account scarcely penetrates. I have concentrated on the categorial consequences of the properties of two prominent varieties of ‘partial conversion’.

Unlike with *like*, nominalization of *alike* is apparently obsolete; the latter is also predicative only. Both of these may be related to the suggestion that *alike*, like *alight* etc. is not an adjective but an adverb, as represented in (i) – i.e. a compressed directional equative which is reciprocal (and which is incomplete in not expressing reciprocity – representation of reciprocals is formulated in Part IV – the reader may like to connect and complete the diagram then, though it will need updating as well as completion).



Thus, I do not pursue this here.

De-adjectival nouns throw further interesting light on the genitive construction in English. This comes from consideration of the nominalizations of such adjectival predications as (ii), with complex verbal subjects.

- (ii) a. Judy's leaving Punch is possible  
 b. That Judy would leave Punch is possible  
 c. For Judy to leave Punch is possible

(ii.a–b) have a corresponding nominalization with the verbal construction as an argument, whereas (iii.c) doesn't correspond to (ii.c) in the same way as (iii.a–b) do to (ii.a–b).

- (iii) a. the (im)possibility of Judy's leaving Punch  
 b. the (im)possibility that Judy would leave Punch  
 c. the (im)possibility for Judy to leave Punch

However, the apparently corresponding nominalizations with genitivization are all impossible, so that the genitive cannot possess a modal noun.

- (iv) a. \*Judy's leaving Punch's possibility  
 b. \*that Judy would leave Punch's possibility  
 c. \*for Judy to leave Punch's possibility

It is not simply that complex, phrasal genitives are not allowed, as we have already observed. And witness even *The girl who wants to leave him's motivation is unclear*: this is maybe clumsy but it is grammatically sound.

What the discrepancy between (ii) vs. (iv) supports, however, is the idea of the non-equivalence of subject formation and genitivization that was emphasized in Chapter 19. Recall the discussion of examples (22)-(24).

- (22) a. the singer's death  
 b. the boss's resignation  
 c. the servant's murder of the prince  
 d. the prince's murder by servant
- (23) a. the death of/\*by the singer  
 b. the resignation of/by the boss  
 c. the murder of the servant by the prince
- (24) yesterday's murder of the prince

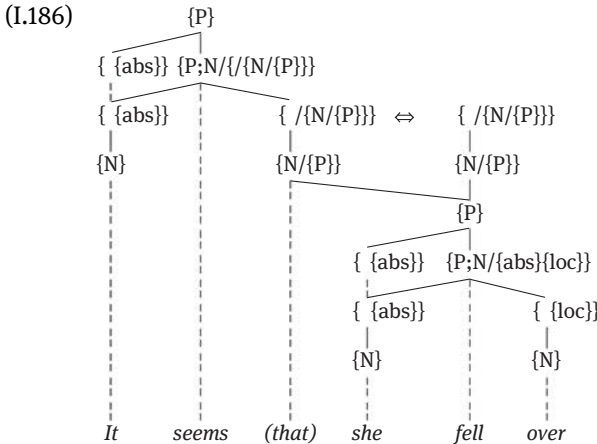
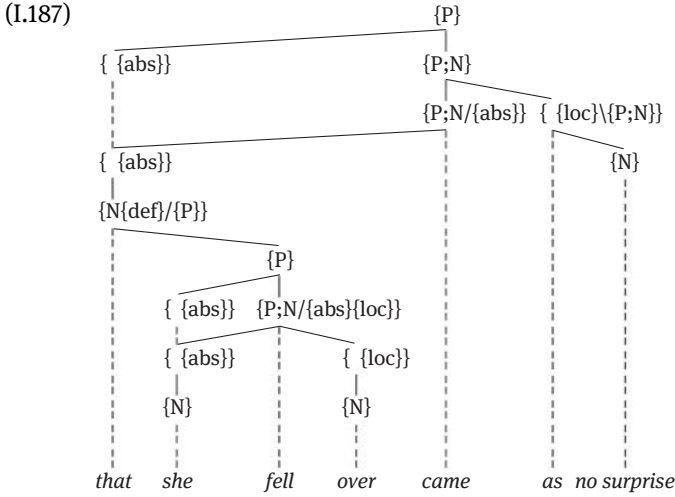
Genitivization is not restricted by the subject-selection hierarchy. As (24) illustrates, the genitive may not even be a verbal participant. But it does not accept the verbal formations in (iv), unlike subject formation, provided the constructions bear a semantic relation, and that relation is highest in the subject-selection hierarchy in the predication in which subject formation takes place.

Compare now the adjective predications in (ii) with those in (v).

- (v) a. It is possible, Judy's leaving Punch  
 b. It is possible that Judy would leave Punch  
 c. It is possible for Judy to leave Punch

The *-ing*-construction in (va) seems to be best interpreted as a postposed topic. The acceptability of both (ii) and (v) contrasts with the difference in acceptability between (iii) and (iv).

The distinction between (ii) and (v) might involve presence vs. absence of subject formation. I associated this in Chapter 15 with the presence and absence of a specific semantic relation, such as { {abs}}, governing the complementizer/finiteness-determiner, as in (the much-abbreviated) (I.187) vs. (I.186).



(ii.b) and (v.b) show the same alternation as (I.185a) and (I.185b).

- (I.185) a. That she fell over came as no surprise  
 b. It came as no surprise (that) she fell over

And it is not unreasonable to suggest that the same applies to the other pairs in (i)/(iv), though the markedness of (v.a) suggests that the most nominal construction, i.e. that with *-ing*, prefers subject formation to its absence. We return to the distinction between (I.185a) and (I.185b) in Chapter 37 of Part IV, however, in the light of considerations introduced later.

Given the other complications it introduces, perhaps simpler examples than *velocity* of overtly derived nouns that are lexically ‘sourceless’ are such as *wealth*, whose connection with *weal*, as well as the currency of the latter, is rather tenuous, despite support from *heal/health*, though *steal/stealth* is again somewhat opaque. Now opaque too to varying degrees are *dearth* (*dear*) and *mirth* (*merry*). For many speakers these may be as morphologically simple as *earth*. But, given the pervasiveness in commonly used words of suffix *-th*, their lexical structure is potentially to be perceived as more differentiated morphologically than items such as *victim* and *demise*, mentioned latterly in the chapter.

There are converted de-adjectival nouns that, unlike (39c,e), as well as, like these, participating in plural concord, themselves inflect for plurality, as exemplified by (via).

- (39) c. The young/rich are usually not aware of that  
 e. the idle rich
- (vi) a. His ills are his sole topic of combination  
 b. The news appalled him  
 c. The news is appalling

But *news* in (iva) is now interpreted as mass, as illustrated by the verb concord in (vic), and the link with the adjective that bit more opaque. Contrast (vic) with Thackeray’s Mr. Draper’s ‘Bad news travel quick, Mr. Warrington, ...’ (*The Virginians*, vol. I, Chapter XLVII), or Galt’s ‘The news were at first as glad tidings to the humane old woman’ (*Ringan Gilhaize*, vol. I [John Grant, Edinburgh], p. 262). Consider too the later usage in Trollope (*The Three Clerks* [Folio edn.], pp. 433–4).

Bad news flies fast; and it would be for him to take care that the Woodward should not first hear such news as these from strange lips ... . No one knew who brought this news to the Weights and Measures.

*News* here seems to be a form that does not itself show variation in number but pronominal concord number seems to reflect plural vs. mass interpretation of this derived noun.

Among non-de-adjectival nouns with borrowed classical (neutral) plurals such as *data*, *media*, *phenomena*, such a development to mass, or even singular, is commonest – unsurprisingly, given shrinking knowledge of the loaning languages. Obliging, English, for instance, has provided a native plural inflection for the etymologically plural *Athens*, though the city and the eponymous goddess now share their (singular) form in Greek, except for in placement of the accent.

Some conversions of names to nouns exhibit straightforward plurality, as in *all the Tracies in the school*, or *the Campbells*, or *some of the Napoleons in the clinic*, and other varieties. Such phenomena should not be taken as evidence that names share much of the distribution of nouns, and so are a subclass of noun (recall the discussion in Chapter 9).

The non-arbitrariness of inherent plurals with underived nouns such as *oats* (vs. *wheat*) is persuasively argued by Wierzbicka (1985). See further the commentary on Chapter 29.

## On Chapter 21

On the mixture of shared and individual properties we can associate with syntactic categories, consider – to return to the modistic comparison – Bursill-Hall's description of the *partes orationis* (parts of speech, word classes) of the modistae.

... grammar is the expression of the general essence of reality and the *partes orationis* represent its various species; therefore, each *pars orationis* will be a combination of the essence that it shares with another *pars orationis* and the special features which serve to differentiate it from all the other *partes orationis*, ie each *pars orationis* is a bundle of modes of signifying, one or more of which it may share with another *pars orationis*, and others which render it discrete from all the others. (Bursill-Hall 1972: 47).

This differs from the present proposals mainly by virtue of its realist assumptions.

The four adjectives used for illustration later in the first paragraph of the chapter each correspond to one member of the only four pairs of adjectives that Schachter (1985: 14–5) attributes to Igbo; and Dixon (1977) finds a tendency for languages with such a closed class of adjectives to select such notional areas as appropriate to the class. See too Anderson (1997: §2.3.1). Dixon (1977) provides a survey of the distribution of adjectives throughout a range of languages and its limitations.

The analysis of the basic meaning of nouns like (natural) *father* as verb-based is anticipated by Anderson (1968), for instance.

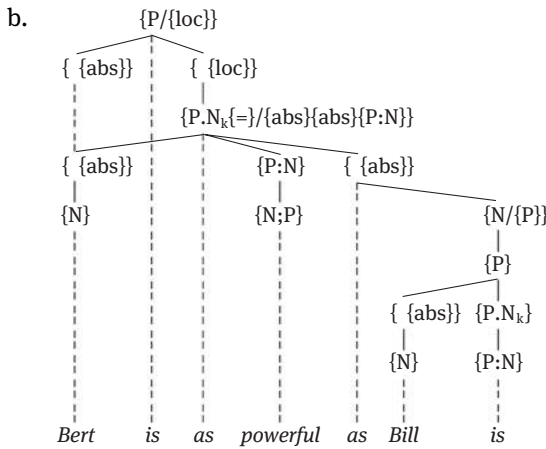
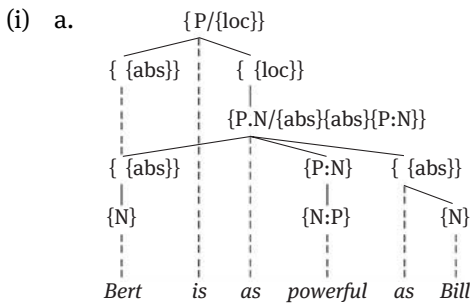
The verbal base of *frightening* in (59a,c) is of course itself derived.

- (59) a. That trip was frightening (for Julian)  
c. that frightening trip

The *-en* suffix takes as bases both adjective (*brighten*, *shorten*) and nouns (*lengthen*) and the formation is inchoative or also causative: the obscured forma-

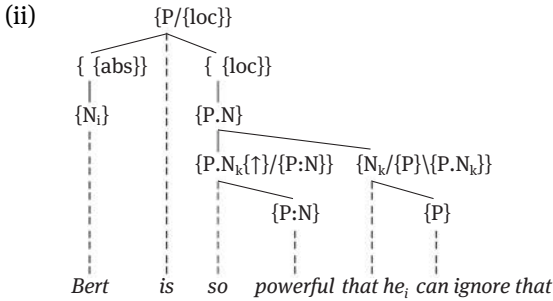
tion in *happen* (cf. *perhaps* and varieties of English where *happen* is its equivalent) is simply inchoative. *Frighten*, however, is normally interpreted as a causative, though one with also a middle voice.

In the light of the discussion of adjective valency in this chapter and other factors, the comparative structures in Chapter 16, for instance, have been revised, and in the process, I think, rendered more transparent, not just in taking the {P.N} to be locative, but in exposing the comparative vector more directly. We also need to update from there the ‘equative’ comparisons in (I.208a–b), though they already recognize the presence of the locative. This gives us (i) instead of (I.208).

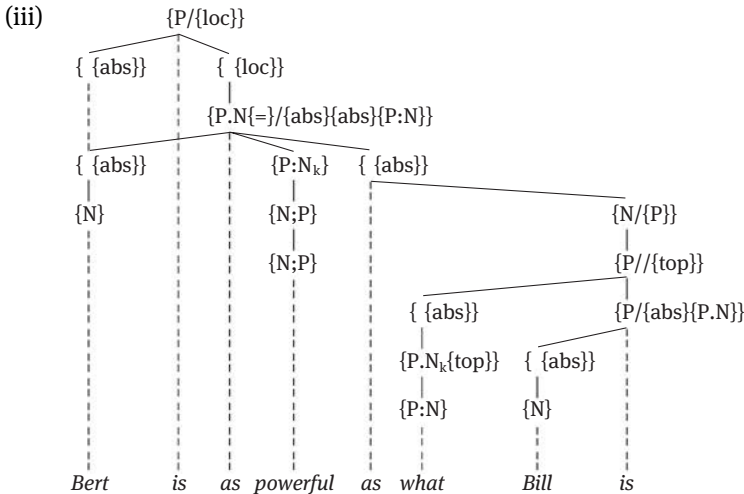


This no longer attributes an absolutive valency to the adjective. Similarly (I.210b) from Chapter 16 can be simplified to (ii) here.





We should acknowledge too that some varieties of English manifest the variant in (iii), with a routinized topic.



We return to comparison in the commentary on Chapter 23.

However, let's note here that the appeal to comparator valency is perhaps also relevant to apparently simple non-gradient adjectives such as *full*, *empty*, *complete*, unless these are verb-based – as is overtly *filled*, which shows vowel alternation with its ultimate source *full*. But the verbs *empty* and *complete* seem to be synchronically converted from adjectives, as is etymologically the case with *fill*. But there may be pro-verb bases to the adjectives. The character of these apparently complemented adjectives is thus not obvious. More straightforwardly verb-based, given the morphology, is the adjective in *She was cognizant of that*, even though the verb *cognize* is apparently a back-formation (with a restricted set of users). The question of whether non-verbal contentives take complements remains controversial, however – though I have assumed that they don't, and am sceptical of alleged counter-evidence.

Jespersen (1942: §72.) describes the verbs I have been using to illustrate lexical periphrasts as ‘light’ verbs. It is apparently notional ‘lightness’ that is being invoked here. Unfortunately, his set of ‘light’ verbs is not well-defined. And this is typical of the proliferation of later studies of alleged ‘light’ verbs too. The lexical periphrasts I have mentioned are certainly relatively ‘light’ in this sense, but what also characterizes them is the complex valency they demand containing a noun with a verbal base, even if the latter is not independently attested.

It is also rather misleading to talk of lexical periphrases like *take thought* or *take a walk* as ‘filling a lexical gap’. Though speakers typically associate some distinction as holding between such periphrases and the corresponding simple verbs (where, as usually there are between lexical items, there is a notional distinction), such as *walk/take a walk*, we are perhaps only latterly aware of some ‘gap’ being ‘filled’ when the periphrasis appears, rather than a distinction simply being made overt. It is not obvious that development of periphrases is necessarily a response to some technical or cultural innovation, or even a wish to disambiguate, as with many other lexical developments.

## On Chapter 22

The text cites adjectives based on nouns where the derivation is marked by *-ed*. There are also *-en* adjectives based on nouns rather than verbs, as in *golden*, *leaden*, *wooden*, *woollen*, *silken*. Here we have ‘material’ adjectives. These can involve the further derivation (by conversion) of metonymic and metaphorical adjectives, so that, for instance, *golden* denotes the colour of gold rather than necessarily ‘made of gold’, *wooden* may be attributed to the behaviour of humans, and such a metaphorical interpretation is usual in the case of *leaden* – and there are, of course ‘golden opportunities’ as well as ‘girls’.

Something of the range of semantic relations expressed in *-able*-forms can be seen by comparing the most commonly discussed pattern (80a) and (81a) with (i).

- (80) a. Freddie is likeable  
b. Everybody likes Freddie
- (81) a. The weather is variable (at this time of year)  
b. The weather varies (at this time of year)
- (i) This chair is comfortable, Iris is disagreeable, That is not suitable,  
Bart is not amenable, It will be very pleasurable

These have to do with capability of providing benefit or otherwise for some unspecified person. And diminution of compositionality is illustrated by the second derived adjective in *legible but not readable*: it has an extra bit of idiosyncratic meaning, compared with the first.

Concerning the most common variety of *-able*-formation, Wasow (1977: 336), for instance, claims that ‘the lexical rule relating verbs to the corresponding *-able* adjectives identifies the subject of the latter with the direct object of the former, ...’ The force of the illustration by (80a) and (81a) of the inappropriateness of such a view depends of course on rejection of the ‘unaccusative’ analysis of some intransitives, whereby their subject is considered to be ‘underlyingly’ (in some sense) an ‘object’: Such abstractness and its dependence on the not-well-defined notion ‘object’ are eschewed here. The view presented in the text is based on Anderson (1984: §3.2).

There are other noun-based adjective formations than that noted in the text which also can be given a broadly ‘possessive’ interpretation; as an example, formations involving the suffix *-ate* (*affectionate*) fall into this class. Others involve, rather, ‘belonging to’, as in the name based *Milanese* or *Andersenian* – though these can be synchronically idiosyncratic (*Liverpudlian/Liverpool*, *Dundonian/Dundee* or Gaskell’s (*Cranford*, Chapter 2) *Brunonian/Brown*). Similar to the *-ish* forms discussed in the text are formations in (the accented) *-esque*, perhaps because they are commonly based on names (e.g. *Pinteresque*, *Turneresque*) or some attribute of nouns (*statuesque*, *picturesque*); and there are opaque instances such as the etymologically complex *grotesque*. We should also note that there is a further, semantically related but categorially distinct derivation-type involving the *-ful* we find in adjective-forming. The suffix can also be added to a noun in the derivation of quantifying nouns like *cupful*, *bucketful*, *bellyful* and their metaphorical ‘offspring’. I shall call into question the suffixal status of these, however.

There is a thorough study of ‘collateral adjectives’ in English by Koshiishi (2010), along with discussion of many ramifications concerning morphological structure. In their foreword to Koshiishi’s work, Giegerich and Pullum (2010: xiii) provide a succinct account of the central argument of the book. They state that “[s]tandard form-based morphology” allows that:

*autumn* has an adjectival *-al* derivative, while *spring*, *summer*, and *winter* do not. That is all there is to it. But this entirely ignores the existence of the word *vernal*, which appears to have the *-al* suffix and, in semantic terms, seems to serve exactly as *\*springal* would if it existed. Is there no way to look at English that would represent the *spring* : *vernal* pair as related, just as the pair *autumn* : *autumnal* are related?

In fact there is, ...: the European tradition of meaning-based morphology. Under an approach of this kind, paradigms are recognised on the basis of semantic relations, and stem suppletion is a possibility in derivational paradigms just as it is, quite uncontroversially, in inflectional paradigms, ...

This, it seems to me, is to somewhat underplay the innovative character of what Koshiishi is proposing.

As Koshiishi himself acknowledges (2010: 57), “scholars ... are normally not willing to apply the term ‘suppletion’ to derivation”. And there has been if anything greater resistance to the attribution of “paradigmaticity” to derivation. Koshiishi goes on to explicate the reluctance to admit “derivational suppletion”. He observes that “the concept of suppletion presupposes the existence of neat paradigms, which are typically observed in inflection rather than in derivation” (2010: 57). Nevertheless, he later subscribes (2010: §2.5) to the idea, put forward by various previous scholars, that it is legitimate to talk of “derivational paradigms”, and he suggests “my approach can be interpreted as a kind of grammaticalisation of paradigmaticity based on semantic fields” (2010: 67). However, it seems to me that terminology such as “derivational paradigm” does some violence to the traditional, and useful, understanding of paradigmaticity (see further Anderson 2013a: §5). On the other hand, I suggest that suppletion is not so closely tied to paradigmaticity that it can’t be applied to derivational relations, though recognition of derivational suppletion extends somewhat the scope of derivational morphology. But it doesn’t seem to me that attempting to construct ‘derivational paradigms’ throws any further illumination on the situation. Suppletion need not apply only to paradigms, rather than also derivation.

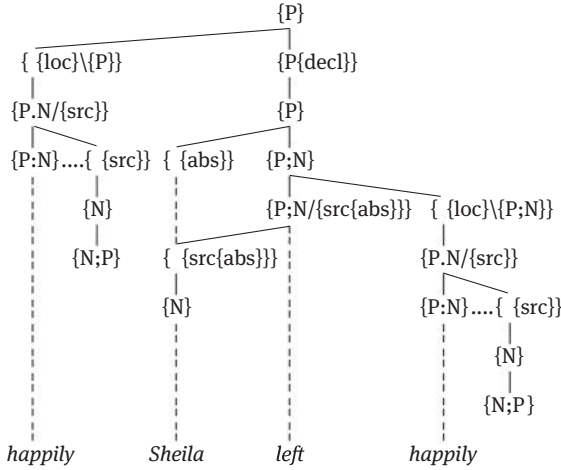
## On Chapter 23

For many speakers, *many/much* is recessive in favour of *a lot of* in a lot of contexts, and this is very characteristic of *much*. But affective contexts, particularly negative ones, are receptive to *much*. More generally, *less* is preferred to *fewer*.

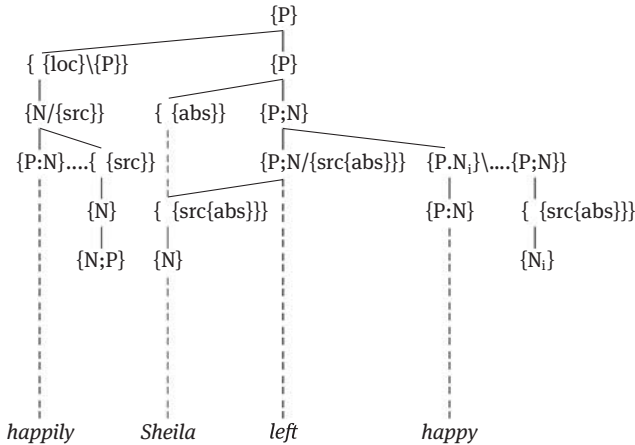
In the text I indicate how it is not helpful to talk about parts of speech – to attempt to establish them – in terms of associative, or paradigmatic, contrast, and to regard absence of this between two sets of items (so showing complementary distribution or free variation) as evidence for a single part of speech. I illustrated this in relation to the examples (109a) and (109d), which have been interpreted elsewhere as in free variation, and their proposed non-synonymous structures here given in (110a) and (110d).

- (109) a. Happily, Sheila left happily  
 d. Happily, Sheila left happy

(110) a.



d.



These illustrate that the final words in these sentences are structurally as well as notionally distinct, contrastive. *-ly* adverbs and their adjectival sources are not in complementary distribution or free variation; they show structural contrast.

In illustrating free variation, an even less convincing pair of sentences is cited by Giegerich (2012) from Payne *et al.* (2010: 52).

- (i) a. shortages both nationally and internationally of these metals
- b. shortages both national and international of these metals

These are again notionally and structurally quite distinct, as I shall spell out below.

It must be acknowledged at this point, however, that the categoriality of adverbs, given their internal complexity, which is also associated with deriva-

tive status, has been rather controversial. Pullum and Huddleston (2002: 562): describe adverbs as ‘modifiers of words that are not nouns’, but also point to the diversity of types of word and construction that different adverbs modify (p. 563). Much of this is also rather fully illustrated by Poutsma (1926: Chapter LIX), where, as is traditional, ‘adverb’ is regarded as a sub-type of ‘particle’.

A lucid and helpful survey of contributions to recent disputes in the interpretation of this area is provided by Giegerich (2012). Giegerich himself argues that adjectives and at least *-ly* adverbs, being ‘in complementary distribution’, belong to a single category. It will be clear, I trust, that I find this position untenable: ‘complementary distribution’ is not a phonological property that has a syntactic analogy. The parts of speech are in syntagmatic contrast. Nouns may be, in Giegerich’s terms, ‘in complementary distribution’ with homophonous verbs, but they do not belong to the same part of speech. The same is true of onset [j] and nuclear [ɪ].

Nor, as I have suggested, are the final words in (109a) and (109d) in free variation, nor are the phrases in (i), contrarily to what Giegerich suggests. The part of speech in these pairs, the structures they participate in, and their interpretations are distinct; they are in syntagmatic contrast, as are the initial consonant and the vowel in *wood*, despite similarities. The adverb here is a verbal modifier, and the adjective is an attributive, whose complexity and emphasis in (i) underlies the postposing. Compare (ii):

(ii) both national and international shortages of these metals

This illustrates the unmarked position of the attributive adjective.

The adverb/adjective distinction is clearer if we remove the coordination that permits the simple coincidence in sequence in (iii).

(iii) a. shortage(s) (nationally) of these metals (nationally)  
b. national shortage(s) of these metals

And even clearer in the wider context of a sentence.

(iv) a. (Nationally) there is (nationally) a shortage (nationally) of these metals (nationally)  
b. There is a national shortage of these metals

The notional distinctness of the adverbs in these, and their status as a verbal modifier is reflected in a quite different privilege of occurrence. The adjectives in these phrases are all attributives, pre-nominal in (iii-iv) and post-posed in (i). The adverbs are either (very generally) verbal modifiers or complements, or, elsewhere, pre-modifiers of adjectives, as in *fundamentally mistaken*.

Moreover, though Giegerich regards the *-ly* as inflectional and as part of the ‘same paradigm’ as the morphological comparative, we find the comparative suffix following the adverbializing suffix in *Then her usefulness upon the Blue Weekly began to link us closer* (H.G. Wells *The New Machiavelli*, Part IV, Chapter 1, §3). Wells is often a morphological innovator, but in this and other aspects of his use of language he shows himself sensitive to the idiom of the language. In this case he extends the (derivational) morphological comparative to one type of *-ly* adverb. All the same, adverb-deriving *-ly*, as Giegerich shows, is a rather unusual suffix in English. But both it and the comparative suffix are very unlikely inflections. The latter marks derivation of a particular variety of comparator from an adjective; the former marks derivation of an adverb from an adjective.

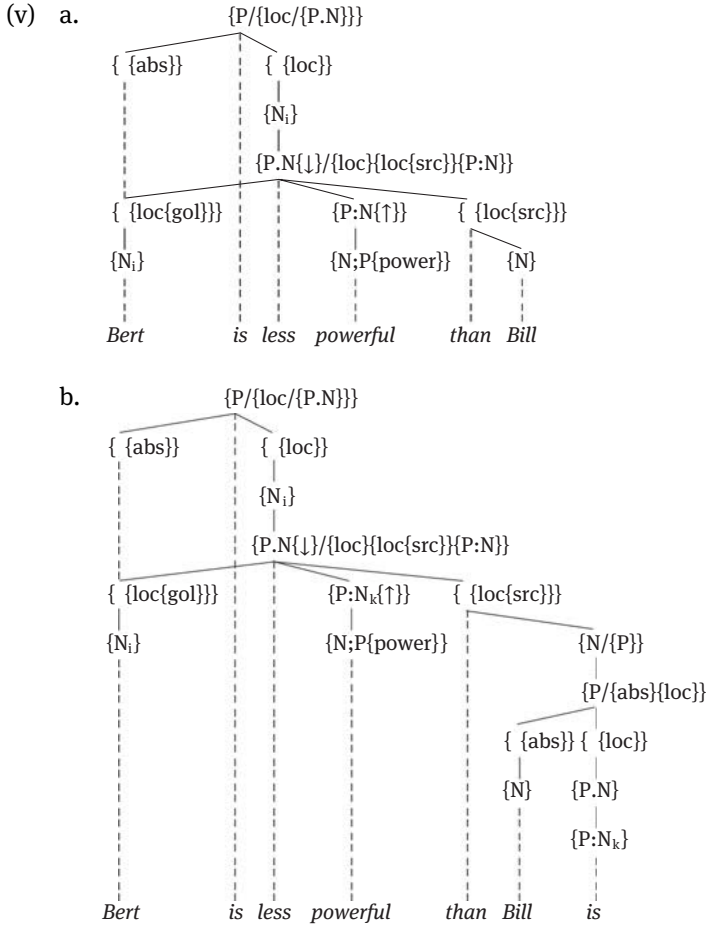
I suggest that the peculiarities of adverbs are associated with their status as a categorially complex part of speech; namely, specifically necessarily complex functors, with one potential complexity being, in the present case, an adjectival base. One peculiarity, noted by Giegerich, is the general failure of *-ly* adverbs to undergo derivational processes. However, they are not alone in this respect: *-ity* and *-ness* nouns, for instance, are not noted as sources of bases. And this might again be associated with the lexical complexity of such adverbs in particular.

The distribution of adverbs is that of a locative functor with subjoined {N} and possibly further derivational subjunctions; and they typically function as modifiers but may also be verbal complements. Adverbs are the result of both conversion (*in, fast*) and derivation (*slowly*) – as well as being underived (*soon, now*). And, indeed, historically *-ly* adverbs seem to be the outcome of conversion of an inflected form of an adjective, a not unfamiliar morphological history. A form that otherwise expresses the dative of adjectives and nouns in Old English may express manner circumstantials and the like (for references see e.g. Mitchell 1985: §§1408–12). The dative singular *-e* is subsequently lost; with adverbs formed on adjectives in *-lic* this leaves this suffix ambivalent. Interestingly, however, one finds in extant Old English a number of adverbs in *-lice* that show no adjectival equivalent. Kisbye suggests (1971: K1-3) that this ‘points to an early recognition of *-lice* as an adverbial sign in its own right (e.g. *swetlice, hwætlice* (= quickly), *heardlice*, etc.)’. Similarly, many Greek adverbs are derived from neuter plural adjectives in *-a*.

*-Ly* adverbs also illustrate the difficulties in formulating ‘rules’ for the resisting, based on phonological shape, of particular derivations. Thus, though in my experience *friendlily*, for instance, is often frowned on as ‘ugly’ and the like, examples such as that in Hugh Walpole’s *The Blind Man’s House* (part III, Chapter IV) I have encountered elsewhere. Similar difficulties are associated with comparatives and superlatives such as Thackeray’s *comfortablest*. Morphological-marked lexical regularities are typically associated with exceptions and mutability. Mer-

edith is particularly averse to the traditional proscriptions: thus, *fearfuller* (Vittoria, Chapter 42) doesn't precede *foolishest* by very much.

We might represent negative-polarity comparator structures with *less* (not illustrated in the text) as in (v).



Compare the reversed polarity of the comparator in (68), and, as an attributive, in (97); and see the Conclusion to Part III for a more general discussion of polarity. On the behaviour of *less* see also e.g. Anderson (2004b). We should observe here too the comparison of pairs of instances of a noun made available by the comparative negative in *the lesser of two evils* and of several instances in *the least of my worries*.

There is, of course, a vast bibliography or work devoted to gradient adjectives and comparison. Roger Böhm has drawn my attention to the mass of work



within various ‘formal semantics’ traditions, which has influenced my proposals, though such commonly invoked concepts as ‘vectors’ are, in my view, derivative abstractions from a substantive point of view; they are a kind of journey.

## On Chapter 24

There is a brief discussion of diachronic back-formation in Zandvoort (1964: §§827–8, 962), for instance. The first two sections there discuss compounds, and the examples include a quotation from *Punch*: ‘A gardener who was not really a gardener, and a game-keeper who did not game-keep’. Compare too H.G. Wells’ ‘another home that had to be housekept somewhere’ (*Brynchild*, Chapter 9, §4). And Trollope introduces an interesting twist in his ‘And if there had been some temporary backslidings in America – which might be possible, for which of us have not backslided at some time of our life? – why should they be raked up?’, from *Dr Wortle’s School* (Folio edn.), p. 27, where the derived verb has adopted the weak conjugation (cf. *backslidden/backsliden* elsewhere).

Zandvoort (1964: §962) also introduces examples such as the verbs *burgle* and *legislate* formed historically on the basis of *burglar* and *legislation*. Further historical examples are the verbs *injunct* and *redact*, only recently noticed by me – though the latter is rather a nineteenth-century re-introduction – though no doubt as a back-formation. Historical back-formation from noun to verb is particularly common.

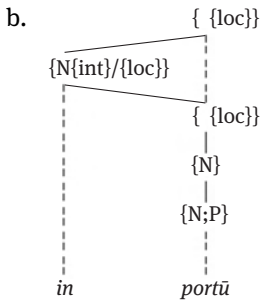
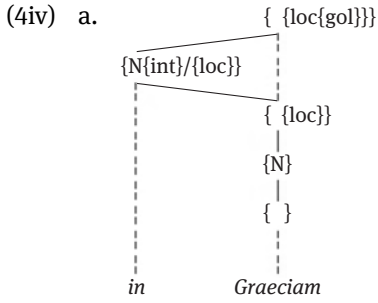
The prefix *un-* is now very unusual with simple nouns such as *unease*, but such usage was not uncommon in Old English. We find, for instance, *unlagu* ‘illegality, unlawfulness’ and *unland* ‘not-land’. In the text I point to the oddity of hyponymic attributivization, as in *\*a pig animal*. Obviously, this is not the case with a predication such as *A pig is an animal*, in a context where the proposition is unfamiliar or in question, or as an emphatic appeal. The status of hyperonymous ‘classifiers’ involves other considerations.

The representations for (104a,c) and (102c) in the text adopt the linking of a pair of categorial paths that was eschewed in the case of English genitives, and warrants some further comment.

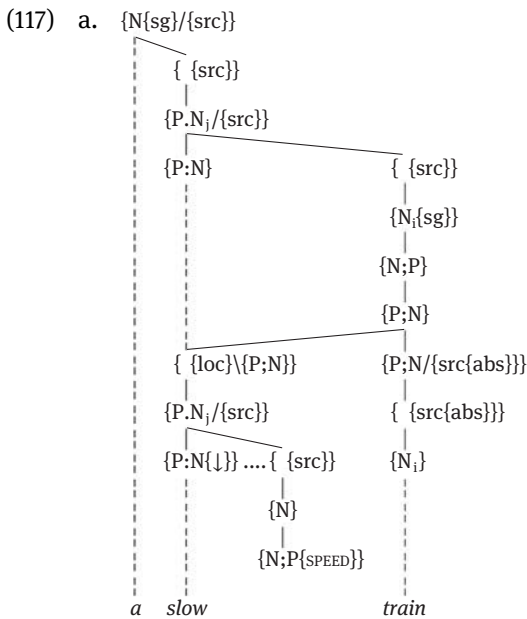
- (104) a. a fast drive  
c. a fast train

- (102) c. a slow train

As noted in the main text, such a possibility was also envisaged in Chapter 4 for Latin case inflections that are combined with prepositions, as in (4iv).



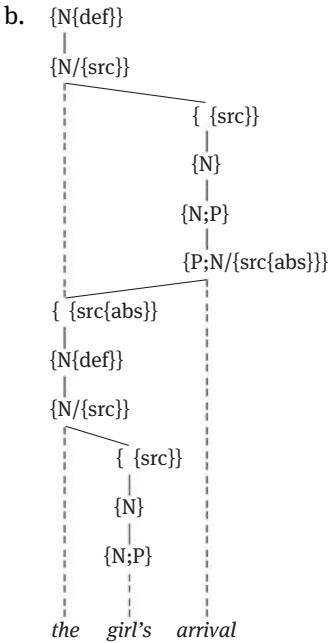
But (102c), for instance, requires a more complex representation.



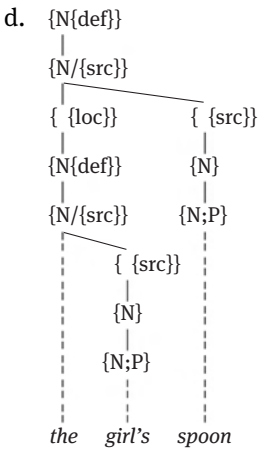
Such a structure recognizes not only the unexpressed derived status of the noun but also the notionally ‘adverbial’ status of the adjective. And here the adverbial chain modifies the verb base, as well as being linked to the attributive comparator. The latter is realized by absence of the adverbial suffix on *slow*.

However, the representation in (21b) for genitives is rejected in Chapter 19.

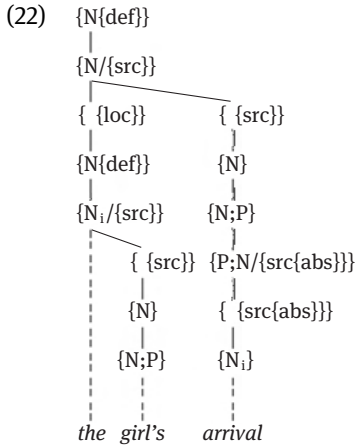
(21) a. the girl’s arrival



c. the girl’s spoon



Instead, the representation of *spoon* and most other nouns, even if derived, requires only the conventional structure in (21d). And such is adopted for (21a), as shown in (22).

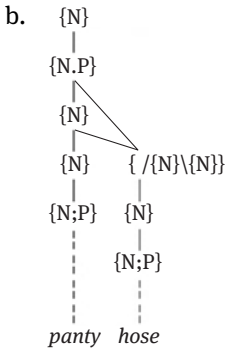


However, both the Latin case situation and that of the relevant set of adjectives in English have very different statuses from what characterizes the English genitive. The former two are lexical phenomena, though by no means sharing many other properties; but they both involve a lexical chain that consists of categories with an associative link. The position of the English genitive is a matter of syntax; it can be determined only at the lexicon-syntax interface, given that its domain may be indefinitely long (*the girl who ... in the garden's arrival*). The configuration in (22b) is not a viable syntactic structure; it could be put together only in the lexicon. But this is impossible with a structure that, like the genitival, can be indefinitely long.

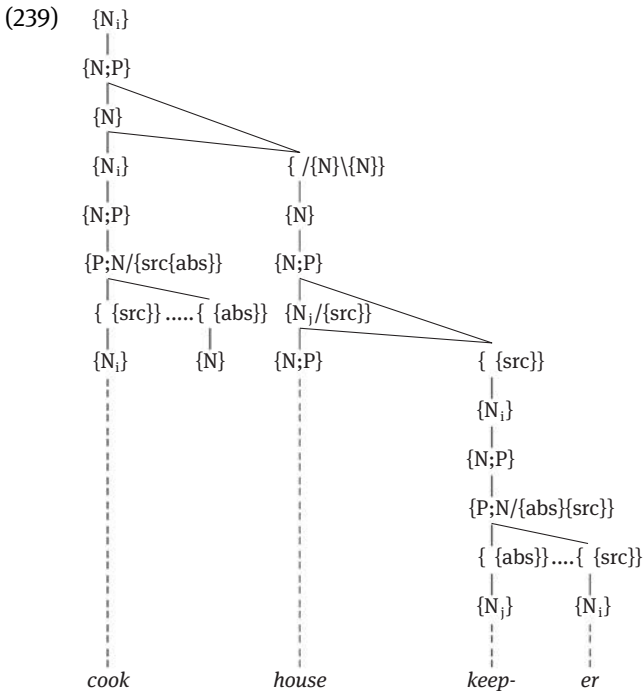
Isensee-Montgomery (2000: V.1.1) offers a survey of twentieth-century approaches to nominal compounding; Giegerich (2004) also surveys some more recent approaches. It will be apparent that I have drawn here upon some of the ideas in his paper, but reinterpreted within a notional framework. Giegerich also provides some more examples of adjective + noun sequences where Scottish speakers give 'phrasal accent' that in many other varieties are given initial-word accent. This will be relevant to our more detailed consideration of compounds.

An uncommon further type of nominal compound is that exemplified by (ia), which is not based on an attributive construction or a verbal one, but perhaps a coordination, as suggested in (iib).

(ii) a. panty-hose



The first component does not expound an attributive of the noun but (iia) a distinctive composite, whose representation in (iib) indicates a simpler coordinated compound than the coordination-based (239) from Chapter 30 in Part III, *cook-housekeeper*, with coordination of two deverbal nouns, one of them also a compound.

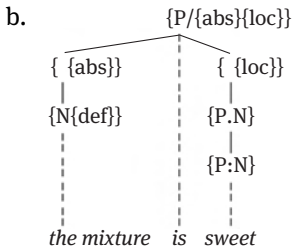


In both instances, the head of the syntactic source is left-headed, provided that coordination is indeed asymmetric, as suggested here.

## On Chapter 25

The locative construction illustrated in (133b) was attributed in the text to gradient adjectives like that in (133a).

(133) a. the mixture is sweet



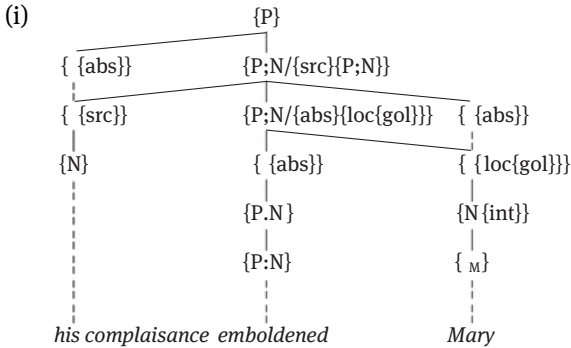
Contingency or non-stability of an item, including particularly such adjectives, is overtly expressed in a range of languages by an etymologically locative adposition or inflection (Finnish, Serbo-Croat, for instance) or use of a verb associated with contingency (Gaelic, Spanish, for instance), and often the same means mark ‘progressive’ verbal forms (see Anderson [1973a,c], who generalizes Darrigol’s [1829] analysis of Basque). Relevant phenomena were observed, apparently independently from Darrigol, in other more or less ‘exotic’ languages by various scholars later in the nineteenth century, and Müller (1882) and Wundt (1900) provide surveys. But through much of the twentieth century there is little mention of such observations as a general phenomenon – one exception being Entwhistle (1953: 212–3, 222).

In the text, both (135a) and (136c) are interpreted as incorporating a locative in the verb, but they differ in that the location in (135a) is an adjective but that in (135c) is a noun.

(135) a. His complaisance emboldened Mary

c. The inhabitants enwalled the city

An alternative for (135b) as a representation of (135a) would be (i), where *Mary* rather than the state is the location.



However, this separates the locative prefix from the interior location that it expresses, whereas (135b) is in line with the analyses in (134) based on recognition of the role of locative nouns and adjectives.

For most people, I imagine, a rather opaque pairing involving *dis-* is *discover* and *cover*. The diachronic specialization of the former has led to non-compositionality, which contrasts with the transparency of *uncover*. Rather less opaque is the usage exemplified by this passage from Hardy's *The Return of the Native*: '... looking out of the window with that drowsy latency of manner which discovered so much force behind it whenever the trigger was pressed.' (Folio edition, p. 160).

The *dis-* prefix is sometimes confused with *dys-*, a borrowed Greek prefix usually combined with other non-Germanic bases, as in *dyspnoea*, *dyspepsia*, *dysuria*, *dysfunctional* and not usually verbs. This is not a simple negative, but indeed suggests dysfunction of some sort, as opposed to the *eu-* of *eulogize*, *euthanasia*, *eugenics*, etc.

More generally on delocutive words, one variety of which was illustrated at the end of Chapter 25, see Plank (2005). In order to indicate the wealth of examples elsewhere than in the work of Wodehouse, here's just one delocutive from Edith Wharton: 'Many of them hailed him with enthusiastic "Old Nicks", ...' (*The Glimpses of the Moon*, Library of America edn., p. 150). In this instance a greeting is converted into a plural determiner phrase, however. So too in 'The "How d'ye do's," were quiet and constrained on both sides' (Austen's *Emma* [Folio edn. p. 336]). Another potential distinctive delocutive noun is provided by Roth's 'It involves a lot of son of bitches, a lot of crooks and bastards' (*Novels and Stories 1959–1962*, Library of America edn., p. 350). More typical is Thackeray's 'The Vicar comes to see us at Newcome, and eats so much dinner, and pays us such court, and "Sir Brians" papa, and "Your ladyships" mama' (*The Newcomes*, vol. II, Chapter IX).

Thackeray also adds to such familiar name-sourced examples as *Bowlerize* by providing us with a name source for a verb, again acting as a circumstantial, belonging to a character in the book in which the form appears: ‘I am afraid, in this particular, usages have changed in the United States during the last hundred years, and that the young folks there are considerably *Hettified*’ (*The Virginians*, vol. I, Chapter XXXIII). I shall not attempt to replicate Thackeray’s portrait of Hetty/Hester Lambert (q.v.).

## On Chapter 26

Chapter 7 of Patrick O’Brian’s *Clarissa Oates* offers a further nice example of a middle: ‘Try one of these toasted slices of breadfruit; they eat well with coffee’.

The native prefix *mis-* is sometimes confused with the descendant of the first part of the Greek-based compound (meaning ‘hatred of’) that we find in *misanthropy* or *misogyny*, each balanced with *philanthropy* or *philogyny*. *φιλανδρία* ‘love of men/husband’, however, has undergone a gender change in the sense of its English descendants.

A look at verbal prefixation confirms the admitted limitations to the morphologically expressed derivational lexical structures suggested in this Part. What has been attempted is to represent the skeleton of syntactic categories that can commonly be attributed to complex lexical items. This omits many variables among particular examples of the same suggested structure. One small instance of this involves the almost tautological prefix of the verb *unloose(n)*. However, though some figurative developments, for instance, are commented upon here, this account merely nibbles at a panorama of variability, both among the forms themselves and in the interpretation given to them by individual language users. Reconciling the latter is part of the negotiating process that characterizes inter-personal language use.

The rash of recent *un-*formations exemplified in the text by *unfollow* is played on by Alan Bennett’s ‘She wasn’t wholly infatuated, though she liked the way he looked; but, so did he and that uninfatuated her a bit’ (*Smut* [Picador], p. 101).

Two well-known critiques of the synchronic ‘syntax-feeds-lexicon’ approach rejected in the text are Fodor (1970) and Kimball (1970), though their motivations are very different from mine.

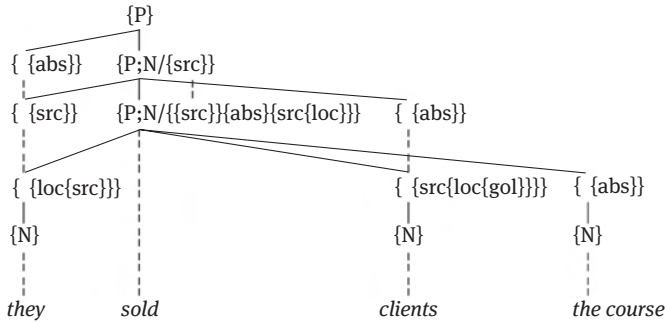
In the text we saw a number of pairs like that in (160).

- (160) a. Bill gave Doris a present  
b. Bill gave a present to Doris

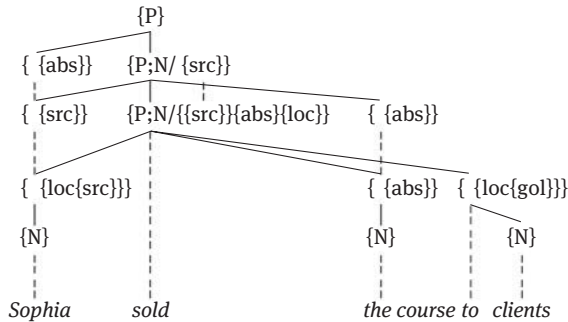


These sentences involve the subject as linked to a subordinate locative source with a post-verbal goal and an absolutive, and they differ in which of the post verbal participants is ‘raised’. This depends on whether the goal is a goal ‘experiencer’ or not. The same is true of (162a–b) (whose greater complexity is not characterized, however), whereas in (162c) the subject is linked to a locative goal and there is a post-verbal source and absolutive.

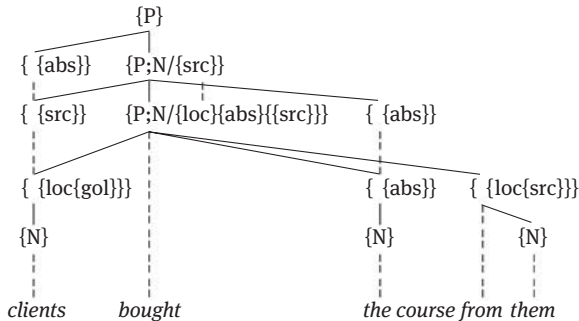
(162) a.



b.

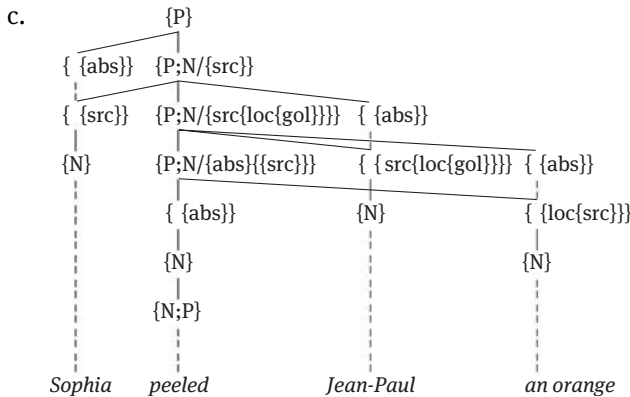
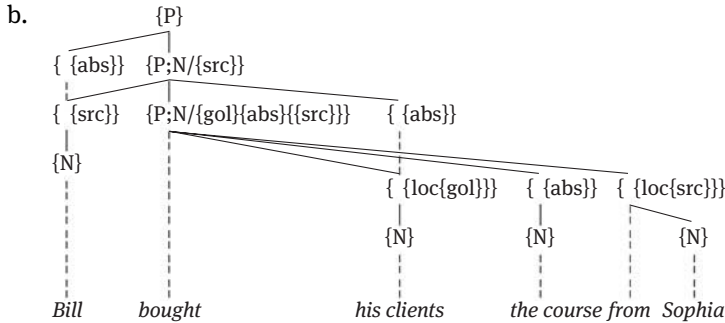


c.



But only one of the pairing corresponding to (160) and (162a–b) is possible when the agent is linked with a goal, that where the absolutive is raised, as in (162c). On the other hand, the locative goal (beneficiary) can occur independently as a participant, unlinked to the agent, as in (ia–b).

(i) a. Bill bought his clients the course from Sophia

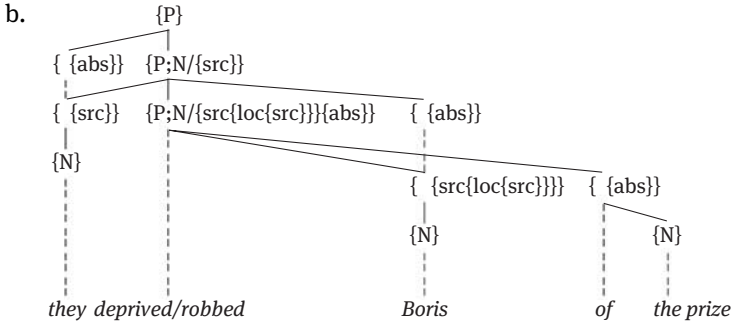


d. Bill bought the course from Sophia for his clients

Such a beneficiary can occur ‘obtrusively’, as in (ic), where, not unlike a classical ‘ethic dative’ (see e.g. Andor 2018: 65), it intrudes between the two predications of *Sophia peeled an orange*. A circumstantial ‘beneficiary’ is illustrated in (id).

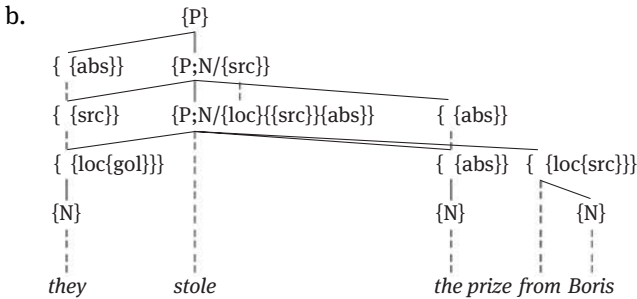
We can further illustrate the two ‘raising’ possibilities with causative directionals, with sentences containing the further ‘deprivation’ verbs in (ii) and (iii), where in (iib) ‘deprivation’ is signalled by the absolutive functor expressed by *of*.

(ii) a. They deprived/robbed Boris of the prize



The agentive source here may also be a subordinate beneficiary or it may not be, as represented here, where any beneficiary is unspecified. *Steal* shows what is notionally the other potential member of a ‘what’s raised’ pairing with *rob*.

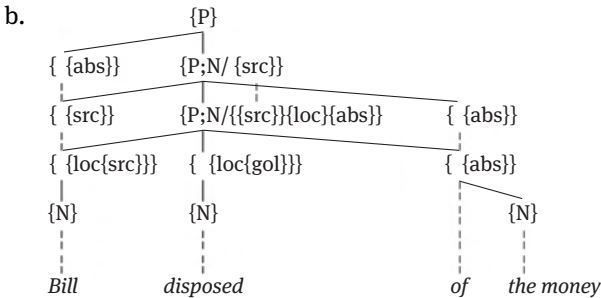
(iii) a. They stole the prize from Boris



Here the absolutive is raised. And, to illustrate the other, ‘linking/no-linking’ possibility, the locative goal is present and linked.

Another variety of such causatives with the *of*-absolutive is illustrated by (iv).

(iv) a. Bill disposed of the money



In this case the goal locative is not expressed overtly, but it could be simply non-existence, or the manner of disposing may be specified by a manner circumstantial.

The ‘positive’ equivalents of the ‘deprivation’ verbs in (ii) are illustrated in (va).

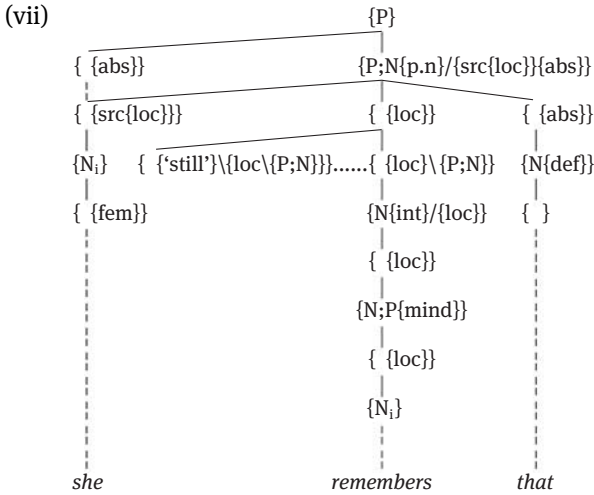
- (v) a. Jack provided/presented Boris with a bonus
- b. The basement filled with wine
- c. Bill filled the basement with wine
- d. Bill filled the basement with wine with a hose

*With* here I interpret as an absolutive, as already associated with loc in (vb). However the *with* in the causative equivalent of (vb), in (vc), is ambiguous between ‘holistic’ and ‘instrumental’, which appear separately in (vd).

A complex pair apparently involving causativization that we have not looked at in the text introduces some interesting considerations that are also relevant to more deconstructing that should be applied to some of the preceding examples: this is the pair *remember/remind*. The base of the latter gives us a clue to what we are concerned with: the content of the mind. Compare *I shall/have/bear that in mind*. If someone remembers something it is still potentially somewhere in their mind. That is, *remember* may be stative or punctual.

- (vi) a. Fred (still) remembers that day
- b. Fred may eventually remember that day

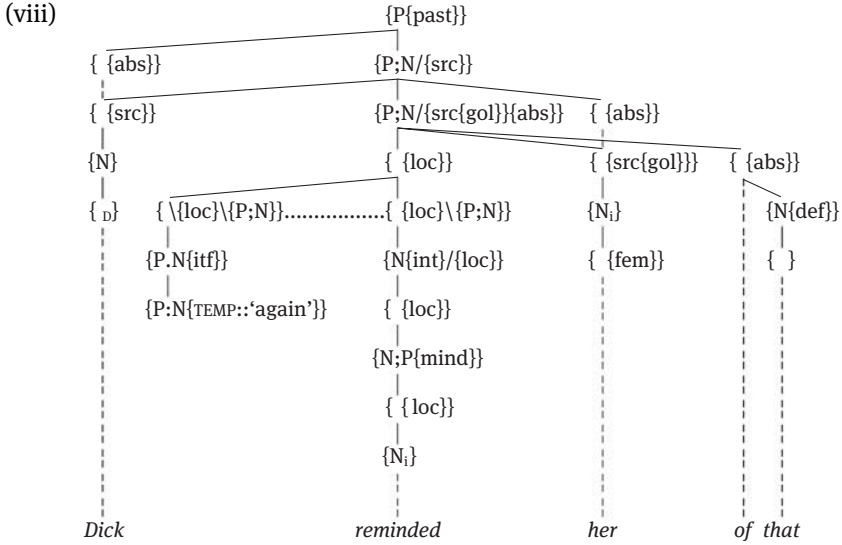
This suggests a representation like (vii) for (via), with a stative verb where I indicate roughly how an intensifier such as ‘still’ might be attached, whereas for (vib) the locative subjoined to the verb would be a goal.



The verb is normally stative. Subjoined to the {P;N} is a locative incorporated in the {P;N}, and it is specified by a temporal (provisionally abbreviated as 'still'); the locative heads a path that includes a representation for the interior of the subject's brain. But *remember* can also be punctual, in which case the locative head is a goal.

The availability of a dynamic *remember* is one factor that distinguishes it from *know*; the latter is necessarily stative, with dynamism offered by a different form, *learn*. But the normal inference with both is that the 'that' of (vi) etc. that is in the mind is true; but this is not necessarily the case with *think/believe*. *Think* in the sense of 'cogitate', however, is more active.

*Remind* is a causative above a directional {P;N}, where the latter is related to the punctual sense of (vi), and the complex verb might be represented as in (viii), with 'again' a possible intensifier.



But in this instance the intensifier is part of the lexical structure of the verb.

In other circumstances, perhaps better illustrated by *You remind me of my mother*, the sense is rather simply a non-intentional, such as ‘You make me think of’ rather than ‘You make me remember’. Often this involves the perception of some likeness, in behaviour or in physical features, for instance – or, say, as in *This again reminds me of the former debate ‘on the surface verb “remind”*’.

The representation of ‘mind’ as a container of knowledge is pervasive, one instance of which is provided by Sayers’ ‘Miss Murchison found herself walking up the Whitechapel Road, with a bunch of picklocks in her pocket and some surprising items of knowledge in her mind’ (*Strong Poison* [Folio edn.], p. 137).

The preceding commentary has tried to show something more of the richness of lexical (non-morphological) causatives and related forms in English, as affirmed in the text and illustrated more briefly there. Compare this account with illustration, within a similar framework, of morphological causatives in Turkish by Anderson (2006a: 256–9, 261–2, 266–7, 374, 376–7, 386), which also refers to further more extensive accounts elsewhere.

The text also alludes to, for instance, the possible figurativeness of *She goes along with her mother* (as represented in 164e). On figurativeness in general see particularly Chapters 33–4.

