

Historical Pragmatics of Controversies

Gerd Fritz, Thomas Gloning
and Juliane Glüer

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Volume 14

Historical Pragmatics of Controversies. Case studies from 1600 to 1800
by Gerd Fritz, Thomas Gloning and Juliane Glüer

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Case studies from 1600 to 1800

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The pragmatic organization of controversies

A historical perspective

Gerd Fritz

1. The study of controversies within the framework of historical pragmatics

In this introductory chapter, I will give a brief survey of the key questions and the state of the art in the historical pragmatics of controversies and in doing so I will provide some background to the case studies contained in this volume, and I will also give a preview on some of the basic ideas presented in these case studies.

Controversies make an attractive topic for historical pragmatics because polemical communications frequently show a characteristic pragmatic structure where the opponents seem to follow certain fairly well-defined rules and principles and where they also often explicitly mention such rules and principles and reflect on them. These contemporary reflections form a valuable aid to the analysis of historical forms of controversy, supplying us with useful background knowledge concerning prevalent common-sense theories of controversy and thereby providing us with comparatively well-founded analytical categories for the history of this form of communication. Another attractive feature of research on the history of controversies is that, compared with some other fields of historical pragmatics, e.g. the history of spoken dialogue forms, the study of the history of public controversies is in the fortunate position of having available a remarkable wealth of data, at least from the Early Modern period onward. And, as we shall see, the historical pragmatics of controversies can draw on well-established theoretical frameworks and a wide range of methodological expertise. So the historical pragmatics of controversies has all the makings of a promising area of research. In fact, it could become a paradigm of the pragmatic history of forms of communication.

In order to locate this area of research within the field of historical pragmatics it might be useful at this point to make a few remarks on the development of historical pragmatics in general, which itself is still a relative newcomer to the

discipline of linguistics.¹ In the course of the pragmatic turn in linguistics and neighbouring fields, scholars in the late 1970s and early 1980s became convinced that language use, the central topic of pragmatics, should be an object of historical research, just as the historical dimension of meaning had long been investigated in historical semantics. This impulse stimulated different lines of research, one line concentrating on the history of the use of individual lexical expressions, e.g. the development of discourse markers (cf. the survey given in Brinton 2010), another line dealing with various types of individual speech acts, e.g. swearing, insults, directives etc. (cf. Lötscher 1981, Arnovick 1999, Kohnen 2002) and a third line studying the history of types of dialogue, e.g. quarrels or forms of deliberation dialogue (cf. Fritz 1995, Jucker/Fritz/Lebsanft 1999) and the history of genres of text, e.g. news reports, private letters and forms of scientific, especially medical, writing (cf. Schröder 1995, Fritz 2001, Fitzmaurice 2002, Gloning 2008, Pahta and Taavitsainen 2010). The historical study of controversies belongs to the third line of research, as the analysis of the dialogical structures of controversies draws on methods of dialogue analysis (cf. Dascal 1989, Fritz 2003) and as one of the main topics of this study is the history of the text types and media used in controversies.²

There is one further distinction of approaches in historical pragmatics that should be mentioned here. Historical pragmatics can investigate the use of language at a particular point in time, e.g. the practice of swearing in Switzerland in the 16th century, but it can also study the evolution of language use over time. These differing approaches can also be applied to the historical study of controversies. In the case studies of this volume we primarily analyse actual controversies which took place at a certain point in time, but in taking an evolutionary perspective we also try to identify major trends in the history of controversies, e.g. remarkable developments in the use of textual genres like the “crisis” of the pamphlet form at the beginning of the 18th century and the rise of shorter text types in connection with the introduction of scientific journals during the same period.

Compared to the study of lexical expressions and individual speech acts in a historical perspective, the study of controversies is a fairly young area of research within historical pragmatics. Starting with early work in the 1980s (e.g. Dascal 1989, Schwitalla 1983), historical pragmatics of controversies has emerged as a field of study in its own right since the late 1990s (e.g. Bach 1997, Gloning 1999,

1. Details of the trends and developments in historical pragmatics can be found in the programmatic collected volume *Historical Pragmatics* (Jucker 1995), the volumes of the *Journal of Historical Pragmatics* established in 2000 and the handbook *Historical Pragmatics* (Jucker/Taavitsainen 2010).

2. On these lines of research and the place of the study of controversies in historical pragmatics, cf. also Fritz (2012).

Schwitalla 1999, Dascal and Cremasci 1999, Glüer 2000, Fritz 2003, Dieckmann 2005, Fritz 2005a,b, Gloning 2005, Fritz 2008, 2010). So far there has been particular emphasis on controversies in the 16th to 18th centuries, which can be considered the “Golden Age” of controversy in the Early Modern Republic of Letters. This focus is also characteristic of the present book. But there have also been related historical studies on 19th century controversies, e.g. on Darwin’s polemics (Regner 2008) and on medical controversies (Salager-Meyer and Zambrano 2001), and recently controversies in new digital formats like weblogs, mailinglists and open peer review have been studied in a historical perspective (cf. Khorasani 2008, Fritz 2011, Fritz and Gloning 2012).

The case studies contained in the present volume cover a wide range of fields of controversy, from astronomy/astrology, chemistry and medicine to religion and philosophy. Applying a methodology of linguistic communication analysis, they demonstrate for this period a remarkable uniformity of polemical practice in various parameters of the pragmatic form of controversies (types of moves, strategies, and communication principles), a uniformity that is, at least partly, due to the rules of disputation familiar to all European scholars at the time. But at the same time they show differences in style, e.g. between religious and scientific controversies, and far-reaching developments in textual genres and genre-related principles. Central issues that come up in several case studies are conflicts between traditionalists and modernists (in astronomy, medicine, chemistry, and theology), the validity of communication principles, especially the virulent question of scholarly politeness, and the differing “theories of controversy” which the opponents held. With two exceptions, i.e. the pragmatic analysis of the controversy between the philosopher Hobbes and the theologian Bramhall (1645–1658) and the analysis of the “virtual controversy” between Leibniz and Locke, these studies deal with controversies conducted in German. Our general outlook on the study of controversies was, however, developed against the background of a wider corpus of controversies, including polemical writings in Latin, French, and English. Quotations from the German texts are all translated into English, and for Leibniz’s “Nouveaux Essais” the English translation by Remnant and Bennett is used where specific aspects of the French original are not involved.

2. Research on the history of controversies

It is important for researchers working on controversies within historical pragmatics to be aware of the various strands of scholarship on the history of controversies in different disciplines outside pragmatics, including history, literary history, history of religion, the philosophy of science, the history of ideas, and the history

of various sciences (e.g. chemistry). I shall only give a few examples in order to indicate the range of pertinent research and its relevance to historical pragmatics.

Beginning by looking at research on the history of ideas and the philosophy of science, we acknowledge that the most important influence on our work from this quarter is research by Marcelo Dascal, who not only made groundbreaking contributions to the theory of controversy (e.g. Dascal 1989, 1998a) but also contributed exemplary historical studies, e.g. on the Malthus-Ricardo controversy (Dascal and Cremasci 1999), and edited an important selection of Leibniz's writings on controversies, which provide an invaluable source for our knowledge of 17th century theories of controversy (Leibniz 2006). Dascal also emphasized the fact that "controversies are indispensable for the formation, evolution and evaluation of (scientific) theories" (Dascal 1998b: 147).³ Seen from this point of view, it is not surprising that the analysis of controversies should play an important role in the history of science. An example in point is the role of the well-known phlogiston controversy in the development of modern chemistry, which involved Lavoisier, Kirwan, Priestley and many other famous chemists of the late 18th century and which was used as an illustration of "the structure of scientific revolutions" in Kuhn's influential book (Kuhn 1962). This controversy in its various strands has been the object of detailed research in the history of science for a long time (cf. Partington and McKie 1937–1939, Vopel 1972, Barrotta 2000). The German thread of this controversy, in which some of the most important German chemists of the period participated and which ended in the "conversion" of one of the protagonists, is analysed in a case study in the present volume (Chapter 8). Further important scientific controversies which have been studied in a fashion congenial to historical pragmatics include Galileo's debate with contemporary Aristotelians (cf. Biagioli 1993, Finocchiaro 1989) and controversies on astronomy in the early days of the Royal Society (cf. Shapin 1994). The conflicts surrounding the introduction of the "new astronomy" in the early 17th century also surface in a controversy which Kepler conducted with two medical men in the years around 1610. This controversy is analysed in detail in the opening case study of this volume by Gloning.⁴

There is also a considerable amount of relevant work in the fields of history and literary theory or literary history, where scholars have begun to analyse the history of their own discipline in terms of controversies.⁵ In the field of history,

3. Cf. also the subtle analyses by Yaron Senderowicz on problems of the history of metaphysics (Senderowicz 1998, 2010).

4. A very useful study of another of Kepler's controversies from the point of view of the history and philosophy of science is Jardine's work on the Kepler-Ursus-controversy (Jardine 1984).

5. The same is true of sociology (cf. Kneer/Moebius 2010).

recent volumes of collected papers bear witness to this trend, e.g. Lamont (1998), Lehmann (2000), Große Kracht (2005). The same is true of recent publications in the field of literary studies, e.g. Bremer (2006) and Spoerhase (2007). Apart from these recent developments, the study of literary controversies has for a long time been part of traditional literary history, a well-known example being research on Lessing's polemical writings (e.g. Feinäugle 1969, Mauser and Saße 1993). A useful book of a different kind, also written by an historian, is Habel's documentation and analysis of early scholarly journals of the 18th century, which deals, among other topics, with the practice of reviews and responses to reviews in these journals (Habel 2007). This book provides valuable background for the case study by Fritz and Glüer on "reviews and responses" in a late 18th century theological controversy (Chapter 7). That the musical world also had its share of remarkable controversies in this period is shown in a recent study by R. J. Arnold on the 18th century French *querelles* about opera that were conducted both in the form of pamphlets and in periodicals (Arnold 2017).

Religious or theological controversies have generally found much attention in recent research by theologians, philosophers, historians and literary scholars. The voluminous collection of papers by Hettema and van der Kooij (2004) gives a survey of the state of the art in the study of religious polemics. One of the most important recent studies in religious controversies from the point of view of historical pragmatics is the groundbreaking book by the historian Martin Gierl on the late 17th century Pietist controversy in Germany (Gierl 1997). Gierl's work inspired the case study on a later stage of this controversy by Fritz and Glüer in the present volume, which applies methods of historical pragmatics to data that are in many respects similar to Gierl's data. Another useful recent book on religious controversies, with up-to-date case studies of inter-confessional debates in the Age of the Reformation and Counter-Reformation, is Bremer (2005), written from the point of view of literary rhetoric.⁶ This book provides an interesting counterpart to Gloning's study of a religious controversy of the same period (Gloning 1999).

In much of the earlier research on controversies, especially in the history of philosophy and science, there is a tendency to view a controversy not so much as a dynamic linguistic exchange but as an opposition of standpoints on a certain issue, including arguments for these standpoints. So what is involved is essentially a confrontation of propositions, as E. Mendelsohn put it: "In studying the histories of many debates, we find that their authors have reduced them to their

6. A major theological project at the Mainz Academy of Sciences analyzes inner-protestant controversies in the period 1548–1580 (cf. <http://www.controversia-et-confessio.de>; Dingel 2013). On the basis of data collected in this project, Deicke (2017) analyzes the "culture of controversy" of this period from a network theoretical perspective.

abstract intellectual contents with at most some reference to human actors involved but more often focused wholly on the cognitive structures” (Mendelsohn 1987: 99). From the vantage point of historical pragmatics we get a different picture, which diverges in several respects from the “propositional” view of controversies: Historical pragmatics focuses not primarily on a particular disagreement as such, but on the pragmatic organization of the exchange in the course of which proponents of the different views deal with this disagreement. This perspective includes not only the propositional structure of a disagreement, but takes account of the dynamics of linguistic interaction, its contexts, text types, types of moves and the sequencing of moves, topic management, strategies, principles of communication etc. Consequently, historical pragmatics focuses not primarily on the history of conflicts or the history of ideas, but rather on the history of controversies as a form of communication. This does, however, not mean that historical pragmatics excludes aspects like the history of ideas. On the contrary, there is reason to assume that studies applying a pragmatic methodology have much to contribute to the history of science or the history of ideas (cf. Dascal 1998a).

3. The pragmatic organization of controversies in a historical perspective

3.1 Parameters of the pragmatic organization of controversies

Controversies form a highly complex family of forms of communication, which depend heavily on a background of social organization, of mutual knowledge, of routines, traditions, and norms, of the use of media, and on other socio-historical factors. As language games in Wittgenstein’s sense they are part of a form of life – e.g. of the life of scholars – and, again like Wittgenstein’s language games, they are also subject to historical change (cf. Wittgenstein 1953: § 23).

In studying public controversies as a form of communication in a historical perspective it is useful to organize one’s analysis by distinguishing different parameters of their pragmatic organization, which interact and thereby create the complexity which is characteristic of the structure of controversies. In the approach to pragmatic analysis applied here, this system of parameters defines the

basic structures of forms of communication.⁷ The following is a list of the most important parameters that have to be considered:⁸

- i. text types, genres and media,
- ii. stages of a public controversy,
- iii. individual contributions to controversies and their internal organization (moves and strategies),
- iv. topic organization and knowledge management,
- v. communication principles,
- vi. the language of controversy.

In each of these parameters we find a wide range of variation, and in each parameter we may expect historical changes.

In many cases, however, the analysis of these parameters has to be supplemented by a macro-perspective which takes into account a wide array of background factors. This is especially true if we are interested in the evolution of these forms of communication. The development of forms of communication is part of the wider development of the forms of life, and therefore developments in the practice of controversies must often be seen in the context of more general developments. Cases in point are the extreme rise in quantity and the growing acrimoniousness of public controversies during the Reformation period, the lively discussion of matters of politeness in 17th and 18th century controversies or the emergence of a “public sphere” in the course of the same period (cf. Goldenbaum 2004). The rush of polemical pamphlets during the Reformation period, both in Germany and in England, is, of course, due to and part of growing religious and political dissension at the beginning of the 16th century, but it would have been impossible without the invention of the printing press and the consequent emergence of a wider reading public. As for the question of polite conduct, this became an important issue in European societies in general from the late 17th century onwards (cf. Beetz 1990, Shapin 1994, Goldgar 1995), so it is not surprising that this question should also come up in the context of scholarly disputes. And finally, the publication of controversies can be considered part of the emergence of a public sphere – or rather public spheres –, a fact to which our case studies bear witness. Indicators of such a process are, for example, cases where the publication of parts

7. For further details of this approach, which, in the last 30 years, has been applied to various forms of communication and also to multimodal materials and to historical data, cf. Fritz (1982), (1995), (2017), Muckenhaupt (1986), Bucher (2011). Earlier work on controversies includes Gloning (1999), (2005) and Fritz (2003), (2005a), (2008).

8. Some of the ground covered in this section has been gone over in more detail in Fritz (2010). The present text is partly based on the earlier paper.

of scientific controversies of public interest was not restricted to scholarly media, but also included journals and newspapers for the wider public, as in the case of the theological controversy on Semler's "Treatise" (1771–1775) or the case of Gren's publication of his "conversion" in the course of the phlogiston controversy (1793), both dealt with in our case studies.

3.2 Text types, genres and media

Contributions to public controversies can take different forms. We find verbal utterances in oral disputations, personal letters meant for (later) publication, open letters, polemical tracts, pamphlets, whole books, articles in journals, reviews, polemical prefaces and footnotes in books, polemical sermons, polemical poems, and in recent times blogposts and comments in open peer review etc. The total array of such text types, genres and media available at a given time in history for a certain community of controversialists could be termed their "communicative economy" for this form of communication.⁹ Different text types and genres have their individual rules and routines which writers have to take into account when using them. It is quite obvious, for example, that 17th century pamphlets and sermons of the same period have their own respective traditions of rhetoric and provide different opportunities for polemical interaction, which have to be taken into consideration by an analysis of texts of these types. But at the same time we find common features that emerge from basic structures of controversy and through intertextual blending. The same is true of the use of different media, from the printing press to television and present-day digital formats.

For the period with which we are dealing in the present volume, the availability of the printing press is, of course, a fundamental factor. Whereas private discussions and even semi-public disputations generally reached only a limited public, the printed form of such disputations and pamphlets had the potential to reach a wide public, either by being read individually or by being read out in public, which was common practice in the 16th and 17th centuries. Generally speaking, the pamphlet was the prototypical form of contribution to controversies during the 16th and 17th and part of the 18th centuries.¹⁰ For this reason and because the textual form of pamphlets appears strange to modern readers in

9. For the concept of communicative economy cf. Knoblauch and Luckmann (2004) and earlier writings of Luckmann. The original German term for this concept is "kommunikativer Haushalt".

10. It is worth noting that in English the word *pamphlet* is used to refer both to a small printed booklet of normally eight to ninety-six pages in quarto (in German *Flugschrift*) and to a polemical type of text (in German *Streitschrift*), the connection between these uses being "the potential

some respects, I shall summarize a few aspects of pamphlets which are dealt with in more detail in several case studies of this volume. In order to understand some of the typical features of Early Modern pamphlets, however, it is necessary first to be aware of certain rules and principles of the contemporary practice of disputation. Disputations, which were conducted as oral exercises and as examinations in all European universities and which were also conducted as real-life exchanges, especially in political and religious conflicts, provided scholars in the Republic of Letters with a common model and resource for the management of controversies.¹¹ Fortunately, we have a fairly clear picture of the basic rules and the practice of disputation, as there are contemporary protocols of disputations, e.g. the “Baden Disputation” of 1526 between Catholic and Protestant theologians,¹² textbooks on the *ars disputatoria* (e.g. by Jakob Thomasius 1670), and contemporary reflections on the theory and practice of disputation (cf. Leibniz 2006).¹³ A few remarks on the rules of disputation will be in order. Normally, there are three protagonists in a disputation, the chairman (*praeses*), the respondent (*respondens*), and the opponent (*opponens*). The theses to be defended having been agreed upon beforehand, the opponent opens the first round (*conflictus*) by repeating the theses, i.e. stating the *status controversiae*, and then producing his objections with a backing of syllogisms. Now the respondent answers by repeating in turn the opponent’s attempted refutation and then trying to rebut the refutation. If the opponent has nothing more to answer to this, the procedure moves on to the next point (*argumentum*), otherwise the opponent can open up another round by repeating the respondent’s rebuttal and formulating objections against this rebuttal. Basically, the aim of the procedure is to defend a given position by refuting criticism launched at this position. This is also shown by the fact that the rules of disputation lay the burden of proof (*onus probandi*) on the opponent. The most remarkable features of these rules are the insistence on the permanent repetition of the *status controversiae* and the arguments provided by the opponent and the rule that the arguments

of cheap print as a vehicle for controversy” (Raymond 2003: 12). In the present article, the word *pamphlet* always refers to the polemical text type.

11. A second model mentioned in the literature is legal procedure and the tradition of legal rhetoric (cf. Gierl 1997: 145ff.; Bremer 2005: 42).

12. The protocol of this famous disputation has recently been digitalized (cf. <http://www.e-rara.ch/doi/10.3931/e-rara-652>). Cf. also Schindler/Schneider-Lastin (2015).

13. Recent research has done much to deepen our knowledge of the practice of disputation (cf. Freedman 2010, Marti 2010, Paintner 2010). It is noteworthy that in parallel with the common practice and teaching of the art of disputation there was a continuous flow of criticism of the disputation format, denouncing it as only leading to useless bickering and wrangling among scholars.

have to be dealt with point by point. These rules of disputation were meant to ensure a well-organized procedure, especially concerning topic management, by which the “vices of confused disputes” (Leibniz 2006: 1–6) should be avoided.¹⁴ Now the structural properties defined by these rules are, as a rule, directly transferred to the average pamphlet. The rule that the opponent has to make the first move in the disputation is mirrored in the fact that the prototypical pamphlet is a refutation pamphlet. It is furthermore characteristic of the pamphlet structure that a participant always repeats the opponent’s arguments on the point at issue before embarking on his own defence or refutation. This leads to a typical double structure for each individual point being discussed. Examples of this structure can be found in all our case studies dealing with pamphlets. As an illustration I quote a passage from Kepler’s answer to his opponent Röslin (Kepler, “Antwort”, 1609), where he first repeats his opponent’s claim on a particular point and then adds his own refutation of this point:

Ibidem. D. Röslin. This misconceived doctrine of the movement of Earth has also destroyed Kepler’s *Physics* making him ascribe to the Earth the government of heavenly actions.

Kepler. Although it is true that this idea, i.e. that the Earth itself plays a causal role in the influence of celestial *aspects* on the Earth, looks much more powerful if one assumes the Earth to move (around the sun), my *Meteorology* does not rely on this assumption: it remains valid even if one assumes the Earth to stand still.

(*Ibid.* D. Röslin. Diese vngereimte lehr von beweglichheit der Erden/hat auch dem Keplere sein gantze *Physicam* zerstört/das er der Erden zuschreibet *principatum Actionum coelestium*.)

Kepler. Ob wol nit ohn/das diese mainung (wie nämlich die Erd selber vrsach dazu gebe/das die himmlische *Aspecte* in sie würcken) viel ein stattlichers ansehen bekommet/wann man glaubt das sie auch vmblauffe/so ist doch diese meine *Meteorologia* nit auff den vmblauff der Erden gebawet; sondern besteht für sich wann auch gleich einer fürgibt/die Erde stehe still. (Kepler, “Antwort”: 110, 42ff.)

As for the microstructure of a pamphlet, this presentation of the opponent’s position together with the proponent’s answer forms a dialogical sequence which shows the connection between move and countermove, emphasizing the dialogical nature of the controversy and contributing to the liveliness of presentation.

14. It is worth mentioning that (some) present-day authors – or authors of the recent past – are very much aware of these traditional rules, as, for example, Derrida’s remarks in his “Afterword” to the Searle-Derrida controversy show: “... I try to submit myself to the most demanding norms of classical philosophical discussion. I try in fact to respond point by point, in the most honest and rational way possible, to Searle’s arguments, the text of which is cited almost in its entirety” (Derrida 1988: 114).

At the same time the juxtaposition of move and countermove is also a device for bringing the readers up to date concerning the topics of the controversy and for providing them with criteria for judging the relevance of the proponent's answers.¹⁵ On the other hand, this kind of structure interrupts the flow of topics from point to point and can therefore be quite confusing for the reader. This is especially the case when this kind of structure is duplicated in a later pamphlet of the same controversy. A good example of this kind of textual structure can be found in Hobbes's "The Questions concerning Liberty, Necessity, and Chance" (1658), where, for each individual point of the 38 points under discussion, he replays three rounds of the controversy before giving his own latest "animadversions". As an example of this technique, I present a slightly abbreviated version of the exchange for point no. XVII:¹⁶

J.D. "Fifthly, take away liberty and you take away the very nature of evil, and the formal reason of sin. [...] Therefore it appears, both from Scripture and from reason, that there is true liberty."

T.H. To the fifth argument from reason, which is, that if liberty be taken away, the nature and formal reason of sin is taken away, I answer by denying the consequence. [...] And thus you have my answer to his objections, both out of Scripture and reason.

J.D. [...] it seems T.H. thinks it a more compendious way to baulk an argument, than to satisfy it. [...] But it will not serve his turn. And that he may not complain of misunderstanding it [...] I will first reduce mine argument into form, and then weigh what he saith in answer, or rather in opposition to it. [...]

Animadversions upon the bishop's reply no. XVII

Whereas he had in his first discourse made this consequence: "If you take away liberty, you take away the very nature of evil, and the formal reason of sin": I denied that consequence. It is true he who taketh away liberty of doing, according to the will, taketh away the nature of sin; but he that denieth the liberty to will, does not so. But he supposing I understand him not, will needs reduce his argument into form, in this manner. (a) "That opinion which takes away the formal reason of sin, and by consequence, sin itself, is not to be approved." This is granted. "But the opinion of necessity doth this. This I deny; [...]"

(Hobbes, "The Questions concerning Liberty, Necessity, and Chance": 228–233)

So what we see in pamphlets of this kind is a double textual structure, on the one hand the sequence of topics provided by the target text of the refutation – sometimes itself a refutation pamphlet –, on the other hand the point-by-point

15. In his controversy with Hobbes, Bramhall remarked that this structure permits the reader to compare plea with plea and proof with proof (Bramhall, "Castigation": 506).

16. "J.D." stands for Bramhall, "T.H." for Hobbes.

processing of these points with its dialogical structure. This characteristic structure has its advantages, e.g. it favours an orderly procedure and it provides a criterion of completeness of refutation, but it also has grave disadvantages of topic management for the refuting party, who has to stick to the opponent's agenda of topics, and for the reader, who might be confronted with problems of orientation and readability. The writers of pamphlets often try to compensate these disadvantages by introducing various helpful textual elements, which we shall deal with later on. In many cases controversies consist of longish exchanges of pamphlets, which, due to the structures mentioned before, tend to grow longer and longer, a fact which is also often mentioned by the protagonists as a challenge for scholars participating in controversies.¹⁷

In view of the particular properties of pamphlets, it is not surprising that controversialists sometimes sought to avoid this text type and used other vehicles of controversy instead. A case in point is August Hermann Francke, who in his controversy with Johann Friedrich Mayer and other orthodox Protestants not only wrote several longish pamphlets, but also wrote shorter open letters, in which he could follow his own agenda and concentrate on the topics most important to him, without having to go through the point-by-point procedure (cf. Chapter 5 in this volume).¹⁸ In addition, he preached polemical sermons on four occasions, of which at least one was later also printed.¹⁹

New types of text for contributions to scholarly controversies came into being with the advent of scholarly journals in the late 17th century. In the shorter texts of this medium, often written in the form of letters to the editor, the principle of complete and detailed point-by-point refutation was relaxed, so that the opponents could concentrate on the central points of a controversy and give a clear profile to their own position. A prime opportunity for opening up controversies was provided by the newly created text type of review, which dominated many of the early scholarly journals. Many authors soon realized the advantages of the new medium and used it to present their own research and to criticize their colleagues. A case in point is Leibniz' controversy with Papin in the "Acta Eruditorum" of 1689 to 1691

17. On one occasion, Philipp Jakob Spener, a prominent Pietist theologian, decided not to continue a controversy in which his opponent had produced a pamphlet of 1200 pages (cf. Gierl 1997: 181).

18. Earlier on Philipp Jakob Spener had also used the open letter as a polemical tool (cf. Essig 2000: 98). No doubt, for both these Protestant authors Luther's open letters were an example they followed (cf. Bremer 2005: 76ff.).

19. In the early phases of this controversy there were also reports of legal experts, another text type of controversy.

(cf. Freudenthal 2002, Rey 2010).²⁰ As for the role of reviews, it is interesting to see that in some cases there was an interplay of journal reviews with answers to reviews in form of pamphlets, as in the case of Johann Salomo Semler's reactions to reviews of his "Treatise on the free investigation of the biblical canon" (1771, cf. Chapter 7 in this volume). As an example of a controversy mainly conducted within the framework of journals we have the German strand of the phlogiston controversy mentioned before, which is analysed in the case study of Chapter 8 in this volume.

3.3 Stages of a public controversy

In many cases public controversies have a previous history of private discussion, which, in the corpus of controversies presented in this volume, is true of both the Kepler-Röslin controversy and the Hobbes-Bramhall controversy.²¹ In both cases the process of going public was mentioned as a notable and not particularly agreeable step in the course of the controversy. As for the opening stages of controversies in general, we find two basic types: In the first case the starting point is a text which is not necessarily intended as a polemical contribution, but which in some way affects the interests or the reputation of some other person (e.g. a theologian or a scientist). In this case the actual controversy is initiated by the opponent who refers to this publication and tries to refute whatever seems to affect him. On the other hand we have polemical writings which are expressly written to open up a controversy or to make public a controversy that is already in the making. In our corpus, Semler's "Treatise" on the biblical canon could be considered of the first type, whereas Osiander's "Warning" with its accusations against Jesuits (1586, cf. Gloning 1999) represents the second type. Hobbes's "Liberty and necessity" (1654) is an interesting intermediate type, as it answered a privately distributed treatise by Bramhall and was also written for private use, but as it was published in London without Hobbes's permission in 1654, it effectively started the public controversy.

Joining in a controversy could be a risky act, so participants in their opening contributions often justified their decision to participate, stating, for example, that the truth had to be made public or that their own reputation or that of their confederates had to be defended. And there were also cases where persons expressly or implicitly refused to take part in a controversy. A good example is John Locke, who refused to be drawn into a controversy with Leibniz (cf. Chapter 6 in this volume).

As for the mid-play of a controversy, the typical 16th to early 18th century controversy consisted in an exchange of pamphlets which were related to one

20. It is worth noting that the discussion of topics of this public controversy was later continued in a private exchange of letters (cf. Rey 2010).

21. On Kepler's correspondence and controversies in the field of chronology, cf. Grafton (2009).

another by the rules and principles of disputation. As examples of this procedure and its variants are analysed comprehensively in the case studies of this volume, I shall not get into this here. I shall however mention a few aspects of the dynamics of controversies which are relevant to an analysis of the mid-play of controversies.

1. There are many instances of controversies which start with two opponents, in the course of which, however, others join in and so create a network of threads of controversy. In his analysis of the Pietist controversy, Gierl (1997: 186) expressly stated that theological controversies are teamwork (“Theologenstreit ist Teamwork”).
2. In some cases it appeared more economical for a writer to refute two or more pamphlets at a time, so we find a kind of “omnibus refutation” as a particular type of text. Lucas Osiander’s joint refutation of two pamphlets by Jesuits in 1586 is an example of this strategy (cf. Gloning 1999: 83).²²
3. After the first moves of the opponents the opportunity could arise for a third party to take up an intermediary position and to try acting as a mediator, as in the case of Kepler’s “Tertius interveniens” (“a third party intervening”, 1610) or Michaelis’ review (1772) of Semler’s treatise on the biblical canon, in which, with the advantage of knowing the state of the controversy after the first two rounds, Michaelis tried to give a non-partisan (“unpartheiisch”) view of the controversy and to adjudicate in the conflict (cf. our case studies in Chapters 2 and 7).
4. In the course of longer controversies there may be marked shifts of topic and of tone. Such dialectical shifts are often indicators of critical phases in the dynamics of a controversy.²³ A case in point is the Protestant-Jesuit controversy analysed in Gloning (1999), where, during a short interlude, the exchange moved from the religio-political question of Jesuits threatening Protestants to genuinely theological differences of dogma. This change of topic went hand in hand with a change of preferred moves. In this phase, polemical moves like open insults were much less frequent and the participants spent much more time than in earlier pamphlets on presenting, clarifying and explaining their own position as well as on defining the points of difference. It was at this point of the controversy that chances for some kind of resolution became apparent. However, this did not last, and the opponents soon reverted to their original polemical style (cf. Glüer 2000: 395f.).
5. One of the most interesting factors in the dynamics of controversies is the use of different media and media formats in the course of a debate. In using

22. Gierl gives similar examples from the Pietist controversy (cf. Gierl 1997: 191).

23. On the topic of dialectical shifts, especially the question of “licit” vs. “illicit shifts”, cf. Walton/Crabbe (1995: 100ff.), Walton (1998: 198ff.).

and often combining different media, the participants could make use of the respective potential of these media. As we already mentioned, A. H. Francke used pamphlets, open letters and polemical sermons in his defence against his orthodox opponents. About sixty years later, the theologian Semler published the reviews of his treatise together with his responses to these reviews in one volume. In so doing, he produced a compendium of parts of the controversy as seen from his own perspective. In the late 18th century the examination and discussion of Lavoisier's chemistry in Germany took place in journals on the one hand and in chemical textbooks on the other (cf. Frercks 2006). Furthermore, parts of this debate were presented to a wider public in newspapers (cf. Chapter 8 in this volume). Multimedia approaches to controversies have come to the fore even more visibly since the advent of new media in the 20th century. This is true of television as it is of the new digital media like weblogs and open peer review journals. For the study of the evolution of forms of controversy the use of different media is a particularly fruitful topic of historic-pragmatic analysis.

A much-discussed aspect of controversies is the “resolution and closure of disputes” (cf. Engelhardt and Caplan 1987), which should ideally coincide with the concluding stage. The ideal types of endings include the persuasion of one of the parties, the reaching of consensus or the final attainment of truth. Remarkably, however, most actual controversies in the fields of philosophy, religion and politics do not, strictly speaking, find a resolution at all. They often go on and on, or they just peter out, sometimes the protagonists die or they are exhausted or just lose interest. In some cases closure was externally enforced, as in the case of Lessing, who was forbidden in 1778 by the Duke of Brunswick to continue his controversy on biblical criticism, or in the case of Galileo, who in 1633 was forced by the Inquisition to abjure his “errors and heresies” (cf. Finocchiaro 1989: 291). As Dascal has shown, there is a type of debate, which he calls a *controversy* stricto sensu, where one typical outcome may consist in the mutual clarification of the positions involved (cf. Dascal 1998a: 22). With certain reservations this could be said of the Hobbes-Bramhall controversy, where Bramhall grudgingly admitted at a late stage of the debate: “Yet from our collision some light hath proceeded towards the elucidation of this question” (Bramhall 1658: 211). A similar view is expressed by Gierl concerning the development of the Pietist controversy when he claims that the religious movement known as “Pietism” did actually arise in the refutation flow of the controversy (Gierl 1997: 256). A fairly rare outcome of a controversy, which is more frequent in science than in other domains, consists in one of the antagonists being converted to the position of the other. This happened on various occasions in the course of the chemical controversy on phlogiston, where in the 1790s prominent supporters

of the phlogiston theory (e.g. Kirwan and Gren) publicly converted to Lavoisier's theory of oxidation (cf. the case study on Gren in Chapter 8 of this volume).

3.4 Moves and strategies

Many of the moves we find in historical controversies belong to familiar speech act types like statements, objections, criticism, accusations, and insults, but we also find more specific moves like various types of arguments, concessions, retractions, reformulations and more complex moves like "stating the question" (or the "status controversiae"), providing proof, giving examples, refuting an argument, "reducing an argument into (syllogistic) form" ("ex discursu facere syllogismum formalem"), introducing a conceptual distinction ("distinctio"), raising "points of order", nailing a fallacy, complaining of jargon etc. From a historical point of view, there are many questions concerning the intricate details of such moves, e.g. the characteristic contents of accusations, what counted as an insult, what counted as proof in certain historical periods, the types of claims made and the types of arguments used and accepted by the opponents, and finally the details of the linguistic form of these moves in various periods of different languages. Many of these moves and their use in the context of controversies are analysed in the case studies of this volume.²⁴

In analysing dialectical moves, the historical pragmatics of controversies is closely related to questions of argumentation theory and can profit by using analytical tools provided in the relevant disciplines (e.g. Hamblin's work on fallacies, Hamblin 1970).²⁵ This is true of a type of argument much used and much discussed in the Early Modern period, the "argument from authority", which was analysed in detail by Walton (1997) and others. Whereas in the 17th century the "traditionalists", e.g. the Aristotelians, systematically relied on this type of argument, referring both to classical and to biblical authority, the "modernists" criticized this practice, insisting on the use of reason and empirical methods alone. This did, however, not prevent them from quoting their own "modern" authorities and praising them.²⁶ This is part of the rhetoric of innovation which is typical of many contributions to 17th century controversies. Concerning the views on innovation, it is interesting to see that, in the middle of the 17th century, the word *innovator* was a pejorative expression for a theologian like Bramhall, an expression he used to criticize his adversary Hobbes.

24. For various uses of accusations in Early Modern controversies cf. Fritz (2005a).

25. Useful methodological tools are also to be found in the work of van Eemeren and his associates (e.g. van Eemeren/Grootendorst/Snoeck Henkemans 2002).

26. Good examples of this strategy can be found in our case study on the medical controversy by Gehema and Geuder (1688/1689).

Examples of dialectical and rhetorical strategies which are often used and commented upon in the controversies of our corpus are the following: repeating arguments, making small concessions, accumulating accusations, introducing digressions, shifting the burden of proof, using *reductio-ad-absurdum* arguments, representing the opponent's position in a way favourable to one's own standpoint, using comparisons, using metaphor and irony etc. Again, many examples of strategies of these types are discussed in the case studies of this volume.

3.5 Topic organization and knowledge management

In spite of the well-known rules of disputation, which were, at least in part, exactly intended to secure the orderly management of topics, "jumping from one topic to the other" (cf. Leibniz 2006: 3) was a problem often commented upon in Early Modern controversies. On the other hand, the restrictions of the point-by-point procedure tended to discourage authors from bringing in new topics, providing relevant background information or setting out their own position in necessary detail. It is interesting to see how the writers of pamphlets dealt with this conflict by using textual devices like digressions and additional bits of text outside the point-by-point refutation. A good example of the latter strategy in our corpus is Hobbes's "Of liberty and necessity" (1654), where he partitions his text into two parts, first trying to refute all of Bramhall's arguments point by point and then going on to give a short statement of his own doctrine.

Apart from dealing with their opponent, authors had to think of their readers too. With texts of ever growing complexity, helping readers to keep track of the proceedings was an important task for writers of longer polemical texts. For this purpose they often introduced detailed tables of contents, sometimes including a summary ("argument") of the subject matter, indices of topics, systems of numbered paragraphs, and marginalia.

Generally speaking, taking into consideration the knowledge of the audience was a material factor of success for an author of polemical texts. In well-organized pamphlets there are various places where background knowledge could be provided, of which I shall mention a few. As a first indication, the title of a pamphlet could be used as a reminder of what had gone before in the controversy. Another place is the dedication, which often served as a summary of the state of the controversy and/or as a summary of the contribution to which it was attached. So dedications could be an important source of information for cursory reading. In some cases authors gave their readers a short "history" of the controversy in the preface of their pamphlet. Extra information for the readers could be considered necessary when providing backing to a claim of one's own or when refuting an opponent's claim. At this point authors could introduce textual elements of a mainly informational

nature, including summaries of research, collections of empirical data or historiographical passages. Examples of this type of textual element are Kepler's collection of meteorological data from 16 years of observation in his "Tertivs Interveniens" (Kepler 1610: 254–257), the chapter on the history of astronomy in his "Apologia pro Tychone" (cf. Jardine 1984: 101–119) or Geuders little tract on the proper use of bloodletting (Geuder 1689: 47–56). As textual elements of this kind were sometimes rather long, they could present a problem to topic continuity. Therefore authors tended to mark such passages as special building blocks and to make explicit their connections to the surrounding text and the ongoing topic.

3.6 Communication principles

In controversies the participants often do things which, in a well-behaved discussion, one should not do. Early Modern controversialists made no exception to this rule. They tended to evade arguments, to write incomprehensibly, to intentionally misunderstand their opponents, to insult them, and to commit all kinds of fallacies. And their respective opponents frequently complained about these forms of dialectical malpractice. Lists of complaints like the ones mentioned before were frequently drawn up in the history of controversies, for instance by Leibniz (cf. Leibniz 2006: 5; 205f.). For us, these complaints provide a substantial source of historical knowledge about communication principles that were considered valid during a given period. Knowing which communication principles the participants of controversies accepted, even if they frequently violated them, is an important part of our knowledge of the theories of controversy that people applied in their polemical practice.

Taken at a certain level, such principles seem to be fairly simple and universal, like for example the principle of relevance, but as soon as we go into empirical detail we realize that the principles people mention (and follow) are often much more fine-grained and that they form highly complex families which are differentiated according to social groups (e.g., scholars vs. courtiers) and types of text (pamphlets vs. reviews) etc., and which are also historically variable.²⁷ In order to illustrate the range of principles we are dealing with, I shall now present a small selection of principles that are regularly mentioned in Early Modern controversies. A longer list of principles and a more detailed discussion are given in Fritz (2008).²⁸ Generally speaking, relevant communication principles can be

27. These are aspects of communication principles (or "conversational maxims") that are sometimes overlooked in the Gricean tradition (cf. Grice 1989: 26ff.). For a detailed discussion of the status of communication principles cf. Fritz (2017: Chapter 5).

28. Similar lists of communication principles for 18th and 19th century controversies in Germany can be found in Goldenbaum (2004: 111f.) and Dieckmann (2005: Chapter 5).

analysed into different groups, e.g., logical principles, dialectical principles, rhetorical principles, hermeneutical principles, principles of text production, linguistic principles, and politeness principles. Of course, these labels only give a vague indication of the type and background of the respective principles, quite apart from the fact that, for example, rhetorical principles shade into dialectical ones (cf. van Eemeren and Houtlosser 2002) and that both types of principles determine principles of text production.

- i. Claims should be given adequate backing. (One should not make *nudae assertiones*, “naked assertions”.)
- ii. The critic carries the burden of proof (principle of *onus probandi*).
- iii. Claims should be refuted completely point by point (principles of completeness and thoroughness).
- iv. One should state the main question (the *status controversiae*) clearly and correctly.
- v. One should avoid unnecessary repetition of arguments.
- vi. One should be brief (*the principle of brevity, amabilis brevitatis*).
- vii. One should write clearly and comprehensibly (*perspicuitas*).
- viii. One should avoid formal fallacies (e.g. *a particulari ad universale*).
- ix. If considered necessary, one should set out the arguments “in form” (i.e. in the explicit form of a syllogism).
- x. One should avoid personal attacks (*ad hominem* moves, *personalia non tractanda*)
- xi. One should give a reasonable interpretation to the utterances of the opponent (*principle of charity*).
- xii. One should not use rhetorical devices like irony or sarcasm.
- xiii. One should be polite towards one’s opponent (*politeness principles*).
- xiv. One should approach one’s opponent in a spirit of Christian meekness (cf. Matthew 5, 5).
- xv. One should be tolerant towards one’s opponents.

A first group of principles, which includes the backing of assertions, the burden of proof, the point-by-point principle, the principles concerning fallacies, and various relevance principles, belongs to the core of principles taught within the tradition of academic disputation. As can be seen from the form of traditional pamphlets and from frequent remarks of their authors, these principles were transferred also into controversies outside university life. So they form the backbone of the Early Modern common-sense theories of controversy. A good example is the principle requiring the correct statement of the question under debate (*formare statum controversiae*), which is the duty of both participants in a disputation at the beginning of each round. This principle explains why participants often complain that the

opponent has not properly or correctly stated the main question. The burden-of-proof principle can be traced back to both the disputation rules and to basic rules of legal procedure. As it lowered the requirements of proof for the proponent (the *respondens*), it could be exploited strategically to uphold a thesis not by proving it, but by only refuting the objections of one's opponent (cf. Leibniz 2006: 419f.). One could also decline to prove a thesis considered to be generally accepted by claiming that in defending this thesis one had the role of respondent.

A second group of principles which I shall briefly go into concerns the relationship between the two antagonists. These are partly politeness principles forbidding face-threatening acts, partly principles advocating a serious and charitable attitude towards one's opponent and his standpoint. A noteworthy anti-rhetorical principle is the one banning irony and sarcasm. Politeness principles could be derived from different traditions. There is the courtly tradition of the French court, which in the 17th and 18th centuries became influential also in Germany (cf. Beetz 1990), there is the ideal of gentleman in England (cf. Shapin 1994), and there is the Christian tradition of meekness (cf. Matthew 5, 5).²⁹ The latter tradition, for example, forbade retorsion (*retorsio*), e.g. answering an insult with an insult, which was legally permitted (*ius talionis*), but which stood in conflict with Christian ethics. In this respect, Early Modern theologians did often not behave like Christians at all. In fact, religious controversies, especially in the 16th century, show a remarkable amount of incivility and roughness. This is partly explained by the fact that in dealing with heretics one was allowed to use sharp weapons (cf. Fritz 2005b: 237f.).

When analyzing individual controversies one has to take into account that certain principles hold for some types of communication or text and not for others. As Nicholas Jardine remarked in his book on the controversy of the astronomer Kepler with Ursus: "Whereas in a *refutatio* aggressive irony, *ad hominem* appeals, and even jocular facetiousness are quite proper, the tone of a *confirmatio* (i.e. a statement of one's own position, G.F.) is supposed to be modest, confident and fully serious" (Jardine 1984: 78).

A special domain for the application of politeness principles was the field of social dealings in the academic sphere. By 1670, the question of scholarly conduct in controversies became a serious topic in its own right – in some cases a controversial topic – which was intimately connected to problems concerning the status and function of scholarly work in general (cf. Shapin 1994, Gierl 1997: 543ff.). A last principle to be mentioned here is the principle of tolerance, which became

29. In Francke's pietist theory of controversy, which was based on Christian values, the principle of meekness played a foundational role (cf. the case study by Fritz and Glüer in the present volume).

increasingly important from the late 17th century onwards (Locke, Leibniz) and which was frequently mentioned in later 18th century controversies as a characteristic Enlightenment principle (cf. the discussion of tolerance and moderation in Leibniz 2006: 400ff.).

3.7 The language of controversy

In the field of historical pragmatics it is quite natural to emphasize the study of the linguistic means by which the adversaries solved their communicative tasks in controversies. In the first place this particular focus is justified by methodological concerns relating to the hermeneutics involved in the study of texts produced in earlier historical periods. In many cases, Early Modern texts pose problems of understanding even to the initiated. Therefore, reflections on syntax and semantics, on lexical structures and the use of certain constructions are part and parcel of this kind of historical study. In many cases, it is essential to capture the meaning of key expressions or to find a plausible interpretation of the metaphorical use of certain expressions. In addition, studying the evolution of the linguistic means used in the history of controversy is an integral part of the project of an evolutionary historical pragmatics of controversies. This kind of study includes on the one hand the special vocabulary of certain domains, e.g. the vocabulary of astronomy and astrology in the 16th century, both in Latin and the different vernaculars, but on the other also the general everyday language of controversy every academic knew, again both in Latin and the various vernaculars. Reading 17th century pamphlets in English, we notice many relevant expressions used differently or not at all in present-day English: *impertinent* ‘irrelevant’, *exception* ‘objection’, *inconvenience* ‘inconsistency’, *the state of the question* ‘the main topic’, *reducing an argument into form* ‘putting an argument in the form of a syllogism’ etc. The same is true of the German language of controversy (cf. Fritz 2016a,b). In his case study on Kepler’s controversy with Röslin and Feselius in this volume, Gloning presents observations on the “lexical profile” of the astrology/cosmology debate, which, for instance, includes words for types of heavenly body, but also forms of abusive language. For the use of Early Modern English in a medical controversy pro and contra the therapeutic use of tobacco (1577–1670) cf. Ratia (2011).³⁰ Another interesting topic is the use of metaphor in historical controversies.³¹

30. The use of pronouns of interpersonality and discourse deictic markers in Early Modern English medical controversies was studied in Ratia/Suhr (2011).

31. For an example of the use of metaphor in political controversies from a few years ago cf. Musolff (2004).

4. Types of historical development in the pragmatic organization of controversies

In all the parameters mentioned in the preceding section, controversies as a form of communication may change historically, as we have already indicated in several cases. New topics may emerge, new types of argument may be invented, new media may be introduced, communication principles may gain or lose in importance, etc. And in many cases there is an interaction between these parameters that plays a role in the historical development of this form of communication. New topics call for new vocabulary, new media open up opportunities for new text types, the rise in importance of certain communication principles, e.g. principles of politeness or tolerance, may call for new dialectic strategies.³² In many cases the institutional embedding of forms of polemical practice plays a crucial role in the development of the pragmatic organization of controversies. This is true, for example, of the practice of critical examination of (possibly) heretical doctrines (the “elenchus”) within the Protestant church in the 17th and 18th centuries (cf. Gierl 1997: 60ff.), the 18th century changes in the practice of disputation, which are related to changes in the organization of research at universities, or the rise of critical reviews as a tool of information management and the organization of science in the 18th century. As for the development of the practice of scholarly disputes, there is, in the course of the last 400 years, a close connection between the requirements of modern science concerning the exchange of knowledge, including the organization of collective critical activity, and the developments of forms of controversy. A recent major development in this field is the introduction of digital formats like Open Peer Review, which present new opportunities for controversial exchanges even before the final publication of a scientific research paper. This example, incidentally, shows that remarkable historical changes of forms of communication are going on around us at the present time, so there is no reason why studies in the field of historical pragmatics should be confined to the distant past. In view of the advantages of easier access to data and the availability of additional research methods, the analysis of present-day developments could play an important role in the further development of a systematic history of forms of controversy. This applies, in particular, to aspects of the historical dynamics of forms of communication like innovation, routinization, standardization, institutionalization (cf. Berger and Luckmann 1967), and diffusion of innovations, which can be studied in detail with data from present-day developments, whereas with data from the distant past we often have to rely on informed guesswork.

32. In the case of new vocabulary, this vocabulary itself may be the target of controversy, as for instance in the debate on the new chemical nomenclature in the late 18th century.

In developing an evolutionary history of forms of communication, of which the history of controversies could be a paradigm, it will be essential to focus on the interrelation of these parameters of pragmatic organization and the interaction between these parameters and the background of social organization mentioned earlier on. This is particularly important for the development of methods of historical explanation in the pragmatic history of controversies. It is well to remind oneself that the various aspects and parameters of a form of communication may call for separate explanations, but that in accounting for more complex historical changes one generally has to try and get a wider picture.

One step in implementing the concept of explanation in historical pragmatics consists in identifying different types of development in forms of communication. On the one hand, there are the general aspects of historical dynamics mentioned before, i.e. routinization, institutionalization, and diffusion of innovations, some of which have to be explained as invisible-hand processes (cf. Ullmann-Margalit 1978). On the other hand, there are more specific types of change like the development of different types of critical review in the 18th century and the practice of replying to such reviews. In these cases, the main job of an explanation would consist in showing the “ecological conditions” of the respective changes, both micro and macro, and the connections between the communicative tasks and the solutions found and accepted for the fulfilling of these tasks. A crucial challenge in this context consists in generating interesting *explananda*. Our studies suggest a number of such questions, of which I will only mention three: Why is it that the pamphlet form with all its disadvantages dominated the practice of public controversy for two hundred years? What is noteworthy about this case is that here the explanandum is not a particular kind of change, but rather a remarkable form of continuity. Another question, already mentioned before, is: Why is it that the question of politeness gained in importance in scholarly controversies in the course of the 17th century? And finally a very general question: Why are there some periods and domains of discourse where controversy is sought and enthusiastically conducted, whereas in others authors disdain and shy away from controversy? These are complex questions, but certainly worth enquiring into.

5. Conclusion

I would like to conclude by adding a few reflections on future perspectives of the field of historical pragmatics of controversies. Some years ago, I wrote the following about the state of the art in the evolutionary history of forms of dialogue, a related field of research: “At the present stage, the evolutionary perspective is mainly a guiding principle for research, but in the long run, an evolutionary history of

dialogue forms may actually prove a successful enterprise” (Fritz 1995: 473). I think, this is basically still true of the historical pragmatics of controversies as well, but even at this early stage of development, I think work in the historical pragmatics of controversies has already made promising progress in showing that an evolutionary history of forms of communication is feasible.³³

As for future work in the historical pragmatics of controversies, there are several tasks that are quite straightforward but at the same time difficult to fulfil. In the first place, there is considerable heuristic work to be done. Although, for the period covered in this volume, hundreds of controversies are known and many have also been described, at least partially, in the literature, the general output of polemical exchanges in this period is still largely uncharted territory. And this is also true of later periods up to the present day.³⁴ So, to continue work in charting the field is imperative at this juncture. Another desideratum is that, compared to other sectors of research, e.g. the history of letter-writing, digitally available data are still scarce. A digital corpus of controversies would be an important tool for future detailed analyses of the kind we have presented in this volume. As for the breadth of coverage of data reached so far, we are, metaphorically speaking, still in the phase of test drillings. The number of case studies of the kind presented in this volume would have to be multiplied in order to create a basis for an identification of historical trends, for formulating historical generalizations, and for the classification of types of historical developments. As for the theory and methodology of an evolutionary history of forms of communication, we need both studies contributing to the clarification of the concept of explanation in historical pragmatics and studies creating models of historical narrative and historical explanation in this domain. So there is much scope for interesting work in the field.

6. A brief survey of the case studies presented in this volume

In the final section of this chapter, I give a brief survey of the studies presented in this volume, thereby linking these studies to the topics discussed in this introductory chapter.

33. Optimism in this case is also fuelled by the fact that historical semantics, a neighbouring field of study, has a long and successful history of research in evolutionary phenomena.

34. One should of course not forget that there are important traditions of controversy outside Western cultures (cf. the contributions on Chinese traditions of debate in Dascal/Chang 2007).

Chapter 2:

“The pragmatic organization of the Kepler/Röslin/Feselius controversy on the scientific status of astrology (1609–1611)”
(Thomas Gloning)

In the first decade of the 17th century, Johannes Kepler, the famous German astronomer and mathematician, took part in a controversy with two medical men, Helisaeus Röslin and Philipp Feselius, on matters of astrology, astronomy and cosmology. This controversy revolved around the questions of whether or not new stars could be said to have a meaning, whether astrology could be considered a well-founded science, and finally, what should be the criteria of genuinely scientific research. In this debate, Kepler takes up a mediatory position in that he acknowledges frequent misuse of astrology but also accepts the position that heavenly bodies influence what happens on Earth. He holds that determining the kind of relationship between heavenly bodies and earthly life is an empirical task and should be a worthwhile scientific endeavour.

The present chapter analyses aspects of the pragmatic organization and linguistic structure of this controversy and its context as an example of scientific controversies of the early 17th century. The analysis concentrates on the following aspects of the controversy:

(i) the particular constellation of the persons involved and their respective communicative aims, (ii) aspects of the text structure of the pamphlets produced in the course of this debate, (iii) the range of speech acts performed and strategies used in controversies of this type, (iv) communication principles which seem to be valid for scientific controversies of the period, (v) the implicit “theory of controversy” of scientific controversies of this period, as far as it can be reconstructed from evidence in the relevant texts, (vi) recurrent linguistic forms used in the contributions to this controversy.

The chapter shows Kepler as a scientist who was not only a brilliant astronomer and a theoretician of science, but also a writer well-versed in rhetoric and dialectics, who, in addition, had a remarkable sense of humour. One of the results reached in this analysis is that Kepler’s contributions to this controversy are early examples of a positive attitude towards the role of criticism in scientific research.

Chapter 3:

“Remarks on the pragmatic organization of the Hobbes/Bramhall controversy (1645–1658)”
(Gerd Fritz)

Some authors consider this controversy to be “one of the best of all philosophical duels” (Mintz 1969, 110), and Leibniz found it worth writing a short review of this exchange fifty years later as a supplement to his “Theodicy” (1710). Exceptional features of this debate are the central role of conceptual and semantic analysis in the construction and refutation of arguments concerning the problem of free will

and also its overall complexity, which is reflected in an extremely complex textual structure of the individual pamphlets, reaching its culmination in Hobbes's "The questions concerning liberty, necessity and chance" (1656). We witness two opponents who are well-versed in all the dialectical techniques available at the time and who play the game uncompromisingly, using all the tricks in the book. At least part of the controversy turns on a typical conflict of the period, i.e. the conflict between the ancients and the moderns, the scholastic tradition and the modern mind.

The case study analyses basic aspects of the pragmatic form of the Hobbes/Bramhall controversy with the double aim of showing typical pragmatic features of 17th century controversies and of highlighting some of the aspects in which this controversy seems to be exceptional. Starting with a short summary of the background and development of the controversy, the first part of the analysis focuses on characteristic moves, sequences of moves, and strategies used in the pamphlets of this controversy. The second half concentrates on principles of communication and methods of textual organization, and the final passages deal with the uses of rhetoric in this controversy and the question what could be considered the outcome of this controversy.

Chapter 4:

"Old and new medicine. The Gehema/Geuder controversy over medical practices (1688/89)"
(Gerd Fritz and Thomas Gloning)

In this controversy a topic takes centre stage that also surfaces in many other controversies analysed in this volume, i.e. the conflict between modernists and traditionalists, in this case in the field of medicine. In 1688 a Hungarian medical doctor, Janus à Gehema, wrote a pamphlet accusing practitioners of "traditional" medicine of ignorance, laziness, and greed and criticizing their methods of therapy, e.g. bloodletting, purging, and the administering of various types of medical potions, as useless and mostly even harmful to the patient. He criticized classical authors of medicine like Galen and praised modern authorities like van Helmont. This pamphlet was answered a year later by another medical man, Melchior Friedrich Geuder, who tried to refute Gehema's accusations, defended the honour of traditional medicine, and criticized Gehema for his aggressive style and his destructive lack of differentiation.

The present case study analyses the pragmatic organization of this controversy, concentrating on the global textual structure of the two texts, which conform to the traditional pattern of polemical pamphlets, and on typical moves and strategies used by the opponents (various types of criticism, the refutation of accusations, complex patterns of argumentation, the use of various rhetorical devices etc.). A particularly interesting question in this context is the use of arguments from authority, which is a central feature in the historical struggle between the

“moderns” and the “ancients”. Attention is further given to the strategic choice of publishing medical pamphlets in the vernacular (German in this case) and to the principles of scientific discourse which are discussed or at least mentioned in this controversy. Such principles concern the proper conduct of scientific criticism, matters of politeness, and, last but not least, matters of logical and dialectical correctness. They form part of the opponents’ implicit “theory of controversy”, which the study aims to uncover.

Chapter 5:

“The pamphlet and its alternatives around 1700. A thread of the Pietist controversy (Johann Friedrich Mayer vs. August Hermann Francke)”

(Gerd Fritz and Juliane Glüer)

The early 18th century Pietist controversy examined here is part of one of the major intra-confessional controversies within Protestantism. As for the contemporary technique of controversy it is remarkable that in this exchange we find, on the one hand, pamphlets modelled on the traditional pattern and, on the other hand, an extensive criticism of the traditional procedure of exchanging pamphlets and also the attempt to use other formats instead, i.e. open letters and polemical sermons, which avoid certain disadvantages of the classical pamphlet form. One of the protagonists of this controversy, August Hermann Francke, was both an expert writer of pamphlets and a trenchant critic of the traditional practice of exchanging pamphlets. The detailed analysis in this case study shows that the general disputation criticism of the sixteenth and seventeenth centuries received a special flavour with Francke in the religious context of Pietism. In his own theory of controversy he attempted to develop a concept of debate according to which conflicts should be treated without violating fundamental Christian values and principles, e.g. the principle of meekness. He put forward the view that controversies should contribute to the enlightenment and edification of the soul.

The case study comprises a detailed analysis of Francke’s last pamphlet, the “Verantwortung” of 1707, and also the analysis of two open letters and a polemical sermon. The “Verantwortung” is shown to be a classical pamphlet, using the full array of moves, strategies and textual devices which characterize this format. On the other hand, the analysis of the open letters shows the potential of the latter format for presenting a position in a controversy without having to follow the restrictive point-by-point procedure of refutation. Finally, the polemical sermon analysed here displays a remarkable blend of the genre of sermon with the strategies and rhetoric of controversy. A general result of this study is that Pietism is one of the contexts where we find symptoms of a crisis of the theory and practice of controversy in the period around 1700.

Chapter 6:

“Leibniz vs. Locke – a virtual controversy”

(Gerd Fritz)

This chapter views Leibniz’ “New essays on human understanding”, written about 1700 to 1704, as a contribution to a controversy with Locke that never took place. After Locke had published his “Essay concerning human understanding” in 1689, Leibniz tried to challenge Locke to a debate on relevant topics. When this failed, Leibniz decided to confront Locke by staging a virtual controversy in the form of a dialogue between two philosophers, Philalethes and Theophilus, representing the Locke of the “Essay” and Leibniz as a commentator and disputant. Unfortunately, Locke died before the “New essays” could be published, so that Leibniz’s challenge was never answered.

By considering the “New essays” in the context of Early Modern controversy practice, the study comes to the conclusion that the text should be seen not so much as a philosophical dialogue in which the handling of the dialogue form is somewhat disappointing, but rather as an example of a traditional refutation pamphlet with a number of additional features enhancing the dialogical aspect of such pamphlets. The case study examines the strategies Leibniz uses in confronting Locke, concentrating on aspects of pragmatic organization like topic management, types of critical moves, forms of intertextuality, and Leibniz’s “conciliatory approach” to scientific controversies.

Chapter 7:

“Reviews and responses. A controversy about the biblical canon (1771–1775)”

(Gerd Fritz and Juliane Glüer)

In this case study we present a pragmatic analysis of a theological controversy on biblical criticism in the early 1770s. The starting point of this controversy was a treatise on the biblical canon written by Johann Salomon Semler, Professor of Theology at the University of Halle, in 1771. This treatise triggered several reviews in various journals, which were quite different in form and function. In our chapter, we analyse the approaches to reviewing represented in four reviews and also the different kinds of response which Semler gave to different types of review. The analysis focuses on the pragmatic organization of the individual contributions to this controversy and their connectedness as well as on the use of different text types and genres (e.g. types of reviews, treatises, polemical pamphlets, personal letters).

Of the reviews in the corpus of texts studied in this chapter two could be termed “polemical reviews” (both anonymous), a third one mainly concentrated on reporting the content of Semler’s treatise, in a fourth one a theological specialist gave a short survey of Semler’s treatise and then went on to present his own views on the canon of the Old Testament, and finally, a fifth reviewer, writing in 1772 and

therefore having the advantage of knowing the state of the controversy after the first two rounds, tried, at least in part, to give a non-partisan (“unpartheiisch”) view of the controversy and to adjudicate in the conflict. It is worth noting that the review neutrally reporting the treatise’s content was meant for a general audience of educated persons, whereas the other reviews were published in academic journals with either a general scientific scope or specifically intended for a theological audience.

From the point of view of the evolution of the practice of controversy, the polemical reviews present an interesting type of use of the genre of review. They function as a kind of short pamphlet, their authors trying to refute Semler’s treatise by criticizing his form of presentation, noting supposed mistakes, diagnosing lack of adequate proof, and in general belittling his achievement. Semler immediately recognized the strategic thrust of these reviews and replied by writing long, rather aggressive refutations of both the reviews in the traditional pamphlet style, dealing with all the objections point by point.

Further topics which are dealt with in this study are the communication principles endorsed by the participants and the participants’ views on the actual or possible outcome of this controversy and the usefulness of this kind of controversy in general. Both topics provide insights into the theories of controversy held by late 18th century Protestant theologians. Although there is quite a bit of rough play in this controversy, at least some of the participants are optimistic that it could contribute to the growth of knowledge. This attitude is an important part of their theory of controversy.

Chapter 8:

“Controversy and conversion. Friedrich Albert Carl Gren and the phlogiston controversy (1790–1796)”
(Gerd Fritz)

This controversy forms a central part of the German thread of the famous phlogiston controversy, which is considered by many as a crucial step in the history of modern chemistry. The controversy examined here is remarkable in several respects. One such respect is its outcome. In 1793, Gren, professor of chemistry and physics at the University of Halle and one of the protagonists of the pro-phlogiston side, finally converted to Lavoisier’s competing theory of oxidation, which he had been fighting for some time. Another interesting aspect is the fact that a substantial part of the controversy was conducted in two major chemical journals, so we have here a good example of the function of 18th century scholarly journals. Other media that played a role in this process were private letters and the publication of textbooks.

The case study analyses the pragmatic structure of individual contributions with their characteristic moves and strategies. It focuses on the dynamics of the controversy, especially Gren’s steps of retreat and the contributions convincing

him of the new theory, and it shows the participants' views on principles of scientific research and scientific discourse, particularly their appreciation of the function of critical dialogue in science.

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The pragmatic organization of the Kepler/Röslin/Feselius controversy on the scientific status of astrology (1609/1611)

Thomas Gloning

1. Introduction

The period around 1600 was marked by many changes, some major and some minor, in the world of science. Among them were increasing freedom from Greek and Arabic authorities, particularly from Aristotle, the establishment of the empirical method, the beginnings of a break between chemical science and alchemy, Paracelsianism, the consequences of new technological inventions such as the telescope, as well as the attempt to separate the scientific world view from the religious world view. In the face of the inertia of tradition and traditionalists, many of these advances had to be fought for before being accepted. Scientific development was therefore accompanied by controversy, and diverse kinds of critical activity took up a significant proportion of scientists' biographies and of communicative output in general.

Johannes Kepler (1571–1630) took part in various public controversies, some involving pamphlets of some length. His letters again and again contain learned and expert discussions, and his environment must have provided a pronounced culture of oral discussion and debate, which, in one of his pamphlets, he praises as the fertile ground for the development of scientific stances. Kepler's controversial academic writing includes disputes with Röslin and Feselius on astrology and cosmology, arguments with Robert Fludd, defending Tycho Brahe against Nicolaus Raimarus Ursus and Chiaramonti, and making polemical statements on the meaning of comets.¹ A dispute of quite a different sort is his eventually successful attempt to deliver his mother from the prosecution apparatus of the witch hunt, in which she had become entangled when accused of witchcraft. He also pursued other forms of critical activity, however, such as critical appraisals of practical

1. For Kepler's controversy with Ursus, cf. Jardine (1984); for his correspondence and controversies in the field of chronology, cf. Grafton (2009).

issues on which the authorities desired his input. The debates involving Kepler show us a first-rate researcher among lesser minds of his time and a spectrum of critical activity which encompasses completely different subject areas and traditions of discourse.

Kepler not only carried on controversies himself; he also repeatedly reflected on and expressed his opinion about the rules of this form of communication – on, for example, the role and function of controversies, the principles to be followed in them, and the issue of permissible and forbidden strategies.

In keeping with this image of Kepler as a simultaneously active and reflective polemicist, the approach taken here will also be twofold. Firstly, basic structures underlying the pragmatic organization of scientific debates around the year 1600 will be identified, with a focus on the great controversy between Kepler, Röslin, Feselius and Schaerer on astrological and cosmological questions. Secondly, Kepler's theory of controversy, and that of his contemporaries, will be reconstructed, inasmuch as this can be deduced from their reflections on this form of communication.

Both tasks benefit from an examination of the following aspects of the organization of forms of communication: (i) the function of controversies and related forms of communication; (ii) the typical distribution of roles among participants, with their aims and personal prerequisites; (iii) the forms of presentation used and the way in which texts are typically constructed with particular distinct parts; (iv) the relationship between different contributions to a controversy or to a part of a controversy; (v) the range of linguistic acts, the sequences in which they typically occur and debating strategies; (vi) lexical means by which communicative tasks are typically met in debating; and (vii) the principles of communication adhered to and at times invoked by those involved.

2. Kepler, Röslin, Feselius and Schaerer: on astrology, the world system and scientific principles

In the year 1610, Kepler published a pamphlet with the following title:

Tertius Interueniens.

that is,

a Warning to several Theologians, Physicians and Philosophers, especially to Dr Philip Feselius, that, in their just condemnation of star-gazing superstition, they should not throw out the baby with the bathwater [...].

*TERTIVS INTERVENIENS.**Das ist/*

*Warnung an etliche Theologos, Medicos vnd Philosophos,
sonderlich D. Philippum Feselium, daß sie bei billicher
Verwerffung der Sternguckerischen Aberglauben/
nicht das Kindt mit dem Badt ausschütten [...]*

This text contributed to two controversies underway at the time. Firstly, it is part of Kepler's debate with the doctor and astrological publicist Elisäus Röslin on astronomical phenomena and their 'meaning', and secondly, it is written in answer to the doctor Philip Feselius, an anti-astrologist who had written to contradict Röslin as well as Melchior Schaerer, a priest who also published astrological papers. The debate between Feselius and Schaerer seems to have begun face to face, in encounters referred to in the texts.

The starting point of Kepler and Röslin's controversy were comets and new stars observed in the 16th and 17th centuries and read by some astrologers, including Röslin, as portents for various kinds of change and catastrophe, such as wars, famine, floods and the death of important people. On the question of how the new star of 1604 should be understood, Röslin published an astrological interpretation in 1605, which included prophecies and referred back to earlier writings and prophecies. Kepler criticized these ideas in passing in his "De stella nova in pede serpentarii" of 1606. His comments sparked an extensive argument on astrology as a science and fundamental questions of cosmology, contained principally in the following texts (the writings by Schaerer and Feselius marked by indentation form the second strand of the controversy):

1597 Röslin, Tractatus

1605 Röslin, Judicium

1606 Kepler, De stella nova in pede serpentarii (I + II)

1607/8 & 1608/9 Schaerer, Vorreden zu Prognostica

('Prefaces to Prognostic Writings'; contain references to earlier face-to-face discussions)

1609 Röslin, Historischer Diskurs von heutiger Zeit Beschaffenheit

('Historical Discourse on the State of our Times')

1609 Kepler, Antwort auf Röslini Discurs

('Reply to Röslin's Discourse')

1609 Feselius, Gründtlicher Diskurs von der Astrologia Judiciaria

('A Thorough Discourse of Judicial Astrology')

1610 Kepler, Tertius Interveniens

1611 Schaerer, Verantwortung und Rettung der Argumenten

('Justification and Vindication of the Arguments')

1610 Röslin, *Mitternächtige Schiffarth*, Cap. 12
(‘A Sea Journey to the North, Chapter 12’)

The controversy thus has two strands, linked by Kepler’s “*Tertius Interueniens*”, which contributed to both. The core of the controversy are certainly the texts by Röslin (1609), Feselius (1609) and Kepler (1609 and 1610), but it is interesting to note that the central debate began as a face-to-face discussion, that the same is true of the Schaerer-Feselius strand and that there are passages of the controversy

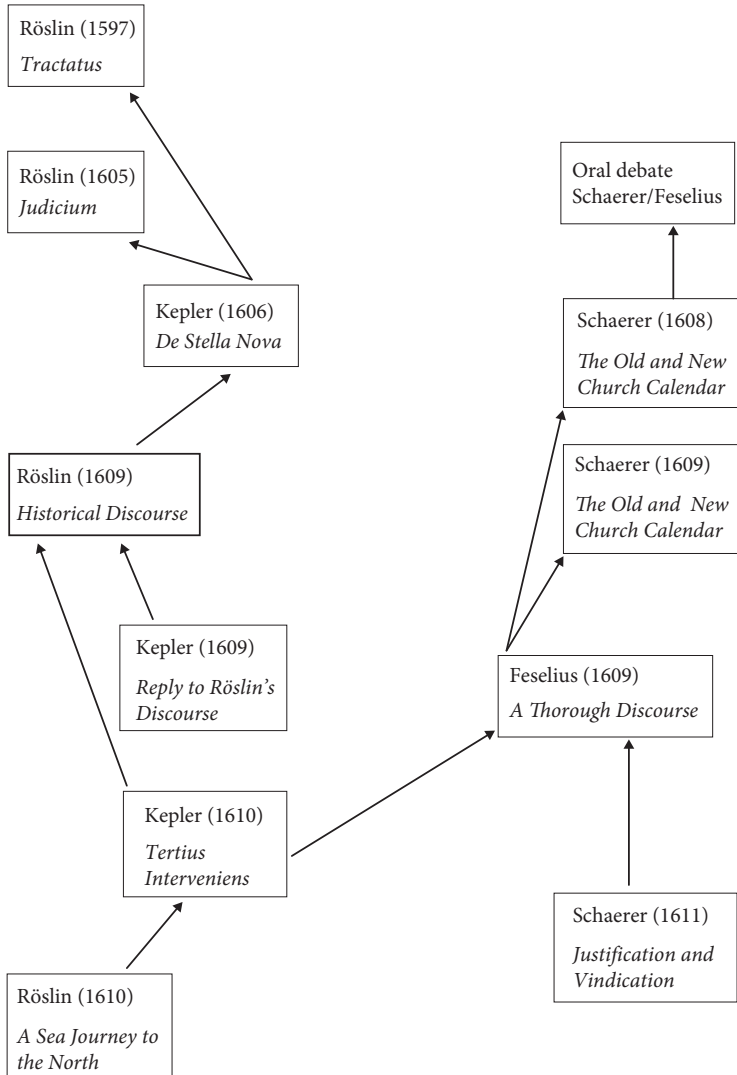


Figure 1.

which crossed over into other debates, such as that concerning questions of chronology and the dating of the birth year of Christ. Figure 1 shows the connections between the contributions to the debate and the sequence in which they appeared (arrows from each text show what it was a reaction to):

The controversy revolves around the questions of whether or not new stars can be said to have a meaning, whether astrology and the methods of discerning meaning in it can be considered a well-founded science, by what criteria a well-founded science can be judged, more generally, and what the relationship is between heavenly bodies and events below, among humans. These are all part of one problem, i.e. how the heavens and the earth are connected (“modus connexionis naturarum cum coelo”; KGW 4: 217.23) and how, if at all, these connections can be identified. Other questions to the debate are how astrology is related to astronomy and whether it is possible to practice astrology with precision.

The various stances held in the debate can be roughly summarized as follows:

Röslin and Schaerer could be identified with the following position in favour of astrology:

- a. Comets and new stars are portentous.
- b. Specific prophecies are possible and methodologically sound.

Feselius’ stance could be formulated thus:

- a. Comets and new stars are not portentous.
- b. Astrology and its predictions are methodologically unsound nonsense.

Finally, Kepler’s mediatory position – very much abridged – could be summarized thus:

- a. Heavenly bodies influence what happens on earth.
- b. It is, as a rule, not possible to make predictions on the basis of this.
- c. The question of cosmological relationships deserves further attention within astrological research, even though there are no definite results yet (the ‘early-stages’ argument) and in spite of widespread misuse.

In terms of the history of ideas, Kepler’s position is particularly interesting, because he adopts a number of points made against astrology on the one hand and yet shares, on the other hand, astrology’s basic assumption that a relationship does exist between heavenly bodies and earthly life, and because he also argues that further research into the nature of this relationship and the conditions of its influence is a worthwhile scientific endeavour. This mediatory intention is already expressed by the title of “*Tertius Interveniens*” and can also be detected in its twofold purpose as illustrated in Figure 1, addressing both the pro-astrology Röslin as well as Feselius, an open opponent of astrology. Nowadays, one could hardly claim that

Kepler was a defender of astrology and astrological prophecy; what he wished to prevent being thrown out with the bathwater, in all “just condemnation of star-gazing superstition”, was clearly the more physical side to astrology, the scientific search for a connection between the heavens and life below. In today’s language use we would refer to such an issue as *cosmological*, since we use the term *astrology* to speak of certain forms of prophecy rather than questions about physical relationships in the cosmos.

With the exception of Kepler’s “De stella nova in pede Serpentarii”, all the contributions to the controversy are written in German. This indicates that neither strand of the controversy was intended purely as an argument among specialists – at the time, the language of purely academic argument was Latin – but that both were also meant to reach the non-expert reader. The dedications of the texts suggest that this dispute about astrology also had a political dimension and that their authors sought to influence not only the interested public but also those in political authority. What is more, astrological publicists like Schaerer also had economic reasons to defend astrology, since writing and distributing prophecies was a lucrative business. In a much-cited passage from “Tertius Interveniens”, Kepler writes that astrology is the foolish daughter of mathematics and astronomy who, despite this foolishness, does help her worthy old mother stay above water financially.²

2. The passage is worth quoting in full:

“Therefore, it is obvious that this interest contributes to the learning of astronomy, which is not rejected by anyone, but which is rather highly praised. Indeed astrology is the foolish daughter, as I wrote in my book “de stella”, fol 59, but, God knows, where would her highly reasonable mother be, if she did not have this foolish daughter. In fact, the world is even much more foolish and foolish to such a degree that for her own benefit the old and reasonable mother astronomy has to be introduced with babble and lies by her daughter’s foolishness.

Furthermore, the salaries of mathematicians are so grotesquely meagre that the mother would surely have to go hungry if her daughter did not earn some money. If, in the beginning, nobody had been so foolish as to have hope of learning future things by looking at the heavens, you, my dear astronomer, would never have become so clever as to consider studying the course of the heavens for the glory of God. Indeed, you would not even have known that there was such a thing as the course of the heavens” (KGW 4: 161.9ff for the German version, also in subsequent quotations and their translations).

“So siehet man augenscheinlich/daß diese Curiositet zu erlernung der Astronomia gedeye/welche von niemandt verworffen/sondern billich hoch gerühmt wird. Es ist wol diese Astrologia ein närrisches Töchterlin (hab ich geschrieben in meinem Buch de Stella fol. 59.) aber lieber Gott/wo wolt jhr Mutter die hochvernünfftige Astronomia bleiben/wann sie diese jhre närrische Tochter nit hette/ist doch die Welt noch viel närrischer/vnd so närrisch/daß deroselben zu jhren selbst frommen diese alte verständige Mutter die Astronomia durch der Tochter Narrentaydung/weil sie zumal auch einen Spiegel hat/nur eyngeschwatzet vnd eyngelogen werden muß.

This background, along with the related aim of reaching a broader audience, informs the choice of language in the texts.

3. The pragmatic organization of the controversy

In the context of a historical-pragmatic investigation, this controversy is primarily interesting as an example of an important form of communication, which can be placed within a linguistic “history of forms of communication” (cf. Fritz 1995, 2010). At the basis of such a linguistic history is firstly the assumption that forms of communication like controversies have specific roles in the “communicative economy” of any particular era and, secondly, that there are typical ways in which they are organized, including recognisable internal structures. There are therefore two essential aspects, among others, to describing a historical form of communication: it is necessary to show first of all what its role was in the communication of the time and secondly what internal structure it had. Investigating the internal structure of a form of communication entails such questions as what constellations of people typically used it, what its characteristic action types (its possible ‘moves’) were, and what topics, what principles of communication as well as what lexical and syntactic resources tended to be involved. The configuration of these linguistic and communicative aspects can be referred to as the *pragmatic organization* or *pragmatic form* of a particular type of communication.³ In the following I shall reconstruct basic structures underlying early 17th-century scientific controversies as a form of communication by means of investigating the debate surrounding Kepler.

3.1 The constellation of participants and their aims

The basic constellation of persons involved in this astrological controversy is the same as in many debates, theological and other, of the time. In essence, there are three parties: (i) two or more active opponents; (ii) the readers and, if applicable, listeners; and, (iii) among the readers/listeners, a person in power to whom the text is dedicated and whom it either calls upon as an arbiter (KGW 4: 151) or seeks

Vnd seynd sonsten der Mathematicorum salaria so seltsam vnd so gering/daß die Mutter gewißlich Hunger leyden müste/wann die Tochter nichts erwürbe. Wann zuvor nie niemandt so thöricht gewest were/daß er auß dem Himmel künfftige Dinge zu erlernen Hoffnung geschöpfft hette/so werest auch du Astronome so witzig nie worden/daß du deß Himmels Lauff von Gottes Ehr wegen/zu erkündigen seyn/gedacht hetttest: Ja du hetttest von deß Himmels Lauff gar nichts gewust” (KGW 4: 161.9ff)

3. For the concept of pragmatic form, cf. Gloning (1999).

particularly to win over. The active opponents' positions relative to one another depend partly on how compatible their respective stances are as regards the *subject matter* of the debate and partly on their choice of debating *moves*. What is commonly known as the *tone* of a debate is basically determined by the typical moves and by the "lexical profile" of the vocabulary employed.

There is a range of different dialogical constellations which can lead one to enter into a controversy: (i) opponent X attacks one by name; (ii) opponent X attacks someone else whom one feels obliged to defend; (iii) opponent X attacks a position one supports; or (iv) opponent X declares support for a position which is incompatible with one's own.

One example of the first type of trigger, (i), is Kepler's "Reply to Röslin's Discourse". Kepler writes that Röslin has disputed his position in several points ("sich gegen mir in disputation eingelassen"; KGW 4: 103.14) and in doing so frequently mentions him by name ("in welchem meins Namens fast in allen Blettern pro et contrà gedacht wird"; KGW 4: 103.10). The second type, (ii), is what started Kepler's dispute with Raimarus Ursus, Tycho Brahe having called upon Kepler to defend him against Ursus. A passage from Feselius' "Discourse" provides an example for the third type, (iii): here, there is a clear attack by Melchior Schaerer on the stance of opposing astrological prophecy, but he mentions no names. Feselius nevertheless understands the communicative background to this attack thus that he is obliged to reply:

Although no-one is specifically named in these two prefaces, wherefore it might be thought that there was no need for me to deal with them and defend myself in particular, I nevertheless cannot doubt that I was the target of their criticism, on account of a private talk we had in Mentzingen on this point, during which, contrary to my expectations, he became so annoyed with my humble opposition, that in two successive years he added polemics to his astrological prognoses, as I mentioned before. I therefore hope that it will not be taken amiss if I rid myself of the epithets hurled at me and also broadcast my simple explanation and put the arguments he used to support his opinion to the test a little. (Feselius 1609: iij a)

Wiewol nun in ermelten beyden vorreden in specie niemants namhafft gemacht würdt/derowegen darfür möchte gehalten werden/als hette ich mich derselbigen nicht anzunehmen/vnd vor andern zuverantworten: jedoch weil ich nicht zu zweiffeln/dann das ich in denselbigen fürnemlich perstringirt vnd gemeint seye/von wegen eines gesprächs/so wir zu Mentzingen inter priuatos parietes, diesses punctens halben miteinander gehalten/auff welches er sich also wider mein vermuten entrüsten lassen/weil ich jhme pro mea tenuitate etwas widerpart gehalten/das er die vermelten praticken/[!] gleich zwey Jahr auff einander darauff ermelter massen geschärfft hat/Also verhoffe ich/das es mir nicht zuverdencken/mich der zugefügten übernahmen zuentladen/das ich auch meine einfältige erklärungs hin widerumb an

tag gebe/vnnd die zu behauptung seiner meinung eingeführte Argumenta ein wenig auf die Prob setze. (Feselius 1609: iij a)

An example of the fourth type of initial situation, (iv), is Kepler's justification for entering into his debate with Feselius and for choosing Feselius in particular as an opponent. His reasons are that Feselius acted as a representative of certain views, which he cannot reconcile with his own:

And because Philip Feselius, doctor of medicine and of philosophy, has taken up in his recent German treatise a good many of the arguments with which astrology is usually attacked and refuted, and because he is to my knowledge the first to write extensively on the subject in German, [...] – it is for these reasons that I shall address this text by Dr Feselius in particular and, insofar as my intent makes this necessary, reply to it. (KGW 4: 162.16ff)

Vnd weil D. Philippus Feselius Medicus vnd Philosophus in seinem jüngerstausgangenen Teutschen Tractatu, deren Argumenten/mit welchen die Astrologia gewöhnlich angefochten vnd widerlegt wirdt/einen guten Theil begriffen/auch meines wissens der erste ist/der in Teutscher Sprach von dieser Materi etwas außführlich geschrieben [...] Als wil ich mich fürnemlich nach solcher D. Feseliu Schrift richten/vnd dieselbige/so viel mir zu meinem Intent vonnöhten seyn wirdt/beantworten. (KGW 4: 162.16ff)

It becomes clear in the passages cited that the rules of the game in early 17th-century controversy include conventions on the right and the obligation to reply. This system of rights and responsibilities also comes into play when an author forgoes making a contribution to a debate. Among the reasons given for such a refusal are the level of argument made by the opponents as well as their tone. The idea that one has been attacked or that a position is irreconcilable with one's own therefore works in combination with other factors which can, under some circumstances, lessen one's obligation to respond. For example, Röslin writes that Ursus, because of his abrasive tone, does not deserve a response (KGW 4: 105.5f.). Such refusals to reply can be limited to individual arguments or points within a text. It is worth noting in these cases that the deliberate failure to respond is explicitly formulated as such, along with the reasons for it. The intention here would seem to be to prevent this failure being taken by one's opponent as a concession in the debate and even as a stick to beat one with in later contributions. A similar system governing the obligation to respond at the two levels of whole contributions and individual points can be recognized in other areas of controversy around 1600, such as in theology. Such principles seem to have been effective in legal disputes too: if it is

not explicitly objected to, an argument counts as conceded, as in the witchcraft trial against Kepler's mother.⁴

The overarching aims held by participants and influencing the action within controversies can be categorized into three main groups:

- i. the defence of one's own personal honour;
- ii. the quest for truth and knowledge – in which the opponent is seen as a partner in the quest;
- iii. the defence and promulgation of one's own view – in which the opponent is usually seen as intractable; the aim is not to convince one's opponent but to represent one's views to others.

Whenever one or other of these overarching aims takes over, different types of controversy develop, which could be designated "disputes for honour", "disputes for knowledge", and "disputes for propaganda" respectively. Among the controversies under investigation here, type (ii) predominates, but central passages in the texts also refer to the author's aims to defend his personal honour and use his text to convince those in authority. Aims (i) and (iii) thus also have a role, albeit a more minor one. In the Feselius/Schaerer strand of the controversy, type (iii) aims seem to predominate, as each describes his opponent as stubborn and impervious to argument.

3.2 Forms of presentation, textual structure and textual building blocks

The business of academia around 1600 had two main functional objectives: to present and justify one's own position and to express, perhaps substantiate, criticism for competing positions. The prototypical text type for the presentation of one's own position is the *treatise*, with a systematic thematic structure focusing on the point or points at issue. The prototypical text type for criticism and for addressing competing positions is the polemical *pamphlet*, the thematic structure of which usually follows the parameters set by the text being responded to. In communicative practice, however, these two functions of presenting and criticising are often intermingled, in varying proportions and various textual structures. This distribution of text types can also be found in the contributions to the cosmology debate by Kepler, Röslin and Feselius. They can be recognized as belonging to

4. "Since Counsel has no objections to make against this, Mrs Kepler assumes that her claim has been accepted [...]"

"Weil dan Herr Anwald hierwider nichts einzuwenden, alß nimmet Keplerin diß ihr deducirtes fürgeben für bekant [‘zugestanden’; TG] an (...)" (KGW 12: 75.31f.)

two main presentational types: the treatise, containing, in addition, critical and polemical parts, and the pamphlet arranged point by point.

In the treatise, critical or defensive passages are contained within printed essays or hand-written epistles whose principal focus is the subject-matter or problem, not the opponent as a person. In this case, the textual function to present the author's own position outweighs the function to engage with other positions. The quantitative proportion of a text that is given over to such passages can vary. One example from a related controversy is Tycho Brahe's "De Cometa anni 1577" (1578). The main body of this text can be regarded as a treatise comprising Brahe's own teachings on comets. However, the introductory chapter and several short interjected passages point out the fact that and the extent to which the comet theory presented is incompatible with conventional Aristotelian teachings ("Kan derhalten, was offt gemelt, die Aristottelische philosophia hierinnen nicht bestehen"; Dreyer IV: 388).

Next to the functional disparity between the treatise and the pamphlet, there is another essential difference in the way they are thematically structured: as a rule, the treatise pursues a systematic and cohesive presentation which cannot usually be discerned in the atomized point-by-point dissection practised in the pamphlet. Kepler's "De stella nova in pede serpentarii" (1606), for example, is essentially a treatise, in which critical asides are only occasionally interposed, against Herlicius ("miseret me"; 'I feel sorry for him' KGW 1: 161f.) and Crabbe to name but two. What is remarkable here is that criticism expressed in such parenthetical remarks can become the basis of distinct controversies. Thus, Crabbe complains in a letter to Kepler that the latter ought to have expressed his criticism to its target personally and in private before publishing and goes on to defend the position Kepler criticized (KGW 16: 275ff and 16: 336ff).

Brief attention is also due to two other presentational forms in the field of critical activity, namely critical reports on practical questions (KGW 16: 434–436) and the forms taken by oral debates, ranging from the regulated forms of the academic disputation to informal discussions such as those engaged in by Feselius and Schaerer. An oral dispute could, as in Feselius and Schaerer's case, prove the basis of a subsequent controversy in written form, and forms of argumentation used in the former could also be reused and further exploited in the latter. This can be seen in Kepler's reference in his "Antwort auf Röslini Discurs" to a history of discussions with younger colleagues at the imperial court in Prague (KGW 4: 131.38ff).

The prototypical form of contribution to controversies around 1600 is the independently published pamphlet, a form which only began to be replaced during the 18th century by other, shorter forms, in connection with the creation of scholarly journals and, later, periodicals specifically for the natural sciences. An independently published pamphlet can be more than 200 pages long (e.g. Schaerer's

“Verantwortung und Rettung”, 1611), whereas the criticism contained within a treatise is usually limited to individual passages or chapters (e.g. Röslin’s reaction to Kepler in his “Mitternächtige Schiffarth”, ‘Sea Journey to the North’, 1611, Chap. XII, pp. 116–138).

The main constituent parts of an independently published pamphlet like the “Antwort auf Röslini Discurs” are (i) the title page indicating the subject matter and perhaps referring to the opponent and/or text targeted and perhaps containing some form of self-praise; (ii) the preface, dedication and perhaps letters written in support of the author; (iii) the main body of the pamphlet, usually divided into various articles or points differing in length and possibly following its own internal structure; (iv) a summary or other form of conclusion. These main parts are likewise usual for pamphlets on other topics, such as political debates on religion.

The main body being structured article by article is one of the most remarkable characteristics of early modern pamphlets. This structure relies on the thematic breakdown of the topic under discussion into several arguments and component points. It is the norm for texts in disputes to be structured thus, and reactions often assume the particular article-by-article structure of the text to which they refer. In such cases, both the thematic divisions and the sequence of the articles are kept the same. Various techniques are used to connect the different elements of a text, such as paragraph numbers, page numbers or thematic key words.

A second characteristic is the typical two-part development of each of these points, first reproducing the opponent’s point and then giving one’s own position on it. The example cited below shows Kepler’s presentation of his opponent’s article along with his own rejoinder on the topic. Kepler reproduces a Röslin passage:

Ibid. [= Fol. C iij a] Kepler claims that the assumption that the Earth orbits the sun does not contradict the Bible, if the Bible is interpreted correctly: Dr Röslin would like to hear this interpretation.

Ibid. [= Fol. C iij a] *Kepler sagt/das die Erd vmb lauffe/das sey nit wider die schrift/wann man sie recht außlege: diese auslegung wollte D. Röslin gern vernemen.*

Kepler replies:

Reply. Let him listen to all the popes since 1542, whose interpretation of Scripture, irrespective of the fact that he dedicated his *Opus Revolutionum* to Paul III, has prevented them from ever accusing Copernicus of error or heresy. Let him further listen to some of the respected theologians of those parties known as Protestants, who feel no concern in believing it, and it can be presumed that they concern themselves more thoroughly with the interpretation of Holy Scripture than Dr Röslin. Let him also listen to how the mathematicians, who are laymen, make apologies to Holy Scripture, particularly Maestlin, whom Dr Röslin rightly prizes. It is true, however, that certainly the majority of theologians and mathematicians

from all parties are in agreement with Röslin and do not want to admit that the Earth orbits the Sun. Finally, let Dr Röslin look at the prolegomena of my *Astronomiae novae seu Commentarij de Marte*, if he has the opportunity to do so. There he will find some of the things he would like to know.

(KGW 4: 106.16ff)

Ant[wort]. So höre er darüber alle Bápste von 1542 an/die haben die schrift also ausgelegt/das sie Copernicum, vnangesehen derselbig sein Opus Revolutionum Paulo III. dedicirt/noch nie eins Irthumbs oder Ketzerey beschuldiget: Er höre darüber etliche fürneme Theologos deren anderen Partheyen/so man Protestanten nennet/die nemen jhn kein gewissen diß zu glauben/vnd ist doch zuvermuthen/sie machen jhn so enge gewissen vber die meynung Heiliger schrift/als D. Röslin nimmermehr. Er höre auch die Mathematicos als laicos, wie sie sich wegen der Heiligen schrift entschuldigen: sonderlich Maestlinum, wellichem D. Röslin billich hoch helt. Ob wol nicht ohn das hingegen der grosse hauff von Theologis vnd Mathematicis auß allen Partheyen es mit Rösolino halten/vnd gar nit zu geben wollen das die Erd vmbblaffe. Entlich so besehe D. Röslin die prolegomena meiner Astronomiae novae seu Commentarij de Marte, so er gelegenheit hat/da wirdt er etwas finden/von dem jenigen/das er so gerne vernäme

(KGW 4: 106.16ff.)

The fact that pamphlets are typically structured in this way, article by article and presentation followed by reply, is closely related to the task of structuring a controversy thematically. This method of organizing the text not only suits the participants themselves as an instrument of topic management, but also makes it possible or at least easier to keep sight of the state of play in the overall controversy and in the discussion of individual topics.

The contributions to the Kepler/Röslin/Feselius controversy under investigation alone demonstrate a considerable amount of variation in the implementation of these two principles of structure. While Kepler's "Reply to Röslin's Discourse", for example, is mainly made up of numerous short, almost dialogue-like building blocks, Feselius' pamphlet only consists of five of Schaerer's arguments now answered by Feselius in long, thematically complex passages. It is nevertheless the case that these arguments with their complex structure also represent a decomposition of the subject matter and also exhibit the dual elements of presenting the opponent's points and replying to them. The arguments are thematically self-sufficient, and they are explicitly introduced and brought to a close:

The first argument

[...]

I shall leave it at that, however, and now go on to his second argument.

The second argument [...]

(Feselius A2a and B2b).

Das erste Argument

(...)

Jch wills aber hiebey bewenden lassen/vnd jetzo zu seinem anderen Argument schreiten.

Das ander Argument (...).

(Feselius A2a and B2b).

Individual points can, as mentioned above, be given an additional internal structure, by, for example, listing constituent parts of the argument or authorities who can be brought in to support a thesis. Sometimes, hierarchically structured arguments are thus created, clarified by linguistic signals of enumeration (*firstly, secondly*), connectors (*furthermore, finally*) and thematic signallers (*Was anlangt B3 den andern locum Aristotelis*; ‘Concerning B3 the second quotation from Aristotle’, KGW 4: 199). It is, however, not always easy for the reader to make out the levels of structure, since the same transitional expressions – such as “second argument” (“anderes Argument”), used to mean both ‘second argument’ and ‘second element of argument’ – can be found within different levels. Kepler writes in his “Tertius Interveniens”, for example,

The 1st Argument.

[...]

And thus, Feselius’ first argument is answered, by which he attempted to overthrow the whole of astrology because of the imperfections of astronomy.

XLV.

Now I shall refute his second argument on the imperfections of astrology.

[...]

The 2nd Argument.

(KGW 4: 187; emphasis T.G.)

Das I. Argument.

[...]

Vnd hiermit ist Feselii erstes Argument beantwortet/da er durch Vnvollkommenheit der Astronomiae, die gantze Astrologiam vmbstossen wöllen.

XLV.

Jetzo wil ich sein ander Argument von Vnvollkommenheit der Astrologiae abfertigen.[...]

Das II. Argument.

(KGW 4: 187; emphasis T.G.)

A hurried modern reader could initially understand “his second argument” as signalling the end of the first of the five “arguments” announced in the introduction. However, he then discovers the subheading “The 2nd Argument”, 11 pages later in this edition, forcing him to revise his interpretation: the expressions “first argument” and “second argument” refer to a sub-level within the actual first argument. In retrospect, the modern reader can thus see that thematic signals, such as “on the imperfections of astronomy” also contribute to the identification of the individual

points and their constituent parts. One can assume that Kepler's contemporaries were familiar with this slightly different system of signalling the structure and discrete elements of a text and that they would find it standard to see enumerators and connectors used in conjunction with thematic signallers. Today, this function of clarifying for one's readers how a text is thematically divided and what the hierarchical connections are between its various elements is achieved with the aid of such schemes as decimal numbering, which have the advantage over the 1600 system in that the signal for each new element of the text also contains information about the hierarchical level of the structure within which it is functioning, information which the early 17th-century reader would have had to reconstruct for himself.

Strategically, one great disadvantage of a point-by-point response is that the responding author is bound by the thematic template set by his opponent: his choice of points, his sectioning of the subject matter and his sequencing of points. One means by which Kepler frequently overcomes these limitations is the use of excursions, or digressions. Such excursions are made recognisable as such for the reader, framed by thematic signallers at their beginning and end. Kepler, for instance, introduces a digression in "Tertius Interveniens" on the subject of the so-called species immateriata by saying, "Here, I must insert a question" ("Allhie muß ich eine Frage zwischen eynführen", KGW 4: 169.21f.) and brings it to a close with the transition, "To return somewhat closer to my intended purpose" ("Darmit ich nun widervmb etwas näher zu meinem Fürhaben komme", KGW 4: 171.11). Later in his text Kepler connects a second, longer excursion to his defence of a passage by Aristotle which Feselius had disputed. The loose thematic link provides him with the opportunity to accomodate, within a point-by-point structure, a short treatise presenting his own position. This excursion too is explicitly introduced and concluded. The introduction states:

This still does not give the complete *mode* of how the heavens and the earth are connected to one another, which I introduced above, at number 26, in my account and elucidation of the *species immateriata of stars*: [...] (KGW 4: 200.40ff)

Es ist auch noch dieses nicht der gantze völlige modus, wie Himmel vnd Erden vntereinander verbvnden sey/den ich droben num. 26. bey Erörterung vnd Erklärung der speciei immateriatae siderum eyngeführt: [...] (KGW 4: 200.40ff)

The thematic conclusion of this excursion and the transition to the subsequent discussion in the point-by-point scheme are as follows:

[...] Let there thus be enough said on the relations between the heavens and the earth and on how all things performed or intended here below by weather or by flora, fauna and man are ruled by the heavens and done at their pleasure –

which it seemed to me appropriate to present and explain when I drew on the words of Aristotle.

LXXII.

However, to return to Dr Feselius' text, [...] (KGW 4: 215.20ff)

[...] *Vnd sey also hiermit gnug gesagt von der Verwandtnuß zwischen Himmel vnnd Erden/vnnd wie alles das/so in dieser niedern Welt am Gewitter/oder von Thieren/Kräuttern vnnd Menschen verrichtet vnd fürgenommen wirdt/von dem Himmel hero regieret werde/vnd desselben auff seine Maafß empfinde. Welches mich bey anziehung deß Spruchs Aristotelis außzuführen vnd zu erklären/für gut angesehen.*

LXXII.

Damit ich aber wider auf D. Feselii Text komme [...] (KGW 4: 215.20ff)

So what Kepler does here at the end of this digression is to refer back explicitly to the thematic trigger which began it, namely the passage in Aristotle. Within this passage Feselius' possible objections are frequently addressed, but it remains significantly different from the point-by-point mode in that Kepler has thematic autonomy for the duration of the excursus and is not obliged to deal with the points laid down by his opponent's text.

Functionally speaking, digressions as they appear here, as interspersed mini-treatises, provide an opportunity to shift the focus onto presenting one's own position rather than criticising or discussing those of one's opponents. In Kepler's writings, excursions are most often used to provide a counterweight to the thematic limitations of the point-by-point response and – in connection with potential thematic triggers in his opponent's text – to present his own views coherently.

Historically, this escape strategy led to completely new forms of topic management in the 18th century, particularly in journals. Because of space restrictions, authors of articles and reviews found themselves forced to select the most important points and even to depart entirely from the structural template of the text under discussion. In Kepler's time, it seems, the point-by-point tradition was still so strong that the dissolution of this technique can as yet only be discerned marginally, in digressions and asides.

3.3 The spectrum of moves

A controversy is usually a complex communication in which various types of basic moves can be made use of. The range of moves used is essentially determined by the communicator's purpose, from supporting a position to putting down an opponent. Generally speaking, any move is possible provided it serves the respective purpose of the communication. Despite this freedom, however, there is a core stock of moves to be found in the debaters' repertoires. They can be broadly categorized as follows:

- i. formulating a position (one's own or an opponent's)
- ii. supporting a claim
- iii. attacking an opponent's position
- iv. attacking an opponent's person

Each of these broad categories is represented by a gamut of forms in the controversies around 1600, in various differing sequential contexts.

3.3.1 *Formulating a position*

It was among the central functions of academic activity around 1600, as already mentioned, to support one's own stance as well as to criticize those of others. In each case, the relevant position must first be formulated before it can be either supported or criticized. The label "formulating a position" covers a family of linguistic activity types ranging from the outlining of individual theses to the putting into words of complex, coherent conceptions.

The formulation of positions occurs principally in three types of sequence: (i) as part of the proposal or defence of the writer's own view; (ii) as part of a criticism of rival conceptions; (iii) and as part of discussions of hypothetical positions (what an opponent *could* say).

(i) Defending one's own view requires two main elements: its formulation and its support by appropriate means. The formulation of a position is guided by certain principles, such as the principle of clarity and the principle of comprehensibility. Furthermore, conceptions and positions often have a complex structure, to such an extent that it becomes part of the task of academic writing to create connections between component parts of a position with, for example, components at a higher structural level. The following example from "Tertius Interveniens" shows how the formulation of a thesis can be linked to other parts of the text, or to aspects of the communicative purpose:

But that man too, with his soul and its sublunary powers, has the same sort of relationship to the heavens as the earth does may be proven and confirmed in several ways, of which every one is a precious pearl from the field of *astrology*, which should by no means be thrown out with *astrology* but rather assiduously retained and explained.

LXV.

For, firstly, I may pride myself truthfully on the insight that man on first coming into the world, when he has to live on his own and may no longer stay in his mother's womb, receives a *character* and image *totius constellationis coelestis, seu formae confluxus radiorum in terra* and preserves this unto his deathbed.

LXVI.

Secondly and furthermore/(...).

(KGW 4: 209ff; emphasis T.G.)

Daß aber auch der Mensch mit seiner Seel vnnd deroselben nideren Kräfften ein solche Verwandtnuß mit dem Himmel habe wie der Erdtboden/mag in viel wege probiert vnnd erwiesen werden: deren ein jedweder ein Edels Perl auß der Astrologia ist/keines wegs mit der Astrologia zu verwerffen/sondern fleissig auffzubehalten vnd zu erklären.

LXV.

Dann erstlich mag ich mich dieser Experientz mit Warheit rühmen/daß der Mensch in der ersten Entzündung seines Lebens/wann er nun für sich selbst lebt/vnnd nicht mehr in Mutterleib bleiben kan/einen Characterem vnd Abbildung empfahe totius constellationis coelestis, seu formae confluxus radiorum in terra, vnd denselben biß in sein Grube hieneyn behalte: (...).

LXVI.

Zum andern vnd ferrners/(...).

(KGW 4: 209ff; emphasis T.G.)

In this passage, the thesis is formulated in the clause “that man with his soul and its sublunary powers has the same sort of relationship to the heavens as the earth does”. Concerning this thesis, it is then claimed that it can be supported in several different ways. The claim that these different ways are available can, at the same time, be understood as the thematic announcement that Kepler is about to perform these different supporting moves (“may in several ways be proven and confirmed”; “mag in viel wege probiert vnnd erwiesen werden”). If it did not also have the function of announcing subsequent moves supporting it, the statement of his thesis could be phrased differently, e.g. as follows:

Man too, with his soul and its sublunary powers, has the same sort of relationship to the heavens as the earth does.

Auch der Mensch mit seiner Seel vnnd deroselben nideren Kräfften hat ein solche Verwandtnuß mit dem Himmel wie der Erdtboden.

Furthermore, the use of “too”, “the same sort of” and “as the earth” establishes a connection to the immediately previous passage. These expressions thus serve to create a link between the new thesis and a related thesis. The text’s indication of such connections among theses therefore creates something akin to a network of component conceptions, whose elements support one another.

Finally, the way the thesis is formulated also establishes a connection to the overarching aim of the text as a whole. For convenience, the sentence is repeated here:

That [...] may in several ways be proven and confirmed, of which every one is a precious pearl from the field of astrology, which should by no means be thrown out with astrology but rather assiduously retained and explained.

Daß (...) mag in viel wege probiert vnnd erwiesen werden: deren ein jedweder ein Edels Perl auß der Astrologia ist/keines wegs mit der Astrologia zu verwerffen/sondern fleissig auffzubehalten vnd zu erklären.

The reference to precious pearls is a metaphor which Kepler frequently employs, one example being the following passage from the beginning of “Tertius Interveniens”, in which Kepler gives his general aim as wishing to separate the good from the bad in the field of astrology, recovering, so to speak, the pearls from the astrological dung:

As mentioned at the beginning, nobody should consider it unbelievable that in all the astrological foolishness and godlessness there should also be found useful knowledge and holy insight, as snails, mussels, oysters or eels, which are fit to eat, may be found in uncleanly slime, or as a silk worm may be found among a heap of caterpillars, or as an industrious hen may pick out a good corn or even a pearl or a nugget of gold from evil-smelling dung.

As when I discovered some such astrological pearls and nuggets earlier on, i.e. in my book *De fundamentis Astrologiae certioribus* and also in *Librum de stella Serpentarii*, and attracted the lovers of natural secrets to view, to recognize and to imbibe them, I have now also taken it upon me in the present small treatise to do so and to take issue with various theologians, medical men and philosophers, who tend to get rid of the dung too quickly and pour it into the water, and I doubt not that once they appreciate my useful enterprise in picking out valuable things from astrology, they will no longer prevent me and others from doing so and will in future deal more fairly with astrology.

For the fact that these persons have so far too closely attached themselves to natural science and have tended to throw the baby out with the bath water has mainly been the fault of astrologists themselves, who not only brought into bad repute the salutary knowledge hidden in astrology by disgraceful malpractice, but did themselves not know much about the good things I am concerned with and mostly did not recognize the baby at all, restricting themselves to stirring up the dirty bathwater. (KGW 4: 161.40ff; emphasis T.G.)

Soll also wie anfangs gemeldet worden/niemandt für vngläublich halten/daß auß der Astrologischen Narrheit vnd Gottlosigkeit/nicht auch eine nützliche Witz vnd Heylighthumb/auß einem vnsaubern Schleym/nicht auch ein Schnecken/Müschle/Austern oder Aal zum Essen dienstlich/auß dem grossen Hauffen Raupengeschmeiß/nicht auch ein Seydenspinner/vnd endlich auß einem vbelriechenden Mist/nicht auch etwan von einer embsigen Hennen ein gutes Körnlin/ja ein Perlin oder Goldt = korn herfür gescharret/vnd gefunden werden köndte.

Wie nun ich hievor solcher köstlicher Perlen vnd Körnlin etliche/als nemlich in meinen fundamentis Astrologiae certioribus/Item in libro de stella Serpentarii, auß der Astrologia herfür gelegt/vnd die Liebhaber natürlicher Geheymnissen/<162> solche zu besehen/zu erkennen/vnd zu verschlucken herzugelocket: Also hab ich mir dasselbige auch in diesem Tractätlin zu thun/vnd hierüber mich wider etliche Theologos, Medicos vnd Philosophos, welche den Mist miteinander allzufrühe außführen/vnd ins Wasser schütten wöllen/in einen Kampf eynzulassen/fürgenommen/nicht

zweiffelent/wann sie mein nützliches Vnderwinden/vnnd was ich auß der Astrologia gutes außzuklauben vorhabens/verspüren/sie mich vnd andere hieran nicht hindern/sondern mit der Astrologia für auß bescheydener verfahren werden.

Dann daß solche bißhero der Naturkündigung zu nahe kommen/vnd das Kindt mit dem Bad außschütten wöllen/ist die meinste Schuld an den Astrologis selbst gewest/welche nicht allein mit vbermachten schändtlichen Mißbräuchen/die drunter verborgene heylsamliche Wissenschaftt verdächtig gemacht vnd beschreyet: sondern auch von dem guten/darvmb ich mich anneme/selber wenig gewust/das Kindt meinsten theils selber nicht gekennet/sondern nur in dem vnsaubern Bad vmbgespület haben. (KGW 4: 161.40ff; emphasis T.G.)

This example shows that formulating a thesis is a linguistic activity through which manifold connections within the text can be introduced, i.e. to forms of support for the thesis, to other theses, and to the overall aim of the text.

(ii) The formulation of a position is also a central part of the critique of rival positions. To raise objections to and other criticism of rival positions, it was usual around 1600 to first present one's opponent's stance, be it word for word or as a summary, and then to give a reply to it. The sequential pattern of presentation and reply is the underlying functional reason for the important role which these paired elements play, as already mentioned, in the point-by-point approach. The following is an example of this type of structure:

[*Presentation*] Now Dr Feselius puts forward his foot and takes steps to refute astrology by showing that it is imperfect, and he tries to prove this imperfection on the basis of the imperfections of astronomy. (...) He claims the astronomical foundations to be imperfect, on which the predictions of physics are based: therefore, the building itself must be shaky.

[*Reply*] Reply: The most parts of astronomy which Dr Feselius considers imperfect in A 4. have nothing to do with the predictions of physics at all. For what does the number of celestial spheres, whether there be six, eight, nine or ten of them, concern terrestrial effects (...)? (KGW 4: 182.18ff)

[*Wiedergabe*] *Es setzt nun D. Feselius seinen Fuß für auß/vnd vntersteht sich die Astrologiam zu verwerffen/weil sie vnvollkommen/Die Vnvollkommenheit aber derselben wil er erweisen auß Vnvollkommenheit der Astronomia. (...) Er sagt die fundamenta Astronomica seyen vnvollkommen/auff welche diese Physicae praedictiones gebauwet: Derhalben auch das Gebäuw selber wancken müsse.*

[*Antwort*] *Antwort: Die meinste Stück A 4. welche Feselius hie auß der Astronomia für vnvollkommen ansiehet/die gehen die praedictiones Physicas nichts an. Dann was geht anfangs die irrdische wirkungen an/die zahl der himmlischen Sphaerarum, es mögen ihrer sechs/acht/neun/zehen/eylff/zwölff oder nur eine seyn/(...).*

(KGW 4: 182.18ff)

The formulation of Feselius' position serves here to ensure that the thematic connections and previous stages of the argument are clear and fresh in readers' minds, which level of up-to-date information in the audience cannot simply be taken for granted in the written medium.

(iii) The positions thus formulated can also be hypothetical, articulated, among other things, to deal with one's opponent's replies pre-emptively. In the following example, a position which could be held is mentioned (1a) and then argued against (1b):

(1a)

Someone might reason as follows: If nature can organize its certain handling of the motion of humours for three and fours days on its own, without help of the heavens, then she can also hit on the critical days in this motion of humours (dies criticos in ipso motu humorum) without the heavens.

(1b)

Answer: there is no doubt, nature does exactly that, dominating human humours, and not the heavens as such. However, there remains the question if nature receives its days from the heavens or by mere chance. As these days go parallel with the moon's course and as no other causes for these numbers are known, there is reason to remain with the assumption that nature is attentive to the course of the heavens. For this is an old tradition, by which the whole of philosophy was learned in the first place. (KGW 4: 213.25–34)

(1a)

Es möcht einer sprechen/kan die Natur ihren gewissen Vmgang treffen mit dem motu humorum vber den dritten vnd vierdten Tag für sich selbst/ohne den Himmel/so kan sie auch die dies criticos in ipso motu humorum, ohne den Himmel treffen

(1b)

Antwort/es ist kein zweifel/die Natur thue es/die in deß Menschen humoribus dominiert/vnd gar nicht der Himmel für sich/es ist aber die Frage/ob die Natur ihre Täge auß dem Himmel nemme oder also vngefehr erhasche. Dann weil ihre Täge sich auff deß Monds Lauff reymen/vnd man sonsten dieser Zahlen kein andere Vrsachen nit weiß/so bleibt man nit vnbillich in dem Wohn/daß die Natur ihr auffmercken auff deß Himmels Lauff habe. Dann diß ist also ein alt herkommen/dardurch man die gantze Philosophiam entlich erlernet hat. (KGW 4: 213.25–34)

This strategy of anticipating and pre-empting one's opponent's possible responses goes back to classical rhetoric ("anticipatio"; *quidam dicat*).

3.3.2 Supporting a claim

There are five main subcategories of supportive moves to be identified among those used at the beginning of the 17th century:

- (i) reference to Bible passages and to interpretations of such passages
- (iia) quoting classical authorities (e.g. Church Fathers, traditional medical authorities)
- (iib) quoting modern authorities
- (iii) formulating deductions, consequences, proofs, “demonstrations”
- (iv) reference to experience
- (v) presenting arguments based on plausibility

As a rule, each type of move has its own forms of application, its advantages and problems. With regard to the role of controversies in the search for knowledge, three main elements stand out: the different roles of classical and modern authorities; the disputed role played in science by theological, Bible-derived arguments, and the state of development reached by arguments based on experience.

Traditional science around 1600 still very much gravitates around established authorities. These can be seen, for example, in the question of how to discover how an object behaves in nature (e.g. “How do comets occur?” “Where do they go?” or “Why does the tail of a comet always point away from the sun?”). Whereas the modernists’ reply to such questions is basically: “Look, observe, and try to bring your observations into a coherent system”, the traditionalists’ answer is: “Look it up in Aristotle.” It is therefore a traditional support move in scientific works to refer to classical authorities in whose writings one finds a particular position defended. Among the classical authorities in the field of science and medicine, the ancient natural historians and physicians are principally recognized (e.g. Aristotle, Pliny, Galen, Celsus), but so are the Arabic authors whose texts transmitted the ideas of the ancient world (such as Avicenna, Averroës and Rhazes).

In the years around 1600, the positions held by the classical authorities came under fierce attack. In medicine, for example, Paracelsians and empiricists opposed their ideas to those of Galenism and the persistently influential humorist doctrine. In the field of natural history, the division lay between the Aristotelian camp and their opponents (such as Tycho Brahe on the question of comets). From a science historian’s point of view, it is, however, worth noting in parenthesis that the world of science had known empiricist and anti-authoritarian tendencies since the Middle Ages: Konrad von Megenberg’s “Buch der Natur” (“Book of Nature”, ca. 1350) contains instances of scepticism towards authorities – “I do not believe that” (“Des geloub ich niht”; Megenberg (1861): 146, 27) – and Frederick II of Hohenstaufen says in his “Art of Falconry” (“de arte venandi cum avibus”, ca. 1250) that he had not always found himself able to follow the king of scientists, Aristotle, because the latter had never engaged in falconry whereas Friedrich himself had

loved and practised it continuously since his youth.⁵ These and similar pieces of evidence to be found in the research literature indicate that the remarkable empiricist and anti-authoritarian impetus that we find around 1600 has its earlier precursors.

Linguistically, the changing role of the ancient authorities in the years around 1600 is reflected in the way they are referred to in science communication. In the controversy between Kepler, Röslin and Feselius, arguments from authority based on ancient authors do not play a particularly prominent role. Their positions are obviously well known (e.g. Aristotle, Ptolemaeus, Geminus, Sacrobosco), these positions are, however, not left unquestioned and are made a topic of discussion.

It is notable that analogous reference was made to *modern* authors. The difference is that a modern authority had to be explicitly introduced and justified as an authority before being quoted. Feselius, to take him as an example, employs two strategies to do this: he uses epithets like “excellent”, “highly learned” and “widely renowned” (*fürtrefflich, hochgelehrt, weitberühmt*) and he mentions the high opinion held of his source by nobles:

What the excellent, highly learned and widely renowned late Doctor Joannes Langius, former physician to five Palatinate Electors, thought of this can be readily seen in his letters, namely Epistola 35. lib. I. & Epist. 60. lib. 3., which are written particularly to counter such astrological delusions. (Feselius 1609: F3a)

Was dann der fürtreffliche/hochgelerte/vnd weiterberümte Doctor Joannes Langius, fünff Pfältzischer Churfürsten gewesener Medicus seeliger hiervon gehalten habe/ das geben seine Epistlen/nemlich Epistola 35. lib. I. & Epist. 60. lib. 3. genugsam zuerkennen/welche er insonderheit wider solche Astrologicas delirationes geschriben hat. (Feselius 1609: F3a)

Among the authoritative texts referred to, the Bible was particularly important for a long time, in the natural sciences as well as in other fields. It is interesting for the history of ideas as well as that of science that, around the beginning of the 17th century, one repeatedly finds passages thematising the contradiction of Biblical passages and empirical experience or classical authorities and empirical experience. The following passage from Kepler’s “Tertius Interueniens” demonstrates that the separation of the Biblical and the scientific world view was already well underway in the years around 1600 and that this was recognisable in the separation of two realms of argument. In Kepler’s view, arguments from the Bible were invalid with respect to scientific questions, and Biblical passages, according to

5. cf. Willemsen 1942: pp. 1, 24–31.

Kepler, were often read with a scientific meaning that he considered inappropriate. Kepler criticizes Feselius' reference to Biblical passages thus:⁶

4. Feselius says that it is also against Biblical doctrine.

This is the old story: As soon as Dr Feselius and others are at a loss what to say, they come along with the Bible. As if the Holy Ghost was teaching astronomy or physics in the Bible and did not have a much higher aim, for which he not only used the words and language known to earlier people but also their general popular knowledge of natural things, which man had acquired with his eyes and outward senses. What should all this lead to? Obviously, one could refute all science and geography in particular from the Book of Job alone, if nobody understood the Bible properly, apart from Feselius and his company.

Look how he makes use of a passage from Psalm 93: *Firmauit orbem terrae, qui non commouebitur*. If this Psalm should proclaim a physical dogma, one cannot relate it to the description of the realm of Christ and one could conclude that there should never be an earthquake, to which the word *commouebitur* is more appropriate and also to the parable. However, if, in fact, Psalm 93 talks about the realm of Christ, it must be understood the same way as later in Psalm 96: *Correxit orbem terrae, qui non commouebitur, iudicabit populos in aequitate*. He has pacified the world's realms and brought them under his yoke, so they will never again revolt against him.

Similarly, he quotes from Psalm 75: *Liquefacta est terra, et omnes qui habitant in ea: ego confirmaui columnas eius*. Let Dr Feselius show me the columns of the Earth if these words are to be understood scientifically and not as follows: that a general disaster had brought all mankind in confusion, but that God had shown mercy, so that it softly passed by. (KGW 4: 196f.; emphasis T.G.).

4. Sagt Feselius/es sey auch wider die H. Schriftt.

Das ist halt der Handel/so offt D. Feselius vnd andere nit mehr wissen/wo auß/so kommen sie mit der H. Schriftt daher gezogen. Gleich als wann der H. Geist in der

6. Comparable passages can also be found in an argument with Röslin:

Dr. Röslin: In the Book of Hosea we find: Quod coelum exaudiet terram ("That the heavens shall hear the earth").

Kepler: Directly afterwards, it says: Et Terra exaudiet triticum, et triticum exaudiet Jesrahel ("And the earth shall hear the corn; and the corn shall hear Jezreel"). And I spoke ad partem, following the Prophet, in order to interpret his words. But he made a point of telling me that he was not speaking physics but theologically and using popular expressions, and that he did not deal with our (scientific) matter" (KGW 4: 111).

D. Röslin. Im Propheten Hosea stehet/ Quod coelum exaudiet terram.

Kepler. *Es folgt gleich drauff/ Et Terra exaudiet triticum, et triticum exaudiet Jesrahel. Vnd hab ich mit dem Propheten ad partem geredt/in willens jhm seine wort außzulegen. Er hat aber dafür gebeten/mit vermeldung/das er nit physicè sondern popularibus verbis theologicè geschriben habe: neme sich vmb vnsere materiam nichts an.*"(KGW 4: 111).

Schrifft die Astronomiam oder Physicam lehrete/vnd nit viel ein höhers Intent hette/ zu welchem er nicht allein deren Wort vnd Spraach/den Menschen zuvor kvndt/ sondern auch deren gemeinen popularischen Wissenschaftt von natürlichen Sachen/ zu welcher die Menschen mit Augen vnd eusserlichen Sinnen gelanget/sich gebrauchete? Wo wolte man endlich hinauß? Könnte man doch alle scientias, vnnd sonderlich auch die Geographiam auß dem einigen Buch Job allerdingß vmbstossen/wann niemandt die Schrifft recht verstünde als allein Feselius, vnd die es mit ihme halten. Besehet nur/wie er die Sprüche anziehe/auß dem 93. Psalmen/Firmauit orbem terrae, qui non commouebitur. Redet dieser Psalm von einem dogmate physico, so zeucht man ihn vergeblich auff die Beschreibung deß Reichs Christi/vnd kan alsdann gleich so wol erstritten werden/daß nie keimmal kein Erdtbieden nicht geschehe/von welchem das Wort commouebitur, vnd die Gleichnuß besser lautet. Redet aber der Psalm warhafftig vom Reich Christi/so muß es je diesen Verstandt haben/wie im folgenden 96. Psalmen: Correxit orbem terrae, qui non commouebitur, iudicabit populos in aequitate. Er hat die Reiche der Welt zur Ruhe/vnnd vnters Joch gebracht/sie werden sich nicht mehr wider ihn rühren.

Also auß dem 75. Psalmen zeucht er an: Liquefacta est terra, et omnes qui habitant in ea: ego confirmaui columnas eius. So zeige mir D. Feselius, wo seynd die Seulen deß Landts/wann diese Wort also Physice müssen verstanden werden: Vnnd nit vielmehr also: daß ein allgemein Vnglück das gantze menschliche Geschlecht in ein confusion gestellet/aber Gott Gnad eyngewendet habe/daß es sittlich fürüber gerauschet.

(KGW 4: 196f.; emphasis T.G.).

Expressions such as *physice*, ‘concerning natural science’, establish the field referred to, limiting the subject areas to which statements or arguments apply. In this controversy, such differentiation has the function of presenting an opponent’s Biblical argument as void in scientific questions and thus cancelling it out. Similar moves for the cancelling out of Biblical arguments in the scientific context can be found frequently in Kepler’s work. On the other hand, arguments using Bible passages still turn up in scientific discussions at the end of the 17th century. The Basel mathematician Bernoulli, for example, argues thus in a text on comets of 1681 against Descartes’ vortex theory by referring to a psalm from the Bible with which Descartes’ view is incompatible:

Descartes, the otherwise profound natural scientist, has a strange opinion on the origin of the comet. He claims that if a heavenly body gradually forms a thick crust, this crust prevents the body from continuing the speed of its vortex, and because this stellar vortex could no longer offer resistance to the power of other vortices, it would, so to speak, gradually be cut off and devoured, and finally the heavenly body itself would be drawn into such a foreign vortex, where it would become a comet (see p. 109 of his *Beginnings of World-Wisdom*). One could concede that in all these vortices many changes may take place. However, that the vortex itself, an extremely large thing, should be totally destroyed is completely

inconceivable. The wise Creator has the custom at times to destroy and annihilate the inhabitants, but not the whole building or the dwelling itself, as we can see in the case of our Earth, whose foundations are such “that it should not be removed for ever” (Psalm 104.5), even though the plants, animals, and men living on it come into being and perish day by day. If this can be said of the small globule of Earth, how much more should this be true of such a considerable and virtually immeasurably larger creature? Indeed, if this opinion were true, could we not reasonably conceive the fearful thought that, in the course of time, our vortex, in which we, the Sun, the Moon and all the planets are contained, could meet such a grim fate (...)? (Bernoulli 1681: 137f.; emphasis T.G.).

Cartesij des sonst tieffsinnigen Naturforschers Meinung von dem Ursprung des Cometen ist eben auch seltzam genug. Er sagt, daß wann sich umb ein Gestirn nach und nach eine dicke Rinde oder Kuche samle, verhindere sie, daß das Gestirn seinen Würbel nicht mehr mit solcher Geschwindigkeit herumb treiben könne, und weil alsdann dieser Weltwürbel dem Gewalt und der Bewegung anderer benachbarten Würbeln nicht mehr widerstehen könne, werde er nach und nach von denselben, so zu reden abgemeyet und verschlungen, und endlich das Gestirn selbst in einen dergleichen frembden Würbel hingezucket, da es dann zu einem Cometen werde: Besihe davon die Anfänge seiner Welt-weißheit, am 109. bl. Zwar daß in einem jeden dergleichen Weltwürbeln viel Veränderungen sich zutragen können, kan man Cartesio endlich wol gestehen, daß aber der Würbel selbst, ein so überauß großes Geschöpff könne gänzlich zu trümmern gehen, ist gantz unglaublich; der allweise Schöpffer hat wol im gebrauch, die Einwohnere, nicht aber das gantze Gebäude, und die Wohnung selber zu zerstören und zu vernichtigen, wie wir es abnehmen an unserer ‘Erden, die da fest gegründet auf ihren Boden, daß sie bleibe immer und ewiglich’, Psal. 104.5. ob schon die darauf sich befindende Gewächse, Thiere und Menschen täglich entstehen und vergehen. Wann das gesagt wird von dem kleinen Erdenkügelein, wie viel mehr soll es gelten von einem so ansehnlichen und fast unendlich größeren Geschöpfe? Ja wann jene seltzame Meinung platz hette, möchte man nicht unbillich in die sorgfältigen Gedancken gerathen, es möchte unserm Würbel, darinn wir, die Sonne, der Mond und alle Planeten begriffen, mit der zeit auch so erbärmlich gehen, (...) (Bernoulli 1681: 137f.; emphasis T.G.).

The separation of theological and scientific arguments must be imagined as a development which took place over a long time. The comments by Kepler quoted here show how a particular method of argumentation, which used to be counted among the accepted range of potential moves, becomes controversial, later to fall away entirely from the spectrum of scientific forms of argument.

Thus the spectrum of supporting moves used in source texts and mentioned by contemporary commentators indicates a certain tension between patterns of argumentation, which stands for a number of evolutionary tendencies in the history of ideas: first the change which eventually leads to the decline of classical

authorities as guarantors of arguments; then the technique of referring to modern authors, having introduced and established them; and finally the beginnings of a separation of theological and scientific perspectives and spaces of argument, which leads to a state where citing Bible passages as support for scientific positions becomes unacceptable in the rules of controversies. As can be seen in the temporal difference between Kepler (c. 1600) and Bernoulli (c. 1680), these are phenomena and developments which are spread over a longtime period and which certainly also vary internally in terms of individual, field-related, regional and other aspects.

In dealing with text passages, questions of meaning and interpretation also always come into play, which can lead to differences of opinion about what is the correct or a permissible interpretation. Authors of the years around 1600 were acutely aware of the fact that citing a passage was not all there is to it and that questions of intention and interpretation are also at play. These questions range from technical linguistic problems of translation to debates about the misleading selection of quotations, to issues about the validity of certain statements in relation to different subject areas (such as theology vs. the natural sciences), and to accusations of intentional misinterpretation.

Any text passage cited in support of an argument can prove the trigger for a parenthetical debate about its interpretation. The following quotation consists of a reference to a possible linguistic problem of translation, a statement on which subject areas the passage in question may be applied to, and a reference to competing passages in the works of distinguished authors.

Why the Hebrew language always talks of the heavens as if there were many of them is a matter for theologians to discuss, for their several heavens are not a matter of physics (...) And alongside the theologians' interpretation it is perfectly possible to claim that all the stars stand in one sky only, which is an opinion shared by many Greek and Latin Fathers. (KGW 4: 189.29ff)

Warvmb die Hebraische Sprach allezeit deß Himmels gedencke/als ob jhrer viel weren/da mag man die Theologos drüber hören/dann jhre mehrere Himmel gehören nicht in die Physicam (...) Vnd mag neben der Theologorum Außlegung gar wol fürgegeben werden/daß alle Sterne nur in einem Himmel stehen/deren Meynung dann viel treffliche Griechische vnnnd Lateinische Patres gewest. (KGW 4: 189.29ff)

One very important group of linguistic acts are moves related to empirical evidence. Historically speaking, they are the strongest rivals of those based on authorities. The shift within scientific methodology from reference to authorities to empirical evidence and reason grants new weight to the linguistic representation of experience in texts. That being said, a split among the empiricists themselves becomes evident later: some support the gathering of uncontrolled experience, whereas others favour the targeted, systematic, repeatable gathering of experience

by means of experimentation. This vast tripartite division in the history of science – from authorities via still uncontrolled experience to targeted, systematic and repeatable experiments – is reflected in the valuation of respectively relevant linguistic acts in the controversy. Alongside the above-mentioned scepticism with which Biblical authority is met in scientific questions, other passages indicate that the valuation of citing authorities is restrained if not sceptical, partly because one and the same authority can be used to defend as well as undermine a given position in equal measure. Feselius, for example, writes about the use of authorities thus:

(...) if this controversy should be conducted on the basis of authorities and the reputation of scholars rather than on the basis of arguments and well-founded reasons, one could easily adduce double the number of excellent scholars who where also not insane and bereft of reason, who hold exactly the opposite view.
(Feselius 1609: F3a)

(...) *wann diese controversia mehr autoritatibus, vnnd dem ansehen geleter leut/ als rationibus, vnnd gewissen gründen solte erörtert werden, köndten wol doppel soviel fürtrefflicher/geleter leut angezogen werden/die auch nicht Insani vnnd jhrer vernunft beraubt gewesen/welche gantz das widerspiel halten/ (...).*
(Feselius 1609: F3a)

Mention of observations and experience is usually combined with moves making use of these observations as arguments. Those disputing where comets are located, for example, not only present observational data, such as comets' positions in the sky and their line of flight, but also draw conclusions and make inferences on the basis of this information, supporting the relevant thesis. Around 1600, this use of observational data in argumentation is made explicit with words like *erweisen* ("prove") and *demonstrieren* ("demonstrate"). Both of these elements – observation and the use of observational data in an argument – can be detected in the following rendition of a piece of Kepler's reasoning:⁷

7. A more explicit example can be found in Kepler's "Reply to Röslin's Discourse", where observed data and mathematical inference are brought together in a little theory on the flight path of a particular comet, of which the following is an extract:

And as the latitude diminished so much from originally 42 degrees, whereas the comet rose continually to the north in a line perpendicular to the plane of the ecliptic, it can be deduced that it must have shot far away from the Earth (KGW 4: 123).

Vnd weil die latitudo auß einer so grossen von 42. gr. so klain worden/da doch der Comet in perpendiculo ad Eclipticam jmmerzu in Septentrionem gestigen/darauß ist abzunemen/das Er warhafftig gar weit von der Erden hindan geschossen sey. (KGW 4: 123; emphasis T.G.).

The contrast of unsystematic experience vs. controlled experiment also plays an important role in medical controversies of the second half of the 17th century (cf. Chapter 4, Section 3.3.6 in this volume).

Dr Röslin. I accept Kepler as an astronomer, and I am also willing to bow to him if I erred in claiming that our comet orbited Venus.

Kepler. I should be grateful to Dr Feselius for his praise, there is however one fault, i.e. that my eye-sight is not good, a defect which Brahe also complained of, and that I do not have the opportunity to enlist the service of others' eyes, so I could not observe the comet as well as I had wished to do. However, I did manage to observe with my own eyes enough to prove that it certainly stood above the Moon. After that I successfully used reasoning, geometrical methods, and my theoretical foundations concerning the orbit of the Earth, so I hope to have perfectly compensated my defective eyesight and to have proved that the comet started its straight movement not far from the terrestrial sphere, however quite far above the Moon, and to the North, about 15 degrees of Aries (...).

(KGW 4: 114.14ff; emphasis T.G.)

D. Röslin. Kepplerum laß ich für einen Astronomum bleiben/will mich auch jhme zur straff vnterworffen haben/wann ichs mit vnserm Cometen, das er in orbe Venerissey/nit recht getroffen hab.

Kepler. Ich solte dem Herrn Doctori für das lob gedanckt haben/so hat es auch einen fehl: Nemblich das ich kein gut Gesicht habe/wie Braheus dasselbig entlich auch geklaget/vnd das ich nit gelegenheit habe frembde Augen zu dingen: daher erfolgt/das ich den Cometen nit nach wunsch observiert, doch so vil mit dem Gesicht zuwegen gebracht/das ich zuerweisen gehabt/Er gewißlich vber dem Mond gestanden sey. Nachmals hab ich auß der vernunft/auß Geometria, vnd auß meinem letzen fundamento von beweglichkeit der Erden so vil zu wegen gebracht/das ich verhoffe/den mangel am Gesicht statlich ersetzt vnd erweisen zu haben/das der Comet nit weit von der sphaera Telluris, doch zimblich weit vber dem Mond/vnd in septentrione, vmb den 15. grad deß Widers (...) seinem rechtlinischen schuß einen anfang gemacht/(...).

(KGW 4: 114.14ff; emphasis T.G.)

The observed data used here are in part already systematically collected (from Tycho Brahe's material, for example, and from records kept by astronomer friends), notwithstanding the fact that repeatable experimentation is not possible in this field.

It is notable that Kepler does employ references to authorities in certain cases: with respect to theological questions for which he does not feel qualified, but which can nevertheless arise in the context of a discussion of cosmological issues. When Röslin asks his question, cited above, on the extent to which claiming that the Earth is not stationary contradicts the Bible, Kepler answers not with his own reasons but by referring to three kinds of authorities who had not at the time of writing raised any objection to the teaching that the Earth moves. He names the popes, the Protestant theologians and non-theologians sensitive to religious issues and well informed on the subject at hand, as represented by Michael Mästlin, whom Röslin esteems highly (KGW 4: 106.26ff, quoted above, paragraph 3.2).

Alongside rigorous supportive moves from the realm of mathematics, our texts also show moves based on plausibility, which possibly have their roots in the aim not only to find the truth (regardless of on which side of the debate the truth is to be found) but also to convince one's readership of the truth one sees in one's own position. Two such positions, which were also supported by plausibility-derived arguments, are the Copernican doctrine and the cosmological view that there is some sort of connection worth understanding between heavenly bodies and the Earth below. In the dispute about the Copernican doctrine, arguments based on plausibility were used by both sides: Röslin posits that the concept of the Earth's motion does not correspond to the perception of our senses; Kepler calls this argument negligible and, arguing for the Copernican view, draws a comparison with the unreliability of the senses concerning the size of the Sun. In presenting Röslin's position, he further points to the implausible rotational speeds assumed in the rival planetary model:

Ibid. According to Dr Röslin the assumption that the Earth orbits the sun contradicts physical laws, reason and the evidence of the outward senses. Reply. (...) I gladly concede that it contradicts the evidence of the outward senses that the Earth orbits the Sun. But this does not mean much, for it is exactly in order to compensate the defects of the outward senses that God gave us reason. If it were not for reason, our senses would be much too weak to comprehend that the Sun is two hundred times the size of the Earth.

Ibid. Dr Röslin would rather believe that the immensely big and wide heavens move at a speed of 2257500 miles per hour than believing that the small insignificant Earth should rotate at a speed of 240 miles per hour, the reason being, according to him, that the Earth is of a coarse, heavy and immovable material character, whereas the heavens are of a subtle and light formal character like the mind or the soul and therefore much better adapted to movement.

(KGW 4: 106f.)

Ibid. D. Röslin helt es wider die Physicam, wider alle eusserliche Sinne/wider alle vernunfft/das die Erd vmbgehe. Antwort. (...)

Das es wider die eusserliche Sinne das die Erden soll vmbauffen/bekenn ich gern/vnd hat nit viel zu bedeuten: dann eben darumb hat vns Gott die vernunfft gegeben/das wir darmit den mangel der eusserlichen Sinne ersetzen sollen. Wann diese vernunfft nit wäre/würden vnserer Sinne vil zu schwach sein zubegreifen/das die Sonne bald 200 mahl grösser sey dann die Erde.

Ibid. Will D. Röslin vil lieber glauben/der vbermächtig groß vnd weite Himmel gehe in einer stund 2257500. meilen/als das der kleine vnachtsame Erdboden soll in einer stund 240 Meilen vmbwartzeln. Ursach spricht Er/dann die Erd sey materialisch grob schwer vnd vntüchtig/der Himmel aber sey formalisch subtil leicht wie Gaist vnd Seel/vnd vil geschickter zur bewegung. Antwort: (...)

(KGW 4: 106f.)

Comparison is frequently used as a plausibility-based supportive move in Kepler's writings. In arguments against Feselius, the physician, Kepler often makes use of the comparison of astrology to medicine, comparing, for example, levels of certainty in medical knowledge to levels of certainty in astrological knowledge or different stages in the development of both disciplines towards increasing sure knowledge. After giving examples of the slow progress of medical knowledge through trial and error, he concludes a long passage of this type by saying:

Therefore, if medicine will not be denied its status as a scientific enterprise on account of misguided or unsatisfactory experiments, neither should astronomy as a whole be denied this status.

And like early medicine, when enquiring into the kinds and properties of herbs, did initially not perceive necessary and certain causes, but came to know them in the course of time through diligent study and reasonable hypotheses and is even now searching for [some of] them, in the same way I only accept parts of astrology where one can learn the fundamental cause or a justifiable natural kind of cause or at least a reliable empirical regularity which is free from childish assumptions. Anything in astrology that can be regarded as based on experience and which does not obviously rest on childish foundations [...] should be worth studying as to its regularity. And if there is a reliable regularity, I consider it worthy of causal analysis. And even if I could not learn the causes completely, I would not discard it altogether. (KGW 4: 163f., emphasis T.G.)

Derowegen so wenig die Medicina von der falschen oder gebrechlichen Experimenten wegen auß der Zahl der Künsten außzumustern/so wenig ist auch dieses der gantzen völligen Astrologiae zuzumuthen.

Vnd wie die Medicina anfangs in Erkündigung der Kräuter Art vnd Eygenschaftt/ von keiner vnderschiedenen nohtwendigen vnd gewissen Vrsachen nichts gewust/ aber dieselbig durch Fleiß vnnd vernünftige muthmassung endtlich erlernet/zum theil aber noch suchet: Also halte ich auch von keinem Theil der Astrologiae nichts/ da man nicht mit der Zeit entweder auff die gründtliche Vrsach/oder doch auff eine Art vnd Weise einer rechtmässigen natürlichen bey andern Fällen erscheinenden Vrsachen/oder zum wenigsten auff eine beständige/vnd von allen kindischen Vmbständen gefreyte Erfahrung gelangen kann.

Alles nun/was in der Astrologia einer Erfahrung gleich sihet/vnd sich nicht offenbarlich auff kindische fundamenta zeucht [...] /Das halte ich für würdig/daß man darauff achtung gebe/ob es sich gewöhnlich also verhalte vnd zutrage: Vnd wann es dann sich fast zu einer Beständigkeit anlässet/so halte ichs nun ferrner für würdig/ daß ich der Vrsachen nachtrachte/verwirff es auch nicht gleich gantz vnd gar/wann ich schon die Vrsach nicht völlig erlernen kan. (KGW 4: 163f., emphasis T.G.)

In this passage Kepler uses the comparison between (early phases of) medical science – as a recognized member of the *artes* (“Künste”) – and astrology to make an

argument for viewing astrology as a field of research in an early stage (*anfangs*) of scientific development, in which everything which does not immediately seem absurd may and should be examined as a hypothesis, either to be discarded or to be confirmed as a regularity (*Beständigkeit*) and then explained as such, insofar as this is possible. Another comparison earlier on in this passage serves to make it appear plausible that invalid views within a discipline cannot be used as a general argument against the usefulness of that discipline. Similarly, Kepler presents a series of comparisons to try to make it appear plausible that the abuse of a thing cannot be an argument against that thing in and of itself (KGW 4: 158ff). In so doing, he implies that astrology can have its uses – which is not as questionable a position as it may first appear when we take into consideration Kepler’s purpose. Apparently, his intention was to separate an exact, physical astrology examining the relationship between the heavens and the Earth from all forms of superstition, or at least to defend such a research programme as potentially fruitful.

Kepler’s repertoire of moves includes an interesting example of a type of Socratic strategy: it is based on drawing possible inferences from something one’s opponent has said, which one can then use to support one’s own stance. Kepler makes use of this procedure in a long passage of “*Tertius Interveniens*” to defend forms of the relationship between the heavens and Earth with reference to the concept of light. At the beginning of this passage, he comments reflexively on his strategy in saying what it is he wishes to do: taking as a starting point the concept of light as Feselius wrote of it, he wants to demonstrate the consequences and implications of Feselius’ assumptions for a cosmological model, which argue against him:

To start with, I could be satisfied with the two points which Feselius concedes, namely those concerning the natural course and the light of stars, however, I should like to interpret and extend them.

For who concedes the light, in consequence also concedes the properties of light.

Now its primary property is heat and secondarily different colours.

As there are many planets and fixed stars, Dr Feselius cannot deny that the properties of their lights will vary, both quantitatively and qualitatively.

For St. Paul, in comparing the glory of the future life to the poor quality of the present one, also mentions as an example the fact that one star may surpass the other in its brightness.

As for quantity, if one star is bigger than the other, then his light will also be more powerful and stronger in its heating effect on terrestrial bodies.

And as the wonderful light flowing down to us from the Sun has quantity without matter and motion without time, as I showed in my book on optics, it follows that the sunlight will sometimes be thinner and weaker and sometimes thicker and denser, depending on the Sun’s height.

Similarly, the small light of Saturn must be thinner for us than the light of Mars, as the former is much higher than the latter. (...). (KGW 4: 167.28ff; emphasis T.G.)

Anfangs möcht ich zwar mit den jenigen zweyen Stücken/deren Feselius gesteht/als nemlich mit der Sternen natürlichen Lauff vnd Liecht zufrieden seyn: doch also/daß mir vergönnet sey/dieselbige aufzulegen vnd zu erweytern.

Dann wer mir das Liecht zugibet/der hat mir auch deß Liechts Eygenschafft mit zugeben. Nun ist sein Eygenschafft anfänglich die Wärme/hernach die vnterschiedliche Farben.

Weil dann der Planeten vnd festen Sternen viel seynd/so wirdt D. Feselius nicht in Abred seyn können/daß auch jhrer Liechter Eygenschafften in quantitate et qualitate sehr vnterschiedlich seyen.

Dann auch der H. Apostel Paulus/da er die Herrligkeit deß zukünftigen Lebens gegen der geringen Zierdt des gegenwärtigen vergleichen wil/Exempels weiß eynführet/daß ein Stern den andern vbertreffe an der Klarheit.

Belangend Quantitatem, ist ein Stern grösser als der ander/derhalben auch ein Liecht grösser/vnd in Erwärmung der jrrdischen Körper kräftiger als das andere.

Vnnd weil dem wunderbarlichen von der Sonnen zu vns herabfließenden Liecht gebüret quantitas doch sine materia, vnd motus doch sine tempore, wie ich in Opticis erwiesen/so folgt/daß auch das Liecht von der Sonnen bey vns jetzt dünner vnd blöder/bald gedüchter vnd densior werde: nach dem die Sonne höher vnd nidriger steigt.

Jn gleichem/so muß deß Saturni Liechtlein bey vns viel blöder seyn dann Martis, caeteris paribus, weil jener auch viel höher ist denn dieser. (...).

(KGW 4: 167.28ff; emphasis T.G.)

The end of this somewhat digressive passage is to be found nine pages later. Kepler marks it with a renewed reference to the procedure he has applied: deducing consequences from an opponent's statement which argue against that opponent's position.

Let this be enough said concerning the point how much Dr Feselius and his favourite author Zabarella conceded merely by introducing the concept of light.

(KGW 4: 176.1f)

Anjetzo sey gnug von diesem Puncten gesagt/wie viel nemlich D. Feselius vnnd sein Zabarella mir mit dem einigen Wort Liecht eyngeräumet haben. (KGW 4: 176.1f.)

It is possible that this strategy is principally used as an opportunity for writers to find a springboard for a digression, given that it can be a problem, within the context of the point-by-point rebuttal, to bring in one's own points. It can be assumed that taking a concept used by one's opponent and delving into its possible implications would provide a useful means of transition.

The above examination of types and examples cannot be said to have exhausted the spectrum of supportive moves. Two particularly valuable additions would be an investigation of the use of logic and dialectics in the arguments, which the participants in the debate themselves sometimes refer to (“Hab also nit argumentirt à posse ad esse, (...) sondern à posse ad absurdum non esse”; KGW 4: 110.37f.), as well as a more detailed description of the artful use Kepler makes of intertextual reference, leading his readers to believe that the passage referred to proves his point for him (e.g. KGW 4: 106.42ff). However, the types and examples dealt with here are perhaps particularly instructive as indicating a period of change in the history of science and as illuminating the textual conditions set by the point-by-point treatment of arguments.

3.3.3 *Moves attacking positions*

Another central communicative task within a controversy, alongside formulating and supporting one’s own position, can also be to examine and to criticize the views of others. The moves used to attack positions include the following in particular:

- i. all types of objections;
- ii. reference to problems of the opposing position, e.g. to absurd consequences of someone’s position;
- iii. various forms of criticism of argumenation.

The types of objection raised in our texts include objections that a claim made by another author is irrelevant, untrue or trivial. In the following quotation, an argument is called irrelevant and as without weight with respect to the reflection in question, while the argument itself is provisionally accepted as true.

The assumption that the true primary activity of heavenly lights consists in nothing else than in indicating the passing of time would not harm the reflection conducted so far, even if one had to concede it entirely, for I noted above that (...).
(KGW 4: 219.10ff; emphasis T.G.)

Daß die eygentliche erste Verrichtung der himmlischen Liechter anders nichts seye als den Vnterscheidt der Zeit zu machen/das würde der bißhero geführten Speculation [“Überlegung”, TG] nichts schaden/wenn mans gleich schlecht hinweg zugeben müste/dann ich droben vermeldet/daß sie (...). (KGW 4: 219.10ff; emphasis T.G.)

The following quotation shows Kepler anticipating Feselius’ potential objection that his argument is trivial. He defends it by suggesting that even trivial things are true and can be necessary components in an argument:

Now Dr Feselius might say that he could have been told this by any peasant from the Black Forest and that Kepler from Prague could have been silent on this point. Reply: I did in fact not introduce this point as if it was only known in Prague. It does however serve to facilitate the explanation of my following point.

(KGW 4: 203.3ff)

Ja möcht D. Feselius sprechen/das hette mir ein Bauwer auß dem Schwartzwaldt wol gesagt/vnd hette Keppler zu Prag schweigen mögen.Antwort: Jch habhs auch nit darvmb eyngeführet/als ob man es nur allein zu Prag wüste. Es dienet mir aber dieses zu meinem folgenden fürbringen/dasselbige desto besser zu erklären.

(KGW 4: 203.3ff)

Another central group of position-attacking moves is the naming of various possible problems which arise from an opponent's stance. These can be problems which the opponent's text simply does not discuss, but they can also pertain to the implausible or absurd consequences of following through arguments it does discuss. In his "Reply to Röslin's Discourse", for example, Kepler complains that some opponents have not understood his astronomic evidence and therefore attempt to argue that the Copernican doctrine, when followed through, is implausible – a method of argumentation which Kepler rejects as without weight:

Now, if it is true that the Earth orbits the Sun, it follows – as Dr Röslin himself must admit – that there is an immense distance between the Planets and the fixed stars. Such is the course of this argumentation.

Now, at this point the physicists intervene and object, saying that it is unbelievable that the Earth should orbit. And as they do not understand our astronomical proofs and even less manage to refute them, they focus on the consequences of this claim, saying that it is unbelievable and absurd that there should be such an immeasurable distance between the moving and the fixed stars. And as the latter was impossible the former must also be impossible, i.e. that the Earth orbits the Sun. I attacked these physicists in my book on the New Star of 1604 and refused to concede their position that it was absurd and unbelievable that the world should be as vast as Copernicus claimed. And by giving examples, I also showed that this was not a new idea.

(KGW 4: 109.25ff; emphasis T.G.)

Wann dann war/das die Erd also vmblauffe/so folgt (wie D. Rößlin selber zugeben muß) das ein vnermessliche weitte sey zwischen den Planeten vnd zwischen den Fixsternen. Dis ist der Proceß in diser argumentation.

Hie kommen nun die physici, objicirn vnd sagen: Es sey ein vnglaubliche sach/das die Erde vmblauffen sol/vnd weil sie vnser Astronomische beweiß nit verstehen/vil weniger vmbstossen könden/so machen sie sich an das jenige/was darauß folget/vnd sagen: Es sey vnglaublich vnd vngereimbt/das ein solliche unermeßliche weitte zwischen den lauffenden vnd stillstehenden Sternen sein soll: Derowegen/vnd

weil diß nit seye/so könde auch jens nit sein/nemblich könde es nit war sein das die Erd vmblauffe.

Disen physicis bin ich in meim buch von newen Stern des 1604. Jahrs begegnet/vnd hab jhnen nit gestendig sein wollen/das es ein vngereimet vnd vn glaublich ding/das die Welt so groß sein soll/wie Copernicus will: vnd hab mit Exempeln erwisen das es nicht news. (KGW 4: 109.25ff; emphasis T.G.)

A range of other attacks on positions consists in forms of criticism of argumentation which are well-known from the history of dialectics, formal logic and disputation theory and include pointing out a logical fallacy (e.g. non sequitur, petitio principii; see for example KGW 4: 117.38), accusing the opponent of being off-topic, accusing him of misrepresenting one's position (e.g. KGW 4: 110.40f.; 4: 116.33ff) as well as reversing the burden of proof (cf. KGW 4: 109.42ff: "I do not have to prove it, as it follows from the way the Earth moves. However, he has to prove that the world is not as big in comparison with the Earth". ("Es ist nit noth/das ichs beweise/es folgt selber auß dem lauff der Erden wie er weist. Jhme aber ist noth zubeweisen/daß die Welt gegen vns zu rechnen nit so gar groß sey"). There are also instances of the reproach that a writer has not followed the conventions of argument for a particular field, such as the Euclidean method in geometry, with its definitions given at the beginning and its principles of clear, perspicuous and unambiguous expression (KGW 4: 117). All these moves criticising argumentation serve to lessen the relative weight of the opponent's views.

3.3.4 *Ad hominem attacks*

Moves attacking one's opponent's person are relatively rare in scientific controversies, being excluded from the repertoire of accepted moves in the relevant contemporary theory of controversy and considered not to serve the purpose of finding truth. Nevertheless, there are circumstances in which personal attacks are also made in such controversies.

Moves which can be read as attacks on an opponent's person include assertions without further backing depreciating an opponent's intellectual abilities. Such unfounded personal disparagement was obviously much less acceptable in scientific arguments than in comparable religious disputes of the time. In the scientific context, it seems that personal attacks are principally brought to bear when something about an opponent's person is tied in with judgments about the subject matter. This could be the linguistic ability necessary to understand relevant texts, general intellectual ability or the level of expertise specific to a particular subject area. These all refer to the writer at a personal level but are not independent of more subject-related aspects of the controversy. The following is an example of a personal attack, aimed specifically at a lack of linguistic skill:

Here Feselius also introduces a verse from the Book of Job which truly reads quite differently in my German Bible (...). Therefore, Feselius seems to be not really well-versed in Hebrew. (KGW 4: 190,12ff; emphasis T.G.)

Hie führet Feselius auch einen Spruch auß Job eyn/der zwar [“wahrlich”, TG] viel anderst in meiner Teutschen Bibel (...) Derohalben es nicht so richtig auff Feselii Seitten mit dem Hebraischen seyn muß. (KGW 4: 190,12ff; emphasis T.G.)

General intellectual abilities as a prerequisite for participation in such discussions, as well as the level of academic discussion which depends on those abilities, are the target of the following attack:

For I can truly find nothing in the objections he made against my prognostic writings for several years which a philosophical mind could honourably utter without harming his reputation. This remark of mine is not meant as a defence of these prognostic writings, but rather as a reprimand of such a useless objection, which could easily be presented by any peasant without a philosopher having to rack his brains about this matter and writing a whole book about it. (KGW 4: 253.42ff)

Dann ich warlich in seinen Einreden/die er hie wider etlicher Jahr prognostica führet/nichts finde/das ein Philosophischer Kopff mit Ehren vnd Reputation fürbringen kan: Welches ich nit zu Beschützung derselben prognosticorum, sondern allein zur verweisung eines solchen liederlichen Eynwurffs gemeynt haben wil: welcher von einem jeden Bauwern fürgebracht werden köndte/ohne noht/dafß ein Philosophus den Kopff drüber zerbreche/vnnd ein Buch darvon schreibe. (KGW 4: 253.42ff)

Finally, the following passage is an example of how issues concerning one’s own reputation as well as that of one’s opponent can be dealt with when using moves which also reflect on oneself. One such move is making a concession. The example here shows how one can concede a point to one’s opponent while still making him appear in a negative light. The strategy used is a variation of the objection of topicality – roughly speaking, what you say may be true, but it is nothing new.

For everything Feselius introduces at this point was already beautifully and nobly described and emphasized by the astronomer Geminus before the birth of Christ. I shall now remind Feselius of the several causes why the dog days are so unhealthy. The heat has its origin more in the ground than in the height of the Sun, as the Sun already begins to sink during the dog days, a fact which Feselius forgets, talking as if this was in June, but the ground conserves the old heat from June and adds it to the new one which the Sun still daily provides, albeit in a diminishing amount. Therefore, the air is heated up from below, so the surface of the air is high and heated way up to considerable heights and, in addition, the air is humid, which is the worst bit. Now the heat slowly decreases, because the Sun begins to become weaker and the heat only resides in the matter, so that, similarly as in a

dead human body, it causes a kind of rot in the air and in the ground, which lastly also causes the putrid fogs in this period.

So I am convinced, mainly by the reasons given by Geminus, that the dog star is completely exculpated. (KGW 4: 221.10ff; emphasis T.G.)

Dann alles was hie Feselius eynführet/ist von Geminio Astronomo noch vor Christi Geburt gar schön vnd stattlich außgestrichen vnd beschrieben worden. Ich wil auch Feselium dieser mehrern Vrsachen erinnern/warvmb die Hundts Täge so vngesvndt/ weil nemlich die Hitz/als dann jhren fomitem mehr in dem Erdtboden hat/als von der Sonnen Höhe/dann die Sonne zwar/welches Feselius nicht bedenckt/vnd redet von jhr als wanns im Junio were/fähet in Hundsttägen an zu fallen/der Erdtboden aber behält die alte wärme vom Junio her/vnd schlegt sie zu der neuwen/so die Sonn noch alle Tag/doch je länger je weniger vervrachtet: Da wirdt die Lufft von vnten auff' heysß/da ist superficies aeris hoch/vnd biß in alle Höhe erhitzt/vnd darzu dämpffig: vnd das das ärgste/so erstirbet die Hitz allgemach/weil die Sonne beginnet abzulassen/vnd die Hitz sich nur allein in der Matery auffhält/daß es also in der Lufft vnd Erden/als gleich wie in eines Menschen Leib/der da erstorben/eine Fäule vervrachtet: daher auch letztlich die stinckende Nebel kommen.

Vnd halte ich also den Hundtsstern/sonderlich propter rationes Geminii, gantz vnd gar für entschuldigt. (KGW 4: 221.10ff; emphasis T.G.)

Attacks of this kind can be aimed not only at individuals but also at groups of people. This can be seen in Kepler's side-swipe at a group of astronomers, deriding the insufficiency of their astronomic knowledge. Such side-swipes are a type of move, in which things are criticized in a context which is otherwise not polemical. An example can be seen in Kepler's treatise on the comet of 1607:

And because it did not set the first three days but was seen in the mornings before the Sun and in the evenings after the Sun, some people thought there were two comets. Others, instead of the much-discussed comet, claimed to have seen Venus after sunset, others again old Jupiter, who at that time rose from the East in the evenings after sunset and appeared very large, larger than at any time in twelve years. These people therefore said and wrote there were two comets, one of them oriental and of a sweet, jovial nature. Alright, my very dear astronomers, this time you were right, it is indeed Jupiter or the jovial star ("Jovialis stella") itself. (KGW 4: 71.24ff; emphasis T.G.)

Vnd weil er die drey ersten Tage nicht vnter gegangen/sondern Morgens vor/vnd Abends nach der Sonnen gesehen worden/haben etliche gemeynet/es seyen der Cometen zween: Andere haben an statt deß beschreyeten Cometens/Venerem nach Vntergang der Sonnen/etliche den alten Jupiter ersehen/der damaln Abends/wann die Sonn hinunter gewesen/vom Auffgang herfür kommen/vnd sehr groß gewesen/denn er inner zwölf Jahren nicht grösser scheinen kan/haben derhalben gesaget/vnd geschrieben/es seyen zweene Cometen/einer orientalis/vnd Jovialischer sehr

lieblicher Natur. Also recht lieben Astronomi/hie habt jhrs einmal getroffen/denn es der Jupiter oder Jovialis stella selber ist. (KGW 4: 71.24ff; emphasis T.G.)

The polemical potential of this passage resides partly in the condescending manner of address (“my very dear astronomers” – “recht lieben Astronomi”), as well as in the ironic confirmation of an erroneous assertion, in the report of the many mutually exclusive views expressed and in the play on the word *Jovialis* (‘jovial’, ‘Jovian’). Relating to astrologers who make predictions, there is a certain tradition of satirically parodising such prophecies and their characteristic vagueness and triviality (“soon after (there will be) all sorts of adversity” – “bald hernach allerley Vngemach” KGW 4: 72.13ff).⁸ However, these satirical modes of expression seem to be used particularly in relation to astrological prophecy, which here overlaps with the cosmological discussion.

The spectrum of *ad hominem* moves thus touched upon shows three things: (1) The questions of reputation and honour do play a role also in scientific controversies. (2) The cruder modes of personal attack, which are known from the religious debates of the time, hardly occur and are met with harsh criticism on the occasions when they are used, as shown by Feselius in his reaction to Schaerer’s choice of words. (3) Furthermore, there are moves in which personal attack and an attack on content are closely related, such as those referring to general intellectual competence or language skills which are necessary to the sound understanding of key texts.

3.3.5 Clarifying moves

What is particularly remarkable about Kepler’s response to Röslin is the number and variety of clarifying moves. This ties in with the importance of questions of understanding and interpretation in controversies as well as in the broader context of scientific communication as a whole. In his dedication of his “Reply to Röslin’s Discourse”, Kepler says that Röslin has repeatedly misunderstood him (“zu vnder-schidlichen malen meine auß meinem Buch de Stella nova Serpenarij angezogene wort vnrecht verstanden”; KGW 4: 103.16). The spectrum of moves used to clarify what has been misunderstood or misconstrued includes:

- i. Explaining what one meant or did not mean by a previous utterance;
- ii. Explaining what kind of linguistic act one was or was not trying to achieve with an earlier utterance (e.g. “insulting” – “stumpfieren”);
- iii. Modifying or specifying the level of certainty, weight or type of a previous assertion;

8. See also the final passage of Bernoulli’s text on comets (1681: 149ff) for an entertaining piece of satirical parody, in which prophecies are conceived in such general terms (“*in terminis generalissimis concipiri*”) as to be always in some way applicable.

- iv. Explaining the context in which one's earlier assertion should be understood (KGW 4: 115.16ff);
- v. Explaining key terms used in previous writings (e.g. *Catastrophe, retrogradus*).

A positive effect of such moves is that positions are clarified, and that the presentation of positions is improved ("for the purpose of a necessary better explanation of my own words" – "zu notwendiger besserer Erklärung meiner eignen wort"; KGW 4: 103.15f.). This can be assumed to extend also to the *prima facie* inconspicuous effects of an increased sensitivity to the use of words.

3.4 On the lexical profile of contributions to the controversy

In order to participate in a scientific controversy, a writer must also have access to an appropriate lexical arsenal. The lexical profile of texts in a controversy is shaped principally by two factors: the subject matter of the debate and the functional requirements of the relevant forms of presentation.

Managing the topic of a controversy involves, as a rule, having a command of the vocabulary specific to it, be it religious, technical, philosophical or indeed astronomic and cosmological. Such thematic vocabulary can include everything needed to master the subject; however, it is important to note that, although thematic vocabulary is often subject-specific vocabulary, there are other lexical means of topic management which do not come from the relevant technical vocabulary.

The lexical profile of the astrology/cosmology debate, for instance, includes words for types of heavenly bodies (*Fixstern* 'fixed star', *Comet*) and names of stars (*Venus, Jupiter*) as well as names for signs of the zodiac (*Schlangenträger*, 'Ophiuchus'), for astronomic constellations (*Sextil*, 'sextile', *Geviertschein* 'square aspect'), for elements of the cosmos (*nidere Welt*, "the Earth below"), for astronomic tools, resources and fundamentals of observation (*Gesicht*, 'eye-sight'), for observed phenomena (*Neumond*, 'new moon') and for types of astronomic events (*Umgang*, 'orbit', *herzunahung der Sonnen*, 'approach of the Sun'), to cite but a few examples.

Parts of the thematic vocabulary are closely connected to central convictions and theses represented in the debate. One of Kepler's assertions, for example, is that there are specific connections between the heavens and the Earth. To talk about this relationship, he uses a whole series of terms denoting connections between the heaven and Earth, in German: *Band, Vereinigung, Verknüpfung, Verwandtschaft, verbunden sein, verknüpft sein, vereinigt sein; regiert werden, etwas wirken* (4: 198ff), *bewegen, Bewegung* (4: 220.35f.), *insinuieren* (4: 223.42), *erteilen* (4: 223.42), *auffmercken haben, achtung haben auf* ("to be dermined by", 213.34 and 40); *Impression* (4: 236.28), *abgebildet sein* (4: 246.15), and in Latin: *harmonia*

or *contactus* (4: 218.26ff), *impulsus* (4: 218.33) or *influentia* (4: 220.30); *signatura rerum* (4: 245.34).

The thematic vocabularies of controversies are as varied as the subjects debated, and the internal structure of these vocabularies reflects in essentials the thematic structure of the controversies. This relationship is not particular to debating but a very general principle of themed communication. Scientific debate c. 1600 reveals, however, that not all the areas of vocabulary necessary to deal with a subject are equally well developed in the vernaculars, 16th century German in our case, and that authors are thus sometimes forced to form neologisms or to rely on Latin. Examples of this are the types of “species immateriata” which Kepler discusses in his “Tertius Intervenienti” and which include gravitational force, but which it is clearly difficult to name in German around 1600 (KGW 4: 169ff).

The second broad sector of vocabulary consists of areas of lexical material which are closely connected to the fulfilment of various communicative tasks in controversies.⁹ For example, one recurring communicative task in controversies is to signal that one thing follows from another. In German c. 1600, the word *also* (‘so’ or ‘thus’) is one of several means by which this is achieved:

Thus the Planets will also revolve around the Sun for them (i.e. the angels), although they do not need time or day and night.

Werden also die Planeten auch jhnen vmblauffen/ob schon sie keiner Zeit/Tag oder Nacht bedürfftig seyend. (KGW 4: 219,38f)

On the basis of observations concerning this sector of vocabulary in controversies, two conclusions can be drawn: (i) in the argumentative vocabulary of German in the beginning of the 17th century, there exists a group of functional means by which to signal deductive connections; (ii) a prototypical member of this group of functional words is *also*, and the research question arises which other elements with the same or a similar function also belong to this group.

Here is another example which illustrates such a group of “functional” words in the language of controversy. Another recurring communicative task in controversies is to report one’s opponent’s claims before replying to them. One of the textual means of achieving this is by using a structure of the type *A X-s that p*, where X stands for a speech act verb. The fact that reporting other people’s arguments is a recurring task is the functional basis for the wealth of German speech act verbs to be found in pamphlets around 1600, among them *anziehen* ‘to refer to’, (*darwider*) *einbringen* ‘to mention (as a counter-argument)’, *einführen* ‘to introduce’, *erinnern* ‘to object’, *erweisen* ‘to prove’, *fürbringen* ‘to produce (an argument)’, *sprechen* ‘to say’. Similarly, authors can also formulate positions hypothetically attributed to

9. On the functional vocabulary of controversies in German around 1600, cf. also Fritz (2016).

an opponent in order then to contradict them pre-emptively. The modal *möchte* ('might') acts here as an indicator of hypothetical reported speech: *Ja möcht D. Feselius sprechen, (...)* ('Dr Feselius might say [...]', KGW 4: 203.3). Finally, speech act verbs can also be used to characterize one's own contributions to a controversy, as in the following passage:

In order to pre-empt any suspicion Dr. Feselius might have concerning the empirical insecurity (of astrological claims; T.G.) I shall raise an objection against myself. The question is indeed if astronomy itself is reliable enough for correlating the aspects with certain days and if miscalculations may not distort empirical results. The answer is: It is true that (...). (KGW 4: 207.12ff; emphasis T.G.)

Damit ich aber D. Feselio allen Verdacht der vngewissen Experientz halben beneme/wil ich mir selber eynwerffen. Dann es die Frage/ob auch die Astronomia so gewiß, daß man zu den Aspecten gewisse Täge ernennen könne/vnnd ob es die experientiam nit hindere/so man in der Rechnung verfehlete. Antwort/wahr ists/daß (...). (KGW 4: 207.12ff; emphasis T.G.)

Here, Kepler raises an objection to his own position, to allow him to anticipate a response, and the use of *mir selber eynwerffen* ('raise an objection against myself') serves to characterize his own action.

Further functional word groups in controversies of the time include:

- i. expressions designating types of admission and concession: *jdm. etwas geständig sein, gestehen, annehmen*, KGW 4: 228.28, *zugeben*, 4: 229.16;
- ii. linguistic means of characterising or evaluating a position: *böse Argumentation* 'a weak argumentation', 4: 164.42; *letz* 'misguided' (used by Röslin about Kepler's fundamental arguments and repeatedly taken up in irony by Kepler himself), *recht* 'correct', *abergläubisch* 'superstitious', 4: 229.8, *läppisch* 'ridiculous', *Affenspiel* 'monkey games' 4: 229.8, *Narrentheydung* 'foolish talk' 4: 229.8, *Narrenzeichen* 'a fool's signs' 4: 229.30;
- iii. linguistic means of talking about truth claims, consequences, fallacies, argument forms, types of argumentation and the like (e.g. *derohalben* 'therefore' 4: 164.31, *demnach* 'accordingly' 4: 165. 36);
- iv. linguistic means of characterising and introducing comparisons: *gleicherweise* 'in the same way', 4: 160.1, *gleich wie* 'the same as', 4: 163.26, *als* 'like', 4: 213.13, the combination of *wie (...)* *also auch* ('just as [...], also [...]', 4: 164.1/4).
- v. linguistic means of signalling an antithesis (*aber* 'however', 'but')¹⁰

10. The following passage shows very nicely how a potential objection is formulated, then a concession is made and finally a limitation of the latter, or a counter-position, is formulated, introduced by *aber* ('however'):

Generally speaking, the above description of the thematic and functional structure of the vocabulary used in these polemical texts can be understood as a contribution to the characterisation of this form of communication, but also as contributing to a description of the individual authors' profiles of linguistic and communicative competence.

The close relationship between forms of linguistic action or communicative functions and the use of particular expressions can also be recognized in disputed behaviour and the means used to express criticism of this behaviour. In the scientific controversy discussed in this paper, this behaviour includes principally those acts which could be understood as personal vilification and the related use of foul language. Feselius, for example, complains especially about the use Schaerer makes of abusive language against his opponents in his prefaces: "In which he attacks with very harsh epithets all those who do not believe in divinatory astrology", (*In welchen er alle diejenigen/so nicht der Astrologiæ Divinatrici zugethan/mit sehr harten Epithetis angreiffet*; Feselius 1609: fol. 2b) These formulations include such expressions as *vbelbedachte Sternfeind* ("ill-thinking star-haters") and "*Cyclopes (...), welche die Creaturen Gottes mit Kalbsaugen ansehen*" ("cyclopes, who look at these divine creations with calf's eyes"). An example of a more extended insult is the following:

Wer nun diese für keine Demonstrationibus erkennen vnnnd halten will/dem thue (...) mehr von nöthen/daß jm das Hirn mit Nießwurtz gereiniget/dann daß er mit vielen Demonstrationibus solt überzeugt vnd überwiesen werden (Schaerer, Ded.)

Someone might say that if Nature can itself regulate the movement of the humours over three of four days without the influence of the heavens, then it can also regulate the "critical days" of this movement without this influence. The answer is: There is no doubt that Nature does this, who dominates human humours, and not the heavens as such. The question remains, however, whether Nature takes its days from the heavens or fixes them by mere chance. For if its days correspond to the course of the Moon and no other reasons for these numbers are known, one would not unreasonably remain with the assumption that Nature is attentive to the course of the heavenly bodies. For this is an old practice, by which one finally learned the whole of philosophy (KGW 4: 213.25ff).

Es möcht einer sprechen/kan die Natur jhren gewissen Vmgang treffen mit dem motu humorum vber den dritten vnnnd vierdten Tag für sich selbst/ohne den Himmel/so kan sie auch die dies criticos in ipso motu humorum, ohne den Himmel treffen. Antwort/es ist kein zweifel/die Natur thue es/die in deß Menschen humoribus dominiert/vnd gar nicht der Himmel für sich/es ist aber die Frage/ob die Natur jhre Täge auß dem Himmel nemme oder also vngefehr erhasche. Dann weil jhre Täge sich auff deß Monds Lauff reymen/vnd man sonsten dieser Zahlen kein andere Vrsachen nit weiß/so bleibt man nit vnbillich in dem Wohn/daß die Natur jhr auffmercken auff deß Himmels Lauff habe. Dann diß ist also ein alt herkommen/dardurch man die gantze Philosophiam entlich erlernet hat(KGW 4: 213.25ff).

Whoever cannot recognize and accept this as demonstrative proof would be better served by cleaning out his brain with hellebore than looking for a lot of proof to convince him and win him over. (Schaerer, Ded.)

Feselius also lists further insulting expressions, which would appear to stem from another text to which he has access. In general, however, these cases of foul language and insult seem to be rather rare in scientific debate c. 1600. In fact, the dispute between Feselius and Schaerer seems already to be a case of ideological hardening, since each party describes the other as already immovably fixed in his own position and beyond instruction. Generally speaking, the condemnation of foul language and offensive remarks appear to be a consequence of the essential purpose of such controversies (i.e. the progress of knowledge) and of the principle, which seems to have been adhered to in scientific debate of the time, of treating others respectfully.

Finally, another feature of the lexical profile of controversies is the close correlation between the ways key expressions are used and the truth of assertions made by using these expressions. The correlation is particularly relevant in the field of controversy because a dispute about the truth of a claim can lead to a dispute about words, if words are used by the opponents in different ways. One communicative procedure through which such problems can be dealt with in a debate is that of describing the different uses of the word which are at issue and clarifying in what sense the assertion is therefore claimed to be true. An example of this technique is Kepler's comment on the use of the word *Catastrophe*, which Röslin, it seems, uses and means differently to Kepler. Depending on which use one takes as a starting point, one can thence see Röslin's prophecies as either true or false: *D. Röslin hat auff die Jahr 1604. 1605. 1606 von grossen katastrophais in Franckreich gesagt/ die hab ich nit befinden können* ("Röslin spoke of great catastrophes in France for the years 1604, 1605, 1606, but I have been unable to detect them", KGW 4: 134f.). Another example is the clarification of the use of *retrogradus* with reference to either a comet's actual (*warhafftig*) flight path or the visual appearance (*nur dem Gesicht nach*) of the same from Earth (KGW 4: 119.19ff.). Such examples for procedures with which the use of terms is commented on can also be found in other scientific controversies, such as the Gehema/Geuder debate of 1688 and 1689. They show that writers, at least in some cases, were sensitive to issues relating to the semantic foundations of language use in controversies and that it was a general aim to avoid mere disputes about words (logomachies).

4. Kepler's theory of controversies

The controversy as a form of communication is first of all a more or less established, regulated practice. The players are usually in automatic control of this established form of communication and in many instances follow established practice blindly, which is to say without reflecting on the underlying 'rules of the game' and conventions. On the other hand, however, there are also not a few passages reflexively thematising conceptions of the function of controversies and of the way controversies are being or should be pursued. These are triggered by, for example, criticism of infringements against established convention (such as name-calling as an abuse of the principle of personal respect) or by the justification of an action or an attitude (such as the ability to accept criticism). Taken together, these passages reveal the broad strokes of a theory of controversy, a conception of critical activity in science, as it is reasonable to assume was supported by Kepler and those with whom he debated.¹¹

The main elements of such a concept of controversy are:

- i. the appreciation of the value of critical activity and its functions;
- ii. expectations of particular attitudes in other debaters;
- iii. communication principles for linguistic action in the field of critical activity.

4.1 The appreciation of the value of critical activity and its functions

A first essential element in the theory of controversy of the time is the high value attributed to academic criticism. Like many of his contemporaries, Kepler holds the opinion that controversy plays an important part in the metabolism of science and that critical activity is indispensable for progress. As he writes in his answer to Röslin:

Kepler. (...) In order to make this new theory more reliable, Dr Röslin should not resent my discussing this with him or my reader and opposing his stance (...) Different eyes will see more than one pair of eyes.

D. Röslin. (...) in cases of this kind one should help one another along. Kepler. Exactly! [...]. (KGW 4: 126.25ff)

Kepler. Damit aber solliche weise [eine neue Theorie; TG] desto gewisser werde: muß D. Röslin mir nit für vbel halten/das ich darüber mit jhme/oder mit dem Leser/discurrirre, vnnd etwa das oppositum halte (...) Oculi plus vident quam oculus.

D. Röslin. (...) in sollichen sachen soll einer dem andern fort helffen.

Kepler. Gantz wol! [...]. (KGW 4: 126.25ff)

11. For early modern theories of controversy, cf. also Gloning (2005).

The gaining of knowledge is here presented as a joint enterprise in which every participant depends on the constructive criticism of others. The expressions *gewisser werden* ('become more reliable') and *für vbel halten* ('resent') are used to address two different dimensions of the debate: the objective dimension and that of personal experience. At the level of personal experience, criticism and resistance may well be unpleasant and seen as a reason to be angry with someone. Nonetheless, these concerns are considered subordinate to the benefits at the objective level. This benefit consists of an increase in certainty and a higher degree of corroboration of a position.

However, criticism and disagreement are not only valuable in terms of knowledge but also with regard to the people involved. Kepler calls those he argued with at the Prague court his teachers, thereby indicating that critical activity not only increases the certainty of a position but also broadens a person's horizons and argumentative scope:

But I am in a harder position in Prague when I meet such quick-witted and lively minds of lower social status, of which there is always a considerable number present who do not bother with excessive politeness but say exactly what they mean, reply to every word, and keep at it until one is the winner: (...) When I dispute with such people about astrological matters, I have a hard job and have to exert myself so much that I could truly call them my teachers, for they have a rich arsenal of arguments against astrology and against all kinds of signification. If I want to make a point against them and avoid losing astrology altogether, I have to preempt them by giving up or setting aside everything which is in the least doubtful and burn down the suburb in order to save the fortress. Afterwards I have to reflect in public writing about the claims I had to sacrifice and show philosophical steadfastness. (KGW 4: 128.7ff)

Jch aber hab allhie zu Prag einen härtern stand/vnd kom ich zu sollichen promptis vnd vividis ingenijs nidrigern stands/deren allzeit alhie ein gute anzahl die mir nit vil Cramantzens machen/sondern fein trocken sagen/wie sie es meinen/wort vmb wort geben/vnd es so lang treiben/biß einer den andern vberwindet: (...) Wann ich mit sollichen super astrologicis disputire, da hab ich böß machen/vnd werde also exercirt, das ich sie wol mag meine Lehrmeister nennen. Dann wider die astrologiam haben sie materiam dicendi copiosissimam, wie auch wider allerhand Bedeutungen. Soll ich etwas wider sie erhalten/vnd die astrologiam nit gar verlieren/so muß ich mit verwerffung oder beyseitsetzung dessen/so etwas vngewiß/jnen vorkommen/vnd die Vorstatt verbrennen/damit ich die Vestung erhalte: hernach aber in offnen schrifften/dessen so ich verlohren geben/ingedenck sein/vnd der philosophiae standhaftigkeit in acht nehmen. (KGW 4: 128.7ff)

The advantages and fertile aspects of this culture of debate include the possibility that one will learn new aspects of a subject field (e.g. new objections), the

opportunity to try particular argumentative strategies (e.g. in terms of which of one's opponent's points one can concede, and which points one has to defend) and the fact that this experience from oral discussion can later be usefully brought to bear in written pieces.

The solidity of positions and the scientists' horizon are not independent of one another. The declared aim of finding truth may be a constant reference point throughout these debates, but the participants also mention as a problem the fact that there is often no umpire to declare whether or not a position is true. As a substitute for this unattainable truth, then, they turn to defensibility. The defence of a position is however bound by individuals' knowledge of a subject and communicative limits, by their knowledge of arguments and their own ability to argue. It is in this respect that Kepler values controversies and opponents as a useful contribution towards the development of the personal horizons of scientists required to support and defend points of view.

This valuing of critical activity, by extension, leads to informed readers being called upon to read critically too. The communicative prototype for reacting critically to the expression of a view is the objection. In the conclusion to his "De fundamentis astrologiae certioribus" (1601), Kepler challenges some of his colleagues to inform him of their objections, so that he may reply to them in a further text. The reasoning given for this call is founded firstly in the search for truth and secondly theologically and with reference to its usefulness for mankind. Participation in this type of scientific competition (*agon*) is then declared a component part of serious (*seriò*) scientific study:

It is those things which I had in mind, which I thought I could claim and defend by physical reasons concerning the foundations of astrology and the year to come (1602). If professors of physics should consider these things worthy of consideration and should communicate to me their objections in order to find out the truth, I would, God willing, answer them in my prognostic for the following year. I admonish all serious philosophers to join in this competition, for it concerns the honour of the Creator God and the benefit of mankind. (KGW 4: 35. 24ff)

Haec habui in praesentia, quae de Astrologiae fundamentis et de Anno 1602. futuro, physicis rationibus dici et defendi posse putavi. Quae si Physicarum rerum professores consideratione digna putaverint; suasque objectiones veritatis eruendae causa mecum communicaverint, illis ego, Deo facultatem dante, in prognostico anni sequentis respondebo; quem ad agonem adhortor omnes seriò philosophantes. Nam de honore Dei Creatoris, et de utilitate humani generis agitur (KGW 4: 35. 24ff)

What is notable in this passage is that Kepler mentions the quest for truth as the overall aim of science (*veritatis eruendae causa*), but also draws attention to the principle of defensibility (*quae ... dici et defendi posse putavi*). Practically speaking,

the value of controversies with respect to the defence of points of view lies in the later use a writer can make of objections and further aspects raised. In his little portrait of the culture of debate in the Prague court, Kepler himself mentions that he has been able to take points arising in oral debate into account in later writings (KGW 4: 128), and he occasionally points out in his printed work that a particular thought or formulation was first developed in the context of a series of letters (KGW 4: 92.7ff).

The ideal of controversy conceived here was possibly restricted to a particular culture of debate. When Röslin complained in 1609 that Kepler has treated him dishonourably and offensively (*stumpfiert*), Kepler defended his actions by pointing out the difference in communicative customs between Röslin's circles and those of the keen debaters in Prague mentioned before:

It might well be that Dr Röslin as an old, experienced and learned medical man has the opportunity to converse with many princes and counts, who are accustomed to talking briefly about a topic and who consider it unbecoming to offer strong opposition to a professor in matters of philosophy. That is probably what Dr Röslin is accustomed to. But I am in a harder position in Prague (...). (KGW 4: 128.3ff).

Es scheint leichtlich/das Herr Dr. Rößlin/als ein alter erfahrner gelehrter Medicus mit vilen Fürstlichen vnd Gräfelichen Personen zu conversirn komme/bey denen es der brauch/einer sach mit wenigen worten zu gedencken: vnd halten es nit für reputirlich, in rebus philosophicis einem professori starcke widerparth zuhalten: dessen dann D. Röslin gewohnt sein wird. Ich aber hab allhie zu Prag einen härtern stand/ (...). (KGW 4: 128.3ff)

This passage refers to two different cultures of conversation and controversy. One could distinguish them simply as the scientific (Kepler) and the polite culture (Röslin), but it is essential also to remember that the location of the highest-level research carried out in the early modern era is the royal courts, rather than the universities. Kepler and his fellow debaters, for instance, were at the court of Rudolf II in Prague. In any case, the debating ideal of the group around Kepler seems to include the following principles and evaluations: (1) scientific controversy is valuable and fruitful; (2) direct, unvarnished language is preferable to courtly expressions of politeness and circumlocution, because it allows 'right' positions – recognized by both sides – to be arrived at more quickly; (3) a controversy can allow one to learn of new sides to a question (such as so far unknown objections) and to try out possible ways of reacting in argument. The debating ideal sketched here by Kepler is used argumentatively to parry Röslin's accusation that he has been criticized impermissibly and to justify the status of certain forms of criticism as legitimate elements of a scientific controversy.

Other text passages expressing an appreciation of the value of critical activity can be found in Kepler but also in writings by his contemporaries. Herwart von Hohenburg, for example, writes in a letter to Kepler:

I was very much pleased to find in your letter that you are well and prospering and also to hear about the works you have sent to the printers. I am very much looking forward to them, and I am convinced that you are right in quickly publishing your findings and studies one after the other. For in so doing, you are in a position to receive the judgements pronounced on these works being alive and well and profit by them in many ways. In my opinion, Tycho Brahe would have been well-advised to have done the same, as can now be seen from his works. (KGWB Nr. 279.3ff)

Aus dessen schreiben hab ich seinen wolstand vnnd wesentliche wolffahrt, mitt sonderen freuden, vnnd daneben auch vorders gern vernommen, Was Er für Opera ad imprimendum vbergeben. Will derselben mit sonderem verlangen erwarten, vnnd thuett der Herr daran meines erachtens gar recht das Er nach vnnd nach seine Inuentiones vnnd Studia an dags liecht ehist gelangen lasset. Dann dardurch khan Er die Juditia hominum so darüber eruolgen, Viuus et ualens gewahr vnnd jnnen werden, vnnd sich jn vill weeg dessen ersprießlich behelfen vnnd genüessen. Es hett meines ermessens weylund Tycho Brahe für sich vnnd die seinigen vill besser gethon, da Er disen weeg were gangen, jn massen das werckh solliches nuhn mehr zu erkennen gibt. (KGWB Nr. 279.3ff)

4.2 Highly valued attitudes: being open to criticism, being willing to make changes, seeking objectivity

The truth or defensibility of positions is a significant guiding principle of scientific activity c. 1600. This principle is the foundation for expecting particular attitudes from participants in debates. These can be conveyed in the following maxims:

- i. Be prepared to give appropriate criticism and to accept it yourself.
- ii. Be willing to learn and to revise your position should the need arise.
- iii. In forming your opinions in the controversy, take orientation from factual, not personal, aspects.

(i) The worth attributed on principle to critical activity in the broader context of science has consequences for the way it is seen at the individual level. The attitudes expected of participants can be differentiated according to their positions in the internal structure of the scientific world. Scientists who have achieved results are expected to expose those results to possible criticism. This can be regarded as an early incarnation of the obligation to publish scientific results. Others in turn are required to criticize to the best of their ability, which requirement is later institutionalized in the form of the reviewing machinery. The person criticized is called

upon to take the criticism and to use it constructively. This reaction too is demonstrated by Kepler in response to Röslin's complaint about criticism of his work on the part of Kepler. It is therefore an example of how elements of a theory of controversy are made explicit piecemeal, in reactions to complaints.

In Fol. D iij.b. Dr Röslin complains that Kepler insulted him in his book on the new star.

Answer. In what way I should have done this will be clarified later. For the moment, I shall give a general answer by stating that nowhere in my writings you will find any kind of slander or otherwise publicly defamatory assault against Dr Röslin. But, as Dr Röslin is of the opinion that I should also refrain from judging scientifically and, following my natural attitude, freely his publicly available writings according to my own choice and that I should rather spare him on account of his age, I answer as follows: It is an irreversible fact that Dr Röslin has been numbered among the authors with his writings and is considered an author by all literate men, whether, God help me, he likes it or not. Therefore, I would advise him to resign himself to the fact and to get used to being treated the same way as one is wont to treat Aristotle in the schools and as he himself treats him. And I should prefer him to listen to my judgements of his writings as a live person rather than for me to wait for his death, apart from the fact that I might die before him.

(KGW 4: 112.12ff)

Fol. D iij. b. Klagt D. Röslin. Keppler hab jhn in seinem Buch vom newen Stern gestumpffiert.

Antwort. Warin diß beschehen wird sich hernach finden. An jetzo geb ich in genere soviel zur antwort/Das in meinen Schrifften kein ehrenrührige oder sonsten bößhafftige Politische schimpffliche antastung Doctoris Röslini nit zufinden. Da aber D. Röslin vermaint/Ich solte auch nit scientificè vnd/meiner natürlichen anmuthung nach/frey von seinen öffentlich im druck außgangen Schrifften meines gefallens vrthailen/sondern jme wegen mehrern Alters verschonen: geb ich diesen beschaide: Das es nunmehr geschehen/vnd die glocke gegossen/das nämlich D. Röslin mit seienen editionibus vnder die Authores kommen/vnd auch nit anderst dann vnder dieselbige von allen kunstliebenden gezehlt werde: Gott geb/es gefalle jm oder nit. Derowegen jme zurathen/das er sich drein ergebe/vnd es gewohne/das man mit ihme vmbgehe/wie man ins gmain/vnd er selber/mit Aristotele in Schulen pflegt vmbzugehen. Vnd will Ich jme lieber gunnen/das Er mein Judicium von jme bey lebendigem Leib anhöre/als das Ich erst auff seinen Tod zihlen solte/da ich doch etwa vor jm sterben möchte.

(KGW 4: 112.12ff)

(ii) The principle of being prepared to make revisions is related both to the personal attitudes of the opponents and to the development of doctrines in the course of a controversy. As for the personal aspect, a participant in a controversy is ex-

pected to be a teachable person, and as for doctrines, positions should in principle be open to changes and revisions.

These expectations are thematized in various ways. Kepler's teacher Mästlin, for example, writes to him complaining that Röslin clings immovably to an opinion once he has arrived at it:

He is otherwise a good-hearted man, but he holds too tenaciously onto his opinion, once formed – for which reason he is now, to escape this debate, scraping together arguments from all sides and anywhere he can find them. It would be better if he allowed himself to be persuaded by arguments.

Er ist sonst ein gutthertzig Mann, sed primò conceptae opinionis nimis tenax, ideo ut se euoluat vndique quascunque rationes colligit, es were besser, er ließe sich weisen. (KGW 17: 67,48ff, Nr. 660; for a very similar entry, cf. KGW 17: 110.15ff, Nr. 686)

The use of *nimis tenax* ('too tenaciously') can here be understood as a sign that not tenacity itself is reprehensible but a certain level of stubbornness in hopeless situations. Mästlin's possible partiality must of course be taken into account here. However, independent of whether the principle of being able to learn is applied correctly here, the fact that it is called upon at all shows its validity in general. This would appear to be a major difference to religious debates, where authors often presume their opponents to be immovable and sometimes even allude ironically to their own misplaced assumption that an opponent might allow himself to be persuaded (see Gloning 1999: 95).

(iii) The prompt to rely on subject-related rather than person-related criteria of judgment is formulated with regard to the guiding principle of the search for truth and perhaps also with respect to the difference between persuading and convincing. Kepler writes at the end of his prompting that Röslin should adopt the Copernican system:

However, under the condition that he, no less than I myself, should not write anything just to please somebody. (KGW 4: 106.37f.)

Doch außgedingt/das er/so wenig als ich/keinem Menschen hierinn nichts zugefallen rede oder schreibe. (KGW 4: 106.37f.)

Such a principle is not entirely unproblematic in some cases. Especially where someone does not have the complete picture of a discussion, it would make sense to take account of the opinions of the experts. Furthermore, perhaps the use of *keinem Menschen hierinn nichts zugefallen* ("just to please somebody") is meant to refer to quite different cases of personal respect than those based on a person's knowledge of the subject at hand.

A somewhat different way of judging the relationship between subject matter and person can be discerned in Kepler's "Reply to Röslin's Discourse":

I willingly accept that Dr Röslin, before entering into a controversy with me, reminds me that he nevertheless wants to remain my friend, and I take the view that this gives me the same right in dealing with him, that it justifies my having uttered my unvarnished opinion about Dr Röslin and his writings without being asked to do so, and that in doing so I did not harm our friendship. (KGW 4: 105.20f.)

Das dann D. Röslin zuvor vnd ehe er sich gegen mir in streit einlasset/mich erinnert/das er nichts desto weniger mein freund bleiben wölle: nim ich abermahl sonders gern an/vnd erachte/das ich hiermit eines gleichen rechtens gegen D. Rösolino fähig gemacht/vnnd in dem entschuldiget sey/das ich mein vngeferbte mainung von D. Rösolino vnd seinen schriften/vngefragt/doch vnverletzt der freundschaft an tag geben dürffen. (KGW 4: 105.20f.)

Two fundamental concepts are brought to the fore here. One is the insight that criticism is a potentially face-threatening act and may do severe harm to personal relations if not controlled by professional attitudes. The other is that Kepler favours a communicative attitude which allows participants subject-related criticism without loss of respect for the persons involved.

4.3 Communication principles for controversies

The theories of controversy of Kepler and his contemporaries include ideas about what is and is not permissible in scientific debate, how such debates should best be conducted, what counts as good and bad practice, and which practices are seen as having potential and which are not, among other things. In several places, the authors comment on their own debating practice and in so doing formulate principles of communication. These principles are usually adhered to tacitly, but one does find reminders that they should be adhered to – e.g. in reactions from injured parties – as well as disputes about their validity and comments on established practice. In the controversy under examination here, several such principles can be recognized, for example:

- i. the principle of truthfulness and probity;
- ii. the principle of treating opponents with respect and in a sober fashion (a principle of politeness);
- iii. the principle of charity;
- iv. the principle of clear, perspicuous and unambiguous expression;
- v. the principle of (occasionally) witty expression;
- vi. the principle of brevity.

Such principles can be conflicting. The most clear-cut instance of this dilemma to be found in the astrology debate is that between the principle of politeness and that of scientific candour or frankness. The former is repeatedly contravened in controversies of the 16th and 17th centuries, and it is often called upon with reference to the Christian commandment to be meek. In opposition to this, Kepler defends the principle of candid and direct scientific speech. The main reason he gives is the danger of a position becoming obscured (“Verdunkelung”) by polite circumlocution:

I can willingly admit that I did not adhere to academic ceremony and to polite forms of address, but candidly expressed what I felt in my heart (...). And not only is it my experience that reasonable readers do not appreciate such ornamental additions and polite circumlocutions, but I also consider it a mistake for a philosopher to obscure his views in matters of science by using roundabout expressions just to please a person. (KGW 4: 116.21ff)

(...) *Das ich aber nit viel Caeremonias Academicas, oder Titulirns gemachet/sondern ohne scheuh mit worten außgesprochen/wie Ichs im Hertzen empfunden: be- kenn ich gern/(...) vnd Ich nit allein in der erfahrung befunden/das die verständige Lesere keine gefallen an sollichen Parergis vnd fuchsschwäntzen [höfliches, schmeichelhaftes Drumherumreden; T.G.] haben: sondern ich es auch an einem Philosopho für einen vbelstand halte/wann er sein mainung de rebus scientificis (...) mit viel verdräeten worten einigem lebenden zugefallen verduncklen wolte.*

(KGW 4: 116.21ff)

This principle does not stand unqualified, however: its applicability is firstly restricted to the field of science, and it is recognized that the principle of polite expression is to be valued more highly than directness in other areas of communication, e.g. political discourse. Secondly, the use of direct language is also limited to that which remains respectful. Dishonourable strategies like insults and ridicule are not covered by the principle of direct, unembellished language.

This does, however, not bar Kepler from expressing himself in a sometimes witty and entertaining way. In his dedication of “Tertius Interveniens”, Kepler explicitly writes that his aim has been to “find the truth and bring the world of philosophy to the reader with a little cheerfulness” (“nur allein die Warheit zu ergründen/vnnd dem Leser die Philosophiam mit etwas Frölichkeit eynzubringen”, KGW 4: 149.20). An example of this practice is the following passage, where Kepler cites one of Röslin’s lines divested of its original context and makes a funny and quick-witted retort:

Röslin. The good and fertile rains come from above.

Kepler. That’s true. Otherwise, the cows would get wet underbellies when it rained on them upwards from below. (KGW 4: 111.20f.)

D. Röslin. Die gute fruchtbaren regen kommen von oben herab. Kepler. Ist war/sonst wurden die Kühe an Beuchen naß/wann es vbersich regnete. (...)

(KGW 4: 111.20f.)

Another principle worth mentioning is the principle of charity. It demands that, when in doubt, one should read one's opponent's text in such a way that it promotes the strongest, least contradictory and most sensible position it can. Kepler seems to be adhering to such a principle when, on one occasion, he at first finds an unsatisfactory reading of a passage of Feselius and then continues that he wants "to interpret Feselius' words in a better sense" ("Wil derhalben D. Feselii Wort auf etwas bessers deutten/(...)", KGW 4: 245.32ff). Another principle, formulated by Röslin, is not construing one's opponent's argument as a straw man in order then to dismantle it. In sum, these demands combine to form a principle, which is, however, not explicitly mentioned, that of making or leaving the position of one's opponent as strong as it can be.

The principle of brevity is also mentioned, but it seems to be without major consequences for debating practice, being used rather as a justification for omissions and forms of *praeteritio*.

In contrast, the principles of clear, comprehensible and unambiguous expression seem to correlate closely with the fundamental function of scientific controversy. A lack of clarity, perspicuity or precision will obstruct the aim of debate, i.e. solving a problem. A more detailed picture of how these principles are understood can be gained by looking at what counts as contravening them, of which examples can also be found in Kepler. For instance, he views the possibility of understanding or construing an expression in different senses as an undesirable feature for scientific language, which can be avoided by defining central terms in a manner borrowed from Euclidian geometry: "talking mathematically means speaking clearly and perspicuously" ("*mathematicè das ist clarè et perspicuè davon geredt*"), and he calls "the definition of words a highly necessary part" ("*die definitiones verborum als ein hochnotwendig stuck*") of strict mathematical presentation. Referring here to Euclid, he means this as a contrast to Röslin's writing style: "in Euclid, there is no need for extensive guessing as to what he meant, and the words cannot be stretched but are as clear as day" ("*in Euclide bedarff es nit vil rathens wie ers gemaint da lassen sich die wort auch nit ziehen/sondern seind Sonnenklar*", KGW 4: 117). Thus, the ideals guiding language use in science include the principle that words should not be stretchable, i.e. they should allow only the minimum room for individual interpretation.

5. Summary

In the present paper, I analysed aspects of the pragmatic organization and linguistic realization of the debate between Kepler, Röslin and Feselius and its context as an example of scientific controversies of the early 17th century. In my analysis I concentrated on the following aspects of the controversy:

- i. the particular constellation of the persons involved and their respective communicative aims,
- ii. characteristic aspects of the text structure of the pamphlets produced in the course of this controversy,
- iii. recurrent linguistic forms used in the contributions to this controversy,
- iv. the characteristic spectrum of speech acts performed in controversies of this type,
- v. principles of communication which seem to be valid for scientific controversies of the period,
- vi. the implicit “theory of controversy” of scientific controversies of this period, as far as it can be reconstructed from evidence in the relevant texts.

One of the results reached in this analysis is that Kepler’s contributions to this controversy are early and clear examples of a positive attitude towards the role of criticism in scientific research. The paper also shows Kepler as an author well-versed in rhetoric and dialectics, who also had a remarkable sense of humour.

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The pragmatic organization of the Hobbes vs. Bramhall controversy (1645–1658)

Gerd Fritz

1. Introduction

The 17th century is a period of extensive controversies in various fields of human thought and action, e.g. in theology, philosophy, and science. In spite of the fact that individual controversies show much variation in detail, due to differences in the respective field of controversy, differences of topic, and differing individual preferences for certain moves and strategies, many controversies conducted in Europe during this period share certain basic pragmatic structures, so that it is possible to describe the features of a prototypical 17th century controversy. In many respects, the controversy between Hobbes and Bramhall *is* a typical controversy of this period, albeit one of particularly high quality. Therefore it makes an excellent object for a study in historical pragmatics.

We have two opponents who are well-versed in all the dialectical techniques available at the time and who play the game uncompromisingly, using all the tricks in the book. This is apparent both in the armoury of individual moves and stratagems and in the overall complexity of the textual structure created in the course of the exchange. The basic organizing principle of the controversy is the traditional disputation procedure of point-by-point refutation, which is systematically applied from pamphlet to pamphlet. At least part of the controversy turns on a typical conflict of the period, i.e. the conflict between the ancients and the moderns, the scholastic tradition and the modern mind (cf. Galileo and his scholastic opponents, Kepler and Röslin in the field of astronomy/astrology, Gehema and Geuder in the field of medicine etc.). The distribution of roles, i.e. defendant vs. opponent, which is clearly regulated in formal disputations, is quite subtle in this controversy. As Bramhall represents the traditional view which he has to defend against Hobbes's objections he is the born defendant. However, for all practical purposes, the roles are often reversed. It is Hobbes who has to defend, among other things, the claim that his mechanist theory of action is coherent and that it is compatible with everyday views and the biblical doctrine on agency, morality,

and religion. Bramhall, on the other hand, takes upon himself the task of opposing Hobbes's views by creating as many problems as possible for Hobbes's theory, which he does mainly by showing its lack of plausibility to the common reader and by pointing out all the pernicious consequences of Hobbes's views he can imagine.

It is also quite obvious that there are strong feelings involved in this controversy. Bramhall states on several occasions that he positively hates Hobbes's doctrine (cf. "I hate this doctrine from my heart"; Bramhall, *VINDIC*: 63),¹ and Hobbes not only deeply suspects the intellectual integrity of much of scholastic thought but he also realizes that Bramhall's accusations of impiety and atheism present a genuine threat to his position in the world.

Some authors consider this controversy to be "one of the best of all philosophical duels" (Mintz 1969: 110), and Leibniz found it worth writing a short review of this exchange fifty years later as a supplement to his "Theodicy" (1710). Exceptional features of this controversy are the central role of conceptual and semantic analysis in the construction and refutation of arguments and also its overall complexity, which is reflected in an extremely complex textual structure of the individual pamphlets, reaching its culmination in Hobbes's "The questions concerning liberty, necessity and chance" (1656).

In the course of this chapter I shall analyse basic aspects of the pragmatic form of the Hobbes/Bramhall controversy with the double aim of showing typical pragmatic features of 17th century controversies and of highlighting some of the aspects in which this controversy seems to be exceptional.² In the first part of my analysis the main focus will be on characteristic moves, sequences of moves, and strategies; in the second half I shall concentrate on principles of communication and methods of textual organization.

2. A brief summary of the background and development of the controversy

As a brief summary of the background and development of this controversy I quote a passage from the introduction to a recent edition of selected parts of this exchange:

1. On the "pious hatred" required of a bishop fighting heretics, cf. Fritz (2005: 237). The abbreviated titles are explained in section 2 of this chapter.

2. For the methodology of pragmatic analysis of controversies, cf. Dascal (1989), (1998); for methods of historical pragmatics, cf. Fritz (1995), for historical pragmatics of controversies, cf. Gloning (1999), Fritz (2010).

In 1645 the Marquess of Newcastle invited two of his acquaintances, Thomas Hobbes and John Bramhall, to have a philosophical discussion at his house in Paris. The three men were Englishmen, forced to live abroad by the Civil War at home; all three were prominent supporters of the by-then losing Royalist cause. Newcastle had been a commander in the Royalist army; Bramhall was not only a bishop in the Anglican Church but a forceful advocate of the King's position on matters of church governance; and Hobbes was a well-known political theorist whose recently published *De cive* was widely read as a defence of the English monarchy.

The subject set for the discussion was human freedom, on which the Marquess knew his guests had sharply different views; the discussion in fact became a lively controversy between the two. After the event, Newcastle asked them to send him written statements setting forth their positions. Bramhall responded with a 'discourse' on liberty and necessity; and he must have sent a copy to Hobbes as well, for the latter's 'treatise' *Of Liberty and Necessity* followed Bramhall's work point by point, criticizing it in addition to presenting and defending his own views. Bramhall responded in turn with *A Vindication of True Liberty from Antecedent and Extrinsic Necessity*, which was both a point-by-point defence of his original position against Hobbes's criticisms and a critical attack on Hobbes's position. [...] [In 1654 Hobbes's "Liberty and necessity" was published in London without Hobbes's permission, GF] Bramhall responded by publishing his earlier *Vindication*, with the title *A Defense of True Liberty from Antecedent and Extrinsic Necessity* (1655). Hobbes then responded with *The Questions concerning Liberty, Necessity, and Chance* (1656), and Bramhall in turn with his *Castigations of Mr. Hobbes* (1658). Hobbes at that point chose not to answer back again; but even so, the original debate between the two authors had become an extended controversy. (Chappel 1999: ixf.)

As an appendix to his *Castigations*, Bramhall published a pamphlet *The Catching of Leviathan* (1658), directed at Hobbes's *Leviathan*, which had appeared in 1651. In this pamphlet Bramhall repeatedly referred to Hobbes's "The Questions concerning Liberty, Necessity, and Chance", so this pamphlet can be considered, at least in part, a contribution to the earlier controversy. Much later – Bramhall had died in 1663 – Hobbes wrote an *Answer to a book published by Dr. Bramhall, late Bishop of Derry; called the "Catching of the Leviathan"*, in which he defended himself against Bramhall's criticism and also referred to a "former dispute with me about free-will" (Hobbes, ANSWER, 299). This pamphlet was only printed in 1682, three years after Hobbes's death.

In this chapter I shall use the following abbreviations for the basic texts of this controversy:

- LN: Hobbes: Of liberty and necessity (1654),
 VINDIC: Bramhall: A vindication of true liberty (Published as: A defence of true liberty) (1655),
 LNC: Hobbes: Questions of liberty, necessity, and chance (1656),
 CASTIG: Bramhall: Castigations of Mr. Hobbes his last animadversions (1658)
 ANSWER: Hobbes: An answer to a book published by Dr. Bramhall (1680).

3. Levels and aspects of the controversy – reasons for its complexity

As already mentioned, one of the interesting properties of this controversy is its complexity. This complexity is in part generated by the interaction of different levels and aspects of conflict and by the topics and strategies that go with these different levels and aspects. The following sections illustrate some of these factors of complexity:

(i) Difference of profession: philosopher vs. theologian

Hobbes's theory as such does not depend on the theological background which plays an important role in this controversy. It has, however, far-reaching theological implications.³ Therefore Bramhall forces Hobbes to go through a whole gamut of theological objections in order to prove that his position is at least compatible with basic Christian assumptions. In its sharpest form the conflict surfaces in those passages where Bramhall accuses Hobbes of impiety, heresy, or atheism and those places where Hobbes confronts truth with "what is fit to be preached" ("[...] and now the question is, not what is fit to be preached, but what is true", Hobbes, LNC: 151). For Bramhall, Hobbes's causalist theory of the will is theologically dangerous.

This professional difference also shows in their respective use and choice of favourite authorities and also in their rhetoric. In many places, Bramhall's writing reminds one of the rhetoric of the pulpit, like in the following short passage:

We see how all creatures by instinct of nature do love their young, as the hen her chickens; how they will expose themselves to death for them. And yet all these are but the shadows of that love which is in God towards his creatures.

(Bramhall, VINDIC: 78)

(ii) Different types of theory: a minimalist theory (Hobbes) vs. a vast body of learning (Bramhall)

3. For some of these implications, cf. Damrosch (1979), Springborg (1996).

The core of Hobbes's theory can be stated in a few sentences, whereas Bramhall draws on a vast corpus of traditional texts. Hobbes's minimalism, which is a consequence of his reductionism, has an interesting rhetorical effect for the structure of the controversy. As in his theory few principles explain a rich variety of phenomena, Hobbes has to apply his basic ideas again and again to the cases and distinctions brought up by Bramhall. The productive aspect of this procedure is that Bramhall provides a magnificent testing ground for Hobbes's theory by multiplying objections. On the other hand, the great number of objections, which are often closely related, makes for frequent and sometimes boring repetitions in Hobbes's reactions. Generally speaking, a large amount of repetition is a characteristic feature of these texts (cf. 5.5).

(iii) Different attitudes towards tradition and innovation: traditionalist vs. innovator

On several occasions, Bramhall calls Hobbes an *innovator*, which is quite clearly meant as a term of abuse: "We have partly seen before, how T.H. hath coined a new kind of liberty, a new kind of necessity, a new kind of election; and now in this section a new kind of spontaneity, and a new kind of voluntary actions" (Bramhall, VINDIC: 47). "And yet he is offended, that men will go about to keep possession of their ancient principles against his upstart innovations" (Bramhall, CASTIG: 278). Bramhall voices his general attitude towards innovation by saying: "It is better to be the disciple of an old sect, than the ringleader of a new" (Bramhall, VINDIC: 120) and also by the sweeping statement: "No, no: it is not the School divines, but innovators and seditious orators, who are the true causes of the present troubles of Europe" (Bramhall, VINDIC: 130).⁴

In presenting the received opinions, Bramhall himself not only refers to the scholastic tradition but also to that which, according to him, is common sense: "[A certain distinction; GF] is so true, so necessary, so generally received, that there is scarce that writer of note, either divine or philosopher, who did ever treat upon this subject, but he useth it" (Bramhall, VINDIC: 35). "[...] this is the belief of all mankind" (Bramhall, VINDIC: 31). Similarly: "That which he calls the 'ordinary definition' of liberty, is the very definition which is given by the much greater part of Philosophers and Schoolmen. And doth he think that all these spake nonsense: or had no more judgment than to contradict themselves in a definition? He might much better suspect himself, than censure so many" (Bramhall, VINDIC: 173). And also: "... that the will is not compelled, is acknowledged by all the world

4. Lærke (2010: 302–306) notes that in the 17th century expressions like *innovation* or *innovator* (lat. *novator*) were often used pejoratively in religious and also in philosophical controversies, e.g. by Leibniz.

as a truth undeniable” (Bramhall, VINDIC: 124). This constellation of roles also influences the distribution of burden of proof, as I shall briefly show in Section 5.2.

Contrariwise, Hobbes criticizes people who do not think their own thoughts but learn a given doctrine by rote: “Here again he discovereth the true cause why he and other Schoolmen so often speak absurdly. For they speak without conception of the things, and by rote, one receiving what he saith from another by tradition” (Hobbes, LNC: 397). “It is an unhandsome thing for a man to derive his opinion concerning truth by succession from his ancestors” (Hobbes, LNC: 337). As these quotations show, the dichotomy of tradition vs. innovation is particularly relevant from the point of view of epistemology. On several occasions Hobbes claims that he, as opposed to Bramhall, arrived at his views by thinking himself and by meditating, and not by reading traditional texts. The following is an example of this move:

[I] may with as good a grace despise the Schoolmen and some of the old Philosophers, as he [i.e. Bramhall] can despise me, unless he can shew that it is more likely that he should be better able to look into these questions sufficiently, which require meditation and reflection upon a man’s own thoughts, [...].

(Hobbes, LNC: 63; cf. also LNC: 311)

So what is at stake here is the epistemological choice between personal reflection and adherence to the received doctrine of scholasticism. In some places, however, Hobbes also feels prompted to state or to show that he himself knows the traditional lore, so that he cannot be accused of ignorance: “It is more than the Schoolmen or metaphysicians can understand; whose writings have troubled my head more than they should have done, if I had known that amongst so many senseless disputes, there had been so few lucid intervals” (Hobbes, LNC: 342). Similarly, he states: “I am not ignorant of the usual reply to this answer, by distinguishing between will and permission” (Hobbes, LNC: 116).

In sum, the controversy between Bramhall and Hobbes is, among other things, a remarkable chapter in the history of the 17th century battle of the Ancients and the Moderns, and Hobbes presents his position with a characteristic rhetoric of innovation.

(iv) Different linguistic attitudes: “terms of art” vs. “plain English”

The conflict of scholasticism vs. anti-scholasticism also has a linguistic offshoot, namely the contrast between using scholastic terms of art and what Hobbes calls “plain English”, which, according to his own judgment, is what Hobbes himself uses.⁵ This is a recurrent theme in the present controversy, mostly brought up by Hobbes, who accuses Bramhall of lack of perspicuity. But, of course, there is more

5. In fact, Hobbes often uses “plain English” words in an innovative way as “terms of art”.

to this terminological cavilling than a concern for problems of comprehension which the non-specialist reader might face. This linguistic conflict goes down to the roots of the whole controversy.

(v) Differences of theological background

Part of the background of this controversy is the controversy on predestination which found Protestant theologians like Luther, Calvin and (the early) Melancthon on one side and the majority of traditional Catholic theologians on the other. The fact that parts of the Anglican clergy, including Bramhall, sided with Catholic (Arminian) theologians had lead to conflicts within the Church of England from the 1620s onwards (cf. Jackson 2007: 2ff., 276ff.). This background furnished Hobbes with a powerful move against Bramhall, which consisted in countering Bramhall's theological references by referring to Protestant theological authorities (cf. Hobbes, LNC: 1f., 64, etc.). This was, of course, a particularly subtle move when opposing an Anglican bishop, and it is therefore not surprising that Bramhall should have tried to defuse this argument quite vigorously:

Indeed Luther was once against it [i.e. "freedom from necessitation"], and so was Melancthon; but they grew wiser, and retractred whatsoever they had written against it. And so would Mr. Hobbes do likewise, if he were well advised. Either he did know of Luther's retraction, and then it was not ingenuously done to conceal it; or (which I rather believe) he did not know of it, and then is but meanly versed in the doctrine and affairs of the Protestants". (Bramhall, CASTIG: 218)

Another topic with theological and political ramifications that played a role as background to the controversy was the question of political and religious authority, i.e. the question if Anglican bishops had their authority *jure divino* or by the authority of the civil sovereign (*jure civili*). Hobbes held the position that all authority within the Anglican Church flowed from the king as head of the church, whereas Bramhall adhered to the doctrine of apostolic succession.⁶

4. Typical moves, sequences of moves, and strategies

4.1 Addressing the audience

Many controversies begin as personal conversations or exchanges of letters between two persons of different opinions. In these cases the respective opponent

6. Jackson (2007) shows in great detail the relevance of this question to the controversy at hand. "It is my contention that their most personal and bitter disagreement concerned the latter: political and religious authority" (Jackson 2007: 2).

is the primary addressee and the only audience. A first variant of this dialogical situation is the case where the dialogue is conducted in the presence of others or, similarly, the related case where the letters exchanged are intended to be shown to third parties.⁷ This is still a genuine dialogue, where we have the opponent as the primary addressee and the audience as a secondary addressee. Obviously, this was the situation when Hobbes and Bramhall discussed questions of liberty and necessity in the presence of the Marquess of Newcastle.⁸

When Hobbes was later asked by the Marquess of Newcastle to comment on Bramhall's "Discourse of Liberty and Necessity", he provided his answer in the form of a letter to the "Lord Marquis of Newcastle", addressing him as "Right Honourable" and closing the text formally in the following way:

And I humbly beseech your Lordship to communicate it only to my Lord Bishop.
And so praying God to prosper your Lordship in all your designs, I take leave,
and am
My most noble and most obliging Lord,
Your most humble servant, Thomas Hobbes

In the body of the text, like in his later LNC, Hobbes mentioned Bramhall only in the third person, e.g. "The next thing his Lordship does" (LN: 241). The same applies to Bramhall, who opened up his "Vindication" with an "Epistle to the Marquis of Newcastle" and referred to Hobbes in the third person, using the abbreviation "T.H." for his name. This oblique form of addressing one's opponent is often used in refutation pamphlets of the time, so in this respect an exchange of pamphlets is only a quasi-dialogue (cf. Dascal 1989). Such an exchange has, however, also distinctly dialogical properties, e.g. its forms of functional sequencing (claim followed by refutation or accusation followed by counter-accusation) and its forms of topic management (e.g. continuing a given topic point by point).

The next step towards a full-blown public controversy is the explicit acknowledgement of a wider public. In our case this step occurred with the publication of Hobbes's LN against his own intentions. It is worth noting that the young man who published Hobbes's LN "not only without my knowledge, but also against my will" added an epistle "To the sober and discreet Reader", thereby showing

7. Showing personal letters on scientific topics to other scholars or copying them for other readers was common practice in the early modern Republic of Letters. In the case of the papers exchanged between Leibniz and Clarke (1715/1716), the opponents early on agreed on publishing the controversy at a later date. In fact, Clarke published the materials in 1717, a year after Leibniz's death.

8. A similar constellation of participants can be found in Galileo's disputation about floating bodies which was held at the house of his patron Salviati in Florence in 1611 (cf. Biagioli 1993: 159ff.). And there are many other examples.

awareness of the requirements of a piece of writing intended for a wider audience. In his following “Vindication”, Bramhall, too, not only wrote a letter to the Marquis of Newcastle, in which he also mentioned an additional audience in writing “How far I have performed it [i.e. to vindicate his original discourse, GF], I leave to the judicious and impartial reader” (Bramhall, VINDIC: C), but, in addition, he published a short epistle addressed to a wider audience, using the address formula “Christian Reader”. The authors also prefaced their further contributions to the controversy (Hobbes’s LNC and Bramhall’s “Castigations”) with epistles “To the reader”, Bramhall again addressing the reader as “Christian Reader”. In the latter epistle, Bramhall explicitly referred to Hobbes’s letter to the reader and criticized some of the points mentioned therein, thereby including this letter in the process of refutation. In various other places, the opponents address or mention the reader. A remarkable move consists in appealing to the audience as the “judge of controversy”: “And thus much for comparison of our two opinions with the Scriptures; which whether it favour more his or mine, I leave to be judged by the reader” (Hobbes, LNC: 15); “And this I take to be enough to clear the understanding of the reader, that he may be the better able to judge of the following disputation” (Hobbes, LNC: 19); “Judge, reader, whether we or he be better subjects” (Bramhall, CASTIG: 392). Finally, Bramhall closes his “Castigations” with an admonition addressed to his readers: “Beware, reader, ‘he beareth hay on his horn’”. With this allusion to Horace’s *Satires* he ironically denigrates Hobbes as an aggressive bull (Bramhall, CASTIG: 506).⁹

4.2 Posing a dilemma as an opening move

Bramhall opens the main body of his “Vindication” with a bit of logic that has the form of a dilemma:

Either I am free to write this discourse for liberty against necessity, or I am not free. If I be free, I have obtained the cause, and ought not to suffer for the truth. If I be not free, yet I ought not to be blamed, since I do not do it out of any voluntary, but out of an inevitable necessity. (Bramhall, VINDIC: 23)

The dilemma seems to show that either Hobbes’s view on freedom and necessity is wrong, because, obviously, Bramhall is free to write his discourse. In this case there is no reason for further discussion. Or, if Hobbes’s view is assumed to be true, it leads to unacceptable consequences. So it cannot be right.

9. “faenum habet in cornu, longe fuge” (Horace, *Sermones* I.iv.34). Horace here quotes the view of persons who hate satirical poets, a view he does not share. So Bramhall’s allusion is really not quite apposite.

Rhetorically, this is an attractive opening move, as it seems to provide an amusing way of beating Hobbes in the first round. Bramhall takes advantage of the plausibility of the actual situation of the writer, who is in fact writing his discourse. But one wonders if there is more to this move. Unfortunately, Hobbes does not address this particular utterance, so we do not know what he made of it. He does, however, attack a similar move of Bramhall's a few sentences later, where Bramhall claims "the very first words of T.H. his defence trip up the heels of his whole cause" (Bramhall, VINDIC: 24). In his "Animadversions" Hobbes complains of Bramhall's witticism and states that "his argument was too weak to support so triumphant a language" (Hobbes, LNC: 34). So, probably, Hobbes thought the same of the opening dilemma.¹⁰

An additional attraction of this move for Bramhall may have consisted in the fact that it provided him the opportunity to demonstrate his logical prowess and his being rooted in the scholastic tradition of argumentation.

There is, however, an interesting aspect of this move that goes beyond its rhetorical status. The obviousness and common sense status of Bramhall's position, which is presented in the first horn of the dilemma, is continually assumed by him throughout the controversy, an assumption against which Hobbes voices frequent complaints of irrelevance, as the content of this assumption misses the point of Hobbes's attack against freedom of the will. So the first horn of the dilemma can be seen as introducing a basic topic of the controversy. The same is true of the second horn: The negative consequences of Hobbes's position, its moral "inconveniences", form another central topic of the exchange. Therefore this opening move can be seen as a topic-setting move, which anticipates important structural elements of the whole controversy.

Generally speaking, this is not a standard move like most of the others discussed in this section, however, it is one that readers versed in the Aristotelian tradition would have immediately recognized.

4.3 Stating the question

One of the basic rules of 17th century formal disputations was the rule that the participants should begin by stating clearly the question to be debated ("formare statum controversiae", cf. Thomasius 1670: 145). In the words of a contemporary academic: "For where the question to be debated has not been precisely stated, the debate is so far from being a true disputation as a fight between boys with reed

10. The most obvious weakness of the dilemma is that it is a case of begging the question, a diagnosis which Hobbes often gives concerning similar moves.

arrows is from a real battle [...]” (Lessing 1669: Caput II, Th. 2).¹¹ Both Bramhall and Hobbes were aware of this requirement and expended a great deal of effort trying to fulfil it. Bramhall explicitly commented on the importance of this basic move in a controversy: “The right stating of the question is commonly the midway to the determination of the difference” (Bramhall, CASTIG: 219) and, of course, to the solution. However, in this controversy, finding common ground as to what the basic question should be, is exactly one of the fundamental problems. Early on in his “Vindication”, Bramhall accuses Hobbes of not answering important questions and changing the state of the question:

When a respondent leaves many things untouched, as if they were too hot for his fingers, and declines the weight of other things, and alters the true state of the question, it is a shrewd sign, either that he hath not weighed all things maturely, or else that he maintains a desperate cause. (Bramhall, VINDIC: 27)

Of course, Hobbes flatly denies this accusation: “[...] altering the state of the question; I remember no such thing [...]” (Hobbes, LNC: 38). In the course of his “Vindication”, Bramhall proposes several versions of the basic question, which Hobbes seems to accept in one of the opening paragraphs of LNC headed “The State of the Question” (Hobbes, LNC: 2–5), e.g. the following version:

He [i.e. Bramhall] states the same question again in another place thus: “This is the very question where the water sticks between us, whether there be such a liberty free from necessitation and extrinsical determination to one, or not.” And I allow it also for well stated so. (Hobbes, LNC: 3f.)

However, on closer inspection, this statement of the question turns out to hide the real dissent, which Hobbes brings out one page later in the following statement:

Lastly, there be two questions; one, “Whether a man be free in such things as are within his power, to do what he will;” another, “Whether he be free to will.” [...] In the former, [...], I agree with the Bishop. In the latter, [...], I dissent from him. [...] If he has not been able to distinguish between these two questions, he has not done well to meddle with either. (Hobbes, LNC: 5)

This problem comes up again and again, as the following statement by Hobbes indicates:

But here you see what the Bishop pursueth in this whole reply, namely, to prove that a man hath liberty to do if he will, which I deny not; and thinks when he

11. In the Latin original: “Ubi enim status controversiae non exquisite construitur, ibi disputatio tam longe discrepat a vera disputatione quantum differt puerorum arundine, & calamis certantium a vero proelio [...]” (Lessing 1669: Caput II, Th. 2).

hath done that, he hath proved a man hath liberty to will, which he calls the will's determining of itself freely. (Hobbes, LNC: 236)

Hobbes here accuses Bramhall of the fallacy of Misconception of Refutation (*ignoratio elenchi*), a fallacy which, in Hobbes's view, lies at the bottom of much of this controversy. What makes things worse is the fact that the proposition that man is free to will, which Bramhall defends, is, according to Hobbes, not only wrong but incomprehensible. In modern terms: it is, according to Hobbes, a category mistake: "I acknowledge this *liberty*, that I *can* do if I *will*; but to say, I can *will* if I *will*, I take to be an absurd speech" (Hobbes, LN: 240). This divergence leads to mutual accusations of begging the question and of giving irrelevant arguments and frustrates the efforts of the opponents. A few examples will illustrate this situation. In his "Vindication", Bramhall refuses to accept Hobbes's statement of the question in LN. He answers:

Thirdly, that which T.H. makes the question, is not the question. 'The question is not,' saith he, 'whether a man may write if he will, and forbear if he will, but whether the will to write or the will to forbear come upon him according to his will, or according to anything else in his own power.' Here is a distinction without a difference. [...] Certainly all the freedom of the agent is from the freedom of the will. (Bramhall, VINDIC: 30)

This Hobbes counters with a fierce *ad hominem* attack:

He that cannot understand the difference between *free to do if he will*, and *free to will*, is not fit, as I have said in the stating of the question, to hear this controversy disputed, much less to be a writer in it. (Hobbes, LNC: 51)

As it turns out, this lack of common ground concerning the state of the question haunts the whole controversy up to its very end. For instance, in his reply to Hobbes's point No. VI, Bramhall draws upon places of Scripture in order to prove *freewill* (Bramhall, VINDIC: 41). What these passages from the Bible in fact prove, according to Hobbes, is "nothing but that a man is free to do if he will, which I deny not. He ought to prove he is free to will, which I deny" (Hobbes, LNC: 71). Later on Hobbes complains: "It is impossible for the Bishop to remember the question, which is *whether a man be free to will?*" (Hobbes, LNC: 262). Hobbes repeats his position again and again, e.g. in the following passage: "Now when I say the action was necessary, I do not say it was done against the will of the doer, but with his will, and so necessarily; because man's will, that is, every act of the will, and purpose of man had a sufficient, and therefore a necessary cause, and consequently every voluntary action was necessitated" (Hobbes, LNC: 229).

In the opening passages of his "Castigations" Bramhall insists: "He sayth, a man is free to 'do' if he will, but he is not free to 'will' if he will. If he be not free

to will, then he is not free to do” (Bramhall, CASTIG: 211). In the margin to this page Bramhall draws the conclusion: “Freedom to do and not to will refuted”. Here we seem to be back to square one. Obviously, this basic tenet of Hobbes’s theory is completely foreign and deeply disagreeable to Bramhall.

4.4 Reducing an argument into form

As both authors are skilled in traditional logic, dialectics and rhetoric they continually use the classical methods and also the classical vocabulary, the latter predominantly to criticize deficiencies of logic and dialectical procedure (cf. 5.1).¹² Typical examples of logical procedure are those cases where a participant sets out his argument in the form of a classical syllogism. Bramhall uses this technique in various places, e.g. in his “Vindication” (p. 38), where he announces: “My first argument from Scripture is thus formed”:¹³

Whosoever have a liberty or power of election, are not determined to one by precedent necessary causes.

But men have liberty of election.

The assumption or *minor* proposition is proved by three places of Scripture, [...].

But he denieth the *major* proposition [...].

In a similar fashion Bramhall announces at a later point in the controversy that “I will first reduce mine argument into form” (Bramhall, VINDIC: 113; similarly VINDIC: 88). However, these attempts at clarification, if such they are, fail to impress Hobbes. In the cases mentioned here, Hobbes does not take up the thread of logical analysis – although other passages show that he easily could have done so (e.g. Hobbes, ANSWER: 304). In responding to “Vindication” (p. 113), Hobbes even ridicules Bramhall’s formalization as an unnecessary exercise: “But he [i.e. Bramhall] supposing I understood him not, will needs reduce his argument into form” (Hobbes, LNC: 233).¹⁴

12. That Hobbes was well-versed in classical rhetoric was amply demonstrated in Skinner (1996).

13. I quote this passage from Hobbes’s LNC (p. 67), who makes the structure of the syllogism more perspicuous by improving the layout.

14. Leibniz on various occasions discussed the question whether “bringing arguments into form” was useful or not. He came to the conclusion that in written disputations with complex topics it could be useful (cf. Leibniz 2006: 380).

4.5 Examples, analogies, and comparisons

Examples, analogies, and comparisons serve various functions. In many cases they are used as a means of illustration, i.e. as an aid to comprehension. They also function as a means of lively presentation. In order to present their ideas more vividly to their readers, both authors use examples and comparisons at crucial points in their argumentation. But obviously these forms of presentation are more than just rhetorical *ornatus*. In many cases they also function as a means of proof. If one takes into account the importance of examples, analogies etc., it is not surprising that the two controversialists mutually criticize each other's use of these devices. In one place, Bramhall criticizes Hobbes for his practice of using examples as a means of proof: "[...], which, according to his custom, he proves by an instance" (Bramhall, VINDIC: 90). When Hobbes compares man to a wooden top that runs about, sometimes to one wall, sometimes to the other, lashed by the boys (Hobbes, LNC: 55), Bramhall complains that he "did never meet with a more unfortunate instancer than he [i.e. Hobbes] is" (Bramhall, CASTIG: 277) and presses him to "elevate his thoughts from this 'wooden top' to the original body of a man" (CASTIG: 278). But, of course, the wooden-top analogy is exactly the kind of mechanical analogy that might serve to make Hobbes's readers doubt the freedom of the will and which thereby might pave the way for their accepting his causal theory of the will. In the following passage Hobbes comes close to the typical rhetoric of a sermon, which is really more Bramhall's style:¹⁵

And is man any wiser, when he runs to one place for a benefice, to another for a bargain, and troubles the world with writing errors and requiring answers, because he thinks he does it without other cause than his own will, and seeth not what are the lashings that cause his will? (Hobbes, LNC: 55).

On the other hand, Hobbes complains that, of all persons, Bramhall, the bishop, uses morally doubtful examples, e.g. that "consent takes away the rape". In public writing this is "an indecent instance", which a bishop should avoid (Hobbes, LNC: 286). The passage where Bramhall gives the example of "nocturnal pollution" is classified by Hobbes as a "stinking passage" (Hobbes, LNC: 356). On the example of "concupiscence with consent" Hobbes comments: "it had been fitter for a man in whom is required gravity and sanctity more than ordinary, to have chosen some other kind of instance" (Hobbes, LNC: 362f.). These are not strong objections, but they may serve to assert Hobbes's moral rectitude, which Bramhall calls in doubt.

15. This passage could be taken as an ironical allusion to Bramhall's life.

A prominent place for giving an example is the illustration of a definition. Hobbes uses this technique in connection with his definition of liberty, in a pivotal passage:

Liberty is the absence of all the impediments to action that are not contained in the nature and intrinsical quality of the agent. As for example, the water is said to descend *freely* [...]. So also we say, he that is tied, wants the *liberty* to go, because the impediment is not in him, but in his bands, [...]. (Hobbes, LN: 273f.)

Two things are worth noting here: Firstly, Hobbes gives *two* examples, one from inanimate nature and one from human action. Secondly, the *first* one he gives is the one from inanimate nature. From the point of view of his theory, this is a perfectly natural choice, as it stresses the unity of his theory of causation. Strategically, however, this is a remarkable thing to do, as he makes it particularly difficult for Bramhall to accept this crucial definition. It is therefore not surprising, that Bramhall takes up this example and turns it against Hobbes:

Lastly, (which is worse than all these), such a liberty as a river hath to descend down the channel. What! will he ascribe liberty to inanimate creatures also, which have neither reason, nor spontaneity, nor so much as sensitive appetite? Such is T.H.'s liberty. (Bramhall, VINDIC: 29)

It is quite in keeping with Bramhall's position that he himself uses mechanist examples for the purpose of showing the "horrid consequences" of Hobbes's theory, e.g.: "A free agent is but like a bullet rammed up into the barrel by outward causes, and fired off by the outward causes" (Bramhall, CASTIG: 255), or: "[...] how shall a man condemn and accuse himself for his sins, who thinks himself to be like a watch which is wound up by God, [...]" (Bramhall, VINDIC: 105). In a similar fashion Bramhall uses the following tennis-ball metaphor: "[Hobbes's doctrine] makes the second causes and outward objects to be the rackets, and men to be but the tennis-balls of destiny" (Bramhall, VINDIC: 63). In summing up his view of the "shadow of liberty", which Hobbes presents, Bramhall uses the following comparison: "This is just such another freedom as the Turkish galley-slaves do enjoy" (Bramhall, VINDIC: 60).

Another interesting example which Hobbes employs is used as part of his explication of the concept of will:

But no man can determine his own will, for the will is appetite; nor can a man more determine his will than any other appetite, that is, more than he can determine when he shall be hungry and when not. When a man is hungry, it is in his choice to eat or not to eat; this is the liberty of the man; but to be hungry or not hungry, which is that which I hold to proceed from necessity, is not in his choice. (Hobbes, LNC: 34)

Of course, hunger is a particularly obvious example of a causally determined disposition to act. So it illustrates well the causal aspect of the will. But then again, from Bramhall's point of view, it is too weak to illustrate the essential aspect of the human will. He counters by first making a disparaging remark ("This argument would much better become the kitchen than the schools"; Bramhall, CASTIG: 256) and then by ironically setting out the structure of what the example is meant to show: "So here, – the sensitive appetite hath no dominion over its own acts, therefore neither hath the rational appetite any dominion over its own acts" (Bramhall, CASTIG: 256).

Bramhall sums up his view of some of these examples and what they stand for as follows:

So he [i.e. Hobbes] maketh man to be a mere "foot-ball" or "tennis-ball", smitten to and fro by the second causes, or a "top, lashed" hither and thither. If the watch be wound up by the artist, what have the wheels to be solicitous about any thing, but only to follow the motion which is impossible for them to resist? When he first broached this opinion, he did not foresee all those absurd consequences which did attend it; which might easily happen to a man, who buildeth more upon his own "imaginations" than other men's experience: and being once engaged, he is resolved to wade through thick and thin, so long as he is able.

(Bramhall, CASTIG: 484f.)

My observations in this paragraph are just a first hint at the role analogies and examples play in this controversy. A more detailed analysis of the introduction and discussion of examples, analogies etc. would be worthwhile and would show an important aspect of the pragmatic technique of controversy which escapes a narrowly logical analysis of the structure of arguments used in controversies.

The same is true of another interesting type of move, the setting of "cases", which have both a problem-generating and an illustrative function: "I will propose a case to him. A gentleman sends his servant with money to buy a dinner; [...]" (Bramhall, VINDIC: 135).¹⁶

4.6 Showing "inconveniences"

Showing the "inconveniences" (i.e. the unwelcome consequences) which supposedly follow from Hobbes's views is one of Bramhall's favourite moves. In various places he specifies the "horrid consequences" (Bramhall, VINDIC: 63) that he thinks "flow" from Hobbes's theory and which, he assumes, Hobbes did not realize when he first developed his view of liberty and necessity. These consequences, as Bramhall sees them, amount to abolishing responsibility, morals, religion and the

16. This move is probably a reflection of the contemporary practice of theological casuistry or "case-divinity", as Bramhall calls it ("The catching of Leviathan": 539).

foundations of the commonwealth. Strictly speaking, showing “inconveniences” does not prove the existence of free will, but, since Bramhall assumes that the burden of proof is with Hobbes anyway (cf. 5.2), this does not matter. In trying to counter this move, Hobbes is in the uncomfortable position of having to defuse the danger of every single one of these “inconveniences”. Hobbes’s counter-moves mainly consist in either showing that the assumption of such consequences does not follow or – which is more sophisticated – that these consequences would also follow from Bramhall’s view, if they followed at all.

4.7 Complaining of jargon, absurdity, and nonsense

Examples of this move abound in this controversy. It is one of Hobbes’s favourite ploys, and Bramhall is correspondingly annoyed with it. A few examples are in order: “That which followeth in this Number is not intelligible, by reason of the insignificance of these words, ‘understanding directeth; will electeth; hypothetical necessity’; which are but jargon, [...]” (Hobbes, LNC: 367). In the following case Hobbes combines criticism with ridicule: “This term of *insufficient* cause, which also the Schools call *deficient*, that they may rhyme to *efficient*, is not intelligible, but a word devised like *hocus pocus*, to juggle a difficulty out of sight.” [...] “I can make no answer; because I understand no more what he means by sufficiency in a divided sense, and sufficiency in a compounded sense, than if he had said sufficiency in a divided nonsense, and sufficiency in a compounded nonsense” (Hobbes, LNC: 384). In several places Hobbes actually gives lists of incomprehensible and nonsensical expressions, e.g. *liberty of contrariety*, *qualities infused*, *efficacious election*, *negative obduration*, and also of propositions like *man concurs with God in causing his own will* (Hobbes, LNC: 448f.). He also provides an explanation why people use this kind of jargon: “So that it is not without cause men use improper language, when they mean to keep their errors from being detected” (Hobbes, LNC: 313). And similarly: “terms invented by I know not whom to cover ignorance, and blind the understanding of the reader” (Hobbes, LN: 263). In one case, Hobbes uses this move as part of a critical evaluation of one of Bramhall’s formal syllogistic arguments, which was meant to prove that eternity is indivisible (cf. Bramhall, VINDIC: 158):¹⁷

I come now to his argument in mood and figure, which is this, *the Divine substance is indivisible*. That is the *major*. *Eternity is the Divine substance*. That is the *minor*. [...] The major, he says, is evident, because God is *actus simplicissimus*.

17. It is remarkable that Bramhall should have taken up this argument and Hobbes’s reply in his “Catching of the Leviathan”, which was mainly concerned with Hobbes’s “Leviathan” and “De cive”.

The minor is confessed, he thinks, by all men, because whatever is attributed to God, is God. To this I answered, that the major was so far from being evident, that *actus simplicissimus* signifieth nothing, and that the minor was understood by no man. (Hobbes, ANSWER: 304)

Bramhall is fairly helpless in dealing with this kind of move. In some cases he just asserts that his own way of speaking is accepted parlance, in other places he uses the counter-accusation that Hobbes's words do not make sense either, but mostly he just complains of this move, as in the following instance: "And here he falls into another invective against distinctions and scholastical expressions" (Bramhall, VINDIC: 128).

Now this critical move used by Hobbes is extremely interesting. On the one hand, it is an aggressive and arrogant move, which implies that the opponent is either too stupid to realize that he is talking nonsense or that he is talking nonsense *on purpose* in order to fool his opponent and his readers, which is even worse.¹⁸ On the other hand, it is a defensive move that gives the controversialist a chance to avoid getting bogged down and being drawn into a maze of scholastic discussions. In this the move has a therapeutic function. For an opponent of scholastic thought it is probably the *only* chance to avoid being forced to play the scholastic game. It is therefore not surprising that anti-scholastics like Galileo, Kepler and others should have frequently used this move. But Hobbes is probably the 17th century author who cultivates this strategy with most delight. In many cases his diagnosis of category mistakes reminds one of Gilbert Ryle: "Nor can it be said of wills, that one is rational, the other sensitive; but of men" (Hobbes, LNC: 365); "*Free, contingent* and *necessary* are not words that can be joined to *means* and *ends*, but to *agents* and *actions*" (Hobbes, LNC: 189); "For the universe, as one aggregate of things natural, hath no intention" (Hobbes, LNC: 237).

4.8 Semantic analysis and definition

Matters of word meaning play an important role in this controversy, and both authors are sensitive to relevant problems of understanding involved in this debate, both concerning the use of technical and of everyday language. Hobbes explicitly states that "there is nothing in learning more difficult than to determine the signification of words" (Hobbes, ANSWER: 335). Both authors, but especially Hobbes, show a subtle awareness of semantic nuances, which they use for persuasive and

18. That this was an important part of Hobbes's overall strategy was also noted by Jackson (2007: 296): "Thus, we can observe that Hobbes's strategy to discredit free-will was ultimately twofold: (1) it is 'popish', that is, heretical theology; and (2) it is absurd, that is, unsound philosophy".

critical purposes. On one occasion, when Hobbes finds it hard to defend the claim that the idea of God punishing men is consistent with his position, he tries to circumvent the difficulty by replacing *punishment* by *affliction* (Hobbes, LNC: 17). In other cases he describes the use of expressions like *blame* and *praise* (Hobbes, LNC: 52f.) or *compelled* (Hobbes: LNC: 252) in such a fashion as to make his argument run more smoothly. An example of the latter strategy can be found early on in Hobbes's LNC, where he tries to counter one of Bramhall's arguments against his unified theory of the causal determination of the will. Bramhall claims that it would not make sense, under this theory, to blame a person for doing something wrong, just as little as it makes sense to blame "a fire for burning whole cities" (Bramhall, VINDIC: 32). To which Hobbes replies: "[...] we do as much blame them as we do men. For we say fire hath done hurt, and the poison hath killed a man, as well as we say the man hath done unjustly; [...]. So that the blaming of the one and the other, that is the declaring of the hurt or evil action done by them, is the same in both" (Hobbes, LNC: 54). If this semantic analysis were acceptable Hobbes would have made his point. However, it seems doubtful on two counts. Firstly, it is at least not obvious that the first of the two ordinary language locutions is not to be taken as metaphorical, for one normally blames an action or a person for his action (cf. Oxford English Dictionary), secondly, the analysis of *blaming* as "declaring of the hurt or evil action done" seems to be incomplete, as the element of responsibility is missing – which is exactly the point Bramhall is making. So Hobbes is obviously not above twisting the semantic facts a bit if he considers it necessary.

On another occasion, Hobbes criticizes Bramhall for not using the expressions *counsel* and *command* according to general usage:¹⁹

[...] so his Lordship, I think, to seem a perfect understander of the unintelligible language of the Schoolmen, pretends an ignorance of his mother-tongue. He talks here of *command* and *counsel*, as if he were no Englishman, nor knew any difference between their significations. What Englishman, when he commandeth, says more than, *Do this*; yet he looks to be obeyed, if obedience be due to him. But when he says, *Do this*, and thou shalt have such or such a reward, he encourages him, or advises him, or bargains with him; but commands him not. Oh the understanding of the Schoolmen! (Hobbes, ANSWER: 343)

Generally speaking, Hobbes insists on a view of semantics that is based on the idea that what counts for the meaning of an expression is its use in common practice: "[...] the common people, on whose arbitrium dependeth the signification of words in common use [...]" (Hobbes, LNC: 92). This he holds not only for

19. In this passage Hobbes uses a kind of speech-act theory *avant la lettre*.

contemporary English usage but also for the use of words among the Romans and the Greeks (Hobbes, LNC: 92.). In his “Answer to Bishop Bramhall” he devotes a long passage to the explanation of the proper meaning of words in Latin and Greek (e.g. the equivalents of *substance*, *body*, *matter*, *spirit*, *person*; Hobbes, ANSWER: 308ff.). This view comes in very useful in his effort to censure scholastic usage of terms, which often diverges from classical Latin usage as represented by authors like Cicero.

4.8.1 *The definition of liberty*

A very interesting family of moves consists in attempts to clarify the meaning of central expressions in this controversy, e.g. *liberty*. In order to clarify what he means by *liberty*, Bramhall makes a number of distinctions in his original treatise (“liberty from sin”, “liberty from misery”, “liberty from servitude”) and points out that he means none of these, but “liberty from necessity, or rather from necessitation, that is, an universal immunity from all inevitability and determination to one” (Bramhall, VINDIC: 33).

Hobbes reacts to this scholastic technique of making distinctions by complaining as follows:

It had been better to *define* liberty, than thus to *distinguish*. For I understand never the more what he means by *liberty*; and though he say he means *liberty* from *necessitation*, yet I understand not how such *liberty* can be, and it is taking the question without proof. For what is else the question between us, but whether *such* a liberty be possible or not. [...] And with these *distinctions* his Lordship says he *clears the coast*, whereas in truth, he darkeneth his own meaning not only with the jargon of *exercise only*, *specification also*, *contradiction*, *contrariety*, but also with pretending distinction where none is”. (Hobbes, LN: 241)

Bramhall, again, counters by saying “It is a rule in art, that words which are homonymous, of various and ambiguous significations, ought ever in the first place to be distinguished” (Bramhall, VINDIC: 34). Hobbes, again, retorts: “I know not what art it is that giveth this rule. I am sure it is not the art of reason, which men call logic” (Hobbes, LNC: 61). This sequence of moves is typical of one of the basic areas of conflict in this controversy.

In the course of presenting his own doctrine at the end of LN, Hobbes defines *liberty* as follows: “Liberty is the absence of all impediments to action that are not contained in the nature and intrinsical quality of the agent” (Hobbes, LN: 273). Although Bramhall criticizes this definition (and the water example) early on in his “Vindication” for ascribing liberty also to inanimate creatures he only takes it up again in detail at a fairly late point (Bramhall, VINDIC: 167; No. XXIX). Here he criticizes the form of Hobbes’s definition in two respects: “How that should be

a right definition of liberty which comprehends neither the genus nor the difference” and “how a real faculty, or the elective power, should be defined by a negation, or by an ‘absence’; – is past my understanding, and contrary to all the rules of right reason which I have learned. Negatives cannot explicate the nature of things defined”. This gives Hobbes the opportunity to make two very perceptive remarks on definition. The first remark presents a very modern functional (pragmatic) view of definition: “A right definition is that which determineth the signification of the word defined, to the end that in the discourse where it is used, the meaning of it may be constant and without equivocation” (Hobbes, LNC: 370). He goes on to say that the definition by *genus* and *differentia* “is a good rule where it can be done” (Hobbes, LNC: 371), and he even shows that his definition could be brought into the standard form. As for the use of negation in definitions he declares “... if the word defined signify an absence or negation, I hope he would not have me define it by a presence or affirmation. Such a word is liberty; for it signifieth freedom from impediments” (Hobbes, LNC: 371f.). Hobbes then returns Bramhall’s *ad personam* insinuation of his lack of logical expertise by advising Bramhall “to read some other logic than he hath yet read” (Hobbes, LNC: 372).

4.8.2 *the will and appetite*

Another central term, *the will*, is introduced more or less in passing. In discussing Bramhall’s explanation of what it is *to resolve*, Hobbes criticizes Bramhall’s concept of will and gives his own explanation of what the will is: “If he understand what it is *to resolve*, he knows that it signifies no more than after deliberation *to will*. He thinks therefore, *to will* is to have dominion over his own actions, and actually to determine his own will. But no man can determine his own will, for the will is appetite; nor can a man determine his will than any other appetite” (Hobbes, LNC: 34). Calling the will (an) appetite is a very interesting move, as *appetite* in the 17th century has a number of mainly non-technical uses in the sense of *inclination* or *desire* (especially the desire to satisfy natural necessities), but also a technical use in philosophy in the sense of *natural tendency towards* (said of things).²⁰ So this expression is well-suited to bridge the wide span of objects from inanimate objects to animals and, finally, to man, which is useful for Hobbes’s unified theory of necessity. As this expression is also an established term in the scholastic tradition (Latin *appetitus*, Greek *orexis*), Bramhall obviously has no problem in accepting this definition. In fact, he himself once speaks of the *natural appetite* of a stone (Bramhall, VINDIC: 32). What he does, however, is to introduce a distinction between *rational appetite* and *sensitive appetite*, which is exactly the kind of distinction Hobbes wants to avoid (cf. Hobbes, LNC: 353).

20. The OED gives quotations from Bacon (1626) and Boyle (1667).

4.8.3 *deliberating and imagining*

Another much-discussed concept in this controversy is the concept of deliberation. If to deliberate is a free act then the will is a product of a free act in those cases where the will results from deliberation. If, however, deliberation is causally determined, then the will is also causally determined where it results from deliberation. Hobbes uses a quite ingenious technique to produce the kind of concept of deliberation he needs for his purposes. His technique could be termed the “nothing else but”-stratagem or the “which is the same thing”-stratagem. This is, of course, the basic idiom of reductionist moves. Every time Hobbes uses this idiom, his opponent has to be watchful. The example is as follows:

Secondly, I conceive when a man *deliberates* whether he shall do a thing or not do it, that he does nothing else but consider whether it be better for himself to do it or not to do it. And to *consider* an action, is to imagine the *consequences* of it, both *good* and *evil*. From whence be inferred, that *deliberation* is nothing else but *alternate* imagination of the good and evil sequels of an action, or, which is the same thing, alternate *hope* and *fear*, or alternate *appetite* to do or quit the action of which he *deliberateth*. (Hobbes, LN: 273)

In small steps, Hobbes moves from what looks like a description of mental acts to a description of causally determined happenings. Obviously, Hobbes feels he has to do something about this central Aristotelian concept, both in respect of his own theory-building and for the purpose of persuasion. It is remarkable that two pages later, in a passage where Hobbes explains the reasons for his views, in resuming the concept of deliberation he leaves out the problematic reference to “appetites” etc. and restricts himself to saying: “Now he that reflecteth so on himself, cannot but be satisfied that deliberation is the consideration of the good and evil sequels of an action to come” (Hobbes, LN: 275), a definition which every Aristotelian would accept. This is, again, a subtle move. In passages like these we can actually observe Hobbes working on the consistency and plausibility of his theory. However, Bramhall is not taken in by these moves. His reply is as follows:

If I did not know what deliberation was, I should be little relieved in my knowledge by his description. Sometimes he makes it to be a consideration, or an act of the understanding; sometimes an imagination, or an act of the fancy; sometimes he makes it to be an alternation of passions, hope and fear; [...] So he makes it I know not what. (Bramhall, VINDIC: 164; No. XXVI)

In his reply to point No. XXVII, Bramhall declares that there is nothing but confusion in this description (VINDIC: 164), but he could obviously see quite well what Hobbes was doing at this point.

4.9 Interpreting a biblical text

Reference to biblical texts in this controversy would deserve a study of its own. In this paragraph I shall only mention one particularly interesting way of dealing with biblical texts, namely the interpretation of passages of Scripture.

In order to deal with biblical texts which are unfavourable to his views (which “seem to make against” him) and which are in conflict with the sort of texts which are favourable to his views (which “make for” him), Hobbes tries to “mollify [...] the rigour of the letter [...] with intelligible and reasonable interpretations” (Hobbes, LNC: 10). In another passage, when searching for an acceptable interpretation of biblical passages like the sacrifice of Isaac, Hobbes introduces a distinction between God’s revealed will and the very will of God (Hobbes, LNC: 12).²¹ This move is countered by Bramhall by pointing out that it is a gross error “that he maketh the revealed will of God and His internal will to be contrary to another” (Bramhall, CASTIG: 239). Instead he proposes the distinction of an “antecedent will” and a “consequent will”, “which two wills in God or within the Divine essence are no way distinct” (Bramhall, CASTIG: 239f.). It is not difficult to imagine what Hobbes would have said to this move. These are just two examples of a significant type of move in this controversy.

4.10 Concessions, retractions, reformulations

An important aspect of the pragmatic analysis of controversies is the dynamics of epistemic states, e.g. the way the participants incorporate new information, revise their views and deal with changes of mind. For this kind of analysis moves like concessions, retractions, and reformulations are useful indicators. As for reformulations, I shall give just one example, although I think that a closer inspection of this kind of move might provide interesting results. On one occasion, Hobbes introduces a new concept to clarify his position. When he realizes that he did not satisfactorily distinguish the “extrinsical causes, which determine a man not do an action” and “the extrinsical impediments to action”, he introduces the concept of endeavour and defines *impediment* with the help of *endeavour*: “For impediment or hinderance signifieth an opposition to endeavour” (Hobbes, LNC: 352).²² He does not admit that this is a change in his position, but suggests that this concept was part of his original view and blames Bramhall for “being deceived by a too

21. Incidentally, this move of making a distinction is quite similar to the kind of scholastic move Hobbes criticizes in his opponent.

22. Foisneau (1999: 23ff.) considers this reformulation and the introduction of the concept of endeavour (Latin *conatus*) to be a major development in Hobbes’s theory of liberty.

shallow consideration of what the word *impediment* signifieth”. Bramhall, however, does not accept this improvement and tries to show that “endeavour is not of the essence of liberty” (Bramhall, CASTIG: 430).

As for overt concessions and retractions, they are quite rare in this controversy. On one occasion, when Bramhall detects a fallacy in Hobbes’s argumentation (“A posse ad esse non valet argumentum”), Hobbes admits the mistake but counters straight away that this mistake does not harm his position: “Here he has gotten a just advantage; for I should have said, if it be an agent it worketh, not it can work. But this is an advantage which profiteth little to his cause” (Hobbes, LNC: 426). In his “Answer” of 1680 there is a passage where Hobbes concedes “a fault in the ratiocination, which nevertheless his Lordship hath not discovered, but no impiety” (Hobbes, ANSWER: 315f.). In this case it is obviously better for Hobbes to concede a logical mistake than to be accused of impiety. And, of course, it is a redeeming grace that Bramhall did not *notice* the mistake.

Generally speaking, if there are any subtle changes of position in the course of this controversy, they are not publicly announced by the participants but covertly made, so that a detailed analysis of the possible evolution of the participants’ positions would be a rather complex task which cannot be performed within the limits of this chapter. As for the “official” view presented by the two participants themselves, both of them insist, to the very end of the controversy, on having successfully defended their respective original views.

5. Points of order and communicative principles

5.1 Criticizing logical or dialectical defects

5.1.1 *Diagnosing general lack of competence*

Apart from criticizing logical or dialectical defects in individual cases, the two adversaries now and then also reflect critically on each other’s *general* capability to conduct a well-reasoned controversy. Maybe the most blatant instance of this type of general criticism is Hobbes’s exclamation: “he [i.e. Bramhall] showeth so clearly that he understandeth nothing at all of natural philosophy, that I am sorry I had the ill fortune to be engaged with him in a dispute of this kind” (Hobbes, LNC: 77). Similarly, he declares in his later “Answer”: “My Lord discovers here an ignorance of such method as is necessary for lawful and strict reasoning, and explication of the truth in controversy” (Hobbes, ANSWER: 288). One of Bramhall’s favourite objections to Hobbes’s arguments, on the other hand, is that his arguments are full of internal contradictions and paradoxes: “We commonly see those who delight in paradoxes, if they have line enough, confute themselves, [...]” (Bramhall,

VINDIC: 24); “[...] which is the peculiar privilege of T.H. to make contradictories to be true together” (Bramhall, “The catching of Leviathan”: 533). The fact that Bramhall sees a fundamental inconsistency in Hobbes’s conception of liberty and necessity is one of the central problems of the whole controversy, so that it is not surprising that he frequently claims Hobbes’s propositions to be contradictory. As a matter of fact, in “The catching of Leviathan”, Bramhall devotes a whole chapter (Chapter 3, 575ff.) to demonstrating “that his [i.e. Hobbes’s] principles are contradictory to another”.

5.1.2 *Criticizing individual moves*

As experienced practitioners of traditional logic and dialectics, both authors continually monitor the quality of each other’s reasoning. Their charges of logical and dialectical defects comprise the whole list of traditional fallacies (cf. Hamblin 1970). Among their most frequent charges are *non sequitur* (“this consequence is not good”, Hobbes, ANSWER: 328; “But neither so doth the conclusion follow”, Hobbes, LNC: 210), *ignoratio elenchi* (“[...] he ought to have proved that a man is free to will”, Hobbes, LNC: 55), *petitio principii* (“a plain begging of the question”, Bramhall, VINDIC: 91), and *self-contradiction* (“I observe, first, a contradiction”, Hobbes, LN: 258; “putting together two repugnant suppositions, either craftily or (to be spoken will all due respect) ignorantly, [...]”, Hobbes, LNC: 101). On several occasions Hobbes charges Bramhall with not offering any proof at all (e.g. Hobbes, ANSWER: 292f.). Similar criticism is offered by Bramhall: “Hath he never heard, that to propose a doubt is not to answer an argument? ‘Nec bene respondet qui litem lite resolvit.’ But I will not pay him in his own coin” (Bramhall, VINDIC: 67).

Now, all this is certainly very much part of the normal game of disputation, but still the frequency of charges of irrelevance and inconsistency points towards definite problem areas in this controversy: For Hobbes, many of Bramhall’s arguments appear irrelevant because they are designed to show that man is free to act, which Hobbes does not deny, and not to show that man is free to will, which, according to Hobbes, is what Bramhall should try to prove and cannot prove, because it is nonsense. On the other hand, Bramhall cannot accept Hobbes’s basic assertion that man is free to act, but not free to will, because in his view this is simply contradictory.

5.1.3 *On misrepresenting the opponent’s position*

There are various ways of misrepresenting an opponent’s position, of which I shall only mention two, viz. misquoting his own words and quoting his sentences out of context. Hobbes on several occasions complains of Bramhall’s misquoting his position: “I must also note, that oftentimes in citing my opinion he puts instead of mine, those terms of his own, which upon all occasions I complain of

for absurdity” (Hobbes, LNC: 293, cf. 294, 311, 327). Characteristically, this form of misquotation concerns central points of the controversy: “Here again he [i.e. Bramhall] makes me speak nonsense. I said, ‘the man chooseth of necessity’; he says I say, ‘the will chooseth of necessity’. At this point, Hobbes also gives an interesting diagnosis of this tendency of Bramhall’s: “And why, because he thinks I ought to speak as he does, and say as he does here, that ‘election is the act of the will’. No: election is the act of a man, [...]” (Hobbes, LNC: 294f.). So, according to Hobbes, misquotation in these cases is not accidental. It is an indicator of the impossibility or the unwillingness to use or even to understand the opponent’s vocabulary and way of speaking.

As for the problem of taking statements out of their context, Hobbes bitterly complains about Bramhall’s practice in dealing with his “Leviathan”:

The late Bishop of Derry published a book called *The Catching of the Leviathan*, in which he hath put together divers sentences picked out of my *Leviathan*, which stand there plainly and firmly proved, and sets them down without their proofs, and without the order of their dependance upon one another; and calls them atheism, blasphemy, impiety, subversion of religion, and by other names of that kind.

(Hobbes, ANSWER, “To the Reader”: p. 1)

5.2 Distribution of the burden of proof

According to the traditional rules of disputation, the opponent has the burden of proof, which can be a disadvantage, as it can be easier to refute objections to established opinions than to provide evidence for new claims. As mentioned earlier, in this controversy Hobbes plays the role of innovator who often opposes established scholastic positions as well as generally accepted views. For the pragmatics of the controversy this means that Hobbes is frequently made to bear the burden of proof: “He is no old possessor, but a new pretender, and is bound to make good his claim by evident proofs” (Bramhall, VINDIC: 156). In this context, Hobbes’s efforts at demonstrating the incomprehensibility of Bramhall’s views can be seen as attempts to shift the burden of proof: What is incomprehensible is a fortiori not common knowledge and therefore needs proof. On the other hand, as mentioned at the beginning of this chapter, Bramhall makes a principle of formulating as many objections as possible to Hobbes’s position, which is a typical strategy of the opponent in a disputation. In this constellation, it is not surprising that frequently “the battle is about what has to be proved and by whom” (Marcelo Dascal, personal communication).

5.3 The principle of relevance

As I already mentioned in paragraph 5.1.2, both authors claim again and again that certain arguments, objections, and examples provided by their opponent are “impertinent”, i.e. irrelevant. This is certainly an indicator of fundamental difficulties in the controversy. The appeal to the principle of relevance very often occurs in the context of fixing or clarifying the topic of the controversy. Hobbes frequently complains that Bramhall never tackles the relevant questions, as in the following passage: “[...] that the will, from whence those actions and their election proceed, may have necessary causes, against which he hath never yet said anything” (Hobbes, LNC: 262). Or similarly: “and that raving which followeth immediately after it, is nothing to do with the question, *whether the will be free* though it be to the question, *whether the man be free*” (Hobbes, LNC: 260). The same move is made by Bramhall when he accuses Hobbes of “impertinence”: “To what proposition, to what term is this answer? He neither denies nor distinguisheth. First, the question here is not what makes actions to be unjust, but what makes laws to be unjust. So his answer is impertinent” (Bramhall, VINDIC: 88f.). And similarly: “And his two instances, of casting ambs-ace, and raining to-morrow, are altogether impertinent to the question now agitated between us: for two reasons [...]” (Bramhall, VINDIC: 181).

5.4 The principle of perspicuity

The principle of perspicuity is a traditional principle of rhetoric which both authors obviously accept. Generally, they aim at presenting their views to their readers clearly arranged and comprehensibly. Some of the means used by the authors for the purpose of creating a surveyable text will be mentioned in paragraph 6. It is a remarkable fact that – for 17th century authors – they use comparatively little Latin vocabulary and quotations. Even Bramhall resists the temptation most of the time, although he does intersperse a Latin quotation or an allusion to classical authors now and then. This gives an indication as to the kind of readers they had in mind. There is, however, one standard complaint, which Hobbes makes concerning lack of perspicuity, viz. that Bramhall uses expressions which belong to scholastic *jargon* and are, therefore, incomprehensible to the reader. “For in the examination of truth, I search rather for perspicuity than elegance. But the Bishop with his School-terms is far from perspicuity” (Hobbes, LNC: 325). In this passage, Hobbes criticizes lack of perspicuity, whereas in other places, as I mentioned before, he criticizes the use of such expressions for being conceptually unsound and for producing sheer nonsense, which, of course, is also incomprehensible.

5.5 The principle of completeness

Both authors are aware of and basically accept the principle of completeness, which is most obvious in their meticulous adherence to the procedure of point-by-point refutation of arguments. The power of this principle lies in the fact that someone who fails to take up a topic that has been raised will be seen as having lost a point in the disputation game, and of course nobody wants to lose a point. In accepting this they are typical representatives of the 17th century tradition of disputation. This is shown, for example, by Bramhall's complaint at the end of his "Castigations": "He hath passed over a great part of my Defence untouched: but I have not omitted one sentence throughout his Animadversions, wherein I could find a grain of reason; and among the rest, have satisfied his silly censures or ignorant exceptions in their proper places" (Bramhall, CASTIG: 505). This criticism is not quite fair, as Hobbes in fact attends very diligently to most of Bramhall's arguments. In those cases where he does not reply, he mostly exonerates himself by declaring that the answer to be given is the same as that given to an earlier argument.

Adherence to this principle not only generates very long and complex texts, in some cases it also conflicts with the principle of relevance. It often side-tracks the authors, drawing them into all kinds of secondary and tertiary disputes, where they still feel they have to score points. There are, for instance, a number of cases where an author first claims that a certain argument is irrelevant and then goes ahead to refute it nevertheless.

5.6 The principle of non-repetition

There is a great deal of repetition in this controversy, and there are also numerous complaints about repetition. Part of this repetition is due to the principle demanding complete refutation (cf. 5.4). However, the striking amount of repetition is certainly not just a superficial property of this controversy, but, at least partly, it is a symptom of focal problems, e.g. the problem that Bramhall and Hobbes do not see eye to eye in fixing the *status controversiae* and the fact that in this controversy there is a confrontation of two completely different types of theoretical world-view.

Both authors time after time complain of repetition in the opponent's arguments, e.g. Bramhall complains that Hobbes "sings over his old song" (Bramhall, VINDIC: 114) and "then he betakes himself to his old help" (Bramhall, VINDIC: 115). Similarly: "Some authors are like those people, who measuring all others by themselves, believe nothing is well understood until it be repeated over and over again" (Bramhall, CASTIG: 227). On the other hand, Hobbes in a number of cases refuses to repeat his earlier answers to Bramhall's objections: "To which the answer is the same with that I answered to the former places" (Hobbes,

LNC: 96); “The same answer is to be given to ...” (LNC: 154); “... the same answer serves that to the former ...” (LNC: 155); “[...] hath been urged and answered already divers times” (LNC: 238).

5.7 Principles of politeness

The disagreement between the two opponents was obviously not just a matter of incompatible propositions but of profound differences of attitude. This becomes manifest in frequent face-threatening moves and in signs of open hostility. Among these face-threatening moves there are also those cases where the opponents accuse one another of compromising fundamental principles of fairness and rationality.

On several occasions, Hobbes appeals to principles of civil conduct: “[...] certainly it would have been cause enough to some civil man, to have requited me with fairer language than he hath done throughout his reply” (Hobbes, LNC: 36). “Secondly, for the manners of it, (for to a public writing there belongeth good manners), it consisteth in railing and exclaiming and scurrilous jesting, with now and then an unclean and mean instance” (Hobbes, LNC: 448). Hobbes, on various occasions, also accuses Bramhall of using unfair means, e.g. when he complains “What damned rhetoric and subtle calumny is this?” (LNC: 103) and “[...] he would fraudulently insinuate [...]” (LNC: 189) or “This is one of his pretty little policies” (LNC: 146).

A typical move in this context consists in contrasting the proper rational conduct in a controversy – i.e. giving arguments *sine ira et studio* – with mere *railing*, i.e. uncontrolled emotional upheaval: “To the end of this number there is nothing more of argument. The place is filled up with wondering and railing” (Hobbes, LNC: 114), “The rest of this number is but railing” (Hobbes, LNC: 147). Bramhall repays these accusations with counter-accusations of the same type. He is, of course, particularly annoyed with Hobbes’s permanent linguistic and conceptual criticism, which he considers mere cavilling: “Here he cavilleth about terms of actual and virtual deliberation, as his manner is” (Bramhall, CASTIG: 433).

At the end of his summary of LNC, Hobbes obviously considered it necessary to remark on the sometimes rather acrimonious tone of his pamphlet:

But whatsoever be the truth of the disputed question, the reader may peradventure think I have not used the Bishop with that respect I ought, or without disadvantage of my cause I might have done; for which I make a short apology.
(Hobbes, LNC: 453)

In this “apology” he explained that not only Bramhall but also others “in their books and sermons, without answering any of my arguments, have not only exclaimed against my doctrine, but reviled me, and endeavoured to make me hateful

[...]”, wherefore he “thought it necessary at last to make of some of them, and first of this Bishop, an example” (Hobbes, LNC: 454f).

Generally speaking, the tone of the controversy changed when the opponents went public.²³ As Hobbes himself noted, “[...] in our verbal conference there was not one passionate word, nor any objecting of blasphemy or atheism, nor any other uncivil word; of which in his writing there are abundance” (Hobbes, LNC: 22).²⁴ Although Hobbes in this passage complains about lack of civility in Bramhall’s early treatise, it is in fact quite noticeable that it is with Hobbes’s LNC and Bramhall’s “Castigations” that the amount of harsh and hurtful remarks noticeably increased.

6. Creating structure in the controversy

In view of the complexity of the topics involved, the opponents soon realize that they have to do something about creating structure in the controversy and providing textual organization, thereby making the controversy more accessible to their readers. I shall now show some of the measures taken to improve order and perspicuity. It is worth noting that some of these measures have other functions as well.

Starting with Hobbes’s LN, this is a fairly short and simply structured text, which is already built upon the structure of Bramhall’s “Discourse of Liberty and Necessity”. After the epistle to the reader, Hobbes follows Bramhall’s discourse point by point, starting with the preface and Bramhall’s preliminary “distinctions” and taking up Bramhall’s division of arguments taken from Scripture and those taken from reason. This division into two continues as a structural element for the rest of the controversy. There follows a section on further distinctions made by Bramhall. In the final portion of LN, Hobbes adds, as a new structural element, a short statement of his own doctrine and his reasons for this doctrine. So we have in LN two functionally differentiated parts, a part devoted to the refutation of Bramhall’s position and a part devoted to the statement of Hobbes’s own theory. This structural property carries over into the rest of the controversy, as the further contributions of Bramhall and Hobbes are always modelled on this structure, using the point-by-point procedure. Seen from a structural point of view, this

23. This was also observed by Jackson (2007: 202f.).

24. Bramhall refused to accept this accusation: “Neither am I guilty (that I know of yet) so much as of one “uncivil word”, either against Mr. Hobbes his person, or his parts. He is over unequal and indulgent to himself; who dare assume the boldness to introduce such insolent and paradoxical opinions into the world, and will not allow other men the liberty to welcome them as they deserve” (Bramhall, CASTIG: 250).

sequence of functional elements is a bit unfortunate for the further proceedings, as the refutation of refutations now always precedes the more systematic discussion of Hobbes's position. So, for instance in LNC, from point XXV onwards many questions are taken up again in a more systematic fashion which had already been dealt with in piecemeal fashion throughout the earlier refutation parts. And readers have to be very patient to get as far as point XXV.

In the following pamphlet, his "Vindication", Bramhall introduces a very useful device, viz. the division into points and the numbering of points from I to XXXVIII. This system of 38 points, which is also presented in the table of contents, is kept up until the end of the controversy. Bramhall also introduces a further highly interesting feature by placing next to each other, for every single point, his original statement, Hobbes's answer and his own reply. Without doubt, this method is based on the traditional disputation rule that before making one's own contribution one should formulate the *status controversiae*. The point of this procedure is, according to Bramhall, that it permits the reader to "compare plea with plea and proof with proof" (Bramhall, CASTIG: 506) and to judge for himself what the truth is. "It is a certain rule, 'contraries being placed one besides another, do appear much more clearly.' He who desires to satisfy his judgment in this controversy, must compare our writings one with another without partiality, the arguments and answers and pretended absurdities on both sides" (Bramhall, CASTIG: 226).

Apart from permitting the reader to compare the opinions and arguments of the authors point by point, this textual strategy also serves to highlight the dialogical structure of the controversy, as it is presented to the reader (cf. Fritz 2003).

In LNC, Hobbes's takes over this tripartite structure for each of the 38 points, adding his own "Animadversions upon the Bishop's reply" and thereby presenting a four-part dialogic exchange for each of the points. As an example of this technique, I present a slightly abbreviated version of the exchange for point no. XVII:

J.D. [i.e. Bramhall] "Fifthly, take away liberty and you take away the very nature of evil, and the formal reason of sin. [...] Therefore it appears, both from Scripture and from reason, that there is true liberty."

T.H. To the fifth argument from reason, which is, that if liberty be taken away, the nature and formal reason of sin is taken away, I answer by denying the consequence. [...] And thus you have my answer to his objections, both out of Scripture and reason.

J.D. [...] it seems T.H. thinks it a more compendious way to baulk an argument, than to satisfy it. [...] But it will not serve his turn. And that he may not complain of misunderstanding it [...] I will first reduce mine argument into form, and then weigh what he saith in answer, or rather in opposition to it. [...]

Animadversions upon the bishop's reply no. XVII

Whereas he had in his first discourse made this consequence: “If you take away liberty, you take away the very nature of evil, and the formal reason of sin”: I denied that consequence. It is true he who taketh away liberty of doing, according to the will, taketh away the nature of sin; but he that denieth the liberty to will, does not so. But he supposing I understand him not, will needs reduce his argument into form, in this manner. (a) “That opinion which takes away the formal reason of sin, and by consequence, sin itself, is not to be approved.” This is granted. “But the opinion of necessity doth this. This I deny; [...]” (cf. Hobbes, LNC: 228–233)

In Bramhall’s following pamphlet, his “Castigations”, he continues the 38-point structure. However, he leaves out the earlier phases of the controversy and restricts himself to reprinting Hobbes’s “Animadversions” and adding his own “Castigations of the Animadversions” to each point.

Another useful addition to the text of his “Castigations” is a highly detailed table of contents, which gives a good survey of the topics dealt with in this controversy. It is worth noting that the table of contents is not always neutrally formulated. For example, in giving a survey of his contribution to the point XVII mentioned above Bramhall writes “Yet further against his silly distinction, – free to do if he will, not free to will” (Bramhall, CASTIG: 204). So the table of contents also functions as an advertisement of the success of Bramhall’s contributions to the controversy.

Apart from these major efforts in structuring the controversy there are also smaller functional elements contributing to the organization of the thematic material, e.g. Hobbes’s list of four “fountains” from which the arguments of the dispute are drawn, i.e. “(i) From authorities, (ii) From the inconveniences consequent to either opinion, (iii) From the attributes of God, (iv) From natural reason” (Hobbes, LNC: 5). Hobbes also provides short summaries of the controversy in several places, e.g. in the passage on “the fountains of argument in this question” (LNC: 5ff.) and at the end of LNC (450–453). Of course, this summary is also not unbiased. Bramhall complains that Hobbes draws it up “very confusedly, most imperfectly, and in part falsely” (Bramhall, CASTIG: 505). Another element of thematic structure is introduced by Hobbes’s division of places of Scripture into three groups, such “that make for me”, such “that make equally for the Bishop and me”, and such that “seem to make against me” (Hobbes, LNC: 6–10).

A minor, but quite important element of explicit textual management is the frequent use of indicators for the beginning and ending of functional units like arguments or the use of indicators of topic management like expressions indicating the beginning and ending of digressions. The following are examples of these types of indicators taken from Hobbes’s “Answer”:

Let us now see how he proves incorporeity by his own reason without Scripture. [...] Here ends his Lordship's School-argument; now let me come to my Scripture-argument. (Hobbes, ANSWER: 306)

In this place I think it not amiss, leaving for a little while this theological dispute, to examine the signification of those words which have occasioned so much diversity of opinion in this kind of doctrine. [...] Thus far in explication of the words that occur in this controversy. Now I return to his Lordship's discourse. (Hobbes, ANSWER: 308/312)

So, generally speaking, although the controversy is highly complex and voluminous, there are quite a number of functional elements which contribute to creating structure and perspicuity.

7. Rhetoric and dialectics

An aspect of this controversy which I can only touch upon, but which would deserve detailed attention, is the display of rhetorical expertise by the opponents. As educated controversialists, both opponents rely on traditional rhetoric as part of their basic dialectical equipment. Among the rhetorical devices used in these texts there is irony, word-play, hyperbole, metaphor, anaphora, and there are volleys of rhetorical questions, a favourite device of Bramhall's, probably derived from the rhetoric of sermons. We also find the authors using figures like *praeteritio*, making digressions, and following the principle of gradation and similar principles of text structure. I can only provide a few examples here from Bramhall's texts to give an idea of the rhetorical flavour of much of this controversy.

Judge, then, what a pretty kind of liberty it is which is maintained by T.H. [...] Is not this a childish liberty? [...] This is a brutish liberty. [...] Is not this a ridiculous liberty? [...] Such is T.H. his liberty. (Bramhall, VINDIC: 28f.)

How shall a man praise God for His goodness, who believes [...]? How shall a man hear the word of God with that reverence and devotion and faith which is requisite, who believeth [...]? How shall a man receive the blessed Sacrament [...], who believeth [...]? How shall a man condemn and accuse himself for his sins, who thinks [...]? (Bramhall, VINDIC: 105)

I have perused this treatise, weighed T.H. his answers, considered his reasons; and conclude that he hath missed and misted the questions, that the answers are evasions, that his arguments are paralogisms [...]. (Bramhall, VINDIC: 24)

In the last example, Bramhall adds the word-play "missed and misted the questions" to the cumulative effect brought about by the iteration of the same grammatical

construction, which is also characteristic of the other passages. Quite obviously, these rhetorical devices do mostly not function as a decoration (“ornatus”), but serve important functions in the presentation of arguments. In the cases quoted before, one of the main dialectical functions is to display the repertoire of arguments used and to summarize the aspects of criticism which are brought to bear on the topic at hand. Generally speaking, rhetorical devices like the ones mentioned in this section tend to accumulate in passages where detailed arguments are either being prepared or summarized. Irony, word-play and the like are part of the aggressive weaponry of the opponents, which comes into play where the usefulness of *de re* arguments seems to be exhausted.

8. The outcome of the controversy

What the outcome of this controversy was, is hard to say. There is definitely no resolution. Hobbes’s advertisement on the title page of LN was certainly premature: “Of Liberty and Necessity: A treatise wherein all controversy concerning predestination, election, free-will, grace, merits, reprobation etc. is fully decided and cleared”. And Bramhall’s claim on the title page of his “Castigations” – “wherein all his [i.e. Hobbes’s] exceptions about the controversy are fully satisfied” – did probably not take in an unprejudiced reader either. These statements were just the typical poses of victory we frequently find in contemporary pamphlets (cf. Gloning 1999: 101f.).

Even if Bramhall had lived longer to continue the controversy, it is doubtful if a resolution of the conflict would have emerged. There is reason to suspect the contrary. There are, for instance, many places where there are characteristic signs of a stalemate, e.g. when Hobbes claims that “one answer serves all such places, if they were a thousand” (Hobbes, CLN: 76) and Bramhall counters by saying “This answer being the very same with the former, word for word, which hath already sufficiently been shaken in pieces, doth require no new reply” (Bramhall, VINDIC: 44). These are clear symptoms of non-resolution. Towards the end of the dispute, Bramhall presents a rather disillusioned view of the degree of understanding reached in the course of the controversy: “[...] we agree not much better about the terms of the controversy, than the builders of Babel did understand one another’s language” (Bramhall, CASTIG: 209). However, what Bramhall says a few pages later is surely also true: “Yet from our collision some light hath proceeded towards the elucidation of this question” (Bramhall, CASTIG: 211). Certainly this controversy was a great opportunity for Hobbes to test his theory under difficult conditions and to shape and sharpen his views, even though he did not even start to convince Bramhall. So what could be considered an outcome of this controversy

is a clearer view of the ramifications of the question of free will and its conceptual geography, both for the two adversaries and for their readers.

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Old and new medicine

The Gehema/Geuder controversy over medical practices (1688/89)

Gerd Fritz and Thomas Gloning

1. The controversy, its context, and its relevance

In 1688, Janus Abrahamus à Gehema published an acrimonious attack on traditional medical practices in a pamphlet written in German. It was addressed both to medical specialists and to “the public”, the general reader. Among other things, the author dealt with bloodletting, purging, the use of potions in the tradition of humoral medicine and with what, in his view, were negative consequences of these healing practices. Characterizing his attack in a nutshell, he called these practices the use of *murderous means* (“Mord-Mittel”). A year later, his counterpart in the controversy, Melchior Friedrich Geuder, published his answer to Gehema’s accusations, in which he tried to defend traditional practices. Despite the fact that Geuder was not at all happy with the use of German in matters of medicine, he also published his refutation pamphlet in German.¹

The typically baroque title pages of the two pamphlets are symmetrically organized as a result of the antagonism of the positions. Geuder mirrors Gehema’s title by opposing “healing medical life-preserving means” (“heilsame Medicinische Lebens=Mittel”) to Gehema’s “murderous medical means” and promises a thorough account (“Gründlicher Bericht”) of the therapeutic means decried and thoroughly rejected (“sehr verschreyt und verworffen”) by Gehema, answering his arguments against them briefly and modestly (“kürztlich und bescheidenlich”). Gehema, on the other side, promises to present the various therapeutic means, with which “careless cure and healing masters” (“Unbedachtsame Geneß= und Heilmeister”) pitifully lead thousands of innocent people from life to death (“jämmerlich vom Leben zum Tode helfen”). Although Gehema has the tendency to generalize, in

1. Gehema’s and Geuder’s pamphlets are available as digital facsimiles at www.digitale-sammlungen.de of the Bayerische Staatsbibliothek, Munich.

this case he makes an exception from the set of physicians he castigates, namely “honest practitioners” (“rechtschaffene Practici”, Gehema: Title-page).

Graufame
Medicinische
Mord-Mittel
Aderlasse/ Schröpffen/Purgi-
ren/ Clistiren/ Zuleppen/ und Ohn-
macht-machende Hertzhstärkungen/
Wodurch
Unbedachtsame Genes- und
Heilmeyster (nicht rechtschaffene Pra-
ctici) so viel tausend unschuldige Men-
schen jämmerlich vom Leben zum Tode
helffen.
Stellet allen vernünftigen Leuten gewis-
senhaftig für Augen
Janus Abrahamus à Gehema,
Eques, Med. Doct.
Phædrus lib. 3, fab. 10.
Exploranda est veritas, multum prius,
Quam stulta pravè judicet sententia.

Bremen/
Beydruckt im Jahr Christi 1688.

Heilsame
Medicinische
Lebens-Mittel
Denen graufamen
Medicinalischen
Mord-Mitteln /
Herrn D. Jan. Abrah. à Gehema
Entgegen gesetzt.
Oder
Bründlicher Bericht
Von
Denen von Hrn. D. Gehema
Sehr verschreyten und ver-
worfenen Mitteln/
In welchem deren Nothwendigkeit / rechter
Gebrauch / und darauß erwachsender
Nutzen vorgestellt/
Vornehmlich aber die von erstermeltem
Auctore darwider angeführte Argumenta
fürzlich und bescheidenlich beantwor-
tet werden
Von
Melchior Friedrich Geuder / der
Ärney Doctorn und Practico in
Stuttgard.
M 24 / In Verlag Georg Wilhelm Köhn / 1689.

Jan Abraham à Gehema (1647–1715) and Melchior Friedrich Geuder² were both medical doctors, professionally grounded in different branches of the medical practice of their time. Hence, the questions under discussion were not solely theoretical points of controversy, but were connected to therapeutic tasks and in a wider sense to matters of social responsibility. Their dispute over specific forms of therapy is deeply rooted in fundamental claims about the duties of physicians. Therefore, this controversy highlights core questions of medical practice, questions of theory development and of the professional ethics of medical men.

The Gehema/Geuder-controversy is not an isolated phenomenon. Firstly, it is a specimen of reformist debates that loomed large in the 17th century. The 17th century is a century of lively controversies in many fields of human knowledge,

2. Geuder studied medicine with E. R. Camerarius (1641–1695) at the University of Tübingen in Southern Germany and, at the time of the publication of his pamphlet, practiced medicine in Stuttgart, the capital of the Duchy of Württemberg. He published his “Dissertatio inauguralis” in 1686, so he must have been quite a bit younger than Gehema.

from philosophy and theology to the various sciences. In many cases the main front line was the conflict between traditionalists and modernists or, as it was often termed, between the “ancients” and the “moderns”. In our case study on Hobbes and Bramhall in this volume we found this type of confrontation between the philosopher Hobbes and his opponent Bramhall, and the present case study analyses a controversy in the field of medicine that shows this confrontation in a particularly conspicuous form.³ Judging by his frequent use of expressions like *rational* (e.g. “aus einer rationalen Praxi”, Gehema: 33), Gehema saw himself as a representative of (early) Enlightenment rationalism.

Secondly, the Gehema/Geuder-controversy can be seen as a part of the vernacular branches of discussions over the reformist medical agenda of Joan Baptista van Helmont. For the purpose of giving an idea of the flavour of this kind of controversy it will be helpful to have a look at the protagonist of these medical controversies and his basic strategies. Joan Baptista van Helmont (1579–1644) was a Flemish scientist who studied philosophy, mathematics, astronomy, law, herbal medicine, some mystical writers and finally (traditional) medicine, taking the degree of Medical Doctor at the University of Louvain. He then traveled widely in Europe and finally retired to his country estate near Brussels, where he dedicated himself to biological and chemical experiments, at the same time practicing as a physician.⁴ In the course of his studies, reading the classical texts of science and medicine in particular, he reached the conviction that most of the traditional lore in natural science and medicine was misguided and useless and that a fundamental reform was necessary. It is not surprising that he was embroiled in controversy early on in his career and was even prosecuted by the Spanish inquisition. His collected works were published by his son after Van Helmont’s death in 1648 under the title of “Ortus Medicinae” (‘The rise of Medicine’) with the subtitle “Progressus medicinae novus” (‘New progress of medicine’). His work was translated into English in 1662 (“Oriatrike, or Physic refined”) and into German in 1683 (“Aufgang der Artzney-Kunst”). Both the original Latin edition and the

3. Studies of medical controversies within historical pragmatics are still scarce – but cf. Ratia (2011), Salager-Meyer/Zambrano (2001), Ratia/Suhr (2011).

4. Information on Van Helmont’s biography can be found in the second chapter of his “Ortus Medicinae” with the title “Studia Authoris” and the excellent monograph on Van Helmont by Walter Pagel (1982). Pagel also discusses in detail Van Helmont’s positive contributions to biology and “chemical” medicine, e.g. his discovery of the role of acids in digestion and his study of “fermentation”. On 17th century debates on chemistry and medicine, cf. Debus (1977); cf. also Partington (1936).

English and German editions sparked controversies, of which we shall analyze one of the German threads in this chapter.⁵

In order to understand the strong reaction of traditional medical men against Van Helmont's views it is useful to have a look at part of the network of topics that was included in his attacks against traditional science and medicine and at the polemical character of his attacks.

In the first passages of his book we find the following attacks against traditional scholastic doctrines, often called the doctrines of "the schools", which we shall quote from the English translation (Van Helmont 1662: 1). The first sentence of his first treatise runs as follows: "I Will shew the Errours of the Schooles, about things which they have rashly judged to be the fundamentals or ground-works of nature; [...]". And further down the page he states his general aim as "to destroy the whole natural Phylosophy of the Antients, and to make new the Doctrines of the Schools of natural Phylosophy". His fundamental objection against scholastic science targeted the Pre-Socratic assumption that the world was based on four elements, earth, water, air and fire. And as for the foundations of (human) biology, his attack was aimed at the doctrine, traced back to Galen, the 2nd century AD physician, and his forerunners that the constitution of the body is founded on the presence of four fluids, called humours, which appear in various mixtures ("complexiones"), and which cause illnesses if their balance is disturbed: "I will also teach, that the four humours are frivolous, and whatsoever has hitherto been attributed to them, hath been devised by the Heathens" (Van Helmont 1662: 1).

As opposed to the view that the imbalance of humours causes diseases he takes the (modern) view that diseases are caused by the intrusion of external elements into the body. It is typical of Van Helmont's view that the errors of the ancients were essentially brought about by the fact that these men were heathens, who lacked the inspiration of the Christian belief. Apart from this lack of proper inspiration the ancient physicians (and their followers), according to Van Helmont, also lacked Christian charity and practised their profession mainly for reasons of greed.⁶

The next point Van Helmont made was that the errors involved in the wrong doctrine of humours directly lead to errors in diagnostics and therapy: "Wherefore, that vain are the meditations of Complexions, as well in temperate as in intemperate bodies" and "... also that the Lessons touching laxative Medicines, supposing the Elections or seperations, with drawings and lessenings of humours, are false". And what was true of purging by laxatives also applied to bloodletting, a favourite therapy used by Galenic physicians. As for medication, he criticized the as-

5. Wear (2000) provides a study of the English thread of the controversy around Van Helmont's medical theories and his methods of medication and medical treatments.

6. On medical ethics in the 17th century, cf. Wear (2003).

sumption that the effect of medicines was based on them being either humorally “similar” or “dissimilar” to the cause of the illness: “that Medicines and healing Remedies may be appointed, not by contrarities, nor by alike things ...”. Therefore, he promised to explain “The value of Medicines, and also the abuse of Physicians, on both sides, for Charities sake”. Among medicines he particularly emphasized the value of chemical preparations, as opposed to mere herbal medicine.⁷

Now this fundamental criticism was not just an attack on doctrines from ancient history. Concerning his contemporaries, Van Helmont specifically condemned them for their laziness in remaining with the received wisdom of the ancients instead of following modern science. From these programmatic statements on the first page of his book we can extract the topics that structured the controversies around Helmontian medicine:

- i. the conflict concerning the status of the humoral doctrine,
- ii. the conflict concerning the appropriate methods of diagnostics and therapy,
- iii. the conflict concerning the discovery and preparation of efficient medicines,
- iv. ethical (and religious) problems of the medical profession (including matters of laziness, hypocrisy and greed).

At the same time, Van Helmont’s rather direct and often searing criticism sets the tone for many of the contributions to the controversies sparked by his writings and those of his followers. So the stage was set for a controversy that started, probably not by coincidence, in 1688, only a few years after the publication of the German translation of Van Helmont’s “*Ortus Medicinæ*”.

In the present case study we shall concentrate on the following aspects of the pragmatic organization and the language use of the controversy. Firstly, we shall investigate the reflexive comments made by the authors on the use of German as a language of publication in medical matters (Section 2). Secondly, we shall analyze a broad range of aspects of the pragmatic organization of the two pamphlets, including types of moves and strategies, questions of topic management, and the role of communication principles for scientific discourse. We shall begin by analyzing Gehema’s pamphlet (Section 3) and continue with a parallel analysis of Geuder’s response (Section 4). Finally, we shall conclude with some observations on the dynamics and the result of this controversy (Section 5).

7. The opponents of Helmontian medicine were often annoyed at the fact that Helmontians tended to keep secret the recipes of their chemical preparations and insisted on preparing and selling their medication themselves. As we shall see, this objection was also made by Geuder with respect to Gehema’s cures, which the latter mentioned, but did not specify (Geuder: 113).

2. Writing medical pamphlets in German: The vernacular strategy

Until late in the 18th and well into the 19th century, the language of scientific communication in medicine was Latin. Certainly, there were vernacular texts on medical subjects since the Middle Ages, but for the most part they were not used among “scientists” for specific purposes *within* the medical field, rather they were used for an audience with no or only a limited command of Latin. Hence, the use of the German language in our controversy has to be considered as a strategic choice on both sides.

Gehema uses the German language in this pamphlet without explaining his reason for writing in German. There are no reflexive passages where Gehema “defends” or otherwise comments on his use of German like Geuder does in his rejoinder. Looking at other published works of Gehema, most of them were written and published in German. However, he wrote at least one short Latin medical treatise (Gehema 1683). In a small booklet published in 1689 (“Zeit-Vertreib”), he comments on his choice of language: Starting from the assumption that he would normally be expected to publish his work in Latin, he defends his choice of the German language by pointing out (part of) his intended audience, namely the mixed population of cities like Danzig (his native town) which comprised old noble families and scholars, but also many tradesmen and financiers, who in his eyes might not be very familiar with learned practices (“als welche von Jugend auff mehr bey dem Kauff-Handel und einer vernünfftigen Buchhaltung als den *studiis* erzogen”; Gehema 1689: A5a).

Furthermore, the use of the vernacular language fits well with the attitude of a reformer that Gehema seeks to transfer from the field of religion to medicine.⁸ Like Luther used German to disseminate his reformation project to the common man, Gehema appeals to the interests of the common man in the realm of medicine. Like in the “Dark Ages” of religion before the reformation, according to Gehema, the well-being of the unlearned patients (“einfältige Patienten”, Gehema: 65.7f) was sacrificed by the learned doctors with their financial interests and their commitment to the darkness of old medical traditions. Certainly, Gehema shows his familiarity with Latin learned culture by quoting specialist and literary texts in Latin, but usually (with some exceptions) he provides a German translation that follows the original quote with a linking element like “das ist” (*that*

8. It is interesting to note that Van Helmont attributed to the vernacular a particular status as a vehicle of human insight. It is therefore not surprising that he originally wrote his treatises in Dutch. However, this Dutch edition was only printed much later than the Latin version and was, of course, much less influential.

is, *which means*). From all these indications it is clear that Gehema's use of German for his attack is a strategic choice.⁹

Geuder, by contrast, says that he would not normally answer Gehema's pamphlet at all, let alone use the German language in a specialist exchange in the field of scientific medicine. In fact, Geuder published a longish Latin treatise on fermentation in various body parts of animals in the same year 1689.¹⁰ However, since he thought that a response was necessary, he tries to justify his use of the German language in responding to the pamphlet of Gehema. From his kind of justification, we can gain important insights about language preferences in scientific medicine by the end of the 17th century and about the personal constellations within and beyond science. In a lengthy passage, Geuder writes:¹¹

Maybe some of my readers will be surprised that I should invest the time and the effort to answer the small treatise by Dr Gehema mentioned above (...). This, I suppose, will appear strange especially to some of my good friends who know that I am not particularly in favour of books on medicine written in German and that I had made up my mind never to publish something of the kind. It is certain that had Dr Gehema written his treatise in Latin, nobody would have bothered to refute it because apart from experts in such matters, who would disregard such disparaging remarks, probably no one would have read it anyway. As, however, it was written in our mother tongue, for many readers who were hardly or not at all informed about these matters, and as the matter was presented so cruelly and in an odious fashion, so that some people might develop an unfavourable attitude towards honest medical men who used some of the drugs rejected by him, for example on a patient who, for special reasons of his own constitution and not as a consequence of the use of this particular drug, may have died, and as, furthermore, this treatise sold well and was quite positively received by several people, I found it necessary to examine the matter and present it correctly and thoroughly, using for my part our noble mother tongue, in order that some people might be relieved of their doubtful and negative thoughts they might have faced and that the honour of our noble medical art and that of many capable medical men may be somewhat upheld.

Es wird sich vielleicht einer und der andere verwundern/daß ich mir die Zeit vnd Müh nehme/obenberührtes Herrn Doct. Gehemae Tractätlein zu beantworten (...)
Sonderlich wird es einige meiner guten Freunde befremden/welche wissen/daß ich

9. It is worth noting that around the same time Christian Thomasius started giving university lectures in German, first at the University of Leipzig (1687) and later in Halle.

10. "Diatriba de Fermentis [...]" (Amsterdam 1689).

11. Here and below, we shall quote the texts by first providing an English translation followed by the German original (in italics).

vielen in Teutscher Sprach geschriebenen Artzney-Büchern nicht allzugewogen/und daß ich mir vorgenommen/nimmermehr etwas/so in Teutscher Sprach geschrieben/ in den Truck zu geben. Dieses ist gewiß/daß/wo Herr D. Gehemae Tractätlein in Lateinischer Sprach geschrieben wäre/sich niemand die Müh hätte nehmen dürffen es zu widerlegen/weilen es vermuthlich von niemand/als der Sachen verständigen gelesen wäre worden/welche sich an solche Schmälereyen wenig würden gekehret haben: Sintemalen es aber in unserer Muttersprach geschrieben/also vielen die der Sachen nicht sattsamen/ja theils gar keinen Grund und Bericht haben/über das auch die Sach so cruel und odios vorgestellt/daß mancher wol von rechtschaffenen Medicis, die sich der von ihme verworffenen Mittel/etwa bey einem Patienten/der auß seinen sondern Ursachen/nicht aber eben/weil dieses oder jenes gebraucht worden/es mit der Haut bezahlen muß/bedienen/widrige Gedancken schöpfen möchte/zumalen ich schon in acht genommen/daß das Tractätlein starck abgegangen/ und von zerschiedenen mit zimlichem applausu aufgenommen worden: Als habe vor nothwendig erachtet/daß die Sach untersucht/gleichfalls in unserer Edlen Muttersprach recht und gründlich vor Augen gestellet/und also einem und dem andern erwachsene zweifelhaftige und widrige Gedancken benommen/und die Ehr unserer Edlen Medicin, und so vieler dappferer Medicorum in etwas gerettet werden möchte.

(Geuder: B1b f.)

The quote shows that although Geuder held German in high esteem as his “noble mother tongue” (“*unserer Edlen Muttersprach*”), he nevertheless asserts that under “normal” circumstances he does not approve of the use of German for communication among scientists. He was, so to speak, forced to respond in German by the dynamics of the reception of Gehema’s pamphlet. It is interesting to see that, according to Geuder, Gehema’s accusations needed no response from a specialist point of view, as a medical specialist would not read this kind of criticism as a serious contribution to medicine anyway. Hence, again from a specialist point of view, there was no need for a response. However, since Gehema’s pamphlet was widely read by non-specialist readers in the vernacular, Geuder justified and published a vernacular response (against his own “regular” principles).¹²

In a sense, therefore, the controversy at hand was not a “normal” dispute in the field of medicine, not business as usual within a given medical paradigm of “ordinary medical science” in the late 17th century. Rather, it was sparked by an attempt to provoke a radical reform of traditional healing practices by using a vernacular strategy in order to gain a wider range of dissemination compared to the limits of internal specialist communication via the use of Latin texts.

12. It is worth noting that in his answer Geuder frequently uses medical technical terms like *motum intestinum* or *medicamentum tartareum*, sometimes in connection with a vernacular expression, e.g. “Außlesen der Adern (*delectus venarum*)” “choosing the appropriate vein”.

3. The pragmatic organization of Gehema's attacking pamphlet (1688)

3.1 The overall structure of the pamphlet

The main purpose of Gehema's attacking pamphlet was twofold. First, he put forward a severe criticism of some core remedies of traditional medicine like bloodletting, the use of cupping glasses, purging and the use of juleps or cordials. Second, he brought serious charges against medical men of his time concerning professional ethics, e.g. their irresponsibility, their greed and their belief in 'heathen' authorities.

The text shows a typical structure of 17th century pamphlets: After the title page we find a dedication to a high patron and a preface. Both are programmatic in nature and contain many of the central points *in nuce*. The main body of the pamphlet consists of six more or less extensive chapters on different therapeutic means. In a polemical postscript Gehema repeats his claim to truth in medical matters, at the same time anticipating calumny from his opponents, which he rejects in advance. This expectation is probably based on his experiences in an earlier controversy, on the medical use of tea, in which he was involved, where, according to Gehema, his opponents had calumniated and defamed him (e.g. Gehema: 70).

3.2 Topics and topic management in Gehema's pamphlet

In writing his pamphlet, Gehema finds himself confronted with the task of dealing with a fairly complex network of topics, most of which we already saw in Van Helmont's introduction to his "Ortus Medicinae". Early on, in his dedication, Gehema introduces the overarching idea of a medical reformation on the pattern of the protestant reformation in the field of religion. (This move, of course, presupposed that the dedicatee was a proponent of the protestant position, which Frederick III, recently made Elector of Brandenburg, was.) The reformation model affords him the opportunity to introduce the contrast of old and new doctrines and explains the necessity, from a protestant point of view, of propagating reformed views.

The thematic structure of the body of the pamphlet is organized by types of medical treatment.¹³ Its six chapters, of which the first is by far the longest, deal with bloodletting (p. 1–32), the use of cupping glasses (p. 32–36), purging

13. An alternative would have been to organize the pamphlet by various illnesses as topics, as Van Helmont did in (part of) his book.

(p. 36–48), the use of clysters (enemas) (p. 49–53), juleps (p. 53–63), and cordials (p. 64–69).¹⁴

Into this basic thematic structure Gehema integrated further topics, i.e. his criticism of traditional medical doctrine and doctors' continuing adherence to this doctrine, the treatment of various illnesses, and his charges concerning doctors' ethical standards.

It is characteristic of Gehema's topic management that these topics are often closely interwoven. In the following example the use of purging remedies is criticized as unnecessary, ineffective and even harmful, and, at the same time, traditional doctors are characterized as misguided in their medical assumptions about the body and in the consequences, they draw from these assumptions. Gehema ironically calls traditional doctors "prudent", and, using a rhetorical question, he suggests that there is no empirical evidence for their assumption of the "uncleaness" of the body.

The third murder-remedy, nearly as cruel as bloodletting, is purging with its emaciating effect, which is the second if not the first remedy our titled doctors present as soon as they are called to a patient, which they prescribe especially for the reason that they are prejudiced with the misguided presumption that the patient's body is so filthy and unclean that it has to be cleansed. I ask these prudent and attentive gentlemen, however, which evidence they have for this kind of uncleaness and in which way they hope to cleanse the body without at the same time discharging useful body fluids.

Als dritte und nechst der Aderlasse grausamste Medicinische Mord-Mittel ist das außmergelende Purgieren: und nach dem Rang das zweyte/wo nicht das erste Helff-Mittel/welches unsere Herrn Titul-Doctores, so bald dieselbe zu einem Patienten vociret werden/praesentiren/welches sie insonderheit darumb ordiniren/weil sie mit der falschen Einbildung praeoccupiret sind/als ob der Leib dermassen unflätig und unrein sey/dasß er müsse gereiniget werden? Ich frage aber diese vorsichtige und curieuse Herrn/was sie für indicia sothaner Unreinigkeit haben/und auff was Art und Weise sie den Leib reinigen können/ohne die darinn vorhandene andere nützliche Säffte zugleich aufzuführen. (Gehema: 36 f.)

The longest chapter "On bloodletting", which is similar in form to a short treatise, is thematically structured by two topics, in the first part a discussion of the various *reasons* traditional doctors gave for applying this kind of therapy and, in the second part, an examination of the *illnesses* for which this cure was prescribed. These

14. A *clyster* (or in more recent terminology: an *enema*) is a fluid injected through the anus to empty or cleanse the bowels, *juleps* are sweet (or sour) medical drinks, sometimes cooled, meant to comfort the patient, *cordials* are mostly spiced drinks, intended to fortify the patient's heart.

forms of thematic organization are explicitly indicated by the author, as passages of the following type show. First, the organization by reasons:

Let us now continue and see why and to which end and in which cases our blood-thirsty doctors open the veins; we find that, secondly, they do it in cases where – according to their misguided opinion – the blood is in strong fermentation, which, they believe, is the case in all fevers.

Lasset uns nun aber weiter gehen und besehen/warum/zu welchem Ende/und in was für Zufällen/unsere blutdürstige Doctores die Adern eröffnen/da finden wir daß sie es 2. thun/wann (ihrer verkehrten Meinung nach) das Geblüt zu starck gähret oder fermentiret; wie sie meinen/daß es bey allen Fibern geschicht. (Gehema: 6)

Secondly, the organization by illnesses:

Let us now see for which illnesses our blood-shedders prescribe bloodletting and if one could not cure these patients without using this kind of therapy. We find that they prescribe it, firstly, in all cases of intermittent fever.

Lasset uns aber sehen/in was Kranckheiten unsere Blutvergiesser die Aderlasse ordniren/und ob man nicht ohne dieselbe die Patienten curiren könne. Wir finden daß sie es 1. thun bey allen abgehenden Fiebern. (Gehema: B4)

This kind of well-organized topic structure reminds one of unpolemical treatises of the period, were it not for the intrusion of expressions like *bloodthirsty* and *blood-shedders*. The same is true of a long digression on the concept of fermentation, which is inserted at the point where fermentation of the blood as a reason for bloodletting is discussed. In the middle of his scientific discourse the author addresses his imagined opponent: *But don't you see, you disgusting idiot, that [...]* (“Aber du abscheulicher *Idiot*, merckest du nicht daß [...]”, Gehema: 8).

In this pamphlet Gehema makes use of characteristic topic strategies of scientific discourse to produce a well-organized text, at the same time making use of these strategies for his polemical purposes. As we shall see, this is also true of some aspects of the functional organization to which we now turn.

3.3 Moves and strategies in Gehema's pamphlet

3.3.1 *Gehema's repertory of moves*

In pursuing his goals, Gehema uses a broad repertory of moves, e.g. accusing his opponents of harming their patients, accusing them of ignorance, sluggishness and greed, branding them as prejudiced windbags etc., criticizing therapeutic measures and the (theoretical) reasons for applying them, putting forward objections against a traditional position, arguing for his objections, refuting possible objections of his opponents, disparaging “old” authorities referred to by his opponents, introducing

and quoting (reliable new) authorities, using comparisons in order to make his claims or reproaches more vivid, and many other kinds of moves. Most of these types of activity are common in the practice of controversies of the 16th and 17th centuries.¹⁵ However, two aspects of Gehema's practice are remarkable: first, his reformer's zeal in styling his medical position as a result of divine enlightenment; second, his acrimonious personal style in disparaging opponents and traditional positions. In both these aspects he obviously follows Van Helmont. In this section we shall now present a number of characteristic examples of these moves.

3.3.2 *Accusations and criticism*

The first example concerns the accusation of harming patients with bloodletting, an accusation that is particularly dangerous as it implies a violation of the first Hippocratic principle "primum non nocere":

Don't you have to confess yourselves that you weaken your patients and make them incapable to withstand their illnesses?

Müset ihr nicht selbst bekennen/daß [...] ihr vielmehr euren Patienten die Kräfte benehmet/und dieselbe incapabel machet/ihren Kranckheiten zu widerstehen?
(Gehema: 22)

The next example is taken from Gehema's chapter on cupping. In this passage he refers back to his earlier discussion of bloodletting and criticizes some of the assumptions made in justifying the practice of cupping, suggesting that his opponents lack elementary knowledge of human biology:¹⁶

[...] and as cupping is nothing but a small form of bloodletting, it is by rights equally banned for the reasons of a rational practice already adduced in detail; and nothing is more ridiculous than to say that in the case of cupping only the unclean blood or the bad fluid are drawn which are situated between the skin and the flesh. Such talk comes from people who neither understand the (principles of) blood circulation nor know which (fluid) is contained in the smallest veins situated under the skin, let alone know what blood is [...].

[...] und weil das Schröpfen nichts anders ist/als eine kleine Aderlasse/als wird solches gleichfalls aus vorhin weitläufftig beygeführten rationibus aus einer rationalen Praxi, wie billich/verbannet/und ist nichts närrischer anzuhören/als wann man sagt/es werde durch das Schröpfen nur das unreine Blut/oder die böse Feuchtigkeit/so zwischen Fell und Fleisch sitzen/abgezogen: solche Reden führen die Leute/welche den Umblauff des Geblütes und Säffte nicht verstehen noch wissen/welche in denen

15. Cf. Gloning (1999), Bremer (2005) for similar moves in controversies on religious matters.

16. The basic principles of blood circulation had been discovered by William Harvey in 1628.

zartesten unter der Haut liegenden Aederlein enthalten ist; geschweige daß sie solten wissen/was Blut sey; [...] (Gehema: 33).

The following example is characteristic of Gehema's criticism of the stubbornness and closed-mindedness of traditional doctors who persisted in following their idol Galen:

[that these physicians] wantonly and deliberately persist, obstinate, stubborn, deluded and prejudiced as they are, following their damned sluggishness and doing everything according to the rule-book, and all this only because their [...] idol Galenus prescribed it thus and because they consider it a sin, as it were, to break his commandments.

[...] muthwilliger und vorsetzlicher Weise/obstinat, verstockt/verblendet und praeoccupiret verharren/ihrem verfluchten Schlentrian folgen/und alles nach der Tabulatur vor die Hand nehmen/bloß und alleine nur darumb/weil es ihnen [...] der abgöttische Galenus also vorgeschrieben/und sie es für Sünde gleichsam achten/ dessen Gebotte zu überschreiten; (Gehema: preface p. 2)

Gehema uses his preface also to criticize greed and corruption among the "title-doctors", concluding: "Thus and in such a way their own profit and interest predominates or prevails over the patients' welfare" ("So und solcher Gestalt prædominiret oder prævaliret vielmehr eigener Nutzen und interesse für der Krancken Wohlfarth", Gehema: preface, p. 6).

3.3.3 *Complex argumentation*

A good example of a complex argumentation is Gehema's refutation of the view that some illnesses are caused by fermentation of the blood. He first states that this view is a terrible delusion ("erschröckliche Verblendung") and a most deplorable prejudice ("höchst zu bedauernde præoccupation", Gehema: 6) and then goes on to list seven conditions for fermentation to occur, of which none is met in the case of blood in the blood vessels, from which it follows that there is no such thing as fermentation of blood, wherefore fermentation cannot be a valid reason for using bloodletting (Gehema: 6–8).

An interesting technique is applied by Gehema in a passage where he construes one of his objections as a refutation of an objection of the opponent:

This truth [i.e. that the blood circulation is reduced if blood is drawn] serves to refute the first objection which bloodthirsty and tyrannous physicians and surgeons make by claiming, firstly, a human being could have too much blood.

Diese Wahrheit dienet zu Widerlegung der ersten Objection, welche unsere Blutdürstige und Tyrannische Medici und Chirurgi einwenden/indem sie vorgeben 1. Es könne ein Mensch allzuviel Geblüte haben. (Gehema: 2f.)

This move can serve to shift the burden of proof, as it is normally the person objecting who has to provide proof for the validity of his objection. In fact, it is, of course, Gehema who objects to the validity of their reasons for prescribing bloodletting.

3.3.4 *Anticipating objections and staging a virtual dialogue*

Another move Gehema makes in several cases is to anticipate objections an opponent might make and answer them, as in the following example:

At this point someone might object, saying “I gladly concede that such a large quantity may be most dangerous; but what harm could a few drops do that one uses for a medical drink?” My answer is that they certainly do harm, because, as the blood and the body fluids are already coagulated/this coagulation will be intensified more and more.

Es möchte aber einer hierauff einwenden und sagen/ich gesteh gerne/daß eine so grosse quantität höchst gefährlich sey; was können aber sogar wenige Tropffen/die man in den Juleppen gebrauchet/Schaden thun. Ich antworte aber darauff/daß solche freylich schaden/dann weil das Blut und Säffte ohne dem coaguliret sind/so wird solche coagulation dardurch noch je länger je mehr vermehret. (Gehema: 60f.)

This move is not only useful as a strategy of argumentation, but also contributes to enlivening his presentation.

In an extended form, Gehema uses this pattern to stage a small virtual disputation. In a passage where he tries to refute the doctrine that one should use bloodletting in cases where patients have too much blood (“plethora”), he asks “these gentlemen how they can know that a person has a case of plethora or full-bloodedness”. Their answer is “that his obesity, his lively red colour, and the veins that are, so to speak, stuffed with blood indicate it”. “Truly a beautiful answer”, Gehema ironically continues and goes on to refute the validity of all three indicators. Thereupon “they might reply, objecting [...]”. “I answer; [...]” (Gehema: 3–5). A few pages later, where he discusses the opponents’ opinion that bloodletting is medically indicated in cases of blood-fermentation Gehema uses the same sophisticated pattern (Gehema: 8–9).

3.3.5 *Criticizing the appeal to authorities*

Medical men wanting to overthrow traditional humoral medicine in the 17th century were up against a well-established corpus of authoritative doctrine and an entrenched medical practice. It is, therefore, not surprising that part of the critical thrust of these innovators was directed against the originators of this tradition, mainly Greek philosophers and physicians, especially Galen. As we saw earlier on, criticizing Greek medicine and its followers was also a standard move in Van Helmont’s treatises.

Gehema generally complained about the appeal to classical authorities (“weil sie sich allezeit auff die authorität der Authoren beruffen”, Gehema: 27), but his favourite target was also Galen. His polemical attitude towards Galen is already introduced by the Latin poem quoted at the beginning of the pamphlet, the first line of which runs: “Claude scholas, Galene, tuas: satis occisorum est” (“Close your schools, Galen, enough patients have been killed”). Later on, in the preface to his pamphlet, Gehema lists the protagonists of traditional medicine and raises his standard objection against their contemporary followers:

Therefore, many stubborn title-doctors think that if something is said and taught by their Greek and Arab dreamers, Aristotle, Hippocrates, Galenus, Avicenna etc., it is satisfactory and they can acquiesce and accept it as the pure truth; there is then no more need for them to inquire, to do research, to experiment etc.

also meynen viele verstockte Titul-Doctores auch/wann dieses oder jenes nur von jhren Griechischen und Arabischen Träumern/Artistotele, Hippocrate, Galeno, Avicenna, &c. gesagt und gelehret wird/so sey es genug/so dörffen sie nur darinn acquiesciren/so müssen es lauter Warheiten seyn/alsdann haben sie nicht weiter nöthig zu inquiriren/nachzuforschen/zu experimentiren/etc. (Gehema, preface: 5)

Gehema’s critical attitude towards Galen as a source of misguided views was also part of the slurs made in passing, e.g. by using expressions like “galenic soup-doctor” (“Galenischen Suppen=Doctor”, Gehema: preface, p. 6) and “galenic whim-monger” (“galenischer Grillen-Verkäufer”, Gehema: preface, p. 2).

Another objection, which can also be traced back to Van Helmont, is the heathen origin of the medical practices under scrutiny. As the originators of bloodletting etc. lacked Christian charity, one should leave this murderous means to the heathens, the Greeks and the Arabs, who first invented it: “Lasset uns dann dieses Mord=Mittel den Heyden/Griechen/und Arabern als dessen ersten inventoribus überlassen” (Gehema: 32).

When criticizing the attachment to authorities, Gehema did not go as far as to consider an appeal to authority as generally fallacious. On the contrary, he used modern authorities of his own, introducing them with laudatory epithets and sometimes also quoting at length from their works: “You can read this in (the works of) the great Helmont” (“Man lese den grossen Helmont”, Gehema: 11), “Furthermore, listen to what the Great Helmont professes in his treatise on fevers: [...]”, (“Über das höret was der Grosse Helmont. bezeuget/in seinem Tractat von den Fiebern: [...]”, Gehema: 28), “the excellent Englishmen Boyle, Entius, and Charleton” (Gehema: 9), and “the undaunted reformer D. Cornelius Bontekoe”

(Gehema: preface, p. 4).¹⁷ These new authorities provided “wonderful proofs” (“herrliche Beweisthümer”, Gehema: 9), “wonderful refutations” (“herrlich refutiret, Gehema: 13), and “wonderful cures” (“herrliche Curen”, Gehema: 20). In the following example from a passage attacking bloodletting, Gehema not only introduces one of his own authorities, Franciscus Sylvius from Leyden, characterizing him as “widely famous”, but tops this by referring to a recent authority favoured by his opponents:¹⁸

In order to confuse these prudent gentlemen straight away, who are so obstinate and preoccupied that they just can’t believe that a pleuritis can be cured without bloodletting, I refer them not only to the practice of the widely famous Professor Sylvius from Leyden University, who professes having successfully cured a case of pleuritis simply by using a sudorific mixture, but, as they always appeal to the authority of certain authors, I invite them to consult “Medicum Theor. & praxi instr.” by Dr Etmüller, whom they highly respect, where, in Chapter 3 [...] they shall find the following statement: [...].

Damit ich aber diese vorsichtige Herren/stracks anfangs confundire/als welche dermassen obstinat und praeoccupiret sind/daß sie unmöglich glauben wollen/daß eine Pleuritis ohne Aderlasse zu curiren sey/so verweise ich dieselbe/nicht allein zu der Praxis des weit berühmten Leydischen Professoris Sylvii, da er selbst bekennet/wie er die Pleuritidem ohne eintzige venaesection, und nur bloß und alleine/durch eine mixturam sudoriseram glücklich curiret habe/sondern weil sie sich allezeit auff die autorität der Authoren beruffen/also wollen sie nur deß bey ihnen selbst so hoch geachteten D. Etmüllers Medicum Theor. & praxi instruct. aufschlagen/woselbst sie cap. 3. de auxiliis v. m. 112. § .7.folgende Worte finden werden: [...]. (Gehema: 27)

3.3.6 Criticizing the appeal to experience

Early on in his pamphlet, Gehema explicitly complains about “highly praised title-doctors who go on and on crying *experience, experience*” (“hochgerühmte Titul-Doctores, welche nichts anders ruffen und schreyen/als *Experientia, Experientia*”, Gehema: preface, p. 2). Instead of relying on unsystematic experience, modern science and medicine should be based on experiments (cf. Kepler’s analogous views, Chapter 2, Section 3.3.2 in this volume). Like Van Helmont before him, Gehema praises the use of experiments on several occasions, e.g. “The interesting experiments of Leeuwenhoeck” (“die curieuse experimenten Ant. Leeuvenhoecks”,

17. In a later advertising brochure for his “anti-fever medication”, Gehema proudly mentioned that he had visited Boyle’s laboratory (Gehema 1702: B2b).

18. On Sylvius’ practice of experimental clinical medicine and chemistry at the University of Leiden in the 1660s, cf. Ragland (2017).

Gehema: 5). It is, however, worth mentioning that Gehema himself sometimes finds an argument from experience useful, as in the following case:

because experience shows that lean people often have more blood than fat ones.

weil die Erfahrung lehret/daß magere Leute oftmahls mehr Bluth an sich haben als Fette. (Gehema: 4)

Being a medical practitioner, he also likes to refer to his own practice in order to boost his authority in medical matters, as the following examples show.

3.4 Mentioning his own medical methods

On various occasions Gehema mentions his own superior medical methods, albeit rather vaguely. In the following example he claims for his therapy the advantage of being less invasive than bloodletting and therefore more secure and more agreeable:

whereas many practitioners as well as myself may pride themselves on being able to cure all fevers of whatever nature without opening a single vein in an easy, short, secure, agreeable, and permanent way.

dahingegen viele Practici neben mir sich berühmen können/alle Fieber/sie mögen seyn/wie sie wollen/ohne einzige Eröffnung der Ader/auff eine leichte/kurtze/sichere/angenehme und beständige Weise zu curiren. (Gehema: 25)

One of Gehema's fundamental theoretical assumptions is that most illnesses are caused by acids. In the following example this assumption forms the basis of his therapy:

However, I can truthfully claim that in such cases [where there was no bowel movement], which often occurred in my practice, I never found myself in difficulties, because I forbid my patients all acids, cold, sharp and viscid things and prescribe volatile, hot and liquid preparations.

jedoch kan ich mit Warheit versichern/daß ich in dergleichen Fällen/die mir in praxi oft fürgekomen/niemahlen verlegen gewesen/dann weil ich meinen Patienten alle acida, frigida, austera und viscida intercedire/hingegen volatilia, calida und liquida praescribere/ (Gehema: 45)

He does, however, never disclose the recipes of his medical preparations, obviously for economic reasons, as he wanted to sell his medications himself.¹⁹ In a later advertising brochure (Gehema 1702) he gave some more details of his “mineral anti-fever medication” (“mineralisches Antifebrile”), mentioning that it contained

19. “Helmontian medicines were commercial products to be advertised and sold as well as symbols of a new medicine” (Wear 2000: 354).

gold and silver “and maybe other metals” (“und vielleicht auch andere Metallen”, Gehema 1702: B2a). True to his view that fevers were caused by acids he added that his cure was a “great magnet for acids” (“einen großen Magnet der Säure”, Gehema 1702: B2). Apart from these hints, he did, however, not disclose the detailed composition of his preparation. He also gave a reason for not doing so:

Nobody, however, will blame me for not naming this medicament here or for not publishing what kind of metal it really is, because there are many ungrateful and hateful people in the world, who, by means of intrigues and insidious acts, would try to spoil its reputation.

Es wird mich aber niemand verdenken können/daß ich solches Medicament alhie nicht namhafft oder publicq mache/was es eigentlich für ein Metalle sey/weil es viele undanckbare und neidische Menschen in der Welt giebet/die solches durch allerhand Intrigues und böse Räncke würden suchen verhaßt zu machen.

(Gehema 1702: B1b).

Instead, he presented a list of pharmacies in a number of cities, mainly in Northern Germany, where his medication could be bought.

3.5 Thanking God for medical enlightenment

We finally mention a move that is characteristic of Gehema’s view on the religious foundation of science. In this passage, Gehema thanks God for the medical enlightenment he received by the grace of God:²⁰

I thank God for opening my eyes, clearing away the disgraceful prejudices from my mind, and giving me the grace to cure the patients entrusted to me in a quick, secure, agreeable and conscientious manner.

Ich dancke GOtt/daß er mir die Augen geöffnet/die schändliche praejudicia aus meinem Gemüthe weggeräümet/und die Gnade gethan/daß ich die meiner Cuhr anvertraute Patienten/auff eine kurtze/gesicherte/angenehme und gewissenhafft Art und Weise curiren kan. (Gehema: 21; cf. also Gehema: 75)

In this respect too, Gehema follows Van Helmont.

3.6 Gehema’s rhetoric

In order to present his claims in a most convincing form, Gehema deploys a full arsenal of rhetorical devices, from irony and rhetorical questions to comparisons.

²⁰. In another passage (Gehema: 75), he gives a short narration of his “conversion” that made him see the light of truth (“das Licht der Wahrheit”).

Maybe his most obvious rhetorical device, which is already present in the title of his pamphlet, is hyperbole:²¹ In characterizing traditional forms of therapy as murderous medical means, he can hope to attract attention by proclaiming that this is not just an academic disputation, but a matter of life and death. In calling doctors “bloodthirsty and tyrannical medics” (“Blutdürstige und Tyrannische Medici”, Gehema: 2f.), he justifies the sharpness of his attack. With the following examples we show the wide array of rhetorical means employed by Gehema.

Irony: “our excellent medical practitioners” (Gehema: 11), “our capable bloodletters” (Gehema: 12), “oh sublime reasonings” (Gehema: 16), “a wonderful reason why they ordain bloodletting” (Gehema: 18).

Rhetorical questions: “How do they know that there is unclean blood among the clean?” (Gehema: 11) suggesting that they do not know, “Does a dead body look like one that is alive?” (Gehema: 18).

Using exclamations: “*Do you want exclamations, my audience? Oh you blind world! Oh what wonderful reasonings!*” (“*Vultis exclamationes auditores? O du blinde Welt. O vortreffliche raisonnements*”, Gehema: 15f).

Piling up series of quasi-synonyms: Doctors retaining their erroneous doctrine are “obstinate, stubborn, deluded and prejudiced” (“*obstinat, verstockt/verblendet und præoccupiret*” (Gehema, preface: 2).

Addressing the opponent: “If you prejudiced windbag knew any chemistry, which you thoroughly despise, you would know [...]” (“wann du der Chimie, welche du præoccupirter Schwätzer dermassen verachtetest/kündig wärest/so würdest du wissen [...]”, Gehema: 17).

In order to increase the vividness of his arguments, he variously uses comparisons, e.g. comparing the blood in the body with the water in a mill early on in this discussion of bloodletting:

Like a millwheel will necessarily slow down or stop altogether if it does not have enough water, the blood circulation [...] will become sluggish if one reduces the amount of blood by taking it.

[...] *als das Wasser auf einer Wasser=Mühle/dann gleich wie diese nothwendig langsam fortgehen/oder gar stille stehen muß/wann sie nicht Wassers genug hat/also muß auch der Umblauff des Geblütes [...] träge fortgehen und cirucliren/wann man solches vermindert und abzappfet.* (Gehema: 2)

And in an attempt to illustrate the absurdity of getting rid of bad elements of blood by means of bloodletting, Gehema makes the following ironical comparison: “Some of the soldiers in a unit are disreputable characters. Therefore, one

21. It is exactly this rhetorical strategy which Geuder resents when he complains about Gehema’s exaggerations.

has to hang a whole squad, both good and bad soldiers, and everything will be well.” (“Einige Soldaten unter der Compagnie sind lose Vögel/darumb muß man eine Rott auffhencken/böse und gute untereinander/so wird alles gut werden”, Gehema: 12). Bloodletting in cases of assumed “burning blood” makes just as much sense as trying to cool a pot of boiling water by pouring out some of the water (Gehema: 10).

An accumulation of rhetorical devices (irony, hyperbole, invocation, rhetorical question, comparison) can be found in the following passage, with which we conclude this section.

Finally, No. 8, our tyrants mention a wonderful reason why they prescribe bloodletting, namely to make the blood thicker. God knows: I am horrified, I fear and tremble at these cruel words, for this is obvious murder. O you tyrants and blood-shedders/does that not mean torturing, tyrannizing and murdering your poor patients? Is that not the same as completely cutting the throat of a deadly wounded person?

Endlich und fürs 8te/so geben unsere Tyrannen noch eine herrliche Ursache/warumb sie die Aderlasse ordiniren/nemlich umb das Geblüte zu incrassiren oder dicker zu machen. GOTT weiß! Ich erschrecke/zittere und bebe/ob diese grausame Worte/dann hier ist offenbahrer Mord. O ihr Tyrannen und Blut=Vergiesser/ist das nicht eure arme untergebene Patienten martern/tyrannisiren und ermorden? Ist das nicht ebenso viel/als wann ich einem auff den Todt verwundeten/völlig die Gurgel abschneide? (Gehema: 18)

3.7 Language use

In closing the first part of our study, we want to add a few remarks on Gehema’s language use, especially the lexical profile of his pamphlet.²² The first remarkable feature, which is of course due to the topics dealt with in his pamphlet, is his extensive use of medical terms. To do justice to this feature would demand a comprehensive study of its own, which we cannot provide here. It is, however, possible to impart a few observations. What is remarkable is his attempt to use German medical language as far as possible. This is, of course, part of his effort to reach both a specialist and a non-specialist audience. In many cases he uses the solution of combining the respective Latin and German expressions: “eine *plethora* oder Vollblüthigkeit” (‘a plethora or excess of blood’, Gehema: 4), “wann das Geblüt zu starck gähret oder fermentiret”, (“if the blood ferments too much’, Gehema: 6), “das Geblüte zu incrassiren oder dicker zu machen” (‘to make the blood thicker’, Gehema: 18), “in dem großen Gedärme *colon* genannt” (‘in the big bowel called

22. For the analysis of the lexical profile of historical texts, cf. Gloning (2003).

colon, Gehema: 50). In some cases medical language had to introduce new concepts, where no original vernacular expressions were available, e.g. the concept of blood circulation (“*sanguinis circulationem* oder Bluts=Bewegung”, Gehema: 14) or the differentiation of arteries and veins (“die *arterien*, und nicht die *Adern*”, Gehema: 14).²³ In many cases, however, Gehema obviously found it impossible to provide relevant German expressions, so he had to do with the Latin terms, which led to a remarkable mixture of vernacular and Latin terms, like in the following list of body fluids: “[...] Säfte(n)/als da sind der Speichel/der Magendrösen=Safft/der *Succus pancreaticus*, die Galle/die *Lympha*, der *Succus nerveus* und andere mehr”, (Gehema: 4f.). Generally speaking, the strong admixture of Latin and French expressions is characteristic of the German language of educated persons during this period.

A second notable area of vocabulary is the general language of controversy used in all fields of debate. Both Gehema and Geuder use relevant vocabulary, which is partly vernacular, partly derived from Latin and French.²⁴ The following is a list of relevant expressions: *assertion* ‘assertion’, *bestrafen* ‘to criticize’, *disputiren* ‘to dispute’, *repliciren* ‘to reply’, *antworten* ‘to respond’, *objiciren* ‘to object’, *einwenden* ‘to object’, *objection* ‘objection’, *Einwurf* ‘objection’, *refutiren* ‘to refute’, *Widerlegung* ‘refutation’, *rationes* ‘reasons’, *raisonniren* ‘to reason, to argue’, *raisonnement* ‘reasoning, argumentation’, *consequenz* ‘conclusion’, *Schluß* ‘conclusion’, ‘pattern of argument’, *überzeugen* ‘to convince’, *gestehen* ‘to concede’, *bekennen* ‘to concede’, *ungereimt* ‘absurd’, *gesetzt* ‘let us suppose’, *streitet wider* ‘contradicts’, *beweisen* ‘prove’, *remonstriren* ‘to prove’, *mit unüberwindlichen rationibus demonstriren* ‘to prove with irrefutable reasons’, *es möchte aber einer einwenden* [...], ‘someone might object [...]’.²⁵

Finally, it is worth mentioning the consequences of Gehema’s disparaging personal style for his word usage. Gehema uses a wide range of disparaging expressions for persons, e.g. *Titul-Doctor* ‘title-doctor’, *Grillen- und Brillen-Verkäufer* ‘whim- and deception-mongers’, *Träumer* ‘dreamer’, *Galenischer Suppen-Doctor* ‘galenic soup-doctor’, *die Verkehrten* ‘the wrong-headed ones’, *Idiot*, *Tyrann* ‘tyrant’, *Blutvergiesser* ‘blood-shedder’, *Schwätzer* ‘windbag’, *Humorist* ‘(disrespectful expression for) a representative of the humoral doctrine’ and many others. Furthermore, he uses many expressions for activities of medical doctors and for their results in a critical perspective, e.g.: *Mord-Mittel* ‘murderous means’,

23. Geuder uses a different German term for blood circulation, namely “der so genannte Kreislauf des Geblüts” (Geuder: 17), which is closer to the modern German term *Blutkreislauf*.

24. In addition, they use the Latin terms for parts of an argument like *argumentum* ‘argument’, or *præmissa* ‘premise’ and the Latin names for fallacies, e.g. *a particulari ad universale*.

25. For the development of the German language of controversy, cf. Fritz (2016a, b).

Schlendrian ‘sluggishness’, *Fehler* ‘error’, *irrationale Methode* ‘irrational method’, *Narrenteidung* ‘fools’ talk, *Ränke* ‘deceitfulness’, *Mißbräuche* ‘abuse’, *martern* ‘to torture’, *peinigen* ‘to torment’, *tyrannisieren* ‘to tyrannize’, *calumnieren* ‘to calumniate’, *schmähen* ‘to vilify’, *lästern* ‘to insult’, *Mord* (“hier ist offenbahrer Mord”, ‘this is evidently murder’), *ermorden* ‘to murder’, *Folter-Banck* ‘rack (for torturing)’ and others. These and many other varieties of polemical language use are clearly an element of Gehema’s personal style of controversy.

4. The pragmatic organization of Geuder’s pamphlet

4.1 Geuder’s reasons for entering the controversy

A standard reason for entering a controversy is the challenge of being personally attacked. Interestingly, this was not the case with Geuder. He was not mentioned personally by Gehema, but he had noticed that Gehema’s pamphlet had been widely discussed and well received by some readers (cf. Geuder: preface, B2a).²⁶ So he felt called upon to answer Gehema’s attacks on behalf of his medical colleagues as a representative of the community of practicing physicians, which, according to Geuder, was treated unfairly by Gehema. His aim was to dissipate doubts about some of the traditional healing practices and to restore the reputation of the noble science of medicine (“*unserer Edlen Medicin*”; Geuder: B2a) and of many capable medical men.

As for Geuder’s own position in the general controversy between old and new medicine, he was certainly not a confirmed traditionalist. Obviously, he tried to demonstrate that he was scientifically up to date by discussing topical themes like fermentation, by quoting modern authorities like Boyle, by referring to the principles of blood circulation, and by mentioning recent travels to Paris and Amsterdam. In this controversy, he tried to find a middle way, neither relying too much on therapies like bloodletting and purging nor banning them altogether. He quotes with approval an author who writes “Therefore I consider it safest to choose the middle way” (“*Dannenhero halte ich vor das sicherste/auf der Mittelstraß zu bleiben*”, Geuder: 75). And he also quotes the saying that one should not throw out the baby with the bathwater (“*das Kind mit dem Bad außschütte*”; Geuder: A6b).²⁷ This attitude is very much in harmony with his positive view of eclecticism.

26. He also quotes from one of the early responses to Gehema’s pamphlet (Geuder: 74f.).

27. This saying was also quoted by Kepler in his “*Tertius Intervenien*”, where he advocated a middle path between uncritical acceptance and total rejection of astrology (cf. Chapter 2 in this volume).

4.2 Principles of scientific discourse – Geuder’s preface

In the introduction to his preface, Geuder presents general views on critical scientific discourse, stating three principles (or groups of principles) which an author criticizing scientific errors should follow (Geuder: A 4a): (i) He should thoroughly (“gründlich”) prove that there was in fact an error. (ii) He should treat his scientific neighbour politely (“glimpfflich”), presenting his criticism with appropriate modesty (“Bescheidenheit”) and meekness (“Sanfftmuth”).²⁸ (iii) He should present such a correction or refutation at the right time. Geuder then goes on to expound his second and third principles. According to him, the second group of principles (politeness, modesty, meekness) is valid for *all* reasonable persons, especially Christians, but they should be followed in particular by scholars, who should set a good example. Insulting and abusing one’s opponent (“Schänden und Schmähen”) is useless and only leads to resentment and to the discussion of personal matters (“personalia zu tractiren”), which is harmful to the noble sciences (“denen edlen Wissenschaften”) (Geuder: A4b). In this context he gives a translated quote from Robert Boyle’s “Tentamina Physiologica”, where Boyle asserts that attacking errors in an aggressive mode forces the aggressor to do double work, having to convince the *reason* of the attacked and, at the same time, to overcome his stubborn *temper*. As for the third principle, Geuder insists on the importance of timing, quoting the wisdom of Solomon, and adds that bad timing destroys the power of what is said.

The relevance of this short introduction to principles of scientific discourse becomes clear when Geuder goes on to accuse Gehema of having violated all three principles in his pamphlet. So what seemed to be a general reflection turns out to be the preparation for a counterattack on Gehema. Geuder goes on to specify in which way Gehema violated these principles. As for the first principle, the thoroughness of Gehema’s proofs, Geuder refers to the main body of his answer, where he intends to deal with this question. As for the principles of politeness, Geuder finds hardly a page where Gehema does not use most unjustifiable insults (“unverantwortlichste Schmähwort”), showing strong personal affect (“Privat= affect”). Geuder’s most withering reproach concerns the principle of timeliness. Geuder claims that Gehema’s objections concerning the authority of the Ancients would have been relevant at the end of the 16th and the beginning of the 17th century, but that in 1688 rarely anyone followed the authority of classical authors slavishly, as modern physicians and philosophers were not sectarians (“Sectarii”) but eclectics (“Eclectici”, Geuder: A6a, b). On the contrary, Geuder continues, present-day

28. The principle of meekness is, of course, a Christian principle (cf. Matth. 5, 5) and was also emphasized by contemporary theologians (cf. the case study in Chapter 5 of the present book).

students liked to make fun of Aristotle, Hippocrates, and Galen without having read their writings, which could be quite useful for them. So, in Geuder's view, Gehema's attack against the Ancients was really irrelevant.

As for Gehema's own "new" authorities, Descartes, Van Helmont, and Bontekoe, Geuder remarks that they were neither as original as Gehema would have it appear, nor were they immune to grave mistakes which contradicted both reason and experience.²⁹

In closing his preface, Geuder promises to follow the principles of clarity ("deutlich", "klar") and thoroughness ("gründlich"), to refrain from paying back in kind and using abusive words, and to practice due modesty.

There are also other communication principles Geuder either refers to or presupposes in the course of his pamphlet, e.g. the principle of brevity (Geuder: 22), the principle that one should avoid repetition (Geuder: 57, 93), the principle that one should not debate *ad personam* (Geuder: 71), and the principle that one should gratefully accept the correction of one's errors by other scientists (Geuder: 111).³⁰

4.3 Topic management in Geuder's pamphlet

Geuder's pamphlet is, basically, a refutation pamphlet and follows the 17th century rules and principles of this genre. Concerning topic-management, this means that, in the main body of the text, Geuder has to follow the agenda of topics set by Gehema point by point and in the order given by Gehema. This rule, which is meant to ensure an orderly and systematic course of disputation, has a number of disadvantages for the author of a refutation pamphlet.³¹ The main disadvantage is that the author is often prevented from systematically expounding his own doctrine on a given topic in a sequence favourable to his views. A further disadvantage consists in the fact that the author may suffer from the weaknesses of his opponent's text, e.g. repetitions and discontinuities of topic structure. To compensate for these disadvantages, authors of refutation pamphlets often take measures to circumvent the restrictions of the point-by-point procedure. In the case of Geuder,

29. As for Descartes' reforms of philosophy, Geuder insists that long before Descartes the noble Englishman ("der Edle Engelländer") Francis Bacon had shown the right path to the experimental method. Geuder himself frequently appeals to modern authorities, e.g. in the following case: "beweise ich mit deß berühmten Herrn D. Wepffers testimonio" "this I prove with the testimony of the famous Dr Wepffer" (1620–1695) (Geuder: 41).

30. On communication principles for controversies, cf. Fritz (2008).

31. For the role of academic disputations as a model for public controversies, cf. Gierl (1997: 125–145) and Paintner (2010). A contemporary introduction to the rules of disputation is Thomasius (1670).

we find that he uses a number of techniques to solve the problems inherent in his task. Some of the points Geuder wants to make he transfers from the body of his text to his preface, as we already showed. In two cases, which we shall treat in the following section, he inserts digressions. In another case he explicitly mentions the fact that the detailed discussion of this point (i.e. cupping) would involve the repetition of arguments provided in the previous section (on bloodletting), wherefore, in order not to bore his gentle reader, he would avoid lengthy repetitions (“weitläuffiges Wiederholen”), giving only some brief hints concerning a few points (Geuder: 57). And finally, in order to deal with some of Gehema’s insults, he uses a more radical solution in two cases, i.e. refusing to answer them altogether:

What is further mentioned on page 87 and the following pages consists mainly of ill-considered, unfounded and unnecessary insults and accusations, and it is not worth wasting time and paper on answering them.

Was noch ferners am 87. und folgenden Blättern vorgebracht wird/seyn meisten theils unbesonnene/und ungegründete/unnöthige Schmälereyen und Auflagen/und ist nicht der Müh werth/mit Beantwortung derselben/die Zeit und das Papier zu verderben. (Geuder: 97f.)

Earlier on, in the context of the discussion of bloodletting, Geuder merely remarks that on page 26 and the following Gehema uttered some boastful words and unseemly insults, and leaves it at that (Geuder: 18).

One of the rules of disputation that also concerns topic management in refutation pamphlets is the rule requiring the writer to repeat the opponent’s claim before answering it.³² Of the various forms in which this requirement is fulfilled, a simple type is as follows:

Our author objects also [to the view] that the blood of patients with fever is thicker than that of other persons. [...]. Where to I answer: [...].

Es objiciret auch unser Auctor, der febricistanten Blut seye dicker/als anderer Leute; [...]. Worauf ich [...] antworthe/daß ... [...]. (Geuder: 39)

A more sophisticated version is found in the following example, where Geuder mentions Gehema’s question, shows that there are in fact *two* questions [Q1 and Q2], and goes on to answer the two questions separately [A1 and A2], giving a battery of three answers to the second question [A2.1, A2.2, and A2.3]:

It would have been desirable for him to have presented or even expounded his question on page 48 in more detail, i.e. the question [Q1] what evidence there

32. Examples of this structural pattern from Kepler and Hobbes are presented in the introductory chapter of the present book.

is that the body is unclean [in these cases] and [Q2] by what means one could cleanse the body without, at the same time, discharging useful body fluids. And as this is a twofold question, [A1] concerning the first point, I refer the reader asking for a discussion of this point to the writings of the Institutionists and other authors [...]. [A2] Concerning the second point, however, I should like to point out [A2.1] that, firstly, no physician ever dared to [...]. [A2.2] Secondly, that such fluid as is lost by purging [...]. [A2.3] And, thirdly, that there is no evacuating medication which [...].

So wäre auch zu wünschen/daß er seine am 48. Blatt vorgelegte Frag/[Q1] was man nemlich vor Anzeigen habe/daß der Leib unrein/und [Q2] auf was Art und Weise man den Leib reinigen könne/ohne die darinnen vorhandene andere nutzliche Säffte zugleich außzuführen? Etwas weitläuffiger vorgestellet/oder gar erörtert hätte. Und sintemahlen dieses eine zwyfache Frage ist/so weise ich/ [A1] den ersten Puncten betreffend/den jenigen Leser/welcher dessen Erörterung verlangt/zu der Institutionisten und anderer Auctorum [...] Schriften und Bücher [...] [A2] Belangend aber das andere/so ist zu wissen/ [A2.1] daß erstlichen nimmermehr ein Medicus sich unterstanden [...] [A2.2] Zu dem andern/daß das jenige/so etwa bey dem Purgieren [...] [A2.3] Und drittens/daß kein einig medicamentum evacuans [...]
(Geuder: 61 f.)

4.4 Digressions as a method for evading the point-by-point constraint

As mentioned before in this book, e.g. with respect to Kepler, the point-by-point principle of the disputation model exerts a restriction on possible moves in a refutation pamphlet that authors sometimes seem to perceive as an impediment. In such cases, writers frequently insert digressions, marking them as such. Two cases in point are to be found in Geuder's pamphlet. After having dealt with Gehema's accusations and objections concerning the disadvantages of bloodletting point by point, Geuder decided to insert as a digression a detailed lecture in 15 paragraphs – about 10 pages in print – on the proper methods of bloodletting, which he introduced in the following form:

However, before finally leaving this important point I shall take the liberty to add some further thoughts on the proper use of bloodletting and its indications.

Ehe ich aber diesen wichtigen Puncten gantz quittire/will ich mir die Freyheit nehmen/einige mehrere Gedancken von dem rechten Gebrauch der Aderlasse/und derselben indicantibus [...] beyzufügen/
(Geuder: 46f.)

This lengthy digression gave him the opportunity to provide a coherent exposition of his own ideas on bloodletting without the thematic restrictions imposed on him by having to follow Gehema's text. A second digression, which Geuder used

to give some extra information and to illustrate his own position, occurs at the point where he claimed that bloodletting and purging were only seldom used in Germany, as opposed to France, where they were very popular with physicians. At this point, Geuder inserts a longish narrative, recounting in detail what he himself had seen and heard during his visit to Paris, where, according to his experience and contrary to what he knew from Germany, the abuse of bloodletting, purging etc. was widespread. He finds the medical situation in Paris simply appalling, and he even mentions Molière's comedy "Le malade imaginaire" (1673), remarking that this satire on medical practice was hardly exaggerated. With this narrative, Geuder suggests that Gehema's criticism of medical practice would have been more adequate in France. This digression is also explicitly introduced in the following way:

It may not be disagreeable to one or the other gentle reader if I introduce a small digression here, giving a free and detailed account of what I myself saw in Paris.

[...] *wird es vielleicht ein und anderm geneigten Leser nicht mißfallen/wann ich hier ein kleine digression mache/und von dem/was ich selbst in Pariß gesehen/einen freyen und außführlichen Bericht erstatte.* (Geuder: 34)

4.5 Answering accusations and criticism – moves and strategies

In answering Gehema, Geuder could rely not only on his knowledge of medicine but also on the classic resources of disputation theory and dialectics. This can be seen in many types of answering moves that belong to the repertoire of disputational techniques.³³

As Geuder is not an extreme traditionalist and prides himself on his knowledge of the state of the art in medicine, he does not generally attempt a straightforward refutation of Gehema's claims, but often uses subtler moves like making partial concessions or differentiating between different senses in which a claim could be acceptable or not. Obviously, this strategy is also connected to his scientific attitude of eclecticism.³⁴

One general response by Geuder is that, in recent times, the methods of therapy criticized by Gehema were much less frequently applied in Germany than Gehema assumed. Apart from that he accuses Gehema of either exaggeration or of sheer calumny. He considers as simply absurd Gehema's imputation of murderous

33. On answering accusations in controversies, cf. Fritz (2005).

34. Eclecticism was also practiced by other contemporaries, e.g. Leibniz (cf. Leibniz 2006: 1).

intent to physicians, and he claims that Gehema's reproaches of harmful action are exaggerated.³⁵

One of the very few detailed reactions by Geuder to one of Gehema's extreme accusations is the following, where he responds to Gehema's comparison of doctors using cooling drinks with American Indians giving their victims something to drink in order to be able to prolong their torture, a remarkable bit of ethnological lore:

[By using this comparison] he irresponsibly ascribes too much to many capable physicians, who use this medication with best reasons, when he assumes that they try to continue tormenting and torturing their poor suffering patients with malice aforethought and murderous intent. To assume such things of your neighbour cannot be accepted by common sense, let alone by Christian charity.

Daß [...] so vielen tapffern Medicis, die mit höchster raison angeführte Mittel gebraucht/unverantwortlich zu viel geschiehet/indem ihnen beygemessen wird/als ob sie vorgesetzter muthwilliger und mörderischer Weise mit allem Fleiß und Vorbedacht die arme ohne dem nothleydende Patienten noch länger zu martern und zu peini-gen suchten/dergleichen Sachen so schlechter Dings von dem Neben=Menschen zu præsumiren/die gesunde Vernunft/geschweige die Christliche Liebe nicht zulassen will. (Geuder: 85).

Having indicated his disgust at Gehema's exaggerations in some passages, Geuder concentrates on trying to refute Gehema's *criticism* of forms of medication. It is worth mentioning here that two topics that belong to the context of this controversy play next to no role here, i.e. the humoral doctrine as such and the contrast of chemical and herbal medicine.

Before we go on to analyze some typical moves connected to the refutation of Gehema's criticism, we should like to mention a move that is also part of the disputation language game and that plays a special role in contributing to the creation of common ground between the opponents, i.e. conceding the truth of a claim. The following are three examples of this type of move:

However, I do have to concede that the foaming of the blood running from the opened vein [...] is not really a strong proof of a strong fermentation.

Indessen muß ich doch bekennen/daß die Schäumung des auß der eröffnenden Ader heraußlaufenden Geblüts [...] kein gar zu fester Beweissthum einer starcken fermentation ist. (Geuder: 16)

35. Accusing Gehema of exaggerating is one of Geuder's standard responses, e.g. in the following example: "daß er abermahlen der Sachen zu viel gethan hat" 'that he exaggerated once again' (Geuder: 61).

Concerning what is mentioned [by Gehema] on page 2, I am ready to concede that the blood circulates somewhat more slowly than before, if one reduces the amount of blood by drawing some of it.

Betreffend das jenige/was am 2. Blat angeführet wird/will ich gestehen/daß der Umlauff deß Geblüts etwas träger von statten gehet/als vorhin/wann man selbiges vermindert/und einen Theil abzapffet; (Geuder: 5)

Under these conditions we have to concede now that in all illnesses the blood is thick and gelatinous/and one has to differentiate clearly between thick and gelatinous blood.

Bey solcher der Sachen Beschaffenheit ist nunmehr zu concediren/daß das Geblüt in allen und jeden Kranckheiten dick und leimicht seye/und muß man gebührenden Unterschied unter einem dicken und leimichten Geblüt machen. (Geuder: 90)

4.5.1 *Contradicting his opponent's claim*

Of this move we give three examples. The first is a straight contradiction:

It is wrong, however, that in this kind of angina an inflammation and fever occur.

Falsch ist aber/daß bey dieser specie anginæ eine inflammation und Fieber sich zuschlagen; (Geuder: 43)

A case of contradiction plus refutation is the following answer to Gehema's claim that the red colour of *plethora*-patients was caused by salty particles. Geuder contradicts Gehema's claim and gives three arguments for his own position, of which two are arguments from (modern) authority:

However, it can absolutely not be conceded that the red colour is caused by a salt or by salty particles; For, firstly [...]. Secondly [...]. Thirdly, Descartes, Boyle and after them many other wonderful philosophers have given proof with beautiful reasons and evident experiments that [...].

Durchauß aber ist nicht zu concediren/daß die rothe Farb von einem Sale, oder particulis salinis herrühre; Dann erstlich [...]. Zum andern [...]. Drittens/so hat Cartesius, Boyle, und nach ihme viel andere herrliche Philosophi mit schönen Gründen und augenscheinlichen experimenten dar gethan/daß [...]. (Geuder: 9)

The third argument in the passage quoted just now derives its particular strength from the combination of “beautiful reasons” and “evident experiments”, a combination the force of which Gehema could hardly reject. In the third example of this category, Geuder contradicts an accusation:

However, this accusation, too, will not stand up if one gets to the bottom of it and on closer consideration.

Allein auch diese Auflage wird/wann man auf den Grund kommen/und die Sach beym Liecht besehen wird/nichts gelten. (Geuder: 29)

4.5.2 *Making a (partial) concession and adding modifications or objections*

This kind of move, of which we give three examples, is in consonance with Geuder's basically conciliatory approach.³⁶

For although what Dr Gehema objects here is quite reasonable, we have to add the following: [...].

Dann obwohlen gantz raisonabel ist/was Hr. Dr. Gehema darwider einwendet/ [...]; so ist doch noch ferner zu wissen/ [...]. (Geuder: 16)

In this context he makes some reasonable judgements [...]; nevertheless, this indicator is not to be rejected completely.

Worinn er dann von ein und andern Sachen raisonabel urtheilet. [...] Dessen jedoch ungeachtet/ist dieses indicans nicht gantz und gar zu verwerffen. (Geuder: 20)

What is quoted in page 18, namely that [...], is not altogether useless. [...]. One must, however, take into account that [...].

Nicht zwar gantz und gar vergebens ist/was in dem 18. Blat [...] wird angeführet/ daß nemlich/[...]. Hierauf ist aber zu wissen/daß [...]. (Geuder: 23)

4.5.3 *Making a distinction and refuting part of the claim*

One of the standard moves of the defending side in a scholarly disputation is introducing a distinction (*distinguo*). This move, which frequently served to introduce conceptual differentiation or the differentiation of cases, was also used by Geuder on various occasions. A typical example is Geuder's differentiation in the concept of fermentation ("Gährung").³⁷ Against Gehema's claim that there is no such thing as fermentation in the blood, which has to be damped by bloodletting, Geuder answers:

Here we have to take into consideration the fact that the word "fermentation" has different meanings: [Geuder then goes on to distinguish a special and a general sense of the term ("in sensu generalio"). As for the special sense used by Gehema, Geuder concedes Gehema's objection, whereas for the general sense he considers it common sense that there *can* be fermentation in the blood.]

36. This move is also characteristic of Leibniz's conciliatory approach in his "Nouveaux Essais" (cf. Chapter 6, sect. 6.6 in this volume).

37. Fermentation was a much-discussed concept in this period. As we mentioned before, it was analysed by Van Helmont, and Geuder himself published a treatise on the topic.

Hier ist nun wol zu bedencken/daß das Wort Gährung oder fermentation unterschiedliche Bedeutungen hat: [...]. (Geuder: 13 f.)

A similar move is Geuder's reaction to Gehema's claim that it is a mistake to treat fevers by prescribing cooling drinks, following the traditional rule that one should cure by the use of contraries ("contraria per contraria curiren"):

In order to answer these things thoroughly, one has to consider the matter carefully, look at it in the right light, and, in particular, avoid confusing different circumstances, clearly distinguishing them. [Geuder then goes on to discuss different aspects of heat in the body.]

Diese angeführte chosn gründlich zu beantworten/muß man die Sache wol überlegen/recht beym Liecht besehen/besonders aber die Umstände nicht confundiren/sondern wol unterscheiden. (Geuder: 86 f.)

4.5.4 Denying presuppositions of a claim

An interesting move Geuder uses several times and which we mentioned before consists in denying a presupposition. In some cases where Gehema criticized a certain type of treatment, Geuder answered by claiming that nobody ever used such a therapy (anymore or: in Germany). This particular move played a fundamental role in his defence against Gehema's attack on the practice of bloodletting, as the following quote shows:³⁸

This objection and this criticism would certainly be apposite if it were addressed to those who follow this malpractice or if it were written in a country where this treatment is frequently applied; in fact, however, it has to be considered incoherent and untimely because in Germany this kind of treatment is either not practiced at all or only by very few persons.

Gleichwie also diese Erinnerung und Bestrafung gar wol angewendet wäre/wann sie an die jenige/so diesem Mißbrauch nachhängen/oder in einem Land/da dergleichen oft und viel vorgehet/geschrieben wäre/so vor ungereimt und unzeitig ist sie zu halten/weilen in Teutschland der gleichen entweder von gar keinem oder von gar wenigen practicirt wird. (Geuder: 33 f.)

Later on in his text, Geuder claimed that Gehema's missionary zeal was also too late and anachronistic with respect to purging ("Ferners scheint auch dieser sein Eyfer allzu spat und gantz unzeitig zu seyn", Geuder: 61).

38. It is at this point in his text that Geuder inserts the digression with the narrative of his stay in Paris, where bloodletting and purging were still en vogue.

A related move consists in claiming that Gehema's objections only concern the use of *strong* purgatives, whereas the (normal) use of mild purgatives cannot be objected to:

What is furthermore claimed on page 54 and the following concerning the loss of the very useful mucus of the intestines and the awful and atrocious symptoms and complications after the use of purging means, and even fast death, does not at all concern those physicians who use mild purging means in an adequate dose and at the right moment.

Was ferners am 54. und folgenden Blättern von Beraubung deß so sehr dienlichen mucī intestinorum, von denen nach eingenommenen purgirenden Mitteln sich ereignenden greulichen und scheußlichen symptomatibus und Zufällen/ja gar einem jähen schnellen darauf erfolgenden Tod gemeldet wird; Gehet diejenige Medicos, welche sich gelinder purgirender Mittel in gebührender dosi und Zeit bedienen/gantz und gar nicht an. (Geuder: 63 f.)

4.5.5 *Showing logical or dialectical defects of a move made by the opponent*

This classic refutation move is quite frequent in Geuder's pamphlet and shows his familiarity with rules of disputation and logic.³⁹ In some cases he even uses the Latin technical terms for fallacies or parts of an argument, as in the following example, where Geuder presents a logical analysis of Gehema's attack on the use of cordials:

So much about the *premise* of this third argument, from which I now come to its *consequence*, which is perfectly useless: [...].

Und so viel von der Præmissa dieses dritten Arguments; von welcher ich auf dessen Consequenz komme/welche gar nichts taugt: [...]. (Geuder: 106)⁴⁰

One of Geuder's standard objections against Gehema is that he tends to overgeneralize, e.g. in arguing from individual cases of misuse to a universal malpractice. In the following example, where Geuder attacks Gehema's claim that purging is generally used to harm patients, Geuder refers to "two philosophical rules", namely that misuse of something is no argument against its proper use and that it is not acceptable to draw a general conclusion ("*universal* Schluß", Geuder: 67) from an individual case:

[To this] I only oppose two common and undisputable philosophical rules: *Abusus non tollit usum*, and *à particulari ad universale nulla valet consequentia*.

39. For the study of fallacies, cf. Hamblin (1970) and Walton (1987).

40. In other places Geuder finds fault with a self-contradiction in Gehema's argument ("er contradiciret sich gleichsam ins Angesicht", Geuder: 10) or diagnoses a *non-sequitur* ("Es folget aber gantz nicht/daß ...", Geuder: 3).

[...] und setze nichts weiter entgegen/als die zwey gewöhnliche und unlaugbare Philosophische Canones; Abusus non tollit usum, und à particulari ad universale nulla valet consequentia. (Geuder: 66)

Similarly, a few pages further on:

A strange conclusion, contravening all principles of logic and even contradicting common sense, is drawn on page 60 where Mr Gehema again commits a fallacy in arguing *à particulari ad universale*

Eine seltzame und allen Principiis Logicis, ja der gesunden Vernunft selbst zu wider lauffende Consequenz ist diejenige/welche am 60. Blat auf die Bahn gebracht wird/in dem Herr Gehema wiederum à particulari ad universale, einen verbotenen Schluß machet. (Geuder: 70)

Another fallacy Geuder complains about is the fallacy of questionable cause (“*Elenchus non caussae, ut caussae*”, Geuder: 51), where Gehema concludes from the fact that in many cases where bloodletting was performed the patients had died that bloodletting was the cause of death. A few pages later, Geuder makes explicit this fallacious argument of the type “post hoc, ergo propter hoc” and uses a *reductio ad absurdum* to counter it:⁴¹

If, concerning these illnesses, one would conclude absolutely in the following form: “This (therapy) was used, later on the patient died, therefore this therapy was the cause of death”, one would have to ban the best and noblest medications.

[...] wann man [...] so schlechter Dings den Schluß machen wolte: Diß oder jenes ist gebraucht worden/der Patient ist darauf gestorben/derohalben ist er auß dieser Ursachen gestorben; man die beste und edelste Mittel [...] verwerffen müßte. (Geuder: 53)

4.5.6 *Replying in kind*

Although replying in kind is not considered good Christian practice, as Geuder himself accepted, Geuder used this strategy in several cases. In the discussion of purging, Gehema had suggested the use of tobacco as a mild laxative, which prompted Geuder to reply that tobacco could with good reason be called a “murderous medical means” (“mit Fug und Recht ein Medicinisches Mordmittel genennt werden könte”, Geuder: 69), thereby echoing Gehema’s polemical claim.⁴² In two other cases, Geuder explicitly invoked the right to retort (*ius retorsionis*

41. Geuder uses *reductio ad absurdum* as a counter-move also in other places, e.g. p. 46.

42. The medicinal use of tobacco was also a topic of controversy in the 17th century (cf. Harley 1993; Ratia 2011).

or *ius talionis*), of which we mention the first one here.⁴³ In reply to Gehema's suggestion that Chinese tea might be a useful medication for constipation, Geuder uses one of Gehema's objections against other purgatives, namely that these substances do not reach the blood vessels at all:

Therefore, I shall for the moment be content to use the *ius retorsionis* and to ask him how the tea should have penetrated the blocked blood vessels.

So will ich jedoch vor dißmal mich benügen das Jus retorsionis zu gebrauchen/und [...] ihne fragen/wie dann das Thee-Getranck [...] in die verstopffte Adern tringen [...] mögen? (Geuder: 73)

4.5.7 *Appeal to experience*

One of Geuder's favourite moves in countering Gehema's criticism of the uselessness or even dangerousness of certain cures is his appeal to physicians' experience. In the course of his general reflections on the circumstances of bloodletting, he mentions the case of persons who recovered from a serious illness without having had a venesection:

[It should be remembered:] Secondly, that experience has frequently shown that those patients who did not accept bloodletting, even if they finally recovered from the illness, had to face more severe, acute and long-lasting complications than those who had a venesection.

2. Daß die Erfahrung vielfältig gewiesen/daß die jenige/so keine Aderlasse annehmen wollen/obwohlen sie von der Kranckheit endlichen genesen/doch mit schwerern/hefftigern und langwürigern Zufällen beladen worden/als andere/denen man eine Ader geöffnet. (Geuder: 52 f.)

And against Gehema's claim that bloodletting was generally not prescribed in cases of fever, Geuder quotes from a work of the "famous professor" Henricus Meibomius:

However, everyday experience and the testimony of so many capable writers, both ancient and modern, confirm that bloodletting has been advised with good success for febrile illnesses.

Hingegen aber die tägliche Erfahrung/und so vieler dapfferer Scribenten/so wol alter als neuer Testimonia bekräftigen/daß die Aderlasse in hitzigen Kranckheiten [...] mit gutem Success gerathen worden. (Geuder: 39)

43. For the second example, see Geuder: 63.

In some cases, Geuder even inserts small narratives of his own experience with successful venesection:⁴⁴

About a year ago, when I was still in Paris, I could see an obvious and palpable proof in the case of a German nobleman who had entrusted himself to my treatment and who had been suffering from a continuous fever. [...] therefore, a vein was opened, so that the blood could freely pass again, the fainting fits subsided, and, through the grace of God, the patient returned to his former state of health.

Ich hab vor ungefähr einem Jahr/als ich mich noch zu Pariß aufhielte/dessen eine augenscheinliche und handgreiffliche Prob/an einem vornehmen Teutschen von Adel/so sich unter meine Cur begeben/gesehen/welcher febre continua laborirt/[...] als wurde nachmal eine Ader geöffnet/worauß alsobald das Geblüt freyern Paß bekommen/die deliquia nachgelassen/und der Patient durch GOTTes Gnad in kurzem wieder zu voriger Gesundheit gelangt. (Geuder: 32 f.)

Although referring to experience was considered a traditionalist move by Gehema, Geuder (and his intended audience?) obviously considered it such a strong argument that he would not deny himself the use of this move. It is, furthermore, worth remembering that Gehema himself used this move on occasion and that Geuder also recognized the importance of experiments for modern science.

4.5.8 *The demand to publish secret recipes*

A final move, which was prompted by Gehema's reluctance to disclose details of his cures and his medical preparations, was Geuder's demand for Gehema to publish his secrets. At the very end of his postscript, Geuder writes:

He should decide to reveal his secrets. By doing so he would not only perform a work of compassion pleasing to God, but also earn immortal gratitude and renown from everyone. As long, however, as he does not do so there will be reasonable doubt if he can, in fact, make true what he prides himself on.

Ey so resolvire er sich/seine Geheimnisse zu offenbaren/so wird er nicht allein ein löbliches und GOTT wolgefälliges Werck der Barmhertzigkeit üben/sondern zugleich auch einen unsterblichen Danck und Nahmen bey aller Welt erwerben. So lang er aber dieses nicht thut/so zweifelt man nicht unbillich/ob er das/wessen er sich rühmet/praestiren werde können. (Geuder: 113)

This final challenge is based on a principle, which he mentioned just before, that it is not enough to reject another person's healing method ("Methodum medendi")

44. For further examples of Geuder's referring to his own experience as a practitioner of medicine cf. p. 37, 65.

without establishing a better one oneself (Geuder: 112). This is certainly a dubious principle, but it served his purpose well.

5. The dynamics and the result of the controversy

If we were asked whether this polemical exchange between Gehema and Geuder was a *dispute* or a *controversy*, in the sense in which Marcelo Dascal uses the terms, we would be hard put to give a simple answer.⁴⁵ One of the reasons for this difficulty is the dynamics of the exchange. Gehema's opening moves are very much in the spirit of a dispute, trying to win the game by using various stratagems, including a wide array of rhetorical devices. He considers himself to be in firm possession of the truth and tries to discourage his opponents and to convert those who still lack a fixed position in this conflict. His attack is founded on theoretical views and a set of values that are in strict opposition to the established humoral doctrines. Therefore, there is no obvious way how closure could be reached in the exchange initiated by him. Geuder, on the other hand, early on in his contribution tries to change the rules of the game by insisting on a number of principles, including politeness, open-mindedness, and eclecticism. His view of the rules of scientific discourse is mirrored in some of his moves, like making concessions, combining concessions with modifications of the opponent's position, and seeking clarification by making distinctions. So his approach is generally much closer to a "deliberative model" – a *controversy* in Dascal's terminology – than Gehema's. As for Geuder's idea of a closing, he obviously does not believe in a resolution of the conflict. On the contrary, he has no doubt that Gehema will not leave his refutation unavenged ("ungerochen", Gehema: 111). If Gehema should respond, he asks him to use more moderation in his approach. Furthermore, he professes that he (Geuder) would be grateful if Gehema could show him any errors in his reasoning and provide more important proofs ("wichtigere Beweisthümer", Geuder: 111).⁴⁶ In fact, Gehema briefly referred to his controversy with Geuder later on in a pamphlet recounting different controversies in which he had been involved (Gehema 1691), without, however, going into much detail. He complained that Geuder had misrepresented his intention and had attacked him unfairly. He also mentioned that he had written a detailed refutation of Geuder's pamphlet, which had, however, not yet been published by

45. On these ideal types of polemical exchanges, cf. Dascal (1998).

46. Taking in good part the criticism of errors is an attitude favoured by the ideal of collaboration in the Republic of Letters.

the book-dealer in Dresden (Gehema 1691: 30). As far as we know, this refutation was never printed. So this was the end at least of this thread of the controversy.⁴⁷

If we wanted to determine the result and the possible benefit of this controversy, we would have to say that Gehema did certainly not reach his aim of converting a medical man like Geuder and that there was obviously no consensus forthcoming as to the validity of the two competing medical doctrines. In the end, Geuder's eclecticist position was probably more attractive to practitioners of medicine than Gehema's purist view. As for the general reader, following this controversy could give him a vivid idea of what was at stake in this debate.

Finally, Geuder predicts in his epilogue that if Gehema would not make public the secret of his medications, reasonable medical men would not be impressed by mere invectives and would remain with their highly developed and proven medical methods (Geuder: 113). As a matter of fact, although the Galenic doctrines were widely discredited by the end of the 17th century, clinical medicine continued to use traditional treatments, maybe because the patients themselves were conservative and preferred being treated with familiar therapies (cf. Porter 2000: 231). So "much of medical practice remained the same into the 18th century: purging, bleeding and all the other means of expelling disease and putrefaction were carried out as enthusiastically as before, despite the attempts by Helmontian chemical physicians to stop their use" (Wear 2000: 359).⁴⁸

As for the history of controversies, these two pamphlets give us a good idea of the wide range of moves and the sophisticated strategies available to controversialists of the late 17th century and of the tasks they had to solve. Protagonists like Gehema and Geuder not only had a thorough grasp of their contemporary field of science, but were also experienced in the art of disputation and effectively used the resources of dialectic and rhetoric for a controversy in the vernacular. They knew how to organize the quasi-dialogic structure of a pamphlet and to make use of devices like asides and digressions to solve problems of topic-management. They successfully worked at the task of using their mother tongue for the purpose of addressing both a professional audience and the general reader. And, finally, they knew the rules of academic discourse, even if they sometimes tended to violate them, as Gehema did with principles of politeness and moderation.

47. In 1691, Conrad Horlacher, another medical man, published a pamphlet attacking bloodletting and purging as "unnatural" treatments. In this pamphlet he also briefly referred to the Gehema-Geuder controversy, siding with Gehema and noting the many concessions Geuder had to make in his "unsuccessful attempt to vindicate bloodletting and purging" ("die Purgir=Mittel/ und das Aderlassen vergebens gerettet"). Gehema repeated his arguments for and against certain forms of treatment of fevers in a later pamphlet (Gehema 1703).

48. It is worth noting that a major controversy on bloodletting arose as late as the 1850s in Edinburgh (cf. King 1961).

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The pamphlet and its alternatives around 1700

A thread of the Pietist controversy (Johann Friedrich Mayer vs. August Hermann Francke)

Gerd Fritz and Juliane Glüer

1. Introduction

In the history of the communication form of controversy in the Early Modern period, a central role is played by the pamphlet. The pragmatic form of the pamphlet is essentially based on the disputation procedure which had been taught and practised in European universities since the late Middle Ages. It was to remain the standard text form for a controversy contribution in the *République des Lettres* well into the eighteenth century. The present study will show how, in the controversy between representatives of Protestant orthodoxy and the Pietists, August Hermann Francke, a proponent of Pietism, formulated basic problems of controversies conducted by means of pamphlets and sought alternatives to this form of dispute, e.g. in the form of open letters. This search can be seen to indicate an aspect of a crisis in the theory and practice of controversy, a crisis which was also brought on by a gradual growth in importance of other text forms, such as reviews, and other media, such as journals.¹ So the historical change recognisable around 1700 appears to concern not only the practice of pamphlet writing as such, but rather the complete repertoire of instruments of controversy and thus also the role

1. On the role of journals and reviews in controversies of the later 18th century cf. Chapters 7 and 8 in this volume.

of the pamphlet within this complete repertoire.² Generally speaking, what we can observe here is an increasing flexibility in the techniques of controversy.³

2. Advantages and problems of the classical pamphlet form

The pragmatic form of the pamphlet is essentially based on the following constellation of controversy contributions: Participant A formulates a number of assertions, judgments or accusations and substantiates them if necessary. Participant B refers to these assertions (judgments, accusations) point by point and tries to refute them or formulate objections to them. In the third step, Participant A in turn attempts to dismiss the refutations point by point and support his own statements. This procedure can be continued in further steps of the same kind. Prototypical pamphlets are refutations, and their most striking feature is the point-by-point procedure. In the seventeenth century, pamphlets of this kind were the main instrument for conducting controversies, and prominent authors such as Kepler, Hobbes and Leibniz wrote them as a matter of course. There are, however, indications that the authors of the day were perfectly aware of the disadvantages of the pamphlet method. This claim is supported by critical remarks such as Hobbes' complaint about "senseless disputes" in scholastic philosophy ("The Questions concerning Liberty, Necessity, and Chance", 1656: 342).⁴

A close study of the pragmatic organization of the practice of exchanging pamphlets reveals both advantages and disadvantages of this procedure for conducting controversies. A point particularly worthy of consideration is the principle of referring to and refuting each of the opponent's arguments in the prescribed sequence. This principle of text structure has the advantage that it is an obligatory pattern for the form of controversy contributions and thus also prescribes quality standards. It is beneficial in that it secures a thematically ordered procedure and thereby also specifies relevance criteria. At the same time, it provides a standard

2. A valuable starting-point for our historical-pragmatic analysis is provided by the historical study by Gierl (1997), which analyses the early phase of the controversy between orthodox Protestant theologians and Pietists (1689–1697). On inner-protestant controversies in the second half of the 16th century cf. Dingel (2013). Inter-confessional controversies around 1600 are analyzed by Gloning (1999), Glüer (2000) and Bremer (2005).

3. On Luther's early attempts to use more flexible means of debate, e.g. in his controversy with Emser, cf. Bremer (2005: 98ff.).

4. The practice of exchanging pamphlets in religious controversies was already criticized in the sixteenth century (cf. the examples given in Arnold's "Unpartheyische(r) Kirchen = und Ketzler = Historie", 'Impartial History of the Church and Heresy', 1729, Vol. I: 18 and 22).

for evaluating success and failure in the controversy. If the given points are processed incompletely or in the wrong order, these deficiencies can decide on winning or losing in the controversy (cf. Gloning 1999: 102ff.). On the other hand, this procedure creates problems with which contemporaries had to struggle and which, in some cases, they explicitly mentioned. Of these problems, we should like to point out five:

1. Forcing refutations to be complete or “thorough” often leads to extremely long, complex and confusing texts. This is particularly true of texts in later phases of a controversy, in which the point-by-point procedure unfolds a cumulative effect. Several authors evidently realised how awkward such confused texts could be for the reader and attempted to alleviate the situation by including summaries and an index of contents. The authors, too, were also often confronted with practical problems since they found themselves compelled to answer numerous and lengthy pamphlets in great detail.⁵
2. The point-by-point procedure calls for the repetition of arguments, it potentially leads to a purely mechanical continuation of the controversy, and it is a hindrance to a further development of the *status controversiae*.
3. The procedure impedes the introduction of new topics and information so that in this respect, too, development of the *status controversiae* is prevented. Authors attempt to avoid this problem by relaxing the strict point-by-point principle and inserting text documentation or coherent representations of their own position, in the form of digressions (cf. Section 6.2.3).
4. In some cases the original selection or sequence of topics (or arguments) is not the best for treating the problem under discussion, with the result that the whole controversy suffers from this unfavourable text structure.⁶ For example, unimportant topics continue to be discussed, which are then detrimental to the thematic coherence of the texts.
5. The necessity of always refuting all the arguments too easily leads to a certain relentless determination which is an obstacle to observing principles of politeness and relevance and thus makes the atmosphere of the controversy (even) worse.

These and other problems made authors look for alternatives to the use of pamphlets and choose other media and forms of text organization.

5. Philipp Jacob Spener refused to reply to a pamphlet of 1200 pages in 1697 (cf. Gierl 1997: 181).

6. An example of this problem can be found in the thematic structure of the most important texts in the Hobbes-Bramhall controversy (cf. the case study in Chapter 3 of the present volume).

August Hermann Francke had written various defences in the classical pamphlet format until 1694. As early as his *Verantwortung* ('Vindication') of 1694, however, he more than once criticized the practice of writing pamphlets. He speaks of *unnützes streiten* 'useless arguing' (Francke, *Verantwortung* 1694: 186) and asks 'What use are apologies if they [i.e. his opponents] refuse to recognise any vindication although they have no reasonable argument to bring against it?' ("Wozu helfen denn die Apologien/wenn man keine Verantwortung wil gelten lassen/ob man gleich nichts tüchtiges darwieder auffzubringen hat?", *Verantwortung* 1694: 171). He subsequently did not publish any pamphlets for the next thirteen years. When he found himself compelled to react to accusations made by Johann Friedrich Mayer in 1706, in two cases he chose the form of the open letter as an alternative text form. It was not until these reactions failed to make their impact that he returned to the classical pamphlet in a final attempt 'to stop his [opponent's] mouth' ("das Maul zu stopfen").

In the following, we shall first give a brief sketch of A. H. Francke's "career" as a controversialist, the polemical strategies of the orthodox party and Francke's "theory" of controversy. In the second part of the study, we shall consider Francke's repertoire of moves in his last pamphlet, the *Verantwortung* of 1707, and compare textual organization and argumentative procedures in alternatives to the pamphlet, i.e. the open letters already mentioned and an earlier polemical sermon.

3. A. H. Francke's career in controversies

Towards the end of the seventeenth century, a religious movement grew round Philipp Jacob Spener, his pupil August Hermann Francke and others whose goal was to improve the practice of piety and thereby reform anew the Protestant Church, which had emerged from Luther's Reformation. By this movement, the official Church was faced with a crisis which it tried to overcome by applying a traditional procedure, the so-called *elenchus* (cf. Gierl 1997: 82ff.), which consisted in a public dispute with Spener and Francke in the manner of a heresy trial, aiming at excommunication and condemnation or conversion of the proponents of the alleged false doctrine. To the Pietists – who long resisted this label – this dispute with its strong emphasis on questions of doctrine seemed to detract from their main focus, the improvement in the *practice* of piety. At times they were reluctant to enter into the dispute, they publicly reflected on the problems of the predominant form of theological debate and sought alternative means of defence, whereas their orthodox adversaries expected them to defend themselves following the traditional pattern.

The Pietists' quest for an improvement of religious life comprised a wide range of aspects, which became topics of dispute in the course of the controversy. The

matters of dispute included the status of pious life (the doctrine of righteousness), its manifestation in everyday things (e.g. the problem of *adiaphora*, those areas not specifically singled out in the Scriptures as sinful, yet considered by many religious groups to be of dubious nature), the yardstick for a Christian life (the problem with “perfection”), the weighting of personal experiences (inner calling, conversion, illumination) as compared with learned theological knowledge, the role of the laity in the Church and the holding of private religious meetings (*collegia pietatis*, the formation of conventicles). To these central Pietist themes the opposing side added other contentious points which related to extreme positions of religious mavericks and mystic and spiritualist traditions.

August Hermann Francke was suspicious to the orthodox early on in his career.⁷ The Leipzig Dispute (1689–1692) flared up over Francke’s “*Collegia biblica*”, which aroused the suspicion of the formation of a conventicle. The case led to a court examination which was to investigate Francke’s orthodoxy and which finally exonerated him. This conflict was detrimental to Francke’s next attempt to further his career. At his inauguration in Erfurt in 1690 he was already a controversial figure and was obliged to accept dismissal from his parochial duties as early as 1691. Attacks by the orthodox party in these early years were primarily directed at his practical work in the parish. On account of this, Francke’s replies used a characteristic defence strategy: He claimed his activities to be fully justified, he defended himself by portraying the harmless nature of his practice, and he accused the prosecution of distorting the facts: “Things, which in themselves are beyond reproach, only have to be given a despicable name for everyone to believe a great crime has been committed” (“So darff man nur Dingen/die an sich selbst untadelhafft sind/einen verhasseten Nahmen geben/so meynet jederman/daß ein groß Verbrechen vorhanden sey”, Francke, *Verantwortung*, 1694: 176).

Francke’s orthodox adversaries in Halle, the next place his vocation took him to, also soon became active. Now their charges were graver. In a pamphlet with the title *Eben = Bild Der Pietisterey* (“Image of Pietism”, 1691), they demanded of Francke a clarification of his stance in central theological points and above all a clarification of his relationship with groups of enthusiasts. Furthermore, they criticized Francke’s zeal for reform, which, they purported, was aimed at several orthodox ministers and their performance of their pastoral office, and, finally, they also referred to dogmatic questions. Another dispute, which would have

7. Detailed accounts of Francke’s history of controversies with the titles of the different contributions are to be found in the introduction to Peschke’s edition of Francke’s pamphlets and in Baumgarten’s history of theological conflicts, which was still quite close to the events (Baumgarten 1766: 1254ff.). For work on Francke’s early contributions to the Pietist controversy, cf. Gloning (2013) and Yoder (2015).

involved a written controversy with Valentin Ernst Löscher, who planned a volume especially against the Halle Pietism within the framework of his *Timotheus verinus* (1718–1721), was defused by Francke in the so-called *Merseburger Religionsgespräche* “Merseburg Religious Disputation” in 1719.⁸

A debate with Albrecht Christian Roth, Archdeacon at the Ulrich Church in Halle, and above all the later dispute with Johann Friedrich Mayer, rector in Hamburg and professor of theology at Kiel and Greifswald, provide rich material for the history of controversy and form the focus of the analysis in this chapter. Roth greeted Francke in Halle with a detailed catalogue of charges, against which Francke defended himself in the pulpit with a polemical sermon (*Der Fall und die Wiederaufrichtung der wahren Gerechtigkeit*, “The Fall and Reinstatement of True Righteousness”, 1692). Roth replied to this sermon with his pamphlet *Eylfertiges Bedencken* (“Speedy Objection”), to which Francke referred in several paragraphs of his *Verantwortung* of 1694.

The controversy against Mayer which we analyse took place from 1705 to 1707 and consists of six contributions.⁹ The preparatory path was paved back in the early years of Francke’s career. In 1690 Mayer had sent a report on Francke to the council of the city of Erfurt, from which Spener protected Francke in his article entitled *Sieg der Wahrheit und der Unschuld* “Victory of Truth and Innocence”. Mayer was next provoked by Francke’s journal *Observationes biblicae*, published in 1695, in which Francke commented on Luther’s translation of the Bible and which also served as defence from Mayer’s attack.¹⁰ Mayer’s disputation *de nova et abominanda trinitate* (1705) and Francke’s *Antwortschreiben* “Reply” (1706) brought the points of conflict into focus which were to appear in Francke’s *Verantwortung* (1707). This pamphlet closed the controversy with Mayer and served to defend Francke above all from Mayer’s report *Eines Schwedischen Theologi Kurtzer Bericht von Pietisten* “Short Report on the Pietists by a Swedish Theologian” which Mayer had published anonymously in 1706, and from Mayer’s further assault in the foreword to the *Warnung vor den Observationes* “Warning Against the Observationes” (2nd edition 1707). Mayer’s *Kurtzer Bericht* is also countered by Francke’s *Beantwortung eines Sendschreibens* “Reply to a Missive” (1706). The survey below represents the sequence of texts and the development of the controversy.

8. The *Timotheus Verinus* is considered to be “the decisive and final statement of Lutheran Orthodoxy against Pietism” (“die entscheidende und abschließende Stellungnahme der lutherischen Orthodoxie gegen den Pietismus”, Rotermund 1959: 22).

9. The correspondence between Mayer and the theological faculty of the University of Halle forms an additional part of this controversy.

10. The *Observationes* were established in January 1695. The answer to Mayer appeared in the May number.

The development of the controversy – a survey

Francke: *Fall und Wiederaufrichtung* 1692

[Roth:] *Eylfertige Bedenken* 1692

[anon.] *Ausführliche Beschreibung des Unfugs*
1693

Francke: *Verantwortung* 1694

Francke: *Observationes biblicae* Jan. 1695

Mayer: *Anweisung zum Recht Lutherischen
Gebrauch Des Heiligen Psalter = Buchs/* 1695

Francke: *Observationes biblicae*. May 1695

Mayer's disputation: *de nova et abominanda
trinitate Pietistarum* 1705

Francke: *Antwortschreiben* 1706

Mayer (anon.): *Eines schwedischen Theologi
Kurtzer Bericht* Nov. 1706

Francke: *Beantwortung eines Sendschreibens*
1706

Mayer: Preface to: *Warnung an die Studiosos
theologiae* (2nd ed.) 1707

Francke: *Verantwortung* 1707

4. Accusations from the orthodox side: Mayer's and Roth's attacks

In this section we shall carry out a pragmatic analysis of the dispute as waged by the orthodox side. We shall begin by describing the situation that was the starting point for the Pietist reaction, thereby showing the communicative problems Francke had to solve. Our point of departure is the observation that in the Pietism controversy the orthodox camp was the assailant. Their attacks were either typical indictments, listing a catalogue of charges, or pieces in which the accusers revealed secret or private proceedings, for example private correspondence by the opposing side.

The main accusation made to Pietists was the formation of a sect or *Ketzerey* "heresy". The charge of heresy not only explains the characteristics of the defence, but from the start it also leads to a striking structural feature of orthodox argumentation. Since the charge was deviation from true faith, the orthodox party claimed possession of the truth from the outset. The controversy was asymmetrical in structure since orthodox doctrine was not presented for discussion, as was strikingly apparent in the controversy with Mayer.

An important aspect of the accusation of sectarianism was the attempt to claim that several suspects formed one coherent group. For this reason, the label “Pietist” was applied in order to arouse the suspicion of a united front. The label was used in accusations and in the apportioning of blame until it became a derogatory term, in which the creation of scapegoats found its linguistic expression (*daß sie alles/was nur böses vorgegangen/denenselben in die Schuhe gegossen* “so that they laid all the evil which had occurred at their door”, Francke, *Antwortschreiben*: 228). Those defamed in this way immediately demanded a definition of the term *Pietist*, without which they would remain unable to disclaim their membership of such a group. This explains the central role of the problem of clarifying the term *Pietist* in the whole controversy (cf. Baumgarten 1766: 1255; Gierl 1997: 96). In the Mayer-Francke dispute, this labelling question was also the central issue. The starting point was a definition given by Mayer:

In my opinion, a Pietist is an enthusiast who, under the appearance of godliness, tempts souls or is himself led into temptation.

Ein Pietist heisset mir einen Schwärmer/der unter dem Schein der Gottseligkeit die Seelen verführet/oder sich verführen lässet. (Mayer, *Warnung*: 4)

This definition has recourse in a very general way to the accusation of heresy (*Schwärmer*, “enthusiasts”) and the danger of temptation and adds an additional charge, i.e. that of hypocrisy (*unter dem Schein der Gottseligkeit*, “under the appearance of godliness”). This extra charge was quite insidious, as it was based on a view shared by many of the so-called Pietists, namely that it was important for a Christian to lead a godly life, turning it against them by claiming that this aspiration was sheer hypocrisy, which made it hard for the defending party to argue against the label, since the suspicion of hypocrisy is difficult to dispel.

In addition, the appearance of unity in the group suggested by the label made it difficult for the individuals under attack to defend themselves, as it was often not clear which accusations were being levelled at which individuals or which ones were being levelled at the group as a whole. Mayer, for instance, cited positions of radicals (Dippel, Arnold, Petersen) as if they were representative of the whole group constructed by the orthodox party. Those presumptive members of the group who, according to their self-presentation, appeared more harmless were accused of “subtlety” (“Subtilität”), a damaging ascription closely related to hypocrisy.

It was also a feature of the orthodox attack to exaggerate the range of responsibility of individual opponents. Mayer and Roth, for instance, held Francke responsible, at least partly, for the widely differing errors of various other people’s ways. Apparent concessions and qualifications in the orthodox accusations increased the difficulty of countering the formulated charges:

I do not deny that among the Pietists, as they are called, one may find devout and honest people who are not guilty of the above-mentioned errors and are perhaps not guilty of all the misdemeanours [...]

Ich leugne gar nicht/daß man nicht unter den Pietisten/wie man sie nennet/sollte fromme und ehrliche Leuthe antreffen/die sich oben angeführter Irrthümer/auch vielleicht nicht aller Mißbräuche gar nicht schuldig wissen [...].

(*Ebenbild der Pietisterey*, B1b)

I have not written all this to the end of wanting to accuse innocent people of the slightest thing.

Solches alles aber habe ich nicht zu dem Ende geschrieben/daß ich etwan unschuldigen Leuten das geringste andichten wolle.

(*Ebenbild der Pietisterey*, B2b)

The use of such an unspecific label as *Pietist* could also serve to conceal insinuation strategies. Such strategies were certainly of disadvantage to the persons under attack because whoever put his defence in words made explicit the accusations that he felt were being levelled at him. In such a case the assailant could, if necessary, easily argue his way out of any objections to the accusations being unjustified by claiming that he did not have this particular adversary in mind at all.

For the orthodox side, the fundamental problem in their attacks on Francke was the difficulty in finding sufficient proof for the charge of heresy. Roth, for example, openly conceded that the charge was based on mere rumours (“from common saying and public accusation”, “aus gemeiner Sage und öffentlicher Beschuldigung”, *Ebenbild der Pietisterey*: A2b) and that it was not yet actionable (“However, the matter was not well known enough to be accepted everywhere, and in court, as proven”, “Jedoch war die Sache noch nicht so bekandt/daß man es überall, auch vor Gerichte, als ein erwiesenes hätte passiren lassen müssen”, *Eylfertiges Bedencken*: 13). In another case, Mayer restricted his comments to the supposition that evidence would no doubt be producible (Mayer, *Warnung*: B3b). In this situation, the orthodox group adopted a strategy of shifting the burden of proof by forcing the adversary to produce counter-evidence (e.g. *Ebenbild der Pietisterey*: B2a) and by increasing the burden of proof. For example, Roth suggested that Francke would have lost the game the moment he could not substantiate his conformity with established doctrine on one single point (*Eylfertiges Bedencken*: 60). Another strategy was to discredit the Pietists’ defence from the outset by accusing them of denial and hypocrisy:

Nobody should care about the Pietists’ denials, for they have faithfully learnt them from their father, Satan, who is the father of lies. Lies, denials and blasphemy are their strongest weapons.

An das Leugnen der Pietisten darff sich niemand kehren/denn das haben sie von ihrem Vater/dem Satan/so ein Vater ist der Lügen/treulichst gelernet. Lügen/Leugnen und Lästern sind ihre stärckesten Waffen. (Mayer, Kurtzer Bericht: 11)

However, by thus handling the business of evidence badly, the orthodox side gave the Pietists a trump card. In his own defence, Francke tried to unmask these actions and strategies of his adversaries. The following objections to the orthodox party's way of proceeding are particularly noteworthy:¹¹

- The opponent stoops to calumnies of the worst kind (*malitiosissimum calumniae genus*, Francke, *Verantwortung*: 272) and to accusations of whose lack of justification the opponent himself must have been perfectly aware (*falsches Geschrey* “false rumours”).
- The opponent tries to conjure up evidence by “maliciously twisting their words” (“malitiöse Verdrehung und Verkehrung ihrer Worte”, Francke, *Verantwortung*: 319), by quoting falsely or by one-sided interpretation.
- The opponent intensifies his accusations by jumping to exaggerated conclusions (Francke, *Verantwortung*: 271, 310, 313).
- The opponent is unjust in his assessment since he does not judge everyone by the same standards.

From the Pietists' point of view, the whole controversy was a misguided departure from the biblically founded endeavour to protect believers from false doctrines. To them, the orthodox attacks resembled a purposeful hounding of alleged heretics, and the orthodox group would not even stop at turning innocent people into heretics. On one occasion, Francke speaks of a “smithy for forging heretics” (“Ketzerschmiede”, *Der Fall und die Wiederaufrichtung*, Francke: 71). In the Pietists' eyes, the traditional apparatus of controversy was used inappropriately and so the apparatus itself became an object of criticism to them.

5. Francke's theory of controversy

Having been prompted to explain his views of controversy on account of his unwillingness to adopt the traditional form of dispute, Francke used his contributions to the controversy, both his prefaces and the main body of his texts, to publish his ideas about the proper form of a controversy. In the course of his examination of his opponents' writings, Francke developed what one could call a theory of controversy, contrasting the form of polemic his opponents practiced,

¹¹. Further objections are mentioned in Section 6.3 in our discussion of the form of the pamphlet.

the “quarrel” (“Zanck”), with a better form of controversy which he favoured. This was, of course, part of his defence strategy.

In the framework of this theory, Francke tried to integrate the form of controversies into a religious conception of life, judging controversies by religious criteria. Thus he introduced a general contrast of secular and spiritual principles of life into the theory of controversy, distinguishing between fighting with the “weapons of the flesh” (“fleischlichen Waffen”) and acting “in God” (e.g. Francke, *Verantwortung*, 1694: 378). While the weapons of the flesh, according to Francke, were intended to serve the “disparagement” (“unglimpff”) of the opponent, the spiritual weapons aimed “at improvement and edification, but by no means at insulting anyone” (“auff die Besserung und Erbauung/keines weges aber auff jemandes Beschimpffung”, Francke, *Verantwortung*: 177). As “weapons of the flesh” Francke considered the calumnies he complained of, the “satirical, derisive and prickly manner of writing” (“satyrische/spöttische und stachlichte Schreib-Art”) and the practice of retaliation, for example, exchanging “abuse for abuse” (“Schelt-Worte mit Schelt-Worten”, Francke, *Verantwortung*: 378, likewise 277), which had long been customary under the *ius retorsionis*.¹² Instead, a Christian form of argumentation should supersede the current practice, following principles of meekness (“Sanfftmuth”) and sincere compassion (“hertzliches Erbarmen”, Francke, *Verantwortung*: 177). Nevertheless it ought to remain permissible to call a spade a spade and to speak “in such words that express the thing as it is” (“mit solchen Worten [...] /welche die Sache selbst so/wie sie ist/ausdrucken”, Francke, *Verantwortung*: 378).

One of the usual reasons for writing pamphlets was to defend one’s own reputation (cf. Gloning 1999: 94). Following Christ’s example, Francke no longer considered this necessary. He wished to adopt the patience of Christ and bear abuse in silence (Francke, *Verantwortung*: 277). He thus considered himself free of secular pressure:

[...] in that I do not seek to please man, but God, and rather keep my conscience pure and immaculate from presumptuous judgment than be esteemed by man for a while.

[...] indem ich nicht suche/Menschen zu gefallen/sondern Gott/und lieber mein Gewissen von vermessenem Urtheil [...] rein und unbefleckt behalten will/als von Menschen eine Zeitlang aestimiert werden. (Francke, *Verantwortung*: 337)

These religious principles are in harmony with a psychological attitude according to which a controversy should be free of emotion, since emotion impedes a calm

12. For a Christian, retort is, of course, a problematic move, as it is contrary to Christ’s commandment to “turn the other cheek” (Matthew 5: 39). However, Francke had still claimed the legal principle (*ius retorsionis*) for himself in the *Observationes* (see *Observationes* May 1695: 302).

and just assessment of the case (e.g. Francke, *Verantwortung*: 324). The negative effects of malice and quarrelsomeness (“Boßhaftigkeit” and “Zancksucht”) are repeatedly mentioned in Francke’s contributions to the controversy (e.g. Francke, *Beantwortung*: 261). This psychological aspect of his controversy theory need not be religiously motivated; it also fits in well with contemporaneous enlightened assumptions.

A striking aspect of his controversy theory, and one which is essential to Francke, is the opinion that pamphlets should primarily serve to edify:

Should anyone believe that I find pleasure in such [i.e. polemical] writings, he errs greatly; for my soul is disgusted by them: since I know and recognise in truth that railing, satirising and suchlike things which entice the worldly sense, whether they happen by mouth or in written form, in no way encourage true edification, which should be the only purpose even in pamphlets, by contrast they impede much good even in an otherwise just thing, equally, among other things, an attitude of derision is aroused and much unchristian gossip and godless ways are notably increased by it.

Meynet iemand/daß ich an dergleichen Schriften einen Gefallen habe/der irret sich weit; Denn meine Seele hat vielmehr einen grossen Eckel daran: sintemal ich weiß/und erkenne in der Wahrheit/daß durch railliren/satyrisieren/und dergleichen den irdischen Sinn kützelnde Dinge/sie geschehen mündlich oder schriftlich/die wahre Erbauung/die doch auch in Streit-Schriften der einige Zweck seyn solte/keineswegs befördert/hingegen viel gutes/auch bey einer sonst gerechten Sache/gehindert/der Spott-Geist bey anderm ebenmässig erreget/und mancherley unchristliches Geschwätz und gottloses Wesen dadurch mercklich vermehret wird.

(Francke, *Verantwortung*: 378)

Likewise, in the *Beantwortung* he writes: “Therefore, no one has to expect of us such a long-winded dispute, which usually causes more nuisance than edification anyway” (“Demnach hat niemand dergleichen langweiligen Zanck/wodurch ohne dem mehr Aergerniß als Erbauung gestiftet zu werden pflaget/von uns zu erwarten”, Francke, *Beantwortung*: 262). Francke supports this point of view with a quotation from the Apostle Paul: “But if any man seem to be contentious, we have no such custom, neither the churches of God” (I. Corinthians 11: 16).¹³

These remarks already indicate Francke’s negative attitude towards the traditional practice of writing pamphlets. His attitude is essentially based on a principle of usefulness, a principle which to him has religious grounds. The principle centres on the demand made on man to use his lifetime given by God responsibly. To Francke, this means that in a time of religious decline, as he judges his times, it is the duty of

13. For an opponent who did not want edification but only wished to prove he was right this might sound like an attempt at dodging the issue.

a clergyman to urge his fellow human beings to repent and live in a manner pleasing in the sight of God, but not to waste time arguing with quarrelsome opponents:

Those who are called to the office of teaching should therefore not become involved in a quarrel but devote all their time, work and zest unanimously towards rousing people to thorough repentance and righteous conversion from sin, and they should learn this, namely to flee from the anger already hanging over them and future anger. [...] since both general corruption and punishment from God Himself should remind everyone that he has something far more necessary to do than quarrel with his fellows.

[...] And how should I leave the harvest which God has given me and waste precious time with such useless quarrellers?

Um deswillen sollten dann billig diejenigen/so zum Lehr-Amt bestellet sind/sich in keinen Streit mit einander verwickeln/sondern vielmehr alle ihre Zeit/Arbeit und Eifer einmüthiglich dahin richten/daß die Menschen zur gründlichen Hertzens-Busse und rechtschaffenen Bekehrung von Sünden aufgewecket werden/und dieses einige recht lernen möchten/nemlich dem bereits über ihnen schwebenden und noch zukünftigen Zorn zu entfliehen.

[...] da sowohl das allgemeine Verderben/als die Straffen Gottes selbst einen jeden erinnern sollten/daß er viel was nöthigers zu thun habe/als mit seinen Mit-Knechten zu haddern.

[...] Und wie solte ich die Erndte lassen/die mir GOTT verliehen/und die edle Zeit mit solchen unnützen Zänckern verderben? (Francke, Verantwortung: 270f.)

The topos of the lack of time, which also belongs to the standard repertoire of earlier theological pamphlets, turns into a serious argument, which Francke employs to justify previous and future refusals to participate in a controversy (cf. Francke, *Verantwortung*: 377).

In Francke's eyes customary controversies were useless, mainly because the protagonists pursued an inappropriate mode of argumentation. An example of this practice was Mayer, who, seen from Francke's point of view, maliciously assumed a Pietist refutation to be pure denial and hypocrisy and refused to be convinced of the truth even by a "crystal-clear demonstration" ("sonnenklare Remonstration", Francke, *Beantwortung*: 261). The traditional procedure of exchanging pamphlets adopted in this controversy was repugnant to Francke since, in his view, his adversaries employed unfair methods, violated communication principles, denigrated his own attempts at defence and refused him a real chance to defend himself. All in all, participation in this kind of controversy appeared futile. Francke therefore turned his back on old-style controversy.

From this it follows that Francke personally no longer accepted the obligation to refute his opponents (Francke, *Verantwortung*: 378). Nevertheless he was, of course, well aware of the customary polemical practice. When looking back on

disputes of the past in which he had let the adversary have the final word or had chosen not to listen to unjustified blame, he adamantly denied the implication that the other side had won or that he had not been capable of offering a thorough refutation (“gründliche Widerrede”, Francke, *Verantwortung*: 270). As if wanting to present proof of his continuing ability to refute his opponents’ accusations, he finally wrote his *Verantwortung* of 1707.

In addition to the arguments against the traditional practice of controversy mentioned so far, Francke also doubted the usefulness of controversies to the laity. Traditionally, public theological debates in the vernacular were chiefly carried out for the sake of the theological laity, which, as frequently explicitly shown in the title of pamphlets, was to be protected by a warning against false doctrine (cf. Gierl 1997: 62ff., 69ff.). This is a feature specific to religious controversies. It does not normally occur in scientific controversies of the period.

As late as the *Beantwortung* of 1706, Francke did not reject the *elenchus* as a procedure based on the biblical demand of convicting and instructing a false believer as long as the examination of an alleged heretic was legitimate and was guided by modesty and aimed at asserting the truth (Francke, *Beantwortung*: 262). Here Francke referred to the *locus classicus* from the Epistle of Paul to Titus, that one “may be able by sound doctrine both to exhort and to convince the gainsayers. For there are many unruly and vain talkers and deceivers [...] whose mouths must be stopped” Tit. I. 9. 10. 11 (“durch die heylsame Lehre auch die Widersprecher straffen/und frechen unnützen Schwätzer und Verführern das Maul stopffen muß.” Tit. I. 9. 10. 11. Francke, *Beantwortung*: 262). However, Francke was convinced that in the accusations of the orthodox party the conditions for an adequate procedure of *elenchus* were not met. So he finally gave up hope of coming to an understanding with his orthodox adversaries. In the *Verantwortung* of 1707, Francke then explicitly recommended, as the only path to the distinction of light and darkness, that everyone read the Bible for himself and pray to God for guidance that everyman may attain an enlightened heart (“Erleuchtung des Hertzens”) and recognize the true distinguishing marks of the children of God (Francke, *Verantwortung*: 380).

Francke’s criticism of the conventional procedure of exchanging pamphlets now created a gap in the methods of disputing with his theological opponents. Looking for an alternative, Francke experimented with different formats, for example the open letter and the polemical sermon. Neither was new. Both formats had been used in controversies from the sixteenth century onwards and also played a role in the earlier part of the Pietism controversy (cf. Baumgarten 1766: 1265). In the context of Francke’s view of controversies, however, the use of these formats may now be seen as attempts to find alternative vehicles of controversy. Other methods of dispute, for example the presentation of synopses of the argument or the (tendentious) historical description of the controversy proceedings, which

came to be used in the later phase of the Pietism controversy, were not employed by August Hermann Francke, unless we count the short sketch of the history of the controversy in the foreword to the *Verantwortung*.¹⁴

In the following part of our study, we shall first look at Francke's pamphlet of 1707 (*Verantwortung*) as an example of a contribution in accordance with traditional methods of controversy and then contrast it with the two open letters of 1706 and an earlier polemical sermon of 1692.

6. The *Verantwortung* (1707) as a pamphlet in the traditional style

In his pamphlet *Gründliche und Gewissenhafte Verantwortung gegen Hn. D Johann Friedrich Mayers [...] harte und unwahrhafft Beschuldigungen* ("thorough and conscientious vindication against D Johann Friedrich Mayer's [...] harsh and untruthful accusations") Francke proved well versed in the traditional dialectic and rhetoric of controversy. As we shall see, he uses the typical repertoire of moves that we find in pamphlets of the seventeenth century and also the characteristic point-by-point procedure. Worthy of note in this pamphlet are some extra features. He inserts prayers in prominent places of the text, he presents text documentations from earlier texts of his own and from one by Spener, and he gives a peppering of remarks on his own controversy theory. As for the tone of the pamphlet, it is altogether calm and well-tempered.

6.1 The overall structure of the *Verantwortung*

Francke's *Verantwortung* consists of three main sections:

- i. A "foreword which is useful and necessary for the information of the beloved reader before he reads the following writing of mine", ("Vorrede So dem geliebten Leser zu seiner Information, ehe er diese meine folgende Schrift lese/dienlich und nöthig ist"). In this foreword he sketches the history of the controversy between Mayer and Francke and thus documents the *status controversiae* and clarifies his attitude towards this kind of controversy.
- ii. The reproduction of Mayer's foreword to his *Warnung* with its six "numbers", i.e. accusations. This part lets the reader become acquainted with Mayer's text as a coherent whole, which Francke then dissects in the *Verantwortung* and processes point by point.
- iii. The *Verantwortung* proper.

14. On the strategy of using a historical account of the controversy as a move *in* the controversy, cf. Gierl (1997: 243ff.).

As already mentioned, a striking feature of this pamphlet is the insertion of three prayers: a prayer at the end of the foreword, begging for support in the matter of justice (Francke, *Verantwortung*: 278), a prayer at the beginning of the *Verantwortung*, in which Francke asks God to grant the reader the spirit of judgment to discern what is truth (“den Geist der Prüfung zu erkennen/was Wahrheit sey”, Francke, *Verantwortung*: 285) and finally, at the end of the whole text, a prayer in praise of God.

6.2 The point-by-point method

As we showed in Section 2, a basic feature of the structure of the classical pamphlet is the procedure of refuting the adversary’s arguments in sequence, point by point. Francke applies this method with extreme assiduity and works his way through Mayer’s *Warnung* with great thoroughness. Such a refutation takes on huge proportions compared with the original text it is based on, as we can see by the length of Mayer’s *Warnung* (about seven modern printed pages) and the refutation section of Francke’s *Verantwortung* (96 modern printed pages).

6.2.1 Referring to the writings of the opponent

A traditional element is also the form of reference to the opponent’s writings. Francke combs through his adversary’s writings word by word and sentence by sentence and appends a refutation to each fragment he quotes. He thus pursues the topic and focus chosen by the adversary and basically also adheres to the sequence adopted by his adversary. This staging of a quasi-dialogue with structurally characteristic expressions is shown in the following short example:

§ 9. No. 3. He writes: *Prof. Francke will find that I treat him in accordance with the sincerity of my heart [...]*

Reply: D. Mayer either does not know himself or is so involved in malice that he considers his heart sincere when he defames and abuses his neighbour to the most abominable degree [...]

§ 10. *Yet this (he continues) I do not do to accuse him [...]*

Reply: For this I owe him no gratitude [...]

§. 9. *Num. 3. Schreibet er:* So wird nun Hr. Prof. Francke von mir wohl aufnehmen/daß ich in Aufrichtigkeit meines Hertzens mit ihm umgehe [...]

Antwort. Hr. D. Mayer kennet sich entweder selbst nicht/oder ist so in der Bosheit verwickelt/daß er das für Aufrichtigkeit des Hertzens hält/wenn er seinen Nechsten aufs allergreulichste schmäheth und lästert / [...]

§. 10. *Zwar dieses (fähret er fort) thue ich nicht/ihn zu beschuldigen [...]*

Antwort. Des weiß ich ihm keinen Dank [...] (Francke, *Verantwortung*: 289)

The quotation from his opponent (in italics in the translation) and Francke's own reply are characterised by the following functional elements: the introduction to the reported speech (*schreibet er fort, fährt er fort, schreibt er weiter...*), the item number (*Num. 2., Num. 3.*), the reported speech itself, and the introduction to the reply (*Antwort.*). This dialogic structuring is particularly useful to a readership unacquainted with the exact position and moves of the adversary and contributes towards solving the task of furnishing the addressees with the requisite background information (cf. Fritz 2003: 203). Other means for solving this task are the review of the progress of the controversy in the foreword mentioned before and, at the appropriate points, short summaries of the arguments on a topic. A further reader-friendly device Francke employs consists in the division of the text into paragraphs.

6.2.2 *The principle of thorough response*

Francke's title itself reveals a criterion for the quality of pamphlets, i.e. thoroughness: "Gründliche und Gewissenhafte Verantwortung" ("A thorough and conscientious justification"). Thoroughness in this context comprises both the *complete* processing of all the points and a *comprehensive* treatment of each individual point. This calls for a cumulative procedure, compiling as many objections and counter-arguments as possible. This method, which Francke consistently uses, promises ultimate effectiveness. If the first argument fails to impress the reader, then perhaps the second or at least the third or the fourth will. The cumulative effect gives the impression of a complete destruction of the adversary's position, since not one single point remains standing. Thinking in terms of an economical argumentation against the accuser's presentation of the case, one might consider it sufficient to refute the central claims and arguments presented by the opponent. In the tradition of pamphlets, however, each argument required a refutation at every level. This led to remarkable strategies like hypothetically accepting a claim and delivering a refutation, even if the claim in question had already been shown to be unfounded on other grounds.

Francke's thoroughness also included detailed references for his claims and sources. Throughout, he practised the philological method of quoting references. An extreme example is his reference list for the claim that since Luther Protestants had kept editing books which came from pre-Reformation authors. His commented list of such books comprises twenty editions of the period from 1518 to 1706 (Francke, *Verantwortung*: 322–324).

6.2.3 *Flouting the point-by-point principle: Digressions and inserted documentation*

The restrictions imposed by the point-by-point principle had frequently been considered a hindrance, at least since the sixteenth century. Particularly in cases where a more detailed explanation of the author's own position was deemed necessary, authors flouted the principle by inserting or adding digressions, documentation or appendices in the appropriate passages. Francke made use of this possibility in various passages of his texts. To clarify his point of view on the question of religious revelations he quoted copiously from a sermon by Spener on this subject (Francke, *Verantwortung*: 327–332), and to elucidate his “opinion on perfection” (“Meynung von der Vollkommenheit”) he reprinted his “doctrine on perfection” (Lehrsätze von der Vollkommenheit”) which he had composed about sixteen or seventeen years before and published with other ‘little tracts’ (Francke, *Verantwortung*: 348–352). Elsewhere Francke quoted excerpts from his *Antwortschreiben* and his *Beantwortung* as references for his earlier criticism of Mayer's writings. As early as his *Vindication against the so-called description of the Pietists' mischief* of 1694 (“Verantwortung gegen die so genandte Beschreibung des Unfugs der Pietisten”) Francke had inserted a long digression in which he gave full details of his opinion on the question of *indifferentia* (i.e. an estimation of activities such as dancing or playing cards) in order to refute the accusation that he was too strict on these matters (Francke, *Verantwortung* 1694: 191–196). This technique of digressions and documentation flouts the point-by-point principle and is thus a good indicator for the limits of the point-by-point method.

6.3 Characteristic individual moves

We shall now show a number of individual moves which are characteristic of Francke's technique of disputation.

6.3.1 *Direct contradiction*

A basic defensive move is the direct contradiction of a claim which, if necessary, is supported by further reasoning. This tough reaction, which Francke chooses in various passages, is clearly recognisable in the quasi-dialogic presentation of the point-by-point method, of which we give two examples:

§ 11. *For* (he continues) *I sorted out the different kinds* [i.e. of Pietists]. *Reply.* This is not so; he did not sort them out. He just said that they were not all equally evil, but they were all evil.

§. 11. Denn ich ja (*schreibt er weiter*) die unterschiedene Sorten von einander gesondert.

Antwort. Das ist nicht also; er hat sie nicht von einander gesondert. Nur hat er gesagt/sie wären nicht alle gleich böse/aber doch alle böse.

(Francke, *Verantwortung*: 289)

§ 49. *This is now the obvious truth* (concludes Dr. Mayer finally) *which no one who has eyes can deny* [...]

Reply. [...] this is not only no obvious truth, which no one who has eyes could deny, but it is rather a quite obvious untruth clearly laid before everyone's eyes.

§. 49. Dieses ist nun die offenbare Wahrheit (*schliesset endlich Hr. D. Mayer*) so niemand/der Augen hat/leugnen kann [...]

Antwort. [...] *das ist nicht allein keine offenbare Wahrheit/so niemand/der Augen habe/leugnen könne/sondern es ist vielmehr eine ganz offenbare/und jedermann hie klar vor Augen gelegte Unwahrheit.* (Francke, *Verantwortung*, 318f.)

6.3.2 Criticism of logical and dialectical defects

The classical repertoire of moves in controversies includes criticism of logical and dialectic defects in the adversary's argumentation, what Hamblin called "points of order" (Hamblin 1970: 283). They are firmly grounded in the tradition of the disputation, which was still current practice at universities around 1700. These moves were familiar to the opponents in this controversy and are to be found in several passages.

i. Showing logical defects

In § 20–§ 23 of the *Verantwortung*, Francke analyses an argumentation of Mayer's according to the rules of logic and shows that Mayer's conclusion is a *non-sequitur*. He presents the argumentation in the form of a syllogism, showing first of all that the first premise does not hold, and then showing that the second premise does not hold either, concluding that:

Just as neither the first nor the second proposition in Mayer's concluding speech is correct nor can be conceded to him, as has now been shown and proven, the conclusion which he wanted to produce is also completely void and false.

Wie aber nun weder der erste noch der andere Satz in der Mayerischen völligen Schluß-Rede/als ietzo gezeigt und bewiesen worden/richtig ist/nach ihm zugestanden werden kann; so ists auch ein ganz nichtiger und falscher Schluss/den er da herauß bringen wollen/[...]. (Francke, *Verantwortung*: 368)

This kind of logical analysis can also be found in other passages of the pamphlet.

ii. Claiming irrelevance

A traditional accusation of irrelevance consists in claiming *ignoratio elenchi*, i.e. the failure to address the point at issue. Francke makes such an accusation

of Mayer at a key point in his *Verantwortung*. According to Francke, Mayer does not prove what he should be proving, but changes the issue (*mutiret das Obiectum* ‘changes the object’) in order to cover up his shaky evidence:

Dr. Mayer ought to prove that *those who had to suffer the nickname from him and those of his ilk and be called Pietists*, i.e. *those against whom he and others have acted* had maintained correspondence with these evil people; thus he changes the object and speaks of those *whom he considers to be Pietists* (who knows whom he actually means) so that under such an altered object of his unjust matter it is all the easier for him to paint a colour when proof is missing.

Hr. D. Mayer solte beweisen/daß diejenigen/die bisher von ihm und seines gleichen diesen Bey-Namen hätten leiden und Pietisten heißen müssen/item: gegen welche er und andere bishero agiret/mit diesen bösen Leuten hätten correspondenz gepflogen; so mutiret er das Obiectum, und spricht von denen / die er für Pietisten halte/(wer weiß aber/wen er eigentlich meyne) damit er unter solchem geänderten Obiecto seiner ungerechten Sache bey ermangelndem Beweis desto leichter eine Farbe anstreichen können.
(Francke, *Verantwortung*: 363)

iii. Objecting to unproven assumptions

As already mentioned, one of the critical points of the whole controversy is whether there is a sect of Pietists or not. Many passages in Mayer’s writings presume the existence of the sect. Francke defends himself against this questionable presupposition, remarking that Mayer is making unproven assumptions. In order to counter them, Francke explicates these assumptions in detail.

That Dr. Mayer claims that there is an attempt to put into the hands of the common man other writings which might advance Pietism and speak out in its favour; herein lie various calumnies. (a) He fabricates a sect called Pietism which is supposed to be based on false teaching [...]. Here Dr. Mayer should have proved that there was in fact a sect called Pietism; [...].

Daß Hr. D. Mayer vorgiebet/man suche dem gemeinen Mann andere Schriften in die Hände zu bringen/die dem Pietismo könnten Vorschub thun und ihm das Wort reden; darinnen stecken unterschiedene Calumnien. (a) Daß er eine Secte fingiret/die Pietismus heisse/und welche auf falsche Lehren gegründet/[...]. Hier hätte Hr. D. Mayer probiren müssen/daß eine Secte sey/die Pietismus heisse; [...].

(Francke, *Verantwortung*: 346).

In other passages as well, Francke comments on Mayer’s conclusions from a false supposition (“falschen supposito”), which are therefore null and void (“null und nichtig”) and are moreover combined with an unjustifiable invective (“unverantwortlichen Schmähung”, Francke, *Verantwortung*: 353).

iv. Objecting to false quotations

Mayer accused Francke, the editor of a book by Catharine of Genova, of contradicting the Lutheran belief that man is saved by his faith alone (*sola fide*). Mayer saw this idea in a certain passage of the book which he paraphrased. In his reaction, Francke claimed that not one word of this was in the book and accused Mayer of quoting falsely with evil intent:

[...] of these words there is not one jot or tittle to be found in the same place; [...] but Dr. Mayer has put these words here out of sheer calumny, and neither are they to be found in any other place in the entire book.

[...] so ist von diesen Worten kein Titel an demselben Orte zu finden; [...] sondern es hat Herr D. Mayer diese Worte auß einer bloßen Calumnie hingesetzt/auch sind sie sonst nicht an irgend einigem andern Orte in dem gantzen Buche zu finden..

(Francke, Verantwortung: 292; likewise 301)

v. Shifting the burden of proof

A special feature of the controversy between the orthodox group and the Pietists, on which Gierl (1997) already remarked, is the distribution of the burden of proof (*onus probandi*). Accusations made by the orthodox side were often formulated in such a way that representatives of the Pietist side were forced to prove their innocence. In this position, it was an important move for the Pietists to shift the onus and demand proof of their *guilt* of the orthodox side. Francke tried to turn the tables on Mayer in several places, e.g. in the following passage:

[...] although he has not named nor can he name the slightest reason why he calls all such things Pietist, which would have been absolutely essential.

[...] ob er gleich nicht die allergeringste Ursache beygebracht noch beybringen können/warum ihm alle solche Dinge Pietistisch heissen müssen/welches doch allerhöchst nöthig gewesen wäre.

(Francke, Verantwortung: 274)

6.3.3 *Accusation of violating communication principles*

As part of their “controversy theory” the participants generally accepted certain communication principles. These principles included, for example, principles of honesty, objectivity and comprehensibility, certain principles of politeness and also dialectical principles such as completeness of refutation, avoidance of repetition and avoidance of fallacies. If an adversary saw one of these principles flouted, he could lodge a complaint. Such complaints are an important object of analysis for historical pragmatics because they allow insights into the principles which are accepted by both sides of the controversy or which only one party considers valid, and are thus part of his controversy theory. The canon of principles and their

weighting is subject to historical changes.¹⁵ This is particularly clear in the case of principles of politeness, but it also applies to the application of other principles.

i. The accusation of untruthfulness

In various passages, Francke accused his adversary, Mayer, of speaking untruthfully: “The reader is to realise that here, too, Dr. Mayer has not told the truth” (“Es hat der Leser aber zu mercken/daß auch hierinnen Herr D. Mayer eine Unwahrheit begangen”, Francke, *Verantwortung*, 314: 59f.). In the context of religious debates, this accusation is particularly explosive because not only is it a communication principle which has been flouted, but also one of God’s commandments. A sin has been committed. This put Francke in a position to combine the accusation of lying with a threat of the Last Judgment. This damning move was mitigated only by the Christian desire that Mayer may repent of his misdemeanour in time before the Day of Reckoning. In response to one of Mayer’s claims, Francke said:¹⁶

For this malice linked with defamation, Dr. Mayer shall have to be accountable on the Day of Reckoning, unless he repent in the time of grace, which I desire for him from the bottom of my heart.

Für diese mit lauter Verleumdungen verknüpfte Bosheit soll Hr. D. Mayer am jüngsten Tag Rechenschaft geben/es sey denn/daß er in der Gnaden-Zeit darüber Buße tue/welches ich ihm von Herzen wünsche. (Francke, *Verantwortung*, 296: 94ff.)

In various passages Francke made a noteworthy contrast between rhetoric and honesty. For example, he accused Mayer of “rhetoric and false rumours” (“Rhetoricationes und falsches Geschrey”, Francke, *Verantwortung*: 319). Likewise, he had contrasted rhetoric with truth as early as 1695 in his *Anmerkungen*: ‘[...] but I hope that he [i.e. Mayer] will examine himself as to whether he took suchlike from rhetoric or from the truth’ (“[...] hoffe aber/er werde sich selbst prüfen/ob er solches aus der Rhetorica oder aus der Warheit genommen”, Francke, *Anmerkungen*: 271). Likewise: “Rhetoric will be no excuse for this, but rather God will demand reckoning for it” (“Es wird sich dieses mit der Rhetorica nicht entschuldigen lassen/sondern GOTT wird Rechnung davon fordern [...]”, Francke, *Anmerkungen*: 258). This criticism of rhetoric, however, in no way prevented Francke from using clever rhetorical devices himself.

15. On the history of communication principles for controversies, cf. Fritz (2008).

16. Another example of this complex move is to be found in Francke’s “*Verantwortung*”, 359: 27ff.

ii. The accusation of lack of reasonableness

The traditional canon of principles for controversies includes a family of principles comprising reasonableness, impartiality, objectivity and the avoidance of face-threatening acts. This family of principles prohibits different kinds of “unreasonable” moves, for example, personal attacks, insults, calumnies, and emotional outbursts.¹⁷ Breaching these principles is not unusual in theological controversies and is frequently diagnosed by the different parties. This principle is the basis for Francke’s accusing Mayer of stating pure calumnies instead of facts: “Everything that he has so far stated, as anyone can see, is nothing but a calumny composed of many untruths”, (“Alles das/was er bisanhero vorgebracht hat/ist/wie ein jeder sehen kann/nichts anders/als eine von vielen Unwahrheiten zusammen gesetzte Calumnie.”, Francke, *Verantwortung*, 352: 50). Elsewhere, Francke likewise criticized Mayer for calumniating guiltless Pietists instead of proving that a certain group of religious outsiders of doubtful reputation in fact thought of themselves as Pietists in Spener’s sense:

This is what he should have proved; but as he was unable to do so, his disputation consists of nothing but a calumny against Pietists who were accused by him, but were in fact completely innocent of such abominations.

Diß hätte er sollen beweisen; und da er das nicht thun können/so fasset seine gantze Disputation nichts als eine Calumnie wider die von ihm gescholtene und doch an solchen Greueln gantz unschuldige Pietisten. (Francke, *Verantwortung*: 357f.)

A related reproach is that of malicious, snide remarks, the *cavillation* to which Francke frequently refers: “Dr Mayer refers to this passage with cavillatory or slanderous intent”, (“Dieses zeucht Hr. D. Mayer cavillatorie oder verleumderisch [...] an [...]”, Francke, *Verantwortung*, 292: 39f.; likewise 293).

Following the principle of objectivity prohibits one from being swayed by one’s emotions (*Passionen*, ‘passions’, *Affekten*, ‘emotions’). This is an interesting aspect of controversy psychology, which we had already mentioned in the context of Francke’s controversy theory:

However, reasonable persons will not be surprised if a matter, as long as it is regarded without passion, is considered good, but if emotions come into play, it will be disapproved of most abominably.

Jedennoch werden sich verständige nicht befremden lassen/daß eine Sache/so lange sie ohne Passionen angesehen wird/gut geheissen/wenn aber Affecten mit ins Spiel kommen/aufs greulichste getadelt werde. (Francke, *Verantwortung*: 354)

17. For the concept of reasonableness, cf. Black (1975).

It was therefore not surprising to Francke that in the Pietist conflict “dispassionate and Christian-minded souls” (“unpassionirte und christlich-gesinnete Gemüther”) judged quite differently from Dr. Mayer (cf. Francke, *Verantwortung*: 355). In Francke’s view uncontrolled passions were the root cause of the unreasonable tone of which he repeatedly accused his adversary (e.g. Francke, *Verantwortung*: 312, 321). A calm, objective presentation should be devoid of exaggeration and emotional outbursts. Francke was of the opinion that Mayer breached this principle, too. He criticized Mayer’s rhetoric for its exaggerations (“Exaggerationen”, e.g. *Verantwortung*: 310, 352) and hyperbolic words: “Dr. Mayer has a habit of damning everything he is against in the strongest terms with such hyperbolic words” (“Hr. D. Mayer hat die Art/alles/dawider er sich setzet/aufs alleräußerste mit solchen hyperbolischen Worten zu verdammen”, Francke, *Verantwortung*: 313). Instead of calm statements, Mayer made “exclamations” (“Exclamationes”, Francke, *Verantwortung*: 321, 361).

6.3.4 *Refutation with reference to the authority of the Bible*

As already mentioned at the beginning of this chapter, the most dangerous accusation made by the orthodox side was that of deviating from true doctrine, i.e. the charge of heresy. Consequently, it was important for the defenders to dismiss such an accusation. A promising move on the part of Francke and the other theologians accused of Pietism consisted in showing the opponents and the public that the doctrine adopted by theologians called Pietists was in strict accordance with the Bible and with accepted theological authorities. A typical reproach made by the orthodox party was that the Pietists overemphasized the role of good works. The accusation of *Werkgerechtigkeit* ‘righteousness through works’ was dangerous because it was connected to the accusation that the Pietists did not accept the Reformatory doctrine of justification through faith *alone* (*sola fide*). In order to clear himself from this suspicion, Francke defended himself from Mayer’s accusations by quoting from St Paul’s Epistle to Titus in order to show that the insistence on “good works” was biblical and therefore not heretical:

Is this reminder not grounded in the clear words of the Scriptures and actually taken from Paul’s words/Tit. III, 8. These things I will that thou affirm constantly, that they which have believed in God might be careful to maintain good works.

Ist nicht diese Erinnerung in den klaren Worten der Schrift gegründet/und recht eigentlich genommen auß den Worten Pauli/Tit. III, 8. Solches will ich/daß du fest lehrest/aufdaß die/so an GOtt gläubig sind worden/in einem Stande guter Wercke funden werden.
(Francke, *Verantwortung*: 293)

A dialectically well-honed version of this reference to biblical authority is the *reductio-ad-absurdum* on the following pattern, which Francke often uses: By

Mayer's standards not even the viewpoint of the Bible is acceptable; therefore Mayer's standards are absurd:

Thus Dr. Mayer evidently reveals that even if a statement [by one of his adversaries] is entirely biblical, he will not hesitate to turn it slanderously into a heresy.

So zeigt dann Hr. D. Mayer hiemit offenbarlich an/daß nichts so schriftmäßig geredet seyn könne/worauß er nicht wisse verleumderischer weyse eine Ketzerey zumaachen.
(Francke, *Verantwortung*: 293)

According to his criteria, Mayer would have to reject the Bible itself (Francke, *Verantwortung*: 305) and Mayer's cavilling would affect the Apostle Paul in particular (Francke, *Verantwortung*: 307).

6.3.5 *Refutation with reference to theological authorities*

Francke also made use of reference to theological authorities. The greatest Protestant authority, whom the orthodox thinkers in particular highly revered, was, of course, Luther. It is therefore not surprising that concurrence with Luther was constantly emphasized. The accusation of "righteousness through works" made by the orthodox side was related to the charge that the Pietists expected too much Christian perfection of human beings. Francke defended himself from this accusation by quoting numerous passages from Luther's works in which Luther demanded such a high degree of Christian perfection, for example:

In the interpretation of the Epistle on Christmas Day he [i.e. Luther] says: "What is said about God's mercy and goodness must all be understood as relating only to those who fulfill his commandment with the utmost purity etc."

In der Außlegung der Epistel am Christ-Tage spricht er: "Was man von Gottes Gnade und Gütigkeit saget/muß alles verstanden werden allein auf die/so da erfüllen sein Gebot auf das allerreinste etc."
(Francke, *Verantwortung*: 299)

Francke applied the *reductio-ad-absurdum* method also with reference to Luther's authority. According to Mayer's standards, not even Luther would have been deemed a good Protestant; therefore, Mayer's standards are absurd:¹⁸

Who would take exception to these and many other passages in Luther's writings? Who would scream that Luther demands a far too high degree of perfection? Who would accuse Luther of having a fatal spiritual poison in his writings? This is all that I sought when quoting these passages from Luther, namely that the reader should see and recognize how, if his passions had been aroused against Luther, Dr.

18. The rhetorical pattern of threefold repetition of "who would" is also a good example of Francke's use of rhetoric.

Mayer would have just as easily, nay, far more easily, [...] screamed about the fatal spiritual poison which is to be found in Luther's writings [...].

Wer stösset sich nun an diese und andere viele dergleichen Orte in den Schrifften Lutheri? Wer schreyet da/daß Lutherus eine allzu hohe Staffel der Vollkommenheit vorgebe? Wer beschuldiget Lutherum/daß ein tödlicher Seelen-Giftt in seinen Schrifften stecke? Und das ist es nur/was ich mit Anführung dieser Oerter auß Luthero gesucht/nemlich daß der Leser sehen und erkennen möge/wie Herr D. Mayer/wenn seine Affecten gegen Lutherum aufgebracht wären/eben so leicht/ja noch viel leichter/[...]über tödlich Seelen-Giftt/der sich in Lutheri Schrifften finde/würde geschrien haben [...].
(Francke, Verantwortung: 300)

6.3.6 *The retort*

The retort, paying with the same coin, is a traditional move in pamphlets. It can serve to restore a balance, for example as a counter-accusation, but it may also serve to prove that the reproach is unjustified. The latter application comes to the fore in Francke's writings:

If, however, Dr. Mayer wishes to conclude from this mere narration that there is fatal spiritual poison contained in the book, then there must be very much of this same fatal spiritual poison in Mr. Mayer's own books since many such things are told in them.

Wenn aber Hr. D. Mayer auß dieser bloßen Erzehlung schliessen will/daß in dem Buche tödtlicher Seelen-Giftt sey/so muß in Hn. Mayers seinen Büchern sehr viel solches tödtlichen Seelen-Giftts seyn/als in welchen viel solcher Dinge erzehlet werden.
(Francke, Verantwortung: 303)

Just a few pages later, still in the context of rebutting the accusation of administering "fatal spiritual poison", Francke repeated this kind of move:

I do not know how it could have been possible for Dr. Mayer not to be aware that he, as already partly illustrated above, very frequently holds up those as examples whom he here calls abominable popish false gods. [...] If he believes that holding such people up as examples is fatal spiritual poison, why does he do it himself?

Ich weiß nicht/wie es möglich gewesen/daß Hr. D. Mayer nicht daran gedacht/daß er ja/wie schon theils oben angezeigt worden/in seinen Schrifften gantz häufig eben solche/die er hier greuliche Pöbstische Abgötter nennet/zum Exempel vorstellet. [...] Hält er nun das für tödtlichen Seelen-Giftt/dergleichen Leute zum Exempel vorzustellen/warum thut ers denn selber?
(Francke, Verantwortung: 310)

No doubt, Francke used this kind of move as an *ad-hominem* ("tu quoque") argument, but, at the same time, he distanced himself explicitly from the polemical application of retort and explained his deeper intentions as follows:

Nevertheless, I do not quote him this instance as if I enjoyed his heretic-making and therefore wished to copy him or wanted to use a retort. That is something I detest. I do it only because I wish to turn him away from it by showing how unfounded his action is and how he punishes himself most of all through it.

Jedennoch gebe ich ihm diese Instanz nicht/als hätte ich Lust an seiner Ketzermacherey/daß ich ihm darinnen nachfolgen/oder retorsion brauchen wollte. Denn das destire ich. Nur thue ichs deswegen/daß ich ihn davon abwende/indem ich zeige/wie sein Thun disfalls so gar ungegründet ist/und er sich damit selbst am allermeisten trifft. (Francke, *Verantwortung*: 362)

A special form of the classical retort is the technique of turning the adversary's explanation of a term against the adversary himself. Both parties apply the technique, as shown by the following quotations:

Therefore, Dr. Mayer, according to his own definition, is a Pietist.

Ergo ist H. D. Mayer nach seiner eigenen von ihm dargegebenen definition ein Pietiste. (Francke, *Verantwortung*: 361)

If one applies the description of an enthusiast presented by M[agister] Francke himself in the Reply, p. 36 (which one would not at all concede to him), it will become evident that this book, according to Prof. Francke's own assessment, is a fanatical and wholly zealous book.

Man applicire die von Herrn M. Francken selbst in der Antwort p. 36. dargebothene Beschreibung eines Schwermers (welche zwar man ihm sonst gantz nicht einräumet) so wird erhellen/daß dieses Buch nach dem eigenen Urtheil Herrn Prof. Franckens ein Fanatisches und gantz schwermerisches Buche sey. (Mayer, *Warnung*: A7a)

7. The search for alternatives to the pamphlet: open letters and polemical sermons

Francke's reflections on the form of the controversy and its disadvantages prompted him to try out alternatives to the classical pamphlet. He thus avoided direct confrontation with Mayer in the middle phase of the dispute and preferred what seems a communicative detour in the form of open letters to explain himself to a third party. The subtle method of multi-addressing provided by open letters gave him the opportunity to approach his adversaries, his sympathisers, possible patrons and above all the theological laity, whose edification was of utmost importance to him. Multiple addressing is also provided by sermons. A sermon is primarily aimed at the congregation, but it can also reach a varied public in printed form.

Open letters and sermons therefore provided an opportunity to avoid quarrelsome and long-winded pamphlets and to continue the controversy with other means.

7.1 Open letters to sympathisers

The form of the open letter as a contribution to a controversy is nothing new. It played an important role in the Reformation (cf. Schwitalla 2000).¹⁹ A well-known example is Luther's *Sendbrief vom Dolmetschen* 'Open Letter on Translating'. Francke's contemporaries and opponents in the controversy were likewise familiar with this form of contribution. For example, Roth's *Eylfertiges Bedencken* of 1692 is constructed on this pattern. In the title, it purported to be addressed 'to one of his penitents' ("An einen Seiner Beicht-Kinder"), but the medial adaption was superficial in nature. Roth kept to the tradition of the pamphlet with its point-by-point method even in the medium of the open letter.

The first of Francke's open letters is the "Antwort = Schreiben", of which we give the full title here:

Letter of reply written to a friend in Regensburg on 25th February 1706. Concerning a report communicated by the same from Regensburg concerning a godless company in Schwartzenau and Dr. Mayer of Greiffswald's *Disputation de nova atque abominanda Trinitate Pietistarum*.

Antwort = Schreiben an einen Freund zu Regensburg geschrieben den 25. Febr. 1706. Eine ihm von demselben aus Regensburg communicirte Relation von einer sich damals zu Schwartzenau befindenden gottlosen Gesellschaft/und Herrn Doct. Mayers zu Greiffswald / Disputation de nova atque abominanda Trinitate Pietistarum betreffend.
(Francke, *Antwort = Schreiben*: 217)

The title of the short text reveals the aims Francke wished to attain in his open letter. First of all, he wanted to distance himself in general terms from religious groups which, according to reports, combined blasphemy with sexual excesses, "free and unacceptable dealings with womenfolk" ("der freye und ärgerliche Umgang mit dem Weibs-Volck", *Antwortschreiben*: 225), and which were grouped with the Pietists (cf. *Ausführliche Beschreibung des Neuen Unfugs Welchen Die Pietisten [...] verübet und gestiftet haben [...]*, "Detailed description of the new nuisance which the Pietists [...] committed and caused [...]"). Francke believed the abominations committed by these groups to be so terrible that he refrained from listing them in detail. He confined himself to his "conscientious and utmost detestation" ("gewissenhafte und äusserste detestation", Francke, *Antwortschreiben*: 223). Secondly, it was his aim to dismiss Mayer's attack in particular, which ascribed the theological

19. For the history of the genre of open letter, cf. Essig (2000).

deviations of these groups concerning the issue of the doctrine of the trinity to the Pietists. The open letter allowed Francke to build a thematic structure of his choice in order to pinpoint his essential arguments: (i) He loathed the theological views and practices of the groups in question. (ii) The “Pietist” label was a malicious attempt to accuse Spener and Francke of belonging to a sect, which Francke claimed was unfounded. (iii) The groups concerned did not see themselves as Pietists at all. (iv) The teaching in Halle, which the addressee of the letter knew from his own experience, and the publicly available writings by Francke and his colleagues did not deviate from customary Protestant teaching. Thus Francke was able to dismiss various aspects of the accusation of heresy coherently without having to go into every single detail of the accusations made against the groups.

In his second open letter, the “[...] reply to a missive from a Christian theologian sent to him and printed herewith [...]” (“[...] *Beantwortung Eines an ihn abgelassenen und hiebey abgedruckten Send = Schreibens eines Christl. Theologi [...]*”), Francke’s defence took the form of an answer to a letter from a former student who claimed to be concerned about Mayer’s *Kurtzer Bericht* (1706). Whether this letter constellation was genuine or fictional is not known. Mayer obviously doubted the authenticity of the situation, which is shown by the way he referred to this theologian, speaking of the “Christian theologian who is said to have offered Prof. Francke an opportunity to give a warning through his missive” (“der Christliche Theologus, so durch sein Sendschreiben dem Hn. Prof. Francken die Gelegenheit zur Warnung soll geboten haben”, Mayer, *Warnung*: 2b). Francke, on the other hand, later on mentioned the theologian’s letter in his *Verantwortung* as a fact in the history of this controversy (Francke, *Verantwortung*: 275).

The complete title of this open letter was used to reveal the thematic structure of the text. Its main topics were “his own orthodoxy concerning I. The doctrine of righteousness, II. True and real piety and III. How its foundations should be built on Christ alone” (“seine eigene Orthodoxie in der Lehre I. Von der Rechtfertigung/ II. Von der wahren und realen Gottseligkeit/und III. Wie deren Grund allein in Christo zu legen sey”). The text is divided into three major building blocks: the address to the ‘beloved reader’ (“Geliebter Leser”), a reproduction of the theologian’s letter with his three questions on the subjects mentioned in the title, and Francke’s three replies.

Here again, the genre of the text enabled Francke to present his theological position coherently without having to follow the thematic structure and the individual accusations made in Mayer’s *Kurtzer Bericht*. He was now able to play the game by his own rules and treat additional points which were important to him but which Mayer did not address. The reply to the three questions was constructed so that “from the reply to these points the answer to many other accusations may be concluded” (Francke, *Beantwortung*: 257). This method caused the

adversary's writing to recede into the background. Mayer was only briefly mentioned at the beginning of the theologian's copied letter and did not appear again until the very end of the *Beantwortung*, where Francke, however, made it clear that Mayer was the main opponent of this writing. Francke avoided quoting or repeating Mayer's accusations so that to an uninitiated reader long passages of the letter took on the air of a theological tract. This impression was also created by linguistic means, as the *Beantwortung* displayed many expressions characteristic of a profession of faith such as *so lehren wir* 'we teach thus', *so glauben/lehren/und bekennen wir/dafß ...* ('we believe, teach and profess that...'), *wir halten .../bekenennen auch und behaupten ...* ('we are of the opinion, confess and maintain ...'), *so bezeuge ich auch hiermit vor Gott ...* ('thus I hereby testify before God'). The passages of defence in the *Beantwortung* were recognisable as such only to those who were acquainted with Mayer's catalogue of accusations. A comparison with Mayer's *Kurtzer Bericht* reveals, however, that Francke in fact took up all the key accusations and even in part retained the sequence of Mayer's accusations (e.g. Francke, *Beantwortung*: 250f.). The rhetorical repeated use of *wir lehren* 'we teach' also appears to follow Mayer's catalogue of questions *Was lehren die Pietisten von [...]?* 'What do the Pietists teach about [...]?' This is, of course, reminiscent of the old point-by-point method. In addition, the numerous quotations from the Bible, which were intended to back up the biblical character of Francke's doctrine, are reminiscent of the proof expected in a refutation. But, generally speaking, in using the open letter format Francke was much more flexible to follow his own agenda.

In this context, it is interesting to note that Francke had already dropped the point-by-point method quite consciously in an early written defence, creating his own list of items to be treated by formulating a number of relevant questions himself. In this text, the *Observationes* of May 1695, he expressly justified the choice of his own structure of topics by claiming the text thereby gained in perspicuity, ("Deutlichkeit"):

Moreover, I have found it most convenient to take what appeared to require an answer, at least what concerns the general points, and phrase it in certain questions so that the answer to each point may be the more clearly recognised.

Im übrigen habe ich am bequemsten gefunden/dasjenige/was zu beantworten nöthig seyn möchte/zum wenigsten was die generalia betrifft in gewisse Fragen abzufassen/damit die Antwort auf einen jeglichen Punct desto deutlicher erkant werden könne.

(Francke, *Observationes*, May 1695: 249)

All in all then, the medium of the open letter allowed for a more suitable text organization in line with Francke's controversy theory, giving him the opportunity to concentrate on his task of edification and to escape the vicious circle of tiresome

squabbling. We can sum up the advantages of this method over the pamphlet in the following points:

1. It is easier for the author to react to the lack of transparency in his opponent's accusations and avoid the awkward implications of the defence position. If his opponents fails to make it clear who is being accused of what, his reaction does not need to include any concrete references which might betray that the author feels he is being addressed.
2. The author can be far more flexible in his development of thematic structure. This is true, in particular, if he is replying to a fictional inquiry. In the case of the *Beantwortung*, the letter of inquiry already focused on the decisive question, namely the status of good works and their possible consequence, the danger of hypocrisy. In such a case the obligation to observe completeness and the correct sequence in dealing with a given list of accusations, as in a typical refutation pamphlet, does not apply.
3. The author can present a full picture of his own position. In traditional pamphlets, a well-rounded explanation can only be achieved in the form of prefaces, digressions or appendices. In a thorough refutation, the author is bound by the adversary's arguments, so the quality of his own argumentation depends to a large extent on the quality of the original challenge.
4. The author avoids the undesirable side-effect of advertising his adversary's views by having to quote them.
5. It is easier for the author to include passages which are of key importance to his own intentions, for example edifying passages (cf. Francke, *Beantwortung*, 245ff.).
6. The format of open letter helped Francke to follow his principles and retain a 'meek' ("sanftmüthigen") tone in the controversy. Once he came to speak of Mayer at the end of his letter, however, Francke could not but unleash a few harsh words. His criticism, though, was mild in comparison with Francke's invectives in his earlier defence in the *Observationes* (Francke, *Observationes*, May 1695: 298ff.).
7. This type of writing presents a more coherent whole whereas pamphlets based on the point-by-point concept often contain too many heterogeneous threads. And, of course, open letters are generally shorter and easier to read.

7.2 The polemical sermon

Der Fall und die Wiederaufrichtung der wahren Gerechtigkeit, 'The Fall and Reinstatement of True Righteousness' (1692) is a sermon Francke chose for a Church service as a forum for his defence against a number of accusations. In

using a sermon as a contribution to a controversy, Francke had the opportunity to address not only his opponents, but also a group of particular importance, namely his congregation. Another advantage of selecting this genre was that he could call on the congregation as witnesses and use their testimony as evidence in his favour (cf. *Der Fall und die Wiederaufrichtung*: 71). Addressing multiple recipients also enabled him to exhort both the congregation and his adversaries to repent and mend their ways, a feature which is typical of a penitential sermon.

The printed version of *Der Fall und die Wiederaufrichtung* consists of three parts, (i) a foreword to the congregation, in which Francke established the connection to the adversary's invectives, (ii) the traditional core of the sermon, the *scopus*, and (iii) a detailed refutation by the point-by-point method. The connection between the refutation and the text of the *Ebenbild der Pietisterey*, which served as the point of reference for the refutation, was rather loose. Not all the charges were treated, there are no literal quotations and the list of accusations went beyond the list in the *Ebenbild*.

We now come to the question whether there is also a link between the *core* of the sermon and the accusations of the *Ebenbild*. And indeed, closer inspection reveals that the core itself supports Francke's defence, albeit indirectly, primarily through the technique of allusion. The connection to the actual defence exists on different levels. Francke began the core of the sermon by presenting biblical models for the contemporary situation of the Church, i.e. in the Old Testament, the religious decline in the days of the Prophet Isaiah, and, as a typological counterpart in the New Testament, the religious decline which Jesus addressed in the Sermon on the Mount. He then makes the transition to the Reformation period and to the parallel situation in his own times by asking "[...] whether we also have cause to bring complaints about the present decline of Christendom" ("[...] ob wir auch Ursache haben, Klagen über das verfallene Christenthum zu führen", *Fall und Wiederaufrichtung*: 52). These biblical and reformational parallels also provided him with a model on which to base his own role, that of the prophet, the despised preacher of repentance and the maligned bearer of righteousness. While it is not expressed in explicit words, we may assume that the model for Francke's adversaries was the Pharisees and the Scribes. In the role of the preacher of repentance, Francke then bemoaned the decline of the Christian doctrine and way of living. This section of the sermon introduced essential points which had given rise to criticism from his opponents, particularly his emphasis on the Christian way of life. His next step was to speak explicitly of his own situation and the attacks made by his adversaries (*Fall und Wiederaufrichtung*: 63ff.). This is where the refutation begins. The individual points are introduced with phrases of the following kind: *Einige sagen ...* ('Some say ...'), *Ferner spricht man ...* ('Moreover it is said ...'), *Man bürdet mir ferner auf ...* ('I am further charged with ...'), *Man beschuldiget*

mich auch ... ('I am also accused of ...'). By using this strategy, Francke avoided naming his adversaries directly.

The connection we showed between the core of the sermon and the refutation section gives the core of the sermon an argumentative value. By presenting various models and parallels, Francke prepared his listeners for the ensuing defence without his having to defend the use of each parallel as such. At the same time, Francke was able to refute a number of individual charges in passing as he was not explicitly in the defence situation. Finally, by organizing the core of his sermon the way he did, Francke could counter the claim that he was not doing his job as a preacher properly and he could also demonstrate that he was determined to continue preaching in his chosen manner.

Coordinating textual elements with different basic functions turns a sermon of this kind into a flexible instrument, which well suited Francke's controversy theory. The elements of the penitential sermon, such as warnings and proddings of the conscience, could be spoken to two addressees: to the laity in the congregation and to critical Churchmen. From a strategic point of view, this kind of sermon enabled Francke to make veiled attacks with the stamp of approval of the pulpit. This tactic by no means escaped his contemporaries (cf. Roth, *Eylfertiges Bedenken*: 14). At the same time, Francke could put into practice his demand for edification in contributions to controversies. Instead of launching aggressive attacks, Francke lamented the deplorable state of affairs and called for repentance. This form of lament gave him the opportunity to shift emphasis from conflict talk towards understanding, regretting the state of affairs and a benevolent attitude towards those involved (cf. *Fall und Wiederaufrichtung*: 75). Furthermore, the refutation section was well prepared and could attain higher authority thanks to biblical allusions.

The polemical sermon as a mixed genre shares a problem with many mixed forms of communication and with transitions from one form to another. Different communication forms are governed by different communication principles. A move which is acceptable in a penitential sermon may be inadmissible in an argumentation and *vice versa*.²⁰ In our example it would be possible to raise the objection that the reference to biblical models, which can count as a traditional sermon pattern, is irrelevant in the context of refuting objections regarding contemporary practice. Biblical reports of Jesus being unjustly attacked and slandered by the Pharisees and the Scribes in no way prove that August Hermann Francke was unjustly attacked by his adversaries. Francke did not use this connection explicitly as an argument, but he took advantage of it by suggesting the connection. For his

20. On the problem of "dialectical shifts" and "mixed discourse" in the theory of argumentation, cf. Walton (1998).

contemporaries this was apparently not a problem. Roth, at least, did not mention this point in his *Eylfertiges Bedencken*. Probably, the hybrid communicative form of the polemical sermon was so well established that suspicion of dialectical incompatibility did not arise.

8. Conclusion

The controversy examined here shows symptoms of a crisis of controversy theory and practice in the period around 1700. The criticism of the disputation format, which is well-known from the sixteenth and seventeenth centuries, received a special flavour with Francke in the religious context of Pietism. Dissatisfaction with various aspects of the traditional procedure of exchanging pamphlets lead Francke to develop a controversy theory that was in harmony with his Pietist convictions and at the same time to employ alternatives to the classical pamphlet. The open letter and the polemical sermon are such alternatives, which avoid many disadvantages of pamphlets. However, the fact that after using these vehicles of controversy he once more reverted to writing a classical pamphlet in his *Verantwortung* of 1707 shows that the pressure on controversialists to provide a formal refutation was still heavy.

A question frequently asked in controversy theory is what the typical outcomes or results of controversies are. For intra-religious controversies, to which the Pietism controversy belongs, Dascal assumes that they frequently do not lead to “decisions or solutions”. “Nevertheless, by leading to a clarification of the issues, they act as evolutionary catalyzers” (Dascal 2004: 16). This assessment is certainly fitting for the controversy examined here. Francke’s *Verantwortung* is the final portion of written documentation in the controversy with Mayer. There is no clear clue that there was any alteration to Mayer and Francke’s positions or that better understanding for each other’s standpoint was achieved. It is, however, undoubtedly true that this dispute forced Francke to define his position more clearly, and his answer to the three key questions in his *Beantwortung* is evidence of this. Two experts on the Pietism controversy couched the outcome of the dispute in more general terms: Peschke, the editor of Francke’s pamphlets, stated that the difference between the opponents’ positions “often did not become apparent to them until the confrontation with the adversary of a different theological vein” (“ihnen oft erst bei der Konfrontation mit dem theologisch anders gearteten Kontrahenten deutlich [wurde]”, Peschke 1981: XX), and Gierl concluded “that the religious movement known as “Pietism” did actually arise in the refutation flow of the controversy” (“daß die Geistesrichtung “Pietismus” erst im Refutationsfluß der Kontroverse entsteht”, Gierl 1997: 256).

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Leibniz vs. Locke

A virtual controversy

Gerd Fritz

1. Introduction

This chapter deals with a virtual controversy, i.e. a controversy that never took place in reality.¹ It is, however, a controversy that Leibniz would have loved to conduct in real life. After Locke had published his “Essay concerning human understanding” in December 1689, Leibniz tried in various ways to induce Locke to join in a debate with him.² Locke, however, steadfastly refused to be drawn into such a debate. In 1700, Pierre Coste published his French translation of Locke’s Essay, which made the whole text more accessible to Leibniz. After having written various comments on parts of the “Essay” earlier on, Leibniz now decided to confront Locke in an unusual fashion by staging a virtual controversy with Locke in the form of a dialogue of two philosophers, Philalethes and Theophilus, representing the Locke of the “Essay” and Leibniz as a commentator and disputant. This dialogue, Leibniz’s “Nouveaux Essais” (NE), was probably completed by the end of 1704, when Locke died, an event that, for various reasons, obviously kept Leibniz from publishing his work. It was, in fact, never published in his lifetime and only came to be published in 1765.³

1. The idea of treating Leibniz’s “Nouveaux Essais” as a document of a virtual controversy is due to Marcelo Dascal, who also encouraged me to write this chapter.

2. Leibniz’s attempts to draw Locke into a debate are described in detail in the “Introduction” to vol. 6 (Series 6) of the Academy edition of Leibniz’s works.

3. In this article I use the following abbreviations for editions of the main works studied: A: Academy edition of Leibniz’s works (VI 6, 1962), RB: Leibniz, “New Essays” translated and edited by Peter Remnant and Jonathan Bennett (1996) (RB follow the page numbering of the Academy edition), Locke: Locke’s “Essay”, edited by Peter H. Nidditch (1975; based on the original fourth edition of the “Essay”), Coste: French translation of Locke’s “Essay” by Pierre Coste (1700, based on the fourth edition of the “Essay”). For reference to book, chapter and paragraph of the NE I apply the system used in RB, e.g. III.ii.3. By modern standards, Leibniz’s use of accents in French is sometimes unorthodox. Concerning this practice I follow the Academy edition.

2. The NE – what kind of text?

One of the aims of this paper is to answer the question what kind of text the NE represents and why it makes sense to view it as the orchestration of a virtual controversy. At first sight, the answer to the first question appears quite simple: The book represents a kind of philosophical dialogue. However, we frequently find remarks in the literature stating that “in its handling of dialogue [this work is] conspicuously maladroit” (Jolley 1984: 9) or that “Leibniz’s handling of the dialogue form is disappointing” (RB: x). This makes one wonder if indeed we do the work justice in seeing it in the tradition of Platonic or Humanist dialogues. In fact, I shall argue that the book shares essential properties with typical Early Modern refutation pamphlets and should preferably be seen as representing a hybrid text type, combining basic elements of pamphlets of this type with a number of additional features enhancing the dialogical aspect of such pamphlets.⁴

Both the history of the creation of the NE and Leibniz’s own description of his text indicate that the basic pattern of Leibniz’s contribution to the NE is one of “remarks” or “observations” on Locke’s “Essay”. In his early manuscript “Quelques remarques sur le livre de Mons. Lock” (A: 4–9) and, much later, in a letter to Jaquelot on April 28th 1704 – after most of the work on the NE had been finished – and in various other letters Leibniz speaks of “remarks” or “critical remarks” on Locke’s “Essay” (cf. A: xxiii). A prominent place where the relation between these “remarks” and the dialogue structure of the NE is made explicit is Leibniz’s preface to the NE, where he characterizes his dialogue model in the following way:

[...] using two speakers, one of whom presents opinions drawn from that author’s *Essay* and the other adds my comments (“mes observations”, A: 48) [...]. (RB: 48)

Thus, as mentioned before, we have a spokesman for Locke (Philalethes) and a spokesman for Leibniz (Theophilus). It is known, however, that it was only at a relatively late stage that Leibniz transformed Books I and II into dialogue, which he had originally composed in the form of extracts and critical remarks (cf. A: xxiv). And even for Books III and IV, which, according to Remnant and Bennett (RB: viii), “were dialogues from the outset”, it should be noted that, on closer inspection, there are many passages which are not cast in a genuine dialogue mould, but show the basic quasi-dialogical pattern which we know from

4. It is worth noting that in English the word *pamphlet* is used to refer both to a small printed booklet of normally eight to ninety-six pages in quarto (in German *Flugschrift*) and to a polemical type of text (in German *Streitschrift*), the connection between these uses being “the potential of cheap print as a vehicle for controversy” (Raymond 2003: 12). In the present article, the word *pamphlet* always refers to the polemical text type.

pamphlets in controversies (see the following section).⁵ So my hypothesis would be that, in producing the NE, Leibniz generally used a mixed strategy of creating stronger dialogical links where he found it particularly useful or easy and of just adding “remarks” and “comments” to paragraphs of Locke’s text in many other positions. And, indeed, he himself explicitly and maybe regretfully mentioned the limitations of his attempts at presenting his remarks in dialogue form, when he conceded that he had given up hope to attain “to the charms of which dialogue is capable” (RB: 48):

Il est vrai que la sujection que donne le discours d’autrui don’t on doit suivre le fil en faisant des remarques, a fait que je n’ay pu songer à attrapper les agréments don’t le dialogue est susceptible. (A: 48)

3. The NE as a refutation pamphlet based on the disputation model

If we take a closer look at the pragmatic organization of the NE, this organization is determined by two structural elements, the structure of topics and arguments provided by Locke’s “Essay” and the dialogical structure of Leibniz’ point-by-point treatment of individual paragraphs of the “Essay”. With this kind of organization, as I shall try to show, Leibniz’s text is closely related to the structure of a classical refutation pamphlet, which provides both the proponent’s arguments and the opponent’s attempts at refutation. As is well known from other controversies, e.g. the Hobbes-Bramhall controversy discussed in this volume, the disposition of topics and arguments presented by the proponent is not always optimal for the development of the opponent’s own views, so the opponent, in this case: Leibniz, has to “work” to be able to use the given thematic disposition as an agenda for the treatment of philosophical problems which he himself considers important.

The main aim of the present case study is to show how Leibniz, by using a sophisticated array of pragmatic moves and strategies, attempts to solve the task involved in relating to Locke’s text and, at the same time, presenting his own views. This task includes both dealing with the restrictions imposed on Leibniz by having to follow Locke’s agenda and using the opportunities provided by the organization of Locke’s text. In order to understand how Leibniz goes about this demanding task and what he achieves by solving it, one has to provide a detailed pragmatic analysis of the moves and strategies he employs in developing this virtual dialogue. This pragmatic analysis aims to answer the following questions:

5. On the (quasi)-dialogical character of contributions to controversies cf. Dascal (1989), Fritz (2003).

- i. How does Leibniz deal with problems of topic management?
- ii. How does Leibniz present the material from Locke's "Essay"?
- iii. How does Leibniz deal with the "conversational demand" set up by Locke's topics and arguments in creating the textual organization of the NE?⁶
- iv. In which way does Leibniz confront Locke's position (e.g. types of critical moves)?
- v. In which way is Leibniz guided by communication principles like the principle of politeness, the principle of relevance or the point-by-point principle?

In order to show the relatedness of the NE to the genre of refutation pamphlet, it is useful at this point to introduce a digression on rules of disputation and the pragmatic structure of pamphlets.

The basic model for the structure of polemical exchanges in the 17th century was the practice of disputation that was taught in the universities all over Europe and that was used for teaching, examinations and research. We can fairly confidently infer the standard rules of late 17th and early 18th century *ars disputatoria* on the basis of contemporary textbooks, for example the "Processus disputandi" published in 1670 by Jakob Thomasius, one of Leibniz's professors in Leipzig.⁷ The rules of disputation were well-known to Leibniz, who had studied disputations early on in his career and who had also extensively written on forms of controversy (cf. Leibniz 2006). Without going into the details of the characteristic moves in disputations I shall now identify some of the rules and principles of the disputation process which play a role for the pragmatic structure and the textual dynamics of pamphlets and the pragmatic organization of exchanges of pamphlets. Such features include:

- i. following the point-by-point-principle as a principle of topic management,
- ii. securing the knowledge of the *status controversiae* and the coherence of argumentative dialogue by means of the regular repetition of the opponent's contributions,
- iii. following communication principles like the principle of relevance, the principle of perspicuity, the principle of non-repetition and certain politeness principles,
- iv. referring to logical and dialectical principles, e.g. criticism of internal contradiction, begging the question etc.,
- v. following the principles of *onus probandi*.

6. For the concept of "conversational demand", see Dascal (1979).

7. On recent research on *disputatio*, see Gindhart/Kundert (2010).

These principles are mirrored in the structure of pamphlets. As answering a target text that could cause disadvantage or damage to oneself is frequently the opening move in a controversy, it is no coincidence that refutation texts constitute the prototype of a pamphlet. We should, however, not take the expression *refutation pamphlet* in too narrow a sense: Answering an opponent's text often includes, over and above the main business of refuting his views, tasks like indicating areas of agreement or adding aspects related to the topics at hand. In parallel to the rules and principles of disputations we can now formulate the following tasks of a pamphlet writer:

- i. The writer of a pamphlet referring to an opponent's writing will be expected – in principle – to follow the opponent's text point by point.
- ii. The writer of a pamphlet will first render the opponent's statements or arguments before he comments on them or tries to refute them.
- iii. The writer of a pamphlet will be sensitive to matters of relevance, perspicuity, repetition etc.
- iv. The writer of a pamphlet will be alive to logical and dialectical principles when commenting on the opponent's writing.
- v. The writer of a pamphlet will be aware of the rules of *onus probandi*.

For the pragmatic organization of a refutation pamphlet this means that texts of this genre are characterized by a double structure, i.e. (i) the topic structure of the opponent's text and (ii) the dialogical structure created by the "answers" to the individual "points" of the opponent's agenda.

For the individual "points" this structural model leads to a typical form of textual appearance, which I shall exhibit by giving an example from Hobbes' "The Questions concerning Liberty, Necessity, and Chance" (1656), a pamphlet with which he reacted to Bramhall's "A Defense of True Liberty from Antecedent and Extrinsic Necessity" (1655). It is worth noting that Leibniz knew this pamphlet and even wrote a critical review of this controversy. As my example I shall use the presentation – somewhat abbreviated – of the first two stages of controversy for one "point", namely point XVII in the numbering introduced by Bramhall, so for this point we have here the first two moves in the dialogue of this controversy (Hobbes 1656: 228):

J.D. [i.e. Bramhall] Fifthly, take away liberty and you take away the very nature of evil, and the formal reason of sin. [...] If there be no liberty to produce sin, there is no such thing as sin in the world. Therefore it appears, both from Scripture and from reason, that there is true liberty.

T.H. [i.e. Hobbes] To the fifth argument from reason, which is, that if liberty be taken away, the nature and formal reason of sin is taken away, I answer by denying the consequence. [...] And thus you have my answer to his objections, both out of Scripture and reason.

This passage looks very much indeed like what we find in many passages of the NE, i.e. the presentation of a two-move written dialogue in a controversy. The following is an example from the NE (RB: 179):

PHIL. 'Liberty, which is but a power, belongs only to agents, and cannot be an attribute or modification of the will, which is but a power.'

THEO. You are right, sir, if the words are used properly. Still, the accepted way of speaking can be defended in a fashion. Just as we customarily attribute a power to heat or to other qualities, that is to a body in so far as it has this quality, so here the intention is to ask whether a man is free when he wills.

As I shall try to show later on, further moves relating to one point and thereby continuing a genuine dialogue on this point are not very frequent in the NE, so what we find in many cases is the kind of dialogue structure we have in these examples, followed by a similar dialogue structure dealing with the next topic. Essentially, this means that we rarely find genuine third moves, i.e. places where Leibniz presents what Locke could have answered to Leibniz's comments on topics from Locke's "Essay", and, consequently, genuine fourth moves.⁸

But even so, this kind of dialogue presentation has obvious merits. The first is that a reader who did not read the preceding contribution to the controversy could follow the *status controversiae* on each point, so this textual device contributes to the necessary knowledge management. The second is that it gives a more vivid idea of the dialogical structure of the ongoing controversy. Leibniz felt both these advantages worth mentioning in his preface to the NE when he explained why he used the device of presenting two speakers: "[...] the confrontation will be more to the reader's taste than a dry commentary from which he would have to be continually turning back to the author's book in order to understand mine" (RB: 48). A third advantage was noted by Bramhall in his "Castigations" (Bramhall 1658: 506): It allows the reader "to compare plea with plea and proof with proof" and thereby facilitates the performance of a critical evaluation of the controversy.

On the other hand, there are considerable disadvantages, of which I shall mention a few.

- i. This form of textual structure is helpful for the presentation of the confrontation on one particular point, whereas the change from the opponent's commentary to the proponent's next point frequently creates an abrupt transition, i.e. a problem of topic continuity, which makes it difficult for the reader to follow the thematic development.

8. It is not surprising that we find passages in the literature on the NE where authors try to show how Locke *could have* answered; cf. Hamou (2011: 136): "Je tâcherai en particulier de montrer comment Locke aurait pu y répondre."

- ii. Having to apply the point-by-point procedure forces the opponent frequently to follow a thematic agenda which makes it difficult for him to adequately present his own position in the controversy. To counterbalance this disadvantage, writers of pamphlets frequently use various types of paratext or extra text to summarize their own views, e.g. dedications, letters to the reader or prefaces. In the case of the NE, Leibniz uses the preface to give at least a general outline of the basic topics of the debate and its context of discussion.
- iii. According to the strict rules of disputation, the opponent should not introduce new topics. This rule was, of course, seldom upheld in actual real-life controversies, but we do find with pamphlet writers the awareness of a problem to be solved in introducing extra thematic material. Techniques used in effecting such a widening of the topic range include writing explicitly marked digressions, referring to writings where such topics are dealt with – including one’s own writings –, introducing examples which create connections to related topics etc.

Finally, to close this short overview of relevant characteristics and problems of pamphlets, I should like to mention the high degree of intertextuality in 17th century pamphlets. Not only do pamphlet authors necessarily refer to previous contributions in the respective controversy, but they also refer to, allude to and often explicitly quote from the Bible, from classical and contemporary authorities as well as from their own earlier works. As a consequence of this practice there often emerges in the course of a controversy a vast network of intertextual relations, which permits the readers to form an idea of the general state of the relevant discourse, transcending the scope of the actual controversy. This is, again, true of the NE.

Looking at the characteristic features of refutation pamphlets, the problems involved in writing them, and the strategies writers used in overcoming these problems, we cannot fail to notice that much of what we mentioned in this section applies directly to the NE. So we seem to be justified in viewing the NE as basically modelled on the pattern of refutation pamphlets, however, with the addition of some extra dialogue features, which we shall turn to in the following sections.

In order to get a vivid picture of what Leibniz had to achieve in writing his NE we have to imagine us being confronted with a book of 1024 pages – Coste’s translation of Locke’s “Essay” (1700) –, containing a complex, often rambling and repetitive text with wide thematic ramifications, written in a lively style. Having to comment on each and every statement and argument contained in this book in a strict point-to-point fashion would have meant writing a book of at least double this volume, a formidable task. To reduce this task to a manageable dimension and also to make this work serve his own purposes, Leibniz had to develop a strategy

of selecting relevant topics and composing his own remarks accordingly. Even so, writing the NE must have been a remarkable tour de force. However, writing long refutation pamphlets was very much part of the academic form of life in the 17th century Republic of Letters, so this enterprise would have certainly looked much less exotic to Leibniz's contemporaries than it might seem to us nowadays.

As having to engage with the thematic organization of Locke's "Essay" is one of the fundamental problems of Leibniz's confrontation with the "Essay", I shall begin by sketching some of Leibniz's techniques of topic management before focussing on the "local" organization of dialogue in the NE.

4. Topic management

4.1 Aspects of topic management

As I mentioned before, topic management is one of the major tasks of someone engaging in this kind of virtual controversy.⁹ In the case of Leibniz this means, among other things:

- i. coming to terms with the thematic organization of Locke's "Essay",
- ii. creating and using opportunities to introduce his "own" topics,
- iii. creating thematic continuity,
- iv. making explicit aspects of the thematic structure of the resulting text.

As for the global thematic organization of Locke's "Essay", there are various points where there is reason to doubt that Leibniz would have organized a treatise of his own along the lines chosen by Locke. One such point, which is mentioned by Leibniz himself in his earlier remarks on the English edition of the "Essay", namely the question of the origin of ideas ("Quelques remarques", 1696, A: xxx), has variously been commented upon in the literature. Concerning this problem, Leibniz states: "La question de l'origine de nos idées et des nos Maximes n'est pas préliminaire en philosophie, et il faut avoir fait des grands progrès pour la bien résoudre" (A: 6). In the introduction to his German translation of the NE, Ernst Cassirer noted that Locke's choice of starting point for the "Essay", i.e. his criticism of the concept of innate ideas and his defence of the priority of bodily sensations for the acquisition of ideas, does not correspond to the priorities of Leibniz's own system of thought (Leibniz 1971, Einleitung, XI). The reason why Leibniz thought Locke's book was important was his view of the workings of the understanding, not his

9. On topic structure and topic management cf. Fritz (2013), Chapter 4.

account of its origins.¹⁰ For Locke's polemical purpose, on the other hand, this opening topic was highly attractive.¹¹ Since changing the global thematic structure of Locke's "Essay" was no option for Leibniz, as he had accepted "the obligation to follow the thread" (RB: 48), he had to accommodate himself to the given thematic structure and come to terms with this organization.¹²

As for the local thematic structure within chapters, Leibniz's *selection* of paragraphs for comments is, of course, a major means of topic management. This will be dealt with in detail in Section 5, where I shall analyze Philalethes' rendering of Locke's text. In addition, in a few cases, Leibniz transposed topics to other places where he probably thought them more appropriate. A case in point is Book II.xi.10–11, where Locke states that animals do not have the "faculty of abstracting", "since they have no use of Words" (Locke: 160). Leibniz does not take up the topic of words at this point, but restricts himself to the matter of abstraction, emphasizing that the absence of the faculty of abstraction in animals is based on their lack of the "knowledge of universal truths" (RB: 142). He does, however, take up the topic of words later on, at the beginning of Book III, where Philalethes makes a brief remark on the human organs that are "fit to frame articulate sounds" and where Theophilus comments on the organs of monkeys and, in his next contribution, goes on to emphasize the usefulness of symbols for reasoning and for remembering abstract thoughts (RB: 275).¹³

It is also worth noting that in one case Leibniz indicates that he would have dealt with a certain topic in a different place. After Philalethes makes an observation on the "magnificent harmony of the universe" ("la somptueuse harmonie de l'Univers", Coste: 558) and the chain of beings (RB: 306), Theophilus remarks that this is a topic he himself also wanted to explore, albeit in a different context, and combines this with a compliment to Locke:¹⁴

- (1) Theo. I had planned to say elsewhere something close to the line of thought you have just expounded, sir, but I am quite content to have been forestalled when I see things being said better than I could have hoped to do. (RB: 307)

10. Marcelo Dascal (personal communication).

11. When writing a textbook, one would probably prefer placing an introduction to the concept of idea *before* a discussion of the special topic of *innate* ideas.

12. For the reader, this decision "to follow the order of Locke's thought" means that "we are forced to piece together Leibniz's position on a number of topics" (Bolton 2007: 116).

13. This transposition of topic was already noted in Aarsleff (1982: 51f.).

14. Leibniz certainly appreciated the closeness of Locke's wording to his own "Systeme de l'harmonie", which he mentions a few sentences later, alluding to his "Systeme nouveau de la nature" (1695) (cf. A: 307, fn.).

Another strategy consists in dealing with a topic briefly and indicating that it will be discussed more fully later on (e.g. the topic of “insensible impressions”, RB: 116).

4.2 Elements of topic management

4.2.1 *Global topic structure*

A first element of topic management worth mentioning is the adoption of Locke’s system of books, chapters and paragraphs, including the headlines for individual chapters. This is an important structure-preserving element, which creates the basic thematic structure for the NE and which makes explicit the intertextual relations between Locke’s text and the body of Leibniz’s comments. It must be noted, however, as I shall show in detail in Section 5, that Leibniz in many cases collects sequences (or selections) of paragraphs for one statement by Philalethes, to which he then adds one reply by Theophilus. One of the many cases in point is Book IV.xi, where Philalethes presents heavily abbreviated versions of paragraphs 1 to 10, which are indicated by “§ 1” etc., and Theophilus replies in one comparatively short passage.

4.2.2 *Dealing with repetitions*

An interesting aspect of topic management is the treatment of what, from Leibniz’s point of view, were repetitions.¹⁵ It is, of course, worth noting that many examples and arguments that appeared as repetitions to Leibniz served, from Locke’s point of view, to give extra backing to his theses. In many places of the NE, Leibniz remarked that he had dealt with a certain topic earlier on and complained about repetitions, e.g. in the following case, where Philalethes comes back to the question of the definition of man:

- (2) Theo. We have already given enough attention to this matter, more than once indeed. I am surprised that you return to it [...]. (RB: 394)

There are some passages where such remarks and complaints are particularly frequent. Such passages are worth looking at in detail, as repetitions can point to topics and arguments of particular importance and to textual strategies used by Locke which Leibniz finds difficult to deal with. One such place is the beginning of Book I, where Leibniz has to handle Locke’s strategy of cumulating arguments and examples supporting his view that there are no innate ideas. One favourite argument of Locke’s is that if certain ideas were innate they should also be (universally) known and agreed upon. In order to refute this argument, Leibniz, early on in the first chapter of Book I, lets Theophilus make a longish speech defending his view

15. As I mentioned in the section on disputations and Leibniz’s theory of controversy, repetitions belonged to the most common “vices of confused disputes” (cf. Leibniz 2006: Chapter 1).

that certain principles could be innate “even if they were not known” (RB: 75f.). But this attempt at refutation is not reflected in Philalethes’ further remarks, so Leibniz has to face this objection again and again in varying guises, until he finally lets Theophilus give vent to his exasperation:

- (3) Theo. I have answered that already. (RB: 83)
- (4) Theo. [...] I have already replied (§ 5) to the objection (§ 22) [...] (RB: 84)
- (5) Theo. You keep facing me with an objection which I have already refuted. (RB: 91)
- (6) Theo. That is still reverting to the assumption, which I have time after time refuted, that every innate truth is known always and by everyone. (RB: 95)
- (7) Theo: You are reverting again to the same assumption, according to which if something is not known it is not innate, in spite of my having refuted it so often. (RB: 96)

When Locke’s argument from awareness surfaces again in Book II, Leibniz makes Theophilus react somewhat impatiently:¹⁶

- (8) Theo. Forgive me, sir, but I must point out that when you contend that there is nothing in the soul of which it is not aware, you are begging the question. That contention has already held sway all through our first meeting, when you tried to use it to tear down innate ideas and truths. (Leibniz, RB: 118)

A similar rebuke appears in relation to the question whether “one and one make two” is a definition of a number or a mathematical truth (RB: 409, § 6):

- (9) Theo. You appear to have forgotten, sir, how I have called to your attention more than once that [...]. (RB: 412)

In the following example from Book IV we see Leibniz reacting in a slightly different – and quite creative – way to the predicament of having to deal with what, from his point of view, was another repetition:

- (10) Theo. I fail to see, sir, why you return yet again to a topic which we have argued about a good deal, and which I believed to be exhausted. But after all I am pleased that you have done so, because you are giving me what seems to be an excellent opportunity to set you right once again. (RB: 400)

The problem of not knowing the real essence of a species had been discussed, among other places, in chapters iii and vi of Book III (“Of general terms” and “On

16. It is in this passage that Leibniz introduces the infinite-regress argument that he had not used before (RB: 118).

the names of substances”), but Leibniz here takes the opportunity to give another longish but concentrated discussion of the “real inner essence” of man and gold, examples which had already been at the centre of the discussion in Book III.

4.2.3 *Indicating thematic connections and topic change*

Another important task of topic management consists in showing thematic connections and topic change. This is particularly relevant in a long and rambling text like the NE. Awareness of this task is reflected in Theophilus’ remarks of the following type:

- (11) Theo. I see that many of the matters we discussed when we were concerned with ideas themselves, and their various kinds, are now being re-introduced by virtue of the names of those ideas. (RB: 301)
- (12) Theo. [...] As for the gradual connection of species: we have already had something to say about that in a previous discussion, when I commented that [...]. (RB: 473)
- (13) Theo. [...] but we shall discuss this matter more fully later. (RB: 102)¹⁷
- (14) Theo. [...] but since we are going to treat of the topic later, I do not want to anticipate now what we shall have to say in the proper place. (RB: 474)

Indicating topic change, especially at the beginning of chapters, is a task mostly assigned to Philalethes, for example in the following cases:

- (15) Phil. § 1. Having examined whether Ideas are innate, let us consider what they are like and what varieties of them there are. (RB: 109)
- (16) Phil. § 1. Let us pass on from modes which come from the senses to those which reflection gives us. (RB: 160)
- (17) Phil. § 1. Before separately discussing the topic of faith, we shall deal with reason. (RB: 475)
- (18) Phil. § 19. Before leaving the topic of relations, I would remark that [...] (RB: 253)
- (19) Phil. So far we have spoken about ideas and about the words which represent them. § 1. Let us now turn to the knowledge which is provided by our ideas. (RB: 355)¹⁸

17. Similar previews are to be found, for example, in RB: 105 and 116.

18. “Let us now turn to” is a frequent indicator of topic change in Philalethes’ contributions (e.g. RB: 254, 448, 471)

4.3 Introducing Leibniz's own topics

Generally speaking, many of Locke's topics were also Leibniz's topics, otherwise Leibniz would probably not have considered it worthwhile taking the trouble involved in writing his comments. However, there are certainly topics which play a different or a more prominent role in Leibniz's thought or which form part of a different network of topics in his own "new system". It is therefore worth looking closely at places in the exchange with Locke where we can see him taking the opportunity to introduce such topics.

As we already observed in connection with the problems of writing refutation pamphlets, one of the solutions to presenting one's own position in the context of a refutation consists in writing an extra piece of text, e.g. adding a summary of one's own doctrine to the refutation part, writing a thematic preface or introducing digressions into the current text. Furthermore, there are less spectacular methods, like using related topics in the opponent's work to introduce one's own favourites in a form of "topic shading". In the case of the NE, there is the preface, there are a number of major and some minor digressions, and there are various places where Leibniz takes the opportunity to give at least a glimpse of his own (new) theories, e.g. Theophilus introductory speech after welcoming Philaethes back (RB: 71) and the many places where he refers to or at least alludes to his theory of pre-established harmony and other favourite projects.¹⁹ In this section we shall have a short look at the preface, and in the next we shall deal with digressions and similar phenomena.

The preface serves various functions, e.g. (i) to explain Leibniz's motivation for and his difficulties in writing the NE, (ii) to name a number of disagreements, (iii) to give a commented summary of the Locke-Stillingfleet debate, which concerns, among other things, the question whether matter can think, and (iv) to briefly expound his own view on the immateriality of the soul. In the course of the parts numbered (ii) to (iv) Leibniz introduces important topics and, at least briefly, sketches his position on these topics, e.g. innateness, necessary truths, the cogency of necessary inferences, ideas originating from reflection, minute perceptions, the pre-established harmony between the soul and the body, the immortality of the soul, immateriality of the soul, motion and vacuum, and gravitation. The final sentence of the preface adds two more relevant topics, without however elucidating the nature of the disagreement: "There are still other subjects on which the author of the *Essay* and I disagree, such as infinity and freedom" (RB: 68). From the point of view of topic management, the preface not only introduces these topics, but it

19. This technique of referring or alluding to one's own writings is a special form of intertextuality, which we shall briefly touch upon in Section 8.

also, at least partly, compensates a disadvantage of the point-by-point procedure by showing the uninitiated reader in a rudimentary fashion some of the *connections* these topics have in Leibniz's thought.

4.4 Introducing and indicating digressions

As we mentioned before, digressions are one of the techniques applied in dealing with the thematic restrictions imposed by the point-by-point principle. It is therefore useful to view digressions not so much as stylistic devices but as functional elements, the functions of which one should try to determine. In doing so one should keep in mind that it is not always obvious what should be considered a digression and what a straightforward continuation of topic.

A prominent example of a digression can be found in the chapter "Of the signification of words", where Philalethes introduces the problem of the arbitrariness of signs. He endorses the view that signs are not related to ideas by a "connexion naturelle" but "par une institution arbitraire", "volontairement" (Coste: 500).²⁰ Leibniz briefly acknowledges that he knows this view and that he accepts that significations are "not settled by natural necessity" (RB: 278), and then he embarks on a discourse of 6 pages on etymology and related topics, closing his speech by suggesting research into the "language and antiquities" of various languages. Leibniz marks this as a digression by making Philalethes say, politely, but maybe somewhat impatiently:

- (20) Phil. This proposal is important; but now the time has come to set aside *material* aspects of a word and to return to *formal* ones [...]. (RB: 286)

Now such a long digression could be considered a violation of the relevance principle, as these observations on historical linguistics are not an obvious direct reply to Philalethes' statement about the arbitrariness of signs. We might assume that Leibniz was just carried away by his interest in the development of a new science of language. However, on closer inspection, these linguistic observations could also be seen as contributions to a more sophisticated empirical theory of the "arbitraire" and, therefore, as perfectly relevant to the topic at hand. Leibniz's remarks on the history of languages could be understood as a critique of a naïve theory of arbitrariness. His observations on sound symbolism and sound imitation (e.g. the German word *quaken* 'the croaking of frogs') relate to the matter of a "natural" connection between sound and meaning, and, according to Leibniz, research in the original language of mankind might clarify the relationship between "natural"

20. Locke's original wording is: "by a voluntary imposition, whereby such a Word is made arbitrarily the Mark of such an *Idea*" (Locke 1975: 405).

and “arbitrary” aspects of signs. Taken this way, this digression is a thoroughly pertinent and productive contribution to the discussion at this point.²¹

The same could be said of Leibniz’s famous “lecture” on logical form, which is triggered by Locke’s remarks on the uselessness of syllogisms and his examples of this uselessness (RB: 479–481). After the first part of this lecture, the “general part”, Leibniz makes a caesura before turning to the individual cases of assumed uselessness which Philalethes had mentioned:

- (21) Theo. [...] Having explained the correct use – as I believe it to be – of logical forms, I turn now to the points you were making. (RB: 481)

This time, it is Theophilus himself who indicates for the two parts of his speech a difference in the kind of relatedness to Philalethes’ preceding utterance. Although the first part of this speech does not address Philalethes’ individual “points” directly, it is quite obvious that this part is also highly relevant from Leibniz’s point of view.

There are some more digressions which are expressly characterized as such, e.g. Leibniz’s long plea for historical studies which he embarks on in the context of the question of the reliability of historical sources.²² In this speech, Theophilus pleads for “the sifting of the materials of antiquity down to the tiniest trifles” and mentions the history of clothing and tailoring and the usefulness of books of travel. Philalethes closes this digression by uttering:

- (22) Phil. Your digressions are enjoyable and instructive. § 12. But let us turn from the probabilities of matters of fact to those of opinions concerning things such that falling not under the reach of our senses, they are not capable of testimony. (RB: 471)

A few pages earlier, when discussing the problem of human errors and attitudes to the diversity of opinions, Leibniz reflects on dangerous opinions which might cause a “spiritual epidemic” and even lead to a revolution. Theophilus himself explicitly marks the end of these reflections by saying:

- (23) Theo. [...] But let me get back to my main point; thinking about harmful beliefs and our right to criticize them has led me to digress. (RB: 463)

In Book II, when treating the problem of relations, Philalethes mentions, as an example, family relations and the fact that different languages mark different “relations of kindred”. Theophilus reacts to this remark by an extended encyclopedic statement on family relationships and forms of affinity in different cultures (RB: 248). This speech is not explicitly marked as a digression and one could view

21. On these passages cf. also Aarsleff (1982: 63ff.).

22. In fact, this is the second of two longish passages on problems of history (cf. RB: 466f.)

it as a borderline case, shading into the type of longish statements which are obviously on-topic, which, however, transcend the normal length of a comment or reply in dialogue (cf. Section 6.7).

In concluding this section I should like to mention a related phenomenon, i.e. Leibniz's frequently used technique of giving examples from history or from his own experience to illustrate a point he is making. As these examples sometimes take up some space they might be seen as digressions. In some cases Leibniz anticipates this reading of his examples and indicates after the example(s) that he is now returning to his starting point. In the context of the problem of distinguishing "images from exact ideas" (RB: 137), a distinction which, according to Leibniz, is not clear enough in Locke's "Essay" (cf. RB: 261), Leibniz refers to the case of a man born blind. From there he goes on to report three real cases of persons born deaf and dumb (RB: 137f.) and makes a plea for an exact empirical analysis of the thinking of such persons.²³ After these three examples he leads back to the starting point by saying "But to return to the man born blind" (RB: 138).²⁴ On another occasion, in the context of the discussion of the usefulness of maxims, he introduces jurisprudence as an example of a field where maxims are usefully employed.²⁵ After showing in which way maxims are used in this field, he indicates his return to the general question of the status of maxims by using a "return particle" ("Well, then", RB: 425; French: "Or", A: 425).

Generally speaking, one of the functions of these digressions, apart from contributing to the respective topic and its context, seems to be to open up the discussion to a wider horizon of empirical fact. This strategy of Leibniz's is easily missed if one focuses exclusively on the theory-building and "formalist" aspects of Leibniz's contributions to this dialogue.

4.5 Making topic structures explicit

As we noted earlier on, one of the fundamental problems in writing a refutation pamphlet consists in presenting one's own view of the structure and relatedness of certain topics. This is certainly also true of the NE, as has often been observed. Connections between topics are locally indicated in many places, to the uninitiated reader, however, a general survey of the structure of the network of topics dealt with by Leibniz, viz. his thematic world view, is difficult to establish. A case

23. It is worth noting that the point of these examples is not only to emphasize the difference between images and ideas but also to point out that analyzing such cases is an empirical matter.

24. Examples of the type "I knew a man ..." occur in various places (e.g. RB: 187).

25. Examples from the field of jurisprudence generally play an important role in Leibniz's "economy of argumentation".

in point is the topic of the immortality of the soul, which Leibniz mentions several times in his preface as a central topic in his thought, and its connections with other topics like the immateriality of the soul, the theory of minute perceptions, and the innateness of ideas.²⁶ There are, indeed, passages in the NE where such connections are explicitly made or at least suggested, as in Theophilus' remark on Locke's claim that thinking is "not the essence of the soul", where Leibniz indicates a connection between the theory of minute perceptions and the question of the immortality of the soul (RB: 161f.). But the general picture is hard to get. This is also true, more generally, of the geography of topics of Leibniz's "new system", which is hinted at in several places, but which is never made explicit as such. So charting the field of topics remains a difficult task for the reader of the NE.

5. Philalethes' first move – rendering Locke's material

5.1 Leibniz's task

As I mentioned before, having to comment on each and every statement and argument contained in Locke's "Essay" in a strict point-to-point fashion would have been an even more formidable task for Leibniz to fulfill than what writing the NE in its existing form meant. So, among other tasks, he had to develop a strategy for the selection of relevant topics. In order to study this strategy we have to look at Philalethes' first move, which consists mainly in rendering Locke's text. In the following passages I shall examine a few aspects of Leibniz's methods of rendering Locke's position.

5.2 Selecting and condensing

We can distinguish several strategies for selecting and condensing material from Locke's text, of which I shall mention three. In some cases one feels the reasons for the chosen reduction of Locke's text are not hard to guess, in others this would be a matter of careful interpretation.

i. *selecting paragraphs from Locke's chapters:*

Leibniz nearly always reduces the number of paragraphs he comments on. In some cases this reduction is quite radical. For instance in Book II.vii ("Of ideas of both sensation and reflection") he selects only the first paragraph out of ten for comment. Most of the paragraphs that are left out deal with individual ideas, e.g. pleasure, existence, power. Leibniz takes the opportunity to state summarily (again) his general view that the senses could not "without

26. Cf. the reconstruction of these connections in Jolley (1984: 104).

help from reason” cause thoughts of existence, power and unity, adding that perceptions of pleasure and pain “are of a quite different nature” (RB: 129).²⁷ Similarly, in Book II.x (“Of retention”), he selects only the first two paragraphs out of ten, which deal mainly with aspects of the psychology of memory. Leibniz only makes two short comments, one to add that innate knowledge can also be retained and the other to criticize Locke’s view of “bare ‘powers’ and ‘faculties’” (RB: 140). In Book II.xxxii (“Of true and false ideas”) Leibniz leaves out § 6–§ 25 and gives only a fairly short comment on the remaining paragraphs. Obviously he did not feel attracted to commenting on Locke’s detailed reflections on the causes of false ideas. A final example is provided by the long chapter “Of the names of substances” (Book II.vi), which consists of 51 paragraphs. Here, Leibniz leaves out § 43–§ 51. In this case the criterion for the selection is not difficult to guess. In these paragraphs Locke introduces as an illustration a scenario of how Adam could have arrived at the use of expressions for the ideas of jealousy and adultery, and Leibniz obviously considered it unnecessary to comment upon this scenario.²⁸

ii. *Collecting a number of paragraphs into one contribution by Philalethes and replying with a single contribution to this collection:*

A case in point is Leibniz’s treatment of Locke’s chapter on enthusiasm (Book IV.xix). He collects all 16 paragraphs of this chapter into one contribution by Philalethes, reducing Locke’s nine pages to about one and a half pages. In this, as in other cases, we see Leibniz making an effort to create a coherent text from the resulting sequence of extracts. This technique will, however, sometimes lead to a loss of thematic and/or argumentative structure. This is, for example, true of the chapter “Of our knowledge of the existence of other things” (Book IV.xi), where Locke introduces a list of four points proving that perceptions of other things come from external causes (Coste: 813–817). When Leibniz reduces this chapter of ten paragraphs into one contribution by Philalethes, this argumentative structure is not preserved. In other cases, where Leibniz’s particular interest is aroused, a paragraph may be split up into several contributions by Philalethes, which are then individually answered by Theophilus.

27. In the rendering of this paragraph there is also a subtle change in Locke’s wording worth noting: Locke’s “(idées) qui s’introduisent dans l’Esprit” is changed to “(idées) qui se font apercevoir” (Coste: 126; A: 129).

28. There are cases where material from paragraphs not explicitly rendered in Philalethes’ words shows up in Theophilus’ comments. For instance, the example of “the church” is not mentioned in Book II.xxix.12, to which Theophilus is answering, however it is mentioned earlier on in § 9 of Locke’s text (Coste: 445). Leibniz had this example still in mind, even if he did not render this aspect of § 9 in Philalethes’ utterance.

This is the case, for example, with § 11 in Book IV.vii – on the usefulness of maxims –, which Leibniz divides into six contributions, answering them individually in great detail.

iii. *Reducing individual paragraphs to a few sentences or even to one sentence:*

The reduction to a few sentences can be found, for example, in Leibniz's rendering of Book II.ii. Of the three paragraphs of this chapter, Leibniz leaves out § 2 and § 3 and condenses § 1, essentially by taking three sentences from the beginning, the middle and the end of the paragraph and joining them together using the connectors *c'est ainsi que* and *car*:²⁹

- (1) *J'espere donc que vous demeurerez d'accord, Monsieur, qu'il y a des idées simples et des idées composées; c'est ainsi que la chaleur et la mollesse dans la cire, et la froideur dans la glace, fournissent des idées simples, car l'ame en a une conception uniforme, qui ne sauroit être distinguée en différentes idées.*

An example of the reduction of a paragraph to a single sentence can be given from the chapter on enthusiasm (Book IV.xix). Here Leibniz reduces the fairly long § 11 – more than two pages in Coste – to one sentence: “§ 11. Is there anything more apt to run us into error than to take imagination as our guide?” (RB: 504).³⁰ In this particular case it is doubtful if in choosing this sentence Leibniz adequately represented this paragraph, as the point of the paragraph was indicated by Coste in a marginal note as “L'Enthousiasme ne saurait pas prouver qu'une proposition vient de Dieu” (Coste, 910). Generally speaking, these methods of selection and condensation are often applied to material containing illustrating examples and repetitions.

5.3 Rendering Locke's wording

Among the techniques of representing Locke's text one consists in introducing small changes in Locke's wording. In many cases they appear quite harmless, maybe not even intentional, whereas in other cases these seemingly small changes very likely have a tactical meaning. The following sentence from the beginning of Book III.vii (“Of Particles”) is an example of a fairly close paraphrase, which is typical of much of the renderings of Locke's text and which could be considered non-distorting:

29. My example is taken from the Academy edition, where material adopted from – or: based on – Coste's translation of Locke is printed in italics. It should be mentioned, however, that these “extracts” from Locke, as they are called (A: Introduction, XXVII), are often not verbatim quotations. In the present case, not only the two connectors I mention but also the verb *fournir* is not present in the original.

30. Similarly with § 14.

- (2) OUTRE les Mots qui servent à nommer les idées qu'on a dans l'Esprit il y en a un grand nombre d'autres, qu'on employe pour signifier la connexion que l'Esprit met entre les Idées ou les Propositions, qui composent le Discours. (Coste: 591)
- (3) *Outre les mots qui servent à nommer les Idées, on a besoin de ceux qui signifient la connexion des Idées, ou des propositions.* (A: 329)

In contrast, the following example does not appear to be quite as harmless. In Book II.iv ("Of solidity") § 1 in Coste's translation reads as follows:

- (4) L'IDÉE de la Solidité nous vient par L'Attouchement; & elle est causée par la résistance que nous trouvons dans un Corps [...]. (Coste: 119)

In Philalethes' words this is represented as:

- (5) *Vous accorderés aussi sans doute, que le sentiment de la solidité est causé par la résistance, que nous trouvons dans un corps [...].* (A: 122)

In this sentence Leibniz supplants "idée" by "sentiment", which is translated as "sensation" by RB. Now this is certainly not unintentional, because it is closely related to the very conflict which is at stake at this point. Leibniz could easily admit that the sensation of solidity is caused by the resistance which we find in a body, whereas the assumption that the *idea* of solidity arises from sensation is exactly one of the major assumptions he had been fighting throughout Book I. By changing this wording, Leibniz gave himself the opportunity to avoid having to challenge Locke at this point, thereby sidestepping repetition and giving himself, instead, the chance to deliver a short lecture on the various "sources of resistance". That Leibniz was very well aware of what was going on here is shown by the last sentence of this "lecture":

- (6) Theo. [...] And solidity, in so far as there is a distinct notion of it, is fundamentally conceived through pure reason, though the senses provide a basis for reasoning to prove that solidity occurs in nature. (RB: 124)

With this statement he exactly opposed Locke's original assumption that the idea of solidity arises from the (feeling of) resistance.

Another problem of wording, which is very interesting linguistically and philosophically, concerns Locke's word *uneasiness*, which he uses in Book II.xx.6 to designate a basic concept of his theory of psychological "modes" like sorrow, anger etc. This word is difficult to render in French, as the translator Coste notes in a long footnote (Coste: 267), deciding to translate it by *inquiétude*, although this expression does not suggest the element of displeasure which *uneasiness* implies. Leibniz has Philalethes comment on this problem, who closes his speech by stating

that this kind of *inquiétude* plays a large role in the following chapter on power and – referring to the translator’s footnote –, that “one could not properly understand the contents of this chapter, which are the subtlest and most important in the whole work” (RB: 164). Theophilus agrees with Philalethes that this treatment of *inquiétude* is an important matter and adds that *inquiétude* is in fact more appropriate than *uneasiness*. The reason for this judgment, as the reader soon finds out, is that the concept of *inquiétude* is much more suitable for Leibniz’s theory of minute perceptions than the concept of *uneasiness*.³¹ This *inquiétude*, which spurs man to action, is “essential to the happiness of created beings” (RB: 189).

A (partly) systematic change of terminology is Leibniz’s change of “*idées composites*” for “*idées complexes*” in Book II.xxix from § 7 onwards. However, earlier on, in II.xi and II.xii “complex ideas” is preserved. This and other changes of terminology are noted in RB. Generally speaking, attempts at the “synchronization” of terminology, which take place both in Philalethes’ rendering of Locke and in Theophilus’ comments, are a topic deserving extra study, as they may indicate differences in the conceptual landscapes of the two opponents. Some types of conceptual criticism and conceptual clarification will be mentioned in Section 6.3.

As a final observation in this section I should like to draw attention to a type of change in wording that contributes to the management of dialogue at a certain point. In Book I.ii.26, Philalethes asks:

- (7) Phil. § 26. If there are innate truths, must there not also be innate thoughts?

This renders the final sentence of § 26 in Locke’s text:

- (8) [...] Whereby it is evident, if there be any innate Truths, they must necessarily be the first of any thought on; the first that appear there.

By changing the kind of speech act performed by Philalethes from Locke’s apodictic statement of the conditional to a question, Leibniz avoids the necessity of contradicting Locke head-on, giving, instead, a negative answer to a question, which is a much less face-threatening act. Apart from this change in illocutionary type, Leibniz also slightly changes the point of the proposition involved, shifting from the question of the *priority* of innate thoughts to the *existence* of innate thoughts, thereby avoiding the priority objection which is in the offing here.

31. At the end of his speech Theophilus remarks that in German the word *Unruhe* shows a – for him – very attractive polysemy, i.e. it means both ‘the balance of a clock’ – which keeps the clock moving – and ‘disquiet’ (RB: 166).

6. The second move: Theophilus' comments

6.1 Aspects of the second move

In a controversy on a particular point the “second move” in the dialogue, by which the opponent tries to unsettle the position of the proponent, is a slot in dialogue structure where we find a great variety of activity types, e.g. direct contradiction, presenting objections, questioning assumptions, presenting a counterargument, uttering doubt, showing (partial) agreement, and criticizing the proponent’s terminology. And we also find more complex types like showing agreement and then going on to differentiate, attempting a complex refutation by giving a sequence of arguments, giving a counterexample and explaining this example, making a thesis plausible by using a comparison, giving a scientific explanation of a phenomenon under discussion, giving a lecture on the topic introduced by the proponent etc. In this chapter it will not be possible to do justice to the variety, the complexity and the sophistication of Leibniz’s moves which his spokesman Theophilus executes. I will, however, describe and exemplify a number of moves which, I think, show some interesting properties of the overall dialogue management in the NE and the way Leibniz relates to the “conversational demand” set up by Locke’s “Essay”.

Before presenting some examples of characteristic moves performed by Theophilus, I should like to touch on a few general points. The first concerns matters of politeness. Keeping up standards of politeness is part of the rules of scientific communication in the 17th century. The following is just one example of the kind of utterance which we would probably not make today, but which was certainly considered perfectly apt in a 17th century debate:

- (1) Theo. I assure you perfectly sincerely, sir, that I am most distressed to have to find fault with this demonstration; but I do so only in order to prompt you to fill the gap in it. (RB: 435f.)

In the NE we find various politeness strategies which are common practice in this period and of which I should like to mention three. The first strategy consists in using polite forms of address and of description of your opponent. Theophilus frequently addresses Philalethes with “Monsieur” (“Sir” in the English translation), which is particularly noticeable in cases where he has to say something unpleasant (e.g. “Forgive me for saying, sir, ...”; RB: 292), and both he and Philalethes also frequently use laudatory epithets in referring to Locke, e.g. “an illustrious Englishman” (RB: 43), “our gifted author” (RB: 52), “your able author”, (RB: 74), the “renowned author” (RB: 61), “good author” (RB: 164), “able writer” (RB: 250), “this judicious writer” (RB: 415). As we shall see presently, another part of Leibniz’s politeness strategy consists in showing at least partial agreement before making objections,

and finally, we find the use of hedges, which is both a means of politeness and of fine-tuning one's commitments.³² The following are a few examples of first-person hedging in Theophilus' contributions:

- (2) Theo. It seems to me that [...]. (RB: 178)
- (3) Theo. [...] I should think it could happen that [...]. (RB: 193)
- (4) Theo. [...] I am inclined to believe that [...]. (RB: 194)
- (5) Theo. To my mind something can be said about this inference. (RB: 201)
- (6) Theo. It should not be made a matter of names, it seems to me. (RB: 256)
- (7) Theo. [...] This example does not appear to me to suit your purpose either [...]. (RB: 262)

It is probably not by chance that forms of hedging cluster in the chapter on "power and freedom" (Book II.xxi), whereas, for example, in matters of logic, geometry, and mechanics Theophilus is much less inclined to hedge.

My second point concerns the problem of burden of proof. In traditional disputations the burden of proof lies with the opponent, whereas the defender has only to refute successfully the opponent's objections (cf. Leibniz 2006, 419ff.). Now, in real-life controversies it was often a moot point who was in fact in the defending position. Although the participant providing the starting point of the debate, in our case Locke-Philalethes, could generally be regarded as the proponent, this position could be reversed if the proponent could be seen as introducing an "innovation", against which the traditional view had to be defended. This is quite frequently the case in Leibniz's exchange with Locke, on occasions when Locke is cast in the role of innovator and Leibniz feels called to defend, at least partially, established views, e.g. on the concept of innateness or the concept of substance. It is therefore interesting to observe where Theophilus tries to refute Locke's objections and where he champions Leibniz's own views. An example of Leibniz taking the role of *proponent* is given by Jolley (1984: 104): "In the New Essays, then, Leibniz is not directly concerned to provide positive arguments for the immateriality thesis; rather, he seeks to defend it obliquely by refuting Locke's criticism of doctrines which, in Leibniz's view the thesis entails".

My third point concerns matters of rhetoric. There is no doubt that Leibniz was also an accomplished rhetorician. His rhetoric in the NE would deserve an inquiry of its own, which I cannot provide here. I shall, however, give one good example. In his final statement of Book II.xxvii ("What identity of diversity is")

32. On the use of hedges in scientific discourse, see Hyland (1998) and Gross/Harmon/Reidy (2002). On first-person hedging in 17th century controversies, see Fritz (2005: 39f.).

Theophilus sums up the results of this part of the discussion from his point of view by a repeated use of the expression “I have shown”, an effective case of *anaphora* (Lat. *repetitio*):

- (8) Theo: [...] I have shown you the basis of true physical identity, and I have shown that [...] And I have also shown that [...] Finally, I have shown that [...]. (RB: 247)

A final point concerns topic management. The second move in a dialogue is always also a position where decisions on topic continuity can be made. The second speaker may preserve topic continuity, he may narrow the topic by concentrating on a specific area of the topic at hand, he may widen the topic by introducing new aspects, and he may – at least temporarily – change the topic by introducing digressions etc. In some of the examples given in this section we can see Theophilus working on the structure of the topic, for example, when he introduces additional aspects. This is a further aspect of topic management, which one could add to the aspects dealt with in Section 4.

In the following paragraphs I shall present a number of typical second moves, trying to show their function in the overall dialogue management.

6.2 Direct confrontation

As Leibniz often tends to let his spokesman Theophilus react to Philalethes’ statements in a rather restrained and polite fashion, it is particularly interesting to see where Leibniz meets Locke’s views head-on.

Very early on in Book I, after Philalethes declares that he shares Locke’s belief that there are no innate ideas (RB: 74), Leibniz does not hesitate to make Theophilus voice his disagreement:

- (9) Theo. You know, Philalethes, that I have long held a different view.

Similarly in Book IV, where Philalethes doubts that maxims can “yield us the slightest knowledge of substances which lie outside us”:

- (10) Theo. I am of an entirely different opinion. (RB: 423)

Theophilus then goes on to give an example from the field of optics. Another instance can be taken from the discussion on the question whether “any thing should think and not be conscious of it” (RB: 113). This is an important point for Leibniz’s theory of “minute perceptions”, which he emphasizes shortly afterwards: “In short, many errors can flow from the belief that the only perceptions in the soul are the ones of which it is aware” (RB: 116). So it is not surprising that we find Theophilus directly contradicting Philalethes’ statement:

- (11) Phil. § 14. That the soul in a sleeping man should be this moment busy a thinking, and the next moment in a waking man, not remember, appears very hard to be conceived.

Theo. Not only is it easy to conceive, but something like it can be observed during every day of our waking lives. (RB: 115)

Another example is to be found in the discussion on the names and essences of species:

- (12) Phil. [...] It is up to men to decide; so it is they who determine the species of things.

Theo. Not at all; they would only determine the name. (RB: 324)

Similar direct confrontations can be found on the topic of the idea of substance (RB: 145; RB: 150), on the essence of individuals (RB: 305), on questions of infinity (RB: 158), and on problems of motion (RB: 171), just to name a few. In the last case Theophilus speaks of “this erroneous opinion” and adds that this view “can still mislead able people into building the theories on ruinous foundations” (RB: 171). To judge from these examples, head-on contradictions seem to be a good indicator of core points of disagreement.

An interesting variant of voicing disagreement is represented by Theophilus’ reaction to Philalethes’ criticism of the “notion of pure substance in general” (RB: 218). After discussing a few potential problems of the concept of substance, he continues:

- (13) Theo. [...] Yet this conception of substance, for all its apparent thinness, is less empty and sterile than it is thought to be. Several consequences arise from it; these are of the greatest importance to philosophy, to which they can give an entirely new face. (RB: 218)

This seems to be a grave disagreement with wide-ranging consequences, but, as Jolley (1984, 74) put it, “In effect Leibniz here seems content to announce his disagreement and pass on to other subjects”.

6.3 Critical moves

Reading through the NE, we find the full repertoire of critical moves used in controversies, including objections, counter-arguments, introducing distinctions, modifying the opponent’s position, clarifying a point, criticizing an example, using an example to prove the opposite. Of these many types of moves I shall only exemplify a few here.

(i) *Conceptual criticism*

A critical move of this type by Theophilus is the explicit criticism of the confusion of the idea with the image (RB: 261). In this case he even repeats his criticism in the following contribution and finally insists on it in his third successive reply:

(14) This is the same mistake of taking the image for the idea. (RB: 263)

This certainly indicates that Leibniz was quite keen to make his point in this matter.

(ii) *Clarifying concepts*

A move related to conceptual criticism is the clarification of concepts, which in several instances Leibniz feels called upon to do, e.g. in the case of some concepts in the fields of mathematics and geometry like the concept of distance and extension. But there are also others like the concept of idea or the concept of freedom (RB: 175):

(15) Theo. To put it more clearly, the distance between two fixed points is [...]. (RB: 146)

(16) Theo. [...] Extension is [...]. (RB: 149)

(17) Theo. In a short discussion of ideas – true and false, clear and obscure, distinct and confused – which appeared in 1684 in the *Acta* of Leipzig, I gave a definition of ‘clear idea’ [...]. I say, then, that an idea is clear when [...]. (RB: 254)³³

(18) Theo. There is a slight unclearness in that explanation. (RB: 263)

One special form of conceptual clarification that goes back to the practice of disputation consists in making distinctions, a move which we also frequently find in the NE:

(19) Theo. [...] But I distinguish ideas from thoughts. (RB: 119)

(20) Theo. [...] So the notion of extension appears to me to be totally different from that of cohesion. (RB: 223)

(21) Theo. On this account of what a ‘distinct idea’ is, I do not see how to distinguish it from a ‘clear’ one. So in this matter I always follow M. Descartes language: [...]. (RB: 255)

All these moves of conceptual criticism and clarification are indicators of possible divergences in the conceptual geography of the two protagonists.

33. Further examples of Leibniz’s referring to his own works are given in Section 8.

(iii) *Precization of statements*

A related move consists in making more precise statements made by Philalethes:

- (22) Phil. § 4. The ideas of numbers are more precise [...].
 Theo. That applies to *whole numbers*. (RB: 156)
- (23) Theo. [...] The true infinite, strictly speaking, is [...]. (RB: 157)³⁴
- (24) Theo. [...] Take the example ‘Gratitude is justice’, or rather ‘a part of justice’ [...]. (RB: 432)

(iv) *Criticism of inferences*

Criticizing an inference (“non sequitur”) is another traditional form of dialectical criticism. We find an example of this in the following exchange, which is one of the most strongly confrontational passages in the NE, where Theophilus firmly insists on his criticism and where the confrontation is only superficially covered by elements of politeness:³⁵

- (25) Phil. § 11. From what I had just said it follows that *general* and *universal* belong not to the existence of things; but are the workmanship of the understanding. § 12. And the essences of each species are only abstract ideas.
 Theo. I cannot see that this follows. (RB: 292)
- (26) Theo. I confess, sir, that I have seldom had so poor a grasp of the force of your argument as I do now, and this distresses me.
- (27) Theo. Forgive me for saying, sir, that I am puzzled by your manner of expressing yourself, because I do not find what you say coherent. (RB: 292)

A similar criticism of an inference drawn by the opponent is also present in the following example:³⁶

- (28) Phil. [...] If God, finite spirits and bodies participate in the same common nature of substance, will it not follow that they differ only in the different modifications of that substance?
 Theo. If that inference were valid, it would also follow that since God, finite spirits and bodies, participate in the same common nature of being, they will differ only in the different modification of that being. (RB: 150)

34. Similar uses of “strictly speaking” can be found, for example, in RB: 197 and 343.

35. Hacking (1988: 139) remarked on this passage: “nowhere is he [i.e. Leibniz] more cutting”.

36. Jolley (1984: 96) speaks of “Leibniz’s brusque and impatient rejoinder”.

(v) *Claiming internal contradictions*

This is another classical move from the repertoire of disputations:

- (29) Theo. That appears to me to conflict with your own earlier explanation.
(RB: 223)

6.4 Refutation

A type of critical move worth giving particular emphasis in the analysis of pamphlets and pamphlet-like texts like the NE is refutation. In view of the overall aims of the NE it is not surprising that attempts at refutation abound in Theophilus' contributions. I shall only give two examples here:

- (30) Theo. [...] And I cannot accept the proposition that whatever is learned is not innate. The truths about numbers are in us; but still we learn them, whether by drawing from their source, in which case one learns them through demonstrative reason (which shows they are innate), or by testing them with examples, as common arithmeticians do. (RB: 85)

The second example concerns Locke's contention "that there is nothing in the soul of which it is not aware" (RB: 118). Here Theophilus replies by giving a classical infinite-regress argument:

- (31) Theo. [...] My opponents, accomplished as they are, have adduced no proof of their own firmly and frequently repeated contention on this matter; and what is more, there is an easy way of showing them that they are wrong, i.e. that it is impossible that we should always reflect explicitly on all our thoughts; for if we did, the mind would reflect on each reflection, *ad infinitum*, without ever being able to move on to a new thought. (RB: 118)

6.5 Voicing agreement

That Leibniz's intention in writing the NE was not restricted to criticizing and refuting Locke's views, but also included finding areas of agreement, can be shown by the many passages where he explicitly expresses agreement with Locke's position and even delight at Philalethes' statements. No doubt, this was partly also a matter of politeness, but it is certainly useful to locate passages where these utterances occur or even cumulate, as they might be considered manifestations of Leibniz's "conciliatory approach".³⁷ The following are some examples of this type of utterance:

37. On this "conciliatory approach", see Dascal/Firt (2010).

- (32) Theo. Very good. Words are just as much reminders (*notae*) for oneself – in the way that numerals and algebraic symbols might be – as they are signs for others. (RB: 335)³⁸
- (33) Theo. Those are good remarks. [P’s remarks on “cases where it is hard to learn and retain the idea which each word stands for”, GF] (RB: 336)
- (34) Phil. Every act of sensation gives us an equal view of the corporeal and of the spiritual. For whilst I know, by seeing or hearing, that there is some corporeal being without me, I do more certainly know, that there is some spiritual being within me, that sees and hears.
Theo. Well said, and very true! The existence of spirit is indeed more certain than that of sensible objects. (RB: 220)
- (35) Phil. [...] we have an intuitive knowledge of our own existence, a demonstrative one of the existence of God, and a sensitive one of other things. [...]
Theo. You could not be more right. (RB: 387, similarly 383, cf. also 373)
- (36) Phil. §10. The beasts do not make abstractions either.
Theo. That is my view too. [...] I am delighted to see you so well aware, here and elsewhere, of the privileges of human nature. (RB: 142)
- (37) Theo. That is what I said too, near the end of §37 above and again near the end of §47. One can induce oneself to want something and to develop a taste for it. (RB: 208)
- (38) Theo. I am wholly in sympathy with this important observation, which could be confirmed by endless examples. [P’s observation on “oddities in the thinking of others” which can be traced to early experiences, GF] (RB: 270)

Like in Example (36) above, Leibniz sometimes not only expresses his agreement but also expresses emotional commitment:

- (38) Theo. I heartily commend you, sir, for maintaining that faith is grounded in reason. (RB: 494)

Similarly, when at the very beginning of Book III Philalethes expresses the view that “God designed man for a sociable creature” (RB: 273), Theophilus expresses happiness:

- (39) Theo. I am happy to find you far removed from Mr. Hobbes’s view. (RB: 273)

38. What Theophilus adds in parenthesis emphasizes Leibniz’s particular perspective on this matter.

In this context, I should like to point to a passage where Leibniz's continued agreement is quite conspicuous, namely Book II.x ("Of power and freedom"):

- (40) Theo. I like all that very much. [i.e. P's remarks on the "intellectual determination of the will by what is contained in perception and the understanding", GF] (RB: 197)
- (41) Theo. I am so convinced of this truth that I believe we can assert it boldly [...]. [i.e. "that God himself cannot choose what is not good", GF] (RB: 198)
- (42) Phil. Nor let any one say, he cannot govern his passions [...].
Theo. That is an excellent point and worthy of frequent reflection. (RB: 200)

But even in cases where Theophilus emphatically agrees with Philalethes we find the tactic of adding minor disagreements or objections which we shall deal with in the following section:

- (43) Theo. These remarks are excellent. But we do sometimes depart somewhat from this approach [...]. (RB: 229)

An interesting variant of the pattern of agreement is the following: After expressing his agreement, Leibniz specifies his personal view on this matter and then emphasizes the importance of this point.

- (44) Theo. This division of the objects of our thoughts into substances, modes and relations is pretty much to my liking. I believe that qualities are just modifications of substances, and that the understanding adds relations. More follows from this than people think. (RB: 145)

Finally, we have a case where Leibniz praises Locke's position, adding, maybe somewhat arrogantly, that Locke at this point came close to Leibniz's own theory:

- (45) Theo. This present reasoning strikes me as perfectly sound, and as being not only rigorous but also deep and worthy of its author. I utterly agree with him that material particles, however small they be, could not be combined or modified so as to produce perception; [...] At this point our excellent author was but a step away from my system. (RB: 440)

6.6 Agreeing and adding objections or modifications

A frequent and particularly interesting pattern of reaction to Philalethes' statements consists in first agreeing and then adding an objection or some kind of modification, frequently using a connective like *but*, *yet* or *however* as in many of the following examples:³⁹

39. The connectives in the French original are *mais*, *pourtant* and *cependant*.

- (46) Theo. I agree that the particles which connect propositions do valuable work, but I doubt that the art of speaking well consists principally in that. (RB: 330)
- (48) Theo. This is a good rule, but I am not sure that your examples are apt. (RB: 351)
- (49) Theo. I do not deny that abstractions are used in that way, but it involves an ascent from species to genera rather than from individuals to species. (RB: 289)
- (50) Theo. I agree with your remarks. Yet there are many reasons why it would be useful if definitions could consist of two terms. (RB: 291)
- (51) Theo. There is merit and substance in these thoughts. However, I would not want them to encourage people to believe they should give up the old axioms [...]. (RB: 185)
- (52) Theo. These comments are good, and some of them agree with the ones I have just made. However, in keeping with what I said earlier, I will add that proper names [...] have usually originated as appellatives, i.e. general terms. [...]. (RB: 288)
- (53) Theo. These are very instructive remarks. I will add only that there seems to be something chimerical also in people's ideas of accidents or ways of being, [...]. (RB: 349)
- (54) Theo. I agree about that, provided that you add that an idea is an immediate inner object, and that this object expresses the nature or qualities of things. (RB: 109)

The modification mentioned in Theophilus' condition ("provided that") is quite considerable. The same is true of the addition in the next example.

- (55) Phil. § 2. I have already remarked, [...], that we know our own existence by intuition, that of God by demonstration, and that of other things by sensation; and I recall that you heartily applauded [...].
 Theo. I am wholly in agreement with all this. And I add that the immediate awareness of our existence and of our thoughts provides us with the a posteriori truths or truths of fact, i.e. the first experiences; while identical propositions embody the first a priori truths or truths of reason, i.e. the first illuminations. [...]. (RB: 434)

This pattern is, of course, part of Leibniz's politeness policy, but it also accords very well with his overall strategy of "adding something to what he [i.e. Locke] has produced to us", which he formulated in the preface (RB: 46). One could also see

this pattern as a manifestation of Leibniz's programme of "going deeper", which Theophilus announces in his welcoming speech (RB: 73).

6.7 Giving extra information and explanations

A final type of move I shall mention here consists in replying by a longish speech. This kind of move is performed by Theophilus on several occasions and would be worth being scrutinized in more detail. These long contributions obviously occur in places where Leibniz feels that additional information or a fundamental clarification is in order. Some of them may be considered digressions (cf. Section 4.4), and as for their genre, they could be termed "short essays" or "brief treatises". Examples of this type of move are Theophilus' speech on the phenomenon of resistance (RB: 122–124), his statements on the immortality of the soul (RB: 236f.) and the "human individual" (RB: 239f.), Leibniz' well-known "lecture" on etymology and other topics of historical linguistics (RB: 278–286), his clarification of the concept of species (RB: 308–310), his "lectures" on logical form (RB: 479–481) and symbolism (RB: 409–411), his history of enthusiasm (RB: 504–509), his "essay" on the role of authority (RB: 517–520), and finally his treatise on the "division of the sciences" (RB: 522–527), with which he winds up the book.⁴⁰ These long replies often show an encyclopedic treatment of their topic, including the history of the problem, and a didactic attitude, which has probably caused some of these passages to be called "lectures" in the literature.

7. Making the third move: Philalethes

7.1 Producing natural dialogue

Natural dialogue mostly consists of longer sequences than merely two contributions like in a simple question-and-answer sequence. This is also true of dialogue in controversies. So a typical pattern of minimal dialogue between a proponent A and an opponent B in a controversy could be described as a sequence of the type A1, B1, A2, B2 where the utterances are functionally and thematically related, as in the case of a sequence like the following: A1: assertion, B1: objection to assertion A1, A2: attempt at refutation of objection B1, B2: insisting on objection B1.

Seen from the point of view of the enhancement of the dialogical features of a sequence of comments on given passages of an opponent's text, it is particularly the sequential position A2, i.e. the reaction of the proponent, which contributes

40. It is worth noting that these contributions cumulate in Book IV.

to the further development of natural dialogue. So, for our analysis of the dialogue structure of the NE, utterances of A (Philaletes) which relate directly to B's (Theophilus') preceding utterance are particularly relevant. These utterances represent what Locke could have said in reply to Leibniz, so, if they are well-conceived, they give an idea of what an extended dialogue between Leibniz and Locke could have been like. In fact, however, as I mentioned before, such sequences approximating natural dialogue are fairly rare.⁴¹ In this section I shall first give an example of a "productive" use of the A2-position and then go on to look at a number of other uses of the A2-position in the NE.

A good example of a quite natural kind of exchange is to be found early on in Book I.i:

- (1) (A1) Phil. What do you say, sir, to this challenge which a friend of mine has offered? If anyone can find a proposition whose ideas are innate, let him name it to me (he says); he could not please me more.
- (B1) Theo. I would name to him the propositions of arithmetic and geometry, which are all of that nature; and among necessary truths no other kind is to be found.
- (A2) Phil. Many people would find that strange. Can we really say that the deepest and most difficult sciences are innate?
- (B2) Theo. The actual knowledge of them is not innate. What is innate is what might be called the implicit knowledge of them [...]. (RB: 86)

In B1 Theophilus takes up the challenge of Philalethes' friend, who, of course, is no one else but Locke (cf. § 23), and in A2 Philalethes relates directly to B1 by mentioning a difficulty of this position, which in B2 Theophilus tries to defuse. The objection A2 is not actually made by Locke at this point – it is invented by Leibniz –, but it is very much in the spirit of Locke's arguments in the surrounding passages. Apart from showing some "good" natural dialogue, this passage is another example of the complexity of the structure of Leibniz's response to Locke's text.⁴²

7.2 Connecting to the following point by the use of *but*

One device Leibniz quite often uses to create a sense of natural dialogue is to let Philalethes begin his A2-utterance with an adversative connective like *but* or, to

41. This, of course, also means that there is little opportunity for Theophilus to react to genuine reactions of Philalethes to his original objections.

42. Further examples of convincing "natural" dialogue are RB: 258 and 396.

be precise, its French counterparts like *mais* and *cependant*.⁴³ In some cases these connectives are used to add genuine objections that relate to the view expressed by Theophilus in his preceding utterance, as in the follow examples:

- (2) Theo. Intellectual ideas, from which necessary truths arise, do not come from the senses; [...].
Phil. But according to you, the ideas of numbers are intellectual ones; and yet the difficulties about numbers arise from the difficulty [...]. (RB: 81)
- (3) Phil. [...] § 6. Still, even if syllogisms are useful for arguments, I doubt if they can be useful for invention. (RB: 483)

In many cases, however, the use of *but* is a fairly superficial device, as it often does not signal a contrast but only serves as a kind of joker to introduce the next point in Locke's text. This device is, for example, used quite frequently in Book I.i, where on pages 79 to 83 this type of connection is used five times. But, again, one has to look at each individual case in order to ascertain if there is in fact a contrast intended or not.

7.3 Signaling agreement

As mentioned before, Leibniz variously indicates that he not only wants to explore areas of disagreement but that he is also interested in locating points of agreement. Theophilus expresses this attitude clearly in the following statement:

- (4) Theo. I shall be delighted to see able people accepting views which I hold to be true, for they can cause the views to be appreciated and can show them in good light. (RB: 199)

In the structure of the NE there are two systematic positions where Leibniz could indicate such areas of agreement, firstly, in Theophilus' reactions to Philalethes' statements, which we dealt with in the last section, and secondly, in Philalethes' reactions to Theophilus' preceding utterances, i.e. in the A2-utterances we are examining in this section. The latter are not very frequent, but certainly worth mentioning, as they seem to point at issues where Leibniz assumed or wished that Locke would agree with him. I shall give a few examples here.

- (5) Theo. [...] I have no doubt that a man born blind could speak aptly about colours and make a speech in praise of light, without being acquainted with it [...].

43. As we saw in the preceding section, Theophilus also frequently uses *but*, but mostly in a function different from the one observed here.

- Phil. [...] This observation of yours is very true. (RB: 287)
- (6) Phil. [...] Your reflections on the origin of proper names are very sound. (RB: 289)
- (7) Phil: § 6. You are right in your comment that numbers should be given names which are apt to be remembered. (RB: 157)
- (8) Phil. That sort of writing strikes me as so satisfactory and natural that I believe that your scheme will some day be put into operation. [i.e. the introduction of a Universal Symbolism, GF] (RB: 399)
- (9) Phil. We seem to be fundamentally in agreement on this point, although our terms differ a little. (RB: 321)

In some cases Philalethes at least indicates a chance for agreement:

- (10) Phil. §13. You will agree with me, though, that composite ideas [...]. (RB: 261)
- (11) Phil. § 28–§ 9. Perhaps, all things considered, you can agree with my author when he concludes this chapter on identity by saying that the question of whether ‘the same man’ remains is a question of name [...].
Theo. I admit that there is a question of name involved here. (RB: 246)

In other places Philalethes expresses his hope for reaching agreement:

- (12) Phil. §21–§ 3. I hope at least that you will agree about the influence of prejudice. (RB: 100)
- (13) Phil. So far we seem to have been in open disagreement. Now that we are moving on to consider ideas in detail, I hope that we shall find more to agree on and that our disagreements will be restricted to minor matters. (RB: 119)

In addition to showing his agreement, Philalethes sometimes expresses his pleasure at agreeing with Theophilus:

- (14) Phil. I am still very pleased that you are fundamentally in agreement with me that matter does not alter its volume. (RB: 127)

A good example is also the following passage. After Philalethes presented some of Locke’s views on material particles and Theophilus expressed his agreement and went on to present Leibniz’s own “system”, of which he said Locke “was only one step away” (RB: 440), Philalethes continues:

- (15) Phil. What pleasure I get from this agreement between your thoughts and those of my author! (RB: 441)

Somewhat more subdued are his remarks on a rapprochement in the following cases:

- (16) Phil. [...] I am glad that we are no longer as far apart on this point as we appeared to be. [i.e. on the question of “purely logical specific differences” and “purely physical specific differences”, GF] (RB: 328)
- (17) Phil. § 4. We are in agreement, at least, that a body’s solidity consists in repletion [...]. (RB: 124)

7.4 Conceding a point made by Theophilus

A related pattern consists in Philalethes’ conceding a point made by Theophilus. These cases are not very frequent, but they are worth looking at in detail, because in these cases, again, we could assume that Leibniz either wished or actually believed that Locke would agree with him or would be convinced by his arguments. From the point of view of a fair representation of Locke’s position, these utterances are, of course, always somewhat doubtful.

In Book I there are two remarkable cases of this type, where Philalethes concedes important points.⁴⁴ The first one occurs early on in the book and concerns an important argument against innate truths, i.e. the argument that a truth or an idea cannot be innate if men are not aware of it. After Theophilus’ arguments against this objection Philalethes concedes:

- (18) Phil. I believe you are right about that. And my too general assertion that we are always aware of all the truths that are in our soul is one which I let slip without having thought enough about it. But you will not find it quite so easy to deal with the point I am about to put to you. (RB: 77)

At the very end of Book I, that is to say at a very conspicuous point of the text, Philalethes summarily concedes Leibniz’s success in dealing with the objections against innate ideas:

- (19) Phil. I must acknowledge that you reply naturally enough to the objections which we have made to innate truths. (RB: 107)

In Book III.x (“The abuse of words”) Locke criticizes the ‘tacit reference’ to the hidden real essence in the use of names for substances, e.g. *gold*. In a longish statement, Theophilus tries to show “that there are no grounds for finding fault with this

44. This is also one of the fairly rare cases where Philalethes not only continues the dialogical thread by relating to Theophilus’ preceding utterance, but also introduces the next point quite naturally, in this case by connecting it with a contrastive use of *but*.

reference to an inner essence” (RB: 346). After this argument Philalethes accepts Theophilus’ position and explains the mistake inherent in his original assumption:

- (20) I that case I fear that I ought to stifle what I wanted to tell you, sir, about the cause of what I believed to be an abuse. §20. It seemed to be due to our wrongly believing that [...]. (RB: 347)

After Theophilus has given another example, Philalethes again concedes his mistake:⁴⁵

- (21) Phil. Now I do see that I would have been wrong to condemn this reference to essences and inner constitutions on the pretext that [...]. (RB: 347)

Concessions are also forthcoming concerning the usefulness of identities, maxims or axioms:

- (22) Phil. § 3. I acknowledge that, and I can see that there is an even better case for saying it about propositions – which appear trifling and often are so – in which a part of the complex idea is predicated of the object of that idea, as when one says Lead is a metal. [...]. (RB: 429)
- (23) Phil. I am beginning to understand what a distinctly known connection of ideas is, and I plainly see that in this case the axioms are required. (RB: 453)

Finally, there is a remarkable cluster of dialogue sequences of this type in Book IV.⁴⁶ After Leibniz’s longish lecture on “logical form”, Philalethes declares himself converted to his opponent’s position:

- (24) Phil. § 5. I used to believe that the syllogism is of far less, or no use at all in *probabilities*, [...] But I now see that there is always a need for a sound proof of whatever is certain in the topical argument itself [...] and that the cogency of the inference depends on its form. (RB: 483)

It is worth noting that, whereas Leibniz makes Philalethes say “I *used* to believe [...]”, Coste’s Locke states his present belief “je croy pouvoir dire avec verité qu’il est beaucoup moins utile [...]” (Coste: 878). So here Leibniz optimistically as-

45. Aarsleff (1982: 52) notes that Locke “would hardly have granted” this concession.

46. Such passages may have lead Parmentier to assume that the NE have a dramatic structure, with Philalethes undergoing a progressive conversion (cf. Parmentier 2006: 16). This is certainly an over-interpretation which rests on his overrating the dynamics of the dialogical structure of the book. Locke’s chapter “Of reason” at this point simply presented Leibniz with an excellent opportunity to expound his views on logic as a particularly strong point, of which he felt very sure.

sumes that his lecture would have convinced Locke. An obvious parallel occurs a few pages later:

- (25) Phil. § 8. I ought to tell you also, sir, that I used to believe that there is one manifest mistake in the rules of syllogism, but what you have said in our discussion has given me pause. Still, I shall lay my difficulty before you. (RB: 485)

In two cases, in the same context, Philalethes is made to summarize the point of Theophilus' views, and in doing so, to accept Leibniz's position:

- (26) Phil. You give an appearance of defending common logic, but I see clearly that what you are presenting belongs to a much higher logic which relates to the common sort as erudition does to the learning of the alphabet. (RB: 484)
- (27) Phil. I am beginning to form an entirely different idea of logic from my former one. I took it to be a game for schoolboys, but now I see that, in your conception of it, it involves a sort of universal mathematics. (RB: 486)

Finally, Philalethes comes close to expressing genuine enthusiasm for Leibniz's theory of pre-established harmony:

- (28) Phil. [...] But now that I grasp your theory of the pre-established harmony, that difficulty – which we had despaired of solving – appears to me to have suddenly vanished as though by magic. (RB: 390)

It is rather doubtful that Locke would have expressed himself in this way.

I conclude this section by drawing attention to an utterance by Philalethes which attests to Leibniz's sense of humour. In the course of a serious inquiry into the nominal and real definitions of species, especially of man, when the status of monsters is discussed, Theophilus quotes a humorous poem and reflects on "bizarre fictions" (cf. RB: 314) of how to distinguish between humans and "some king or patriarch of a community of African monkeys" (RB: 320). To this, Philalethes reacts with:

- (29) I can see that you are joking, and perhaps our author was too. (RB: 321)

Obviously, Leibniz enjoyed this bit of comic relief.

8. Forms of intertextuality

Apart from the fundamental form of intertextuality involved in Leibniz's relating his comments to Locke's text, there are many other intertextual relations which are

worth mentioning here.⁴⁷ This controversy is characterized by a vast network of quotations, references and allusions, extending from classical philosophy and literature to modern science. A short list of authors in alphabetical order gives a basic idea of the range of co-text of this controversy: Aristotle, Arnauld, Augustinus, Bacon, Bayle, Bernouilli, Boileau, Bossuet, Boyle, Cicero, Comenius, Descartes, Euklid, Galilei, Hobbes, Horace, Huygens, Kepler, Malebranche, Mariotte, Molyneux, Newton, Ovid, Plato, Scaliger, Spinoza, Tacitus, Thomas Aquinas, Jacob Thomasius, Vergil.⁴⁸ In the majority of cases, it is Leibniz who introduces these references. By sheer number of references, two authors stand out, i.e. Aristotle and Descartes. In some cases Leibniz makes explicit Locke's allusions to certain authors, e.g. to Descartes and Cartesians (e.g. RB: 113.) As is usual in 17th century controversies, the practice of referring to scientific and literary works differs from present-day scientific practice in that authors normally just mention the author, without naming the title of the respective work and giving exact page references. In many cases, references are quite indefinite, e.g. "a certain author" (RB: 112). The Academy edition is very helpful in providing, for many instances, the exact references, e.g. to particular works by Aristotle. This practice of indefinite reference or pure allusion also extends to the Bible. Just to give one example, in Book II.ii it is said of God that "he never slumbers nor sleeps" (RB: 112). This is a slightly varied quotation of Psalm 121, 4: "Behold, he that keepeth Israel shall neither slumber nor sleep". 17th century Christian authors could assume that their readers would recognize this quotation even without any explicit indication.

As to the functions of these multiple quotations and allusions, they are quite varied and complex. In some cases the authors just acknowledge the source of an idea, in others the quotation serves to enhance the status of a claim by referring to an authority, in other cases, again, reference to classical literature, e.g. Horace, is a kind of rhetorical *ornatus*. In the case of biblical quotations and allusions there is both the appeal to authority and the suggestion of piety. Generally, these intertextual relations with elements of co-text (cf. Dascal 1990: 63f.) also play an important role in knowledge management, as they permit the authors to draw on knowledge from outside the text and incorporate it in their ongoing discussion. They are like links in modern digital science formats.

This is also true of Leibniz's references to his own "system" and his own earlier works, which we find quite frequently in the NE. In using this kind of intertextuality, Leibniz could make an additional move in solving the problem of integrating his own systematic thought into the ongoing remarks on Locke. By referring to

47. For recent work on intertextuality within the field of linguistics, see Jakobs (1999), Janich (2008), Ratia (2011: Chapter 7).

48. The Academy edition gives an index of names which runs to more than 500 items.

these works he could bring additional backing and authority to his brief statements on his own “system” in NE, which he must often have found somewhat unsatisfactory, taken on their own. A first opportunity to relate to his own “system” was the preface, where he actually mentions it twice (RB: 59, 65) and gives glimpses of it, e.g. “It is also through insensible perceptions that I account for that marvellous pre-established harmony between the soul and the body, and indeed amongst all the monads or simple substances, which takes the place of an untenable influence of one on another [...]” (RB: 55). As for the actual body of the text, Leibniz mentions his “new system” as early as Book I.i (“now the new system takes me even further”, RB: 74), without, however, going into more detail than adding “and – as you will see later on – I believe indeed that all the thoughts and actions of our soul come from his own depths and could not be given by the senses” (RB: 74). It is a remarkable move, at this point, for Leibniz to set aside his own “system” and to “conform to accepted ways of speaking [...] and] work within the common framework” (RB: 74). He could do this because he was convinced that even within this common framework he would be able to show that there must be innate ideas.

In the context of the debate on extension and solidity, Leibniz referred to “means which I formerly presented for telling true ideas from false”, which, if used properly, would make his opponents withdraw from their untenable position.⁴⁹ Similarly when, in his “lecture” on “formal arguments”, he said “I have found that the four figures have four moods each” (RB: 479), he referred to his own “*Dissertatio de arte combinatoria*” (1666).⁵⁰ Similar indications are given by saying “as I have explained elsewhere”:

- (1) Theo. [a body] always loses as much force as it gives, as I have explained elsewhere (RB: 172, similarly in RB: 173, 339).⁵¹

Special attention should be given to passages where Leibniz hints at his own more developed ideas without however making them explicit, like the following:

- (2) Theo. [...] Yet this conception of substance, for all its apparent thinness, is less empty than it is thought to be. Several consequences arise from it; these are of the greatest importance to philosophy, to which they give an entirely new face. (RB: 218)

49. RB: 128. In a footnote, the Academy edition explains that Leibniz is here referring to his article “*Meditationes de Cognitione, Veritate et Ideis*” in the “*Acta Eruditorum*”, Nov. 1684.

50. Cf. A: 479, fn.

51. For the references to Leibniz’s works, cf. A: 172, 173, fn.

- (3) Theo. I believe that there is something essential to individuals, and more than there is thought to be. (RB: 305)

These hints and Leibniz's more explicit references to his own work must have been helpful to the initiated, but, on the negative side, they contributed to the fact that "the work is thus less self-contained than one would like" (RB: xi).

9. Conclusion

In this chapter I tried to show some of the techniques Leibniz applied in venturing to use Locke's "Essay" as an elevated starting point for the comparison of partly diverging, partly converging views. This inquiry into aspects of the pragmatic organization of the NE provides us with a picture of the complexity of the task Leibniz had to face and of the means and strategies he employed in carrying out this task. One result of this analysis is that many of these moves and strategies are excellent indicators of how Leibniz tried to balance agreement and disagreement and of where he presented essentials of his own position. We find both head-on confrontation and enthusiastic agreement, but also frequently a combination of agreement with objections, modifications, or the addition of new aspects, the frequency of which could indicate a general strategy of "going beyond" Locke's position. As to the dynamics of this virtual controversy, we find revealing clusters of agreement and disagreement around certain topics, which indicate convergences and deep divergences. Concerning topic management, we find various strategies, from selecting paragraphs from the "Essay" to complaining about repetitions, giving cross-references, and introducing digressions. We also noticed fundamental problems related to this form of communication, which Leibniz solved only in a rudimentary fashion, e.g. giving a survey of the structure of his own "system" and making explicit the network of topics involved in the encounter between Locke and himself. Other, more "local", problems were obviously related to Locke's strategy of writing, e.g. his practice of cumulating arguments and examples in favour of his theses, which created for Leibniz the disagreeable situation of having to repeat fundamental arguments of his own, e.g. in the debates of Book I.

As for the construction of natural dialogue, we saw that the third move in a dialogue sequence on a particular point turned out to be a critical point, where Leibniz only rarely took the opportunity to reconstruct "what Locke could have said".

Finally, this chapter tried to show that criticism of the literary merits of the NE, which is sometimes voiced in respect of this quasi-dialogue, is somewhat misguided, as the relevant object of comparison should be seen in refutation pamphlets, not in classical philosophical dialogues.

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Reviews and responses

A controversy about the biblical canon (1771–1775)

Gerd Fritz and Juliane Glüer

1. Introduction

1.1 Aims of this case study

Our case study examines the controversy sparked by Johann Salomo Semler's "Treatise on the Free Investigation of the Biblical Canon" ("Abhandlung von freier Untersuchung des Canon", 1771), which continued until 1775. The study analyses the pragmatic organization of contributions made to this theological debate and the intertextual relationships between these contributions.¹ Reviews in various publications play a central role in this controversy, both as its catalysts and in providing public access to it. J.S. Semler (1725–1791), professor of Protestant theology at the University of Halle, replied to many of these reviews, which is much less common practice in academic discourse today, with the notable exception of recent digital review journals.² Some of his reviewers even urged him to reply, asking for further explanation of particular points. Among other things, therefore, our corpus of reviews affords us an insight into the different types and functions of reviews as a medium of scholarly exchange in the time around 1770.

At same time, we can observe how Semler gears his reactions to suit the different types of review, showing an impressive repertoire of possible responses, from the classic polemical pamphlet to friendly comment and elucidation. Important indications emerge here as to various strategies of controversy used in the period and to some of the microscopic details of Enlightenment discourse.

Furthermore, examining reviewers' objections to Semler's treatise and his own objections to them makes it possible to reconstruct the principles of quality, particularly principles of communication, which were used to evaluate academic texts

1. On the life and theological work of Semler as an Enlightenment theologian, cf. Hornig (1996).

2. Since the 1990s, responses to reviews are frequently invited by digital scholarly media like mailing lists or digital review journals (cf. Fritz and Gloning 2012, Fritz 2016).

at the time in question. These principles range from traditional criteria of logic and dialectic to principles of politeness, impartiality and tolerance.³ The principles accepted and also thematized by the participants in this debate form part of their implicit ‘theory of controversy’.⁴

This ‘theory of controversy’ also includes the participants’ perception of the possible and actual purpose of the debate. The final part of this paper will show on the basis of relevant contributions to the debate that main participants in the debate do feel that there is a purpose to it, despite their occasionally harsh criticism of details of how the controversy is being conducted.

Apart from its focus on the diversity of forms of review and responses in a particular theological controversy of the 1770s, the present analysis contributes to the history of the practice of scholarly reviewing, which has only recently become a topic of increased research interest.⁵

1.2 Semler’s treatise on the canon as a contribution to biblical criticism

The controversy surrounding Semler’s treatise on the canon is part of a large arena of debate in the 18th century, that of biblical criticism. The humanist textual criticism of the Bible developed during the course of the 17th century into a more general approach of looking at biblical texts historically, addressing issues such as the divine origin of the texts, how they were transmitted and the history of the canon of scriptures (cf. Reventlow 1988). These issues were the subject of debate early on. One discussion in this area which had significant repercussions into the 18th century – also influencing the treatise examined here – was sparked by Richard Simon’s investigation on the genesis of the Old Testament (1678), in which he presented the hypothesis that the prophets had written scriptures in their function as public historiographers (cf. Woodbridge 1988). A particularly delicate part of this debate was the question of how the divine origin or the divine character of the scriptures could be proved. These questions of divinity and the truth of particular biblical claims became burning issues in the 17th and 18th centuries, partly because scientific and historical research as well as contemporary philosophy had arrived at new ideas which could contradict biblical reports – such as the Genesis story.

In this context of discussion, Semler’s investigations on the canon of biblical texts had a strong influence on the development and propagation of biblical criticism in Germany. His “Treatise on the Free Investigation of the Biblical Canon”,

3. On the history of communication principles for controversies, cf. Fritz (2008).

4. On Early Modern theories of controversy, cf. Gloning (2005).

5. Salager-Meyer et al. (2007) deal with the history of reviewing in the field of medicine.

as the starting point of the debate under examination here, played a particularly important role.

The treatise pleads for the freedom of the individual, mature, thinking Christian to examine scriptures himself for their divine value and decide for himself which of these texts contribute to his continuing religious development. For Semler, the individual's subjective decision thus becomes the pivotal criterion in deciding on the divine origin of a biblical text:

The *only* proof that is adequate for the sincere reader is to be *convinced in his heart by truths* which he encounters in this Holy Scripture (though not in all parts and individual books), a conviction which has also been called, in brief, in a somewhat vague biblical way of speaking, the *manifestation of the Holy Spirit in the mind of the reader*. (Treatise, Part II, 1772: 39; author's emphasis)

Der einzige Beweis, der einem aufrichtigen Leser ein ganz Genüge thut, ist die innere Überzeugung durch Wahrheiten, welche in dieser heiligen Schrift, (aber nicht in allen Theilen und einzelnen Büchern) angetroffen werden; welches man sonst, kurz zu reden, mit einer biblischen etwas undeutlichen Redensart, das Zeugnis des heiligen Geistes in dem Gemüte des Lesers genent hat.

(Abhandlung, Zweiter Theil, 1772: 39)

In contrast, the evidence of church tradition, which was a common criterion in deciding the divine origin of biblical texts, has no weight, according to Semler.

To justify this position, Semler first demonstrates what a biblical canon had been understood as originally, in the early Christian period – that is, as a catalogue of texts determined by the bishops to be used publicly in religious services. Independent of such a catalogue, the early Christians could use particular texts from the canon or indeed others, such as certain epistles not considered part of the canon, for their personal religious purposes. Semler's next step is to show that *different* canons were in use across the various regions of the Christian communities until the fourth century and that it was only at this point that bishops came together to establish a common canon, as an administrative act to strengthen the unity of the church. This historical argument was meant to show that from early Christian times onwards the decision as to which of the texts handed down from early Christian sources were considered particularly relevant for individual religious edification was left to the individual Christian. From this he concluded that, in modern times, the individual Christian still had the right to decide on his own use of biblical texts. At this point he introduces the distinction between Holy Scripture and the Word of God. He sees Holy Scripture as the received canon of biblical texts and the Word of God as the pivotal religious truths which can provide the foundation of a Christian life:

The *Holy Scriptures* as the *historical* relative term was used by the Jews include *Ruth, Esther, the Song of Songs* etc., but the *word of God*, which teaches all people

in all eras the way to blessedness, does not include these books, though they are called holy. (Treatise, 1771: 75)

Zu der heiligen Schrift, wie dieser historische relative terminus unter den Juden aufgekommen ist, gehört Ruth, Esther, Hohelied etc. aber zum Worte Gottes, das alle Menschen in allen Zeiten weise macht zur Seligkeit, gehörten diese heilig genannten Bücher nicht alle. (Abhandlung, 1771: 75)

Semler then tries to show by means of examples taken from the Old Testament that narratives from the history of Israel, as found in the books of Ruth, Esther and Judges, do not meet the subjective criterion of personal religious development for many Christians of his time:

The content of the book of *Esther*, detailing so many purely local *Israelite* events, is similarly not made both to affirm and to develop and improve natural moral understanding, assuming that people already have a fairly mature grasp of this. Whence the obligation, then, to see these books as divinely inspired? (Treatise, 1771: 34f.)

Der Inhalt des Buchs Esther, so vieler bloß israelitischen einheimischen Begebenheiten, ist eben so wenig so beschaffen, daß dadurch die natürlichen moralischen Kenntnissen, wenn sich dergleichen bey Menschen schon in einiger Reife finden, theils recht gut bestätigt, theils erweitert und verbessert werden können. Wo solte also die Verbindlichkeit herkommen, diese Bücher für göttlich eingegeben zu halten? (Abhandlung, 1771: 34f.)

In the last part of his treatise, Semler turns his lens on the New Testament. Here too, alongside the unquestionable core texts – including, in his view, the Sermon on the Mount and the Letter to the Romans – Semler identifies texts which are not certain to contain the Word of God and therefore cannot with certainty be seen as inspired by God. As an example, he discusses a passage of St John's Gospel:

If we assume that the whole story of the adulteress in John 8 is left out, as it was left out in many early copies and translations used by large communities of the church, then part of the *scriptura sacra*, as it is called, is therefore missing, but none of the Word of God, which is immutable and remains despite all those accidental changes to the text, whose copiers clearly did not enjoy divine assistance. (Treatise, 1771: 117)

Gesetzt also, Joh. 8 die ganze Historie von der Ehebrecherin fällt gar weg, wie sie in vielen ehemaligen Abschriften und Übersetzungen grossen Kirchenparteien felet: so felet ein Stück der sogenannten scriptura sacra, aber es felet gar nichts von den (sic!) Worte Gottes, welches unveränderlich ist und bleibt, bey allen jenen zufälligen steten Veränderungen der Schrift, deren Abschreiber freilich keinen göttlichen Beistand genossen haben. (Abhandlung, 1771: 117)

On the problem of verbal inspiration, Semler generally argues that “the issue of inspiration is by no means as significant as it still tends to be seen.” (“Es ist also die Frage von der Inspiration lange so erheblich nicht, als sie noch immer pflegt angesehen zu werden”, *Treatise*, 1771: 117).

Even whole New Testament texts do not fulfil the conditions of divine inspiration as he defines them. For example, writing about St Paul's Letter to Philemon, he says,

These same thinking Christians are free to decide on the Letter to *Philemon* as Christians, without craven and ignoble fear; if they find nothing therein to do with godly living and moral conduct, then, though it remains dear to them as part of St Paul's writings, they need not ascribe divine inspiration to it because *theologians* have done so or because the little letter is included in the canon.

(*Treatise*, 1771: 123).

Eben diese nachdenkenden Christen haben es frey über den Brief an den Philemon ohne ängstliche unedle Furcht als Christen zu urtheilen; finden sie nichts darin, das zum göttlichen Leben und Wandel gehöret, so ist er ihnen zwar lieb, weil er zu Pauli Historie gehört, aber einer göttlichen Eingebung schreiben sie ihn um deswillen nun nicht zu, dieweil es sogenannte Theologi gethan haben, oder dieweil der kleine Brief mit im Canon stehet.

(*Abhandlung*, 1771: 123)

He is similarly sceptical in his view of the Book of Revelations, having already mentioned his criticism of it in earlier writings.

Semler's text is conceived as a treatise, as a sort of academic essay in which he presents his view of personal freedom in interpreting the biblical canon, seeking to support it with historical arguments. The text is not intended as a polemical pamphlet, as we can infer from the fact that it does not directly address any individual opponents or rebut the arguments of specific rivals. However, Semler did of course know that he was treating a controversial subject and that many theologians would find his position unacceptable. He therefore expected harsh criticism:

I therefore consider it worthwhile briefly to make known my thoughts on this matter, although I can already see the severe and ugly censure which I shall soon have to face as a reward.

(*Treatise*, 1771: 66)

ich halte es also der Mühe Werth, meine Gedanken hierüber kurz einzutheilen, [2nd ed.: mitzutheilen] wenn ich gleich die gräulichen häßlichen Verurtheilungen, die ich zunächst zur Belohnung bekommen werde, schon vorher sehe.

(*Abhandlung*, 1771: 66)

He also makes clear, though indirectly, where he saw his opponents: in the orthodox current of contemporary Protestantism. The following passage is evidence of his assumption:

There is, however, no small number of well-meaning Christians in great and secret unrest, full of doubt and grave dissatisfied ruminations, fearful of the rough judgment of the so-called *orthodox* scholars of our time, and therefore unwilling to tell anyone of the great *moral* conflict which they are silently suffering.
(Treatise, 1771: 53)

[...] *wie hingegen nicht wenige gutmeinende Christen in vielerley heimlicher Unruhe, in Zweifeln und ernstlichem misvergnügten Nachdenken sich befinden, die gleichsam sich fürchten vor den rohen Beurtheilungen der sogenannten orthodoxen Gelehrten dieser Zeit, und also ihre moralische grosse Verlegenheit, worin sie sich in der Stille fast trostlos befinden, niemanden anvertrauen wollen.*

(Abhandlung, 1771: 53)

This passage also demonstrates Semler's wish, which he often cites as a motive for writing his treatise, to help Christians who have difficulty recognising in certain canon texts the Word of God that may provide religious guidance.

Semler faces one other interesting strategic dilemma here, which repeatedly surfaces throughout the debate. On the one hand, he wants to demonstrate that his approach is innovative and therefore interesting. Despite his averrals to the contrary, he does possess a certain amount of academic pride. On the other hand, an innovative approach brings with it the danger of being seen as heretical, so he constantly has to point out that similar ideas have already been presented by earlier theologians and that his position is, for example, in keeping with Lutheran doctrine.

1.3 The structure of the controversy

Although Semler's treatise was not intended as a polemical pamphlet, it was often received and assessed as such. Several reviews appeared shortly after it was published, as were rebuttals in the form of disputations and other texts addressing the "Treatise". During the course of the debate, the numbers of those participating rose to more than twenty, as one of the participants, the theologian Christian Wilhelm Franz Walch, noted a few years later in a chapter on recent disputes about texts of the New Testament ("Neueste Streitigkeiten über einzelne Schriften des N.B.") in his *Neueste Religionsgeschichte* (1779: 257–344). Almost the only one to engage in the controversy continuously was Semler himself, who answered numerous contributions to the controversy in various different ways.

The first review appeared in the same year as the "Treatise" (1771), and at least four more were published in the spring of 1772. When Semler published a collection of texts as the second volume of his "Treatise" in the summer of 1772, he took the opportunity to answer three reviews. Later reviews also referred to this second

volume and were therefore in the position to take into account the earlier reviews as well as Semler's first responses. So this meant a second stage in the development of the controversy. In further volumes, Semler not only documented and answered this second group of reviews, but also added further texts to form an ensemble of controversy-related texts, as we shall show in the next section.

1.4 Semler's publishing strategy

Semler's publishing strategy merits particular attention because he was clearly trying, by publishing an assortment of different texts, to influence the way the controversy should be seen by his readers. He published a total of four volumes under the title of "Treatise on the Free Investigation of the Biblical Canon", which contained the treatise itself and his responses to other contributions to the debate. A brief list of the content of these four volumes gives an idea of Semler's publishing strategy in this debate:

Volume I: "Treatise on the Free Investigation of the Biblical Canon", 1771 (288 pp)⁶

1. Dedication to Johann Friedrich Wilhelm Jerusalem
2. On the Free Investigation of the Canon (129 pages)
3. Reply to the Tübingen Defence of the Divinity of the Book Known as *Apocalypse* (a 139-page pamphlet)
4. Appendix (Defence against the Hamburg clergyman Johann Melchior Göze, who had accused Semler of providing insufficient evidence with reference to an earlier text)

Volume II: "Treatise [...] Part II and Replies to Several Reviews of Part I", 1772 (638 pages)

1. Preface
2. Preliminary Report on and Historical Introduction to the Changes in the Doctrine of Inspiration and the Canon (a 236-page treatise)
3. Reply to the Göttingen Review (a 158-page pamphlet)
4. Reply to the Jena Review (a 126-page pamphlet)
5. Extracts from Several Letters Concerning the Above-mentioned Treatise on the Canon
6. Reply to Lic. Schmid's Wittenberg Disputation on the Divine Inspiration of the Books of the Old Testament
7. Reply to a Review in the *Hamburgische Correspondent*

6. Due to a printing error, the pages after p. 128 are numbered 113 to 128.

Volume III: “Treatise [...] Part III and Reply to a Missive from an Unnamed Naturalist”, 1773 (621 pages and a 60-page alphabetical “Index of the Most Significant Things and Writers Appearing in all Three Volumes”)

1. Preface (54 pages)
2. Historical Explanation of the Christian Canon of the Past (a 189-page historical treatise)
3. Reply to a Missive (a 122-page pamphlet)
4. Reply to Several Reviews (Responses to a 64-page review which appeared anonymously in Frankfurt and reviews from the *Hamburgische Correspondent* and the *Auserlesene Bibliothek der neuen teutschen Literatur* as well as that by Johann David Michaelis)

Volume IV: “Treatise [...] Part IV”, 1775 (500 pages)

1. Preface
2. Notes on D. Schubert’s Treatise on the Holy Scriptures and the Canon (a 460-page pamphlet)

This publication strategy allowed Semler to present the debate from his point of view, which doubtless had an influence on how it was later received.

It is worth noting that – alongside his responses to reviews, which are examined in detail below – Semler also employs other types of text in order to strengthen his own position in the controversy. In the first volume already, he uses the dedication to outline his position. In the preface to Part II, he includes a short 18-point summary of his treatise, which offers his readers a much more accessible overview of what is a rather complex text and enables new readers who do not know the original treatise to understand the state of the controversy. It also gives first indications of his correspondence with reviewers. In the preface to Part III, Semler gives a brief outline of the controversy as it stands, a preview of the main content of the volume and his response to Ernesti’s review, which he had probably not been able to include in the main part. The preface to Part IV summarises Semler’s basic ideas once more and emphasizes again the good intentions behind his canon project.

Alongside his responses to reviews, which are in part polemical pamphlets – as we shall show below –, Semler also takes the opportunity to introduce, in two relatively long treatises (Volumes II and III), new historical evidence in support of his position, adopting the second treatise from Basnage’s “*Histoire de l’Eglise*” and annotating it himself. This coherent form of presentation affords him the opportunity of a more comprehensible and clearly argued demonstration of his position than is possible in a refutation pamphlet, where the thematic structure is largely determined by his opponent’s text. Finally, using another interesting genre,

Semler reproduces private letters written to him, in which theologians praise his treatise, thank him for it and raise at most mild objections or further reflections. The reproduction of these documents is clearly intended to counterbalance the critical reviews and thus lessen the impression of the treatise having been negatively received.

All in all, this collection of different types of text gave Semler the opportunity to treat very different aspects of the controversy in different ways and thereby to clarify and strengthen his own position. The same purpose was served by the quasi-periodical publication of the four volumes (1771, 1772, 1773, and 1775) and the index in Part III, which make them something of a handbook to the canon controversy.

2. Types of review and responses

2.1 Journals and reviews

The late 17th century saw the development of a new medium, the scholarly journal. The *Journal des Sçavans* appeared from 1665 and the *Acta Eruditorum* from 1682 (cf. Dann 1983, Habel 2007). From the very start, such journals published reviews in addition to scholarly treatises and short notes, thus spreading information about progress in the Republic of Letters as well as contributing to communication among scholars. Reviews in journals already played an important part in theological discussions early on, as Gierl (1997: 400ff.) shows by the example of Valentin Ernst Löscher's *Unschuldigen Nachrichten von Alten und Neuen Theologischen Sachen*, which began in 1701. As Löscher himself emphasized, a particular advantage of reviews was that, being relatively short, they could fulfil a critical function for a larger audience more easily than traditional forms of refutation (cf. Gierl 1997: 403). Löscher used his journal to try to strengthen the orthodox position in the Pietism debate. Influential reviews can also be found relating to debates in Bible criticism, such as Bayle's review on the dispute between Richard Simon and Jean Le Clerk (1685–1687) (cf. Woodbridge 1988: 70).

Around the middle of the 18th century, the number of publications printing reviews in Germany rose sharply, with the result that a text like Semler's "Treatise" could be reviewed in various journals of different types throughout 1771 and 1772, for example in the *Göttingischen Anzeigen von Gelehrten Sachen* (first appeared in 1739), which served several areas of research; in the *Neueste Theologische Bibliothek, darinnen von den neuesten theologischen Büchern und Schriften Nachricht gegeben wird*" (first appeared in 1771) published by Johann August Ernesti in Leipzig; and the *Orientalische und Exegetische Bibliothek* (first

appeared in 1771) published in Frankfurt am Main by the Göttingen theologian and orientalist Johann David Michaelis. There are also reviews in a newspaper written for a wider public, the *Staats = und Gelehrte Zeitung Des Hamburgischen unpartheyischen Correspondenten*, which printed reviews alongside the typical reports from correspondents all over Europe, official statements, for-sale notices and lottery numbers.

2.2 Functions of different types of review

From the earliest days of the genre, the essential function of reviews had been to inform readers about new publications. Within this general function, however, there had also always been an “area of tension between merely giving a summary and critical evaluation” (Huber, Strohschneider and Vögel 1993: 271). In our corpus of reviews, this tension can be detected in their diverse nature, ranging as they do from relatively neutral reports of the treatise’s contents to polemical reviews and reviews which also present the reviewer’s own views on the respective topic. In the following, we differentiate between four types of review, according to their function within the debate.⁷

We distinguish between (1) the critical review, (2) the cooperative review, (3) the report and counter-proposal, and (4) the mediatory review. Whereas the writer of a critical review places his critical evaluation in the foreground, at times using a polemical tone, those writing cooperative reviews are at pains first of all to present appropriately the text under discussion. In a review with a report and counter-proposal, the writer, as a competent specialist, similarly begins by providing an account of the content of the text but then follows this with an alternative argument on one aspect of the treatise. Finally, the mediatory review is written by a third party who joins the argument after several contributions have been made and tries to evaluate the positions they hold and mediate between them.

Semler himself evidently felt that the primary function of reviews should be to inform readers about the content of books. The reviewers “should fulfil their task faithfully and relate the content of texts clearly and correctly” (“mögen ihr Amt ehrlich thun, und den Inhalt von Schriften deutlich und richtig erzählen”, Treatise, Part II, 1772, Preface: b3b). He praised the reviewer at the *Hamburgische Correspondent* for his exemplary completion of this task: “All readers can now

7. Our interest in types of reviews is consonant with recent research in “review genres” (cf. Hyland and Diani 2009). At this point, our typology has a purely heuristic purpose. A comprehensive typology of 18th century reviews would require a systematic description of functional prototypes and intermediate forms in a larger corpus from different disciplines. For functions of 18th century scholarly reviews, cf. also Schneider (2005).

know what arises in my text” (“Alle Leser können nun wissen, was in meiner Schrift vorkommt”) (Reply to the Hamburg Review, Treatise, Part II: 57). In contrast, he criticized the Göttingen reviewer for adding his own observations, which was not, according to Semler, appropriate in a review:

The reviewer is free to investigate and to form his own opinion; this does not, however, belong in this review, which (according to the rules of reviews) is intended to relay the content of my writing.

(“Reply to the Göttingen Review”, Treatise, Part II: 389)

Dem Rezensenten stehet seine Untersuchung und Urtheil ganz frei; aber in diese Recension, welche den Inhalt meiner Schrift sagen sol, (nach den Regeln einer Recension,) gehört es nicht.

(“Antwort auf die göttingische Rezension”, Abhandlung, Zweiter Theil: 389)

Semler displayed a deep-seated aversion to writers of polemical reviews:

I shall pass over another sort of reviewer, who takes up all the weapons of the angry mob in supposed Christian zeal and earnestness and, instead of reviewing and simply pointing out those things which learned men might well object to, blasphemes, lies, taunts and blusters in a Scythian, barbaric manner.

(Treatise, Part II, Preface: a6b)

Ich übergehe eine andere Art von Recensenten, welche geradehin alle Waffen des erbostesten Pöbels in vermeintem christlichen Eifer und Ernst ergreifen, und an statt zu recensiren und nur anzuzeigen, was gelehrtere Männer schon widerlegen würden, wenn es angehet: scythisch und barbarisch schmähen, lügen, lästern, und schimpfen ...

(Abhandlung, Zweiter Theil, Vorrede: a6b).

Semler also accepted a third type of review, the report and counter-proposal, when it came from a competent fellow expert; here, he appreciated such qualities as honesty and truth, equitable and temperate criticism, and well-balanced and independent judgment.

Semler generally differentiated between scholars, to whose criticism he was happy to submit, and ignorant reviewers, whom he despised.

I am obliged to discover a great many bitter opponents among my reviewers, upon whom the public seems gradually to have endowed the task of disparaging my good name, ignorant as they are, in wildly wanton and grossly insulting terms in privileged publications

(Treatise, Part II, Preface: a7a)

so viele heftige Gegner mus ich an Recensenten erfahren, denen das Publicum nach und nach es zum ordentlichen Beruf zu überlassen scheineth, bey aller ihrer Unwissenheit den wildesten Mutwillen und die gröbsten Beleidigungen meines guten Namens, in privilegirte Zeitungen zu setzen

(Vorrede, Zweiter Theil, Vorrede: a7a)

Reviewers should fulfil their duty modestly, “but their statements shall not decide the reputation of a scholar of my standing” (“ihre Sentenzen sollen aber kein entscheidendes Ansehen über Gelehrte meines Standes haben”, Treatise, Part II, Preface: b4a). The complaint about the “swarm of half-educated people” (Reply to the Review in the *Auserlesene Bibliothek*; Treatise, Part III: 436) is a recurring theme in Semler’s replies. It is worth remembering, however, that the reviewers Semler disparages are more often than not scholars of theology or at least theologically knowledgeable persons. After all, Semler also pointed out the reviewers’ responsibility to a broad, non-specialist public:

Whoever does not understand these matters in detail – and there are really not so many who make it their business – will be completely turned against me by the rough tone or the pomp of such a review. I must therefore make the necessary space for myself lest I be hidden from the reader’s eye.

(Treatise, Part II, Preface: b5a)

Wer diese Sachen selbst nicht näher versteht, und es sind wirklich eben nicht so sehr viele, die sich ausnehmen: der wird durch den rauhen Klang oder durch die Feierlichkeiten einer solchen Recension völlig wider mich eingenommen; ich mus also mir den nöthigen Platz machen, sonst werde ich den Augen der Leser entzogen.

(Abhandlung, Zweiter Theil, Vorrede: b5a)

2.3 On the structure of reviews – the principle of brevity

Common to the various types of review is firstly an introduction giving brief information on the work in question and placing it in the context of the author’s oeuvre, his life, or a wider debate. They also share a significant condition, namely the limited space which, for example, forces the reviewer writing in the *Hamburgische Korrespondent* to spread his contribution over two subsequent issues. The brevity of reviews, which goes a long way to explaining the popularity of the genre amongst the reading public, prohibits the traditional, complete point-by-point treatment of one’s opponent’s text. The reviews therefore require a particular structure, involving, for example, focussing on certain central problems. The old point-by-point approach does shine through occasionally in the enumeration of individual objections and their argumentative treatment. In another option of text organization, the reviewer can impose his own (clarifying) structure on the content of the text in question as he relays it, in separate points, and then, borrowing from the traditional approach, treating it point by point. Michaelis is one reviewer who employed this structural principle. In so doing, he also added his own comments and extracts from other reviews into his report. Despite summarising, he found his review becoming rather lengthy (“weitläufig”), but justified this as a “courtesy to my readers”

(“Gefälligkeit gegen meine Leser”; Michaelis: 95). We now proceed to show the characteristics of and differences between the four types of review in more detail.

2.4 A critical review and Semler’s response

2.4.1 The review

The reviewer in the *Göttingischen Anzeigen von Gelehrten Sachen* (97th issue, 1771), who remained anonymous until Michaelis identified him as Christian Wilhelm Franz Walch, professor of theology at Göttingen University, concentrated on a critical assessment of Semler’s treatise. He used the review as he would use a polemical pamphlet. Walch did not, however, examine each of Semler’s points in turn comprehensively and in detail but instead looked for what he considered fundamental errors in order to strike at the core of Semler’s whole concept.

In the Göttingen review (GR) the following critical moves and strategies – some of them distinctly polemical – can be observed, among others:⁸

- i. The reviewer attributes to the author a purpose which the latter has not given himself – here, to develop his “own general theory of the canon” (“seine allgemeine Theorie von dem Canon”, GR: 825). This allows the reviewer to point out numerous shortcomings and supposed errors relative to the more expansive aim which he himself has formulated.
- ii. The reviewer expects the author to have chosen a different focus: “Surely, the question to ask here must actually be whether everything we now see as part of the Bible was inspired by God” (“Eigentlich ist doch wohl hier diese Frage: ob alles, was wir jetzt als Theile der Bibel ansehen, von Gott eingegeben sey”, GR: 826f.) This allows him to place great emphasis on the terminological issue of differentiating between inspiration and revelation, which Semler neglected.
- iii. The reviewer approaches the treatise on the canon as a refutation pamphlet and thus judges it according to the qualitative norms of that genre:

Such a text owes it to its readers to be presented in such a way that really enables them to understand and judge of the subject and the arguments for and against it. [...]

[That Semler does not meet this stipulation] will be clear to anyone who is aware of the rules governing a thorough, proper and clear presentation appropriate to moral and social standards, especially a refutation. Semler would more properly

8. An even more pronounced polemical note can be perceived in the review printed in the “Jenaische Zeitung von gelehrten Sachen” (January 1772, III. Stück: 21–32), which we shall, however, not analyse here.

have started by laying bare the subject to be debated, presenting his own opinion clearly and without ambiguity, and relating the opinions of those he wished to oppose completely and impartially. (GR: 826; similarly 830)

[Eine solche Schrift sollte] *nach der dem Publico schuldigen Achtung in einer solchen Gestalt vorgelegt werden [...], daß die Leser wirklich in den Stand gesetzt werden, die Sache selbst, die Gründe und Gegengründe vollständig und richtig einzusehen und zu beurtheilen. [...]*

[Dass Semler diese Forderung nicht erfüllt, wird jeder einsehen] *dem die Gesetze eines gründlichen, ordentlichen und deutlichen, und zugleich der Moral und dem Wohlstande angemessenen Vortrags, besonders einer polemischen Schrift bekannt sind. Billig hätte Hr. D. S. den Anfang damit machen sollen, die Streitfrage in ihr völliges Licht zu setzen, seine eigene Meinung bestimmt und ohne alle Zweydeutigkeit vorzutragen und eben so die Meynung derer, welchen er widersprechen wollen, vollständig und unpartheyisch zu erzählen [...].* (GR: 826; ähnlich 830).

In his reply, Semler denied that his text was intended as a formal refutation:

And who makes my text a formal refutation? This is so that the reviewer can show that I have not proceeded by thesis and antithesis according to Quenstädt. (“Reply to GR”; Treatise, Part II: 259)

Und wer macht denn gar meine Schrift zu einer polemischen? Damit der Recensent anzeigen kann, ich habe nicht per thesin und antithesin, nach Quenstädt, geschrieben etc. (“Antwort auf GR”; Abhandlung, Zweiter Theil: 259).

iv. Criticism of logic

The reviewer accuses Semler of making non sequiturs. A condition being sufficient (“bejahend”) does not make it necessary (“verneinend”) (GR: 829). He also diagnoses the mistake of trying to prove a fact a priori (GR: 830).

v. Reductio ad absurdum

Applying Semler’s criterion for the divinity of a Biblical text leads to absurd conclusions (GR: 829; similarly GR: 832).

vi. Criticism of method

According to the reviewer, Semler offends against the “laws of historical investigation” (“Gesetze, Historie zu untersuchen”, GR: 833) and confuses, for example, “assumptions” (“Muthmassungen”) and “reasoning” (“Raisonnement”) with historical facts (GR: 838f.).

vii. Semler is accused of being unfair towards his opponents

“Dr Semler’s treatment of his opponents is extremely inequitable” (“Sehr unbillig verfährt Hr. D. S. mit seinen Gegnern”, GR: 831).

As a general strategy, the reviewer strings together objections and critical remarks, thereby creating a cumulative negative effect, which Semler obviously resented.

2.4.2 Semler's response

Scattered throughout Semler's reply, his "Antwort auf die göttingische Rezension" (AGR, Treatise, Part II), are a number of general critical comments on this review. This gives quite an interesting cross-section of complaints a reviewee might voice who considers himself unfairly treated by his reviewer.

- i. He complains about how imbalanced the review is: "he forgets, as a reviewer, also to show the positive and useful things which I present. He wants only to make polemical observations" ("als Rezensent vergißt er, auch das gute und brauchbare anzuzeigen, was ich vorbringe. Er will nur polemische Beobachtungen machen", AGR: 259). "Therefore, if this had been possible without his appearing transparently harsh, the reviewer should have preferred to say that I had achieved nothing in this work" ("Also, wenn es nur angehen wollte, ohne ganz sichtbar unglimpflich zu handeln, so hätte der Recensent lieber gar gesagt: ich hätte gar nichts in dieser Schrift geleistet", AGR: 287).
- ii. He accuses the reviewer of distortion: "What the reviewer allows himself! To present me as easily refuted!" ("Was tut der Recensent für Ausfälle? Um mich als leicht widerlegt vorzustellen!", AGR: 274).
- iii. He complains that the reviewer loses himself in details and passes the main point by: "The reviewer continues on his way, even when it leads him directly away from my main point; he could say nothing against that, so he pursues such peripheral issues and asks for historical evidence" ("Der Rezensent bleibt auf seinem Wege, wenn er ihn gleich von meiner Hauptsache abführet; er konte ihr nichts abgewinnen, darum gehet er nach solchen Nebendingen, und fragt nach historischen Beweisen" (AGR: 367; similarly 373).
- iv. He disapproves of the reviewer's pretentiousness:

and I need take no pretentious lessons on this subject, neither from the orthodox establishment nor from the anonymous reviewer, who, despite easily claiming special insight into them, does not in fact understand these things as well as he thinks, showing as he does a complete lack of knowledge about some of the things about which he wants to force comments upon me.

brauche auch hierüber so wenig, als vom orthodoxen Wohlstande, eine anmasliche Lehre von dem unbekanten Recensenten; der dieser Sachen, wovon er so leicht sich alle Einsicht anmaßet, so sehr kundig eben nicht ist, wie er schlechterdings dis und jenes gar nicht weis, wovon er mir doch Anmerkungen aufdringen will. (AGR: 258f.)

- v He insists on his freedom of research: "Our opinions must differ on this point, however, for I do not need his permission to pursue my intention" ("Hier muß ich aber anderer Meinung seyn: denn ich habe meine Absicht mir nicht von ihm auszubitten", AGR: 261). "I, as a teacher, and other thinking Christians, are

therefore free in this, without reference to what such reviewers scribble [...]” (“es stehet also mir, als Lehrer, und andern denkenden Christen frei, ohne uns an das zu binden, was solche Recensenten daher schreiben [...]”), (AGR: 293)

The basic pattern of Semler’s reply was that of a classic polemical pamphlet. He addressed the reviewer’s objections and accusations point by point and attempted to refute them individually. His typical moves were objections, direct contradictions, counter-arguments, correction of the reviewer’s assumptions, repetition of elements of his original text and, finally, personal attacks, such as that made on the reviewer’s competence in the subject matter. In his reply to the Jena review too, Semler was not above using insults like “this Jena scribbler” (“dieses jenaischen Schmierers”, Treatise, Part II: 463).

In structuring his text, Semler used a pattern that was already very common in rebuttals of the 16th and 17th centuries (cf. Fritz 2003): He formed sections and numbered them. In each section, he first related part of the review and then followed it with his comment, as in the following example:

7

Without explanation of what his *opponents* mean by *inspiration*, their conception is simply rejected now and then, and we do not know what the respected author calls divine inspiration either.

The reviewer always presumes to know better than I what my goal actually was, and on this basis he criticizes my method. The matter is quite different, however [...].

7

Ohne zu erklären, was denn die Gegner durch Eingebung verstanden, wird nur hin und wieder ihre Vorstellung verworfen, und was der Herr Verfasser göttliche Eingebung nenne, das wissen wir nicht.

Der Recensent thut immer, als wisse er besser, was ich wirklich zum Endzweck gehabt habe, als ich selbst; und daher kritisirt er von der Methode. Die Sache ist aber gar eine andere [...]. (AGR: 261).

As the sections of the reply are each several times longer than the part of the review they address, the result is a reply of 158 pages to a 16-page review.

The individual response sections show a fairly stereotypical structure. The first paragraph usually has the function of creating a link to the quotation from the review and then introducing objections to what the reviewer said. This is achieved, for example, by the following means:

- i. Semler repeats part of the review quotation, perhaps ironically, with rhetorical questions, and/or followed by exclamations or comments:

31

But his [i.e. Semler's] pretence that Christ and his apostles only present those books [from the Old Testament] *ex opinioni vulgi* is so questionable because it does in fact render every use of their speeches and writings doubtful.

Really! Is this a *pretence*; and it is so questionable? It renders doubtful every usage of the speeches and writings of Christ and the apostles? Now that – thank God! – I cannot agree to.

31

Das Vorgeben aber, daß Christus und die Apostel nur die Bücher, gleichsam ex opinione vulgi angeführt: ist so bedenklich, daß es in der That allen Gebrauch ihrer Reden und Schriften unsicher macht.

Wirklich! Es ist dis ein Vorgeben; und es ist so bedenklich? Es macht allen Gebrauch der Reden und Schriften Christi und der Apostel unsicher? Nun das weis ich, Gott sei Dank! Gar nicht nachzusagen. (AGR: 320)

- ii. He describes the function or strategic aspects of his opponent's words and/or evaluates the reviewer:

This is a rather far-fetched declaration, intended to injure me from a distance.

Dis ist eine recht mit Haaren hergezogene Declamation, welche mir so von weitem einen Stich anbringen sol (AGR: 283)

This is another one of those reviewers' stratagems

Dis ist wieder so eine Fertigkeit eines Recensenten (AGR: 274)

- iii. He comments on principles of communication:

If the reviewer had been pleased to act more honestly, none of what he now mentions would have been written

Wenn es dem Recensenten gefallen hätte, aufrichtiger zu handeln, so wäre dis alles, was er nun anbringt, weggeblieben (AGR: 281)

There follow appeals to the reader ("my readers should join me in paying attention to greater errors which I am said to have committed"; "die Leser sollen aber mit mir Achtung geben auf grössere Fehler, die ich begangen haben sol", AGR: 274) and occasionally the announcement of an attempt at refutation. After this follows the refutation itself ("It is wrong, however, [...]"; "Es ist aber falsch [...]", AGR: 283), a correction of the reviewer's reading of Semler's meaning ("I claim nothing more than the real freedom to investigate [...]"; "Ich behaupte nichts weiter, als die wirkliche Freiheit der Untersuchung [...]"; AGR: 274), or criticism of the reviewer's criticism.

Semler usually tried to justify his criticism in such a section at its end by providing evidence or, at least, by claiming that he was in a position to provide evidence. In these passages an important role was played by quotes from his own work, from that of other theologians and from the Bible. He also often referred to principles of communication contravened by the reviewer, combining this again with appeals to the reader.

Thus, Semler in his reply accommodated himself to the review. He responded to the critical review and its polemical elements with a traditional polemical rebuttal. Obviously, the traditional procedures of polemical writing still exercised some control over Semler's response. Semler's awareness of his duty to reply to criticism point-by-point, a characteristic rule of disputation, shows in several places where he emphasized that he did not wish to evade his duty to respond.

2.5 A cooperative review and Semler's response

2.5.1 A cooperative review

The second review we shall analyse was printed in the Hamburg newspaper "Staats- und Gelehrte Zeitung Des Hamburgischen unpartheyischen Correspondenten". This newspaper, which catered for a general audience of educated persons and boasted a remarkably wide circulation, not only published correspondents' reports from all over Europe and different types of advertisements, but also a section of "scholarly matters" ("Von gelehrten Sachen").⁹ In the Hamburg review (HR), about a quarter of the space available is given over to summarising the text being reviewed. So Semler's position is fairly substantially represented. The reviewer acknowledges the author's point of view in this issue and bases his later critical comments, in essence, on the aims that Semler sets for himself. In its substance, this criticism addresses many of the same points as the Göttingen review but, as Semler emphasized, does so with "propriety" and "moderation" ("Billigkeit" and "Mäßigung", "Reply to HR", Treatise, Part II: 571). In particular, the reviewer absolves Semler of any suspicion of heresy right at the beginning. He rather expects Semler's call for the right to free investigation of the canon to have a religiously and theologically beneficial effect:

Furthermore, the faith has little to fear either from the free investigation of the number of scriptures inspired by God or from the nature of that inspiration; rather, what has been brought to light thus far has been very advantageous for the faith. It is a truly devout pleasure for us [...]

9. On the profile and history of this newspaper cf. Tolkemitt (1995).

Hiernächst hat der Glaube von einer freyen Untersuchung über die Zahl der von Gott eingegebenen Schriften sowol, als über die Beschaffenheit der Eingebung so wenig zu besorgen, daß vielmehr, was darunter bisher entdeckt worden ist, demselben zu wichtigem Vortheil gereicht. Eine recht fromme Freude gewährt es uns [...].
(HR, Num. 65: col. 7).

In his review of Part II of the treatise (1772), the reviewer declares Semler innocent of heresy even more clearly: “We therefore do not see that Dr Semler claims anything totally unusual or dangerous” (“Also sehen wir nicht, daß der Herr Doctor etwas ganz Ungewöhnliches oder Gefährliches behaupte”, HR, Num. 163: col. 6).

One of the characteristic features of this review is its use of various strategies of politeness and of conflict-avoidance:

- i. The reviewer uses self-critical expressions of modesty, thereby envisaging the possibility that the error may be on his own part: “Only, we perhaps misunderstood him, if [...]” (“Allein, wir verstehen ihn vielleicht nicht recht, wenn [...]”, HR, Num. 65: col. 6). He also tries to protect the author to a certain extent from possible unfavourable readings of his text: “Dr Semler cannot possibly also be of the opinion that [...]” (“Unmöglich kann es auch des Herrn Doctors Meynung seyn, daß [...]”, HR, Num. 65: col. 5).
- ii. He marks out his criticism as his personal opinion (“Meynung”, HR, Num. 65: col. 7).
- iii. Where he criticizes the author’s theses and arguments, he frequently uses hedging expression like *seems* or *may* (*scheint*, *dürfte*) or in some other way reduces the weight of his criticism.
- iv. He repeatedly includes partial agreement in his critical passages – though often followed by ‘but...’.
- v. The review is conceived as a contribution to a dialogue. An example of this attitude is the reviewer’s wish for further information from the author:

However, he [i.e. Semler] would certainly render us and all who, like him, conscientiously seek the truth, extremely grateful, if it would please him to further pursue this investigation and be in part more precise, give in part more than the initiation of a discussion and, in part, explain his opinions on [...] more fully.

Es würde derselbe aber gewiß uns und alle ihm ähnliche gewissenhafte Forscher der Wahrheit sehr verbinden, wenn es ihm gefallen sollte, dieselbe [i.e. Untersuchung] noch weiter vorzunehmen, und theils bestimmter zu seyn, theils nicht bloß die Anstöße [...] hinzuwerfen, theils sich über [...] ausführlicher zu erklären.

(HR, 65: col. 6)

Despite remaining differences, the reviewer urged Semler to continue his investigation and, in his review of Part II, expressed his expectation that the remaining

problems could yet be resolved: “We do not doubt that these and other difficulties will be completely disposed of” (“Wir zweifeln nicht, daß alsdenn diese und andere Bedenklichkeiten völlig verschwinden werden”, HR, Num. 164: col. 7).

In his response to Semler’s reply to his first review, the reviewer showed himself to be essentially satisfied:

After Dr Semler’s friendly manner of accepting the review of his treatise, which appeared in these pages, and answering the difficulties we raised against it, it is even more clearly our duty to acknowledge that these questions are now largely resolved.

Nach der Freundlichkeit, mit welcher der Herr Doctor die in diesen Blättern geschehene Recension seiner Abhandlung aufgenommen, und unsere dagegen geäußerten Bedenklichkeiten beantwortet hat, wird es desto mehr unsere Pflicht, zu erkennen, daß solche größtentheils gehoben sind. (HR, Num. 163: col.5)

As an advantageous outcome of the exchange, the reviewer recognized a better understanding of Semler’s position: “And now we find ourselves better aware of Dr Semler’s aims as well as of his theory on the canon” (“Und nun befinden wir uns besser sowol über die Absicht des Herrn Doctors, als über dessen Theorie von dem Canon unterrichtet”, HR, Num. 163: col.6). This is confirmed in his subsequent summary of Semler’s work in Part II, which presented Semler’s attempts to clarify his conception as well as new perspectives. The reviewer did maintain some of his objections, however, and raised new ones, which nevertheless did not lead him to have to reject Semler’s position. This review, like his first, closed with the wish that Semler continue his investigation:

We agree with Dr Semler that the usual criteria and evidence [for the divine inspiration of biblical writings] require some correction and therefore wish that he, having simply claimed and proven the right to free investigation of the canon, may undertake this correction himself and define certain fixed rules and characteristics.

Wir geben dem Herrn Doctor darinn Beyfall, daß die gewöhnlichen Bestimmungen und Beweise darüber mancher Berichtigungen bedürfen, und wünschen daher, nachdem er vorerst bloß das Recht zu einer freyen Untersuchung des Canons behauptet und erwiesen hat, selbst die Untersuchung vorzunehmen, und gewisse veste Regeln und Merkmale bestimmen wolle. (HR, Num. 164: col.7)

Obviously, the nature of this review is strongly influenced by the type of journal in which it appeared. For a paper that served an educated, non-specialist public and prided itself on its non-partisan (“unpartheyisch”) reporting, it was certainly a reasonable and reader-friendly strategy for the reviewer to emphasize the informative part of his review and to avoid getting involved in academic bickering.

2.5.2 Semler's response: the cooperative reply

In his reply in Part II of the *Treatise* published in 1772, Semler responded to the cooperative mode of the review. He started by expressing his thanks for the reviewer's fairness:

It is with immense gratitude towards the writer of a review of this investigation on the canon, which appeared in the *Hamburgische Correspondent Num.* 64.65, that I acknowledge the propriety and moderation which the anonymous reviewer shows me.

Mit sehr vieler Danksagung gegen den Verfasser einer Recension dieser Untersuchung vom Canon, welche in den hamburgischen Correspondenten Num. 64.65 eingedrückt worden ist, erkenne ich die Billigkeit und Mäßigung, welche mir der unbekante Verfasser erwiesen hat. (AHR, *Treatise*, Part II: 570)

In the rest of his response, Semler clearly tried to meet the reviewer's interests: "I believe that even this short answer will not be contrary to what the reviewer meant" ("Ich glaube indes, daß auch diese kurze Antwort, der Absicht des Recensenten nicht entgegen seyn wird", AHR: 608). Unmistakably, Semler here strictly adhered to principles of politeness and friendliness. He agreed with the reviewer, expanded his points, reworded his earlier explanations or provided friendly correction and even declared himself prepared to accept criticism from the reviewer (AHR: 588). In this reply, like in the "Göttingen" one, Semler made conspicuous use of the point-by-point procedure. In this particular response, this method was particularly useful to him because it allowed him to address not only critical points but also the reviewer's *positive* comments.

There was a delicate part in the Hamburg review, in which the reviewer alluded to a potential danger inherent in Semler's biblical criticism and which called for a forceful reaction by Semler:

But as valuable as it [Semler's biblical criticism] is to us in itself, it would be extremely questionable for us were it to lead to a loss of reliability of the foundations of belief and to surrender the divine instruction contained in the scriptures to arbitrary individual decision.

Aber so schätzbar sie uns an sich ist, so bedenklich würde sie uns werden, wenn solche eine allgemeine Unverläßigkeit des Glaubensgrundes hervorbringen, und den göttlichen Unterricht in der Schrift eines jeden Willkühr Preis geben sollte.

(HR, Num. 65: col.7)

Semler's answer to this was somewhat irritated at first: "It may be that I misunderstood this or that the reviewer misunderstood one passage or another", ("Es kann seyn, daß ich dis nicht recht verstehe, oder daß der Rezensent eine oder andere

Stelle nicht recht verstanden hat”, AHR: 583). But then he embarked on a long and serious explanation intended to remove the plausibility of these grave concerns.

Semler also answered the review of Part II of his *Treatise* which was published in the *Hamburgische Correspondent* later on in the same year, beginning his reply by praising the reviewer:

The originator of this review, who remains as anonymous to me as in his first review, has the honour of being among the first writers to have had the heart to judge the first volume on the free investigation of the canon completely independently and freely, without allowing themselves to be influenced by the haughty tone in which some reviewers had laid into me. (Treatise, Part III: 554)

Der Urheber dieser Recension, der mir noch bis jetzt eben so unbekant ist, als bey der ersten Recension, hat die Ehre, mit unter den ersten Verfassern zu seyn, welche das Herz hatten, von dem ersten Stück von der freien Untersuchung des Canon ganz unabhängig und frey zu urtheilen, ohne sich durch den hohen Ton stimmen zu lassen, in welchem manche Recensenten wider mich sich herausgelassen hatten.
(Abhandlung, Dritter Teil, 1773: 554)

As in his earlier response, Semler treated the reviewer’s individual objections comprehensively and attempted to take the sting out of them or to further clarify the issue. The objection that texts from the Old Testament, though useless to his Christian contemporaries, may need to count as inspired by God for the Jews received a characteristic reply. After distinguishing between different types of text in the Old Testament, Semler ended his response with the indication that, in practice, the subjective criterion he advocated remains decisive:

[The reader] therefore may or may not accept this one-time inspiration: it is completely unimportant and insignificant for him and his relationship as a Christian. He has no way of convincing himself that such texts are inspired by God. (Treatise, Part III: 561)

(Der Leser) mag also diese ehemalige Eingebung weiter bejahen, oder nicht: so ist es für ihn und sein Verhältnis, als Christ, ganz und gar unbedeutend, und unerheblich. Er kan sich auf keine Weise von der götlichen Eingebung solcher Schriften überzeugen.
(Abhandlung, Dritter Teil: 561)

In this as in the first reply, Semler thanked the anonymous reviewer for the “benevolence and propriety with which he communicated his objections to me” (“für die Gütigkeit und Billigkeit, nach welcher er mir seine Einwendungen mitgetheilet hat”, Treatise, Part III: 567).

2.6 Report and counter-proposal – Ernesti’s review and Semler’s response

2.6.1 Ernesti’s review

A review addressed at an audience of professional theologians was published in 1772 by Johann August Ernesti, professor of theology at the University of Leipzig, in the second volume of his review journal “Neueste Theologische Bibliothek”. It was published anonymously, but as Ernesti wrote most of the reviews in his journal himself it was obvious to Semler that Ernesti was the author. Semler knew Ernesti well and held him in high esteem.

Ernesti’s review displays a two-part structure. An introduction in which the text under review is placed in a wider context and the parts of the two volumes reviewed are briefly described is followed by an extensive account of Semler’s “Treatise”, which is annotated at intervals for easier reference with page numbers. Only at central points is this account interrupted by objections, which form the basis of the reviewer’s counter-proposal which follows in the second part of his review.

The reviewer took Semler and his perspective seriously and praised him in several areas, while pointing out in restrained language what he presumed to be misunderstandings. The following quotations clearly show this attitude.

Here, the characteristics of a revealed religion would appear to have been confused with those of a canonical book (in the new sense); and from this emerges the confusion of the divinity of a book with its usefulness for religion and for the understanding of religion. [...] Apart from this, Dr Semler has written here many useful and appropriate things, worthy of the attention of reflecting readers, but, as far as we can judge, they do not belong here.

Hier sind wohl die Kennzeichen einer geoffenbarten Religion, mit den Kennzeichen eines canonischen (in der neuern Bedeutung) Buchs vermengt: und daraus ist auch die folgende Vermengung der Göttlichkeit eines Buchs, mit seinem Gebrauche für die Religion, und für die Erkenntniß derselben gekommen. [...] Auf dieser Seite hat der H.D. sonst viel Gutes und Richtiges gesagt, das von Nachdenkenden gelesen zu werden verdient, aber es gehörte, so viel wir urtheilen können, nicht hieher.
(Ernesti: 433f.)

On the subject of the Christian canon, Dr Semler rightly reminds us that Jesus and his apostles accomodated their speeches to their listeners, the apostles likewise accomodated their writings to their readers. However, he concludes from this that not everybody need have and read, for example, all the gospels and take them as inspired writings. The first is true; but the latter is not.

Was der Christen ihren Canonem betrifft, so erinnert der H.D. anfangs gar recht, daß, wie Jesus und die Apostel in dem Vortrage jhrer Lehre, sich nach den Zuhörern

gerichtet haben, auch die Apostel in jhren Schriften ein gleiches in Ansehung der Leser beobachtet haben. Aber daraus schließt er, daß auch nicht ein jeder alle z.B. Evangelia haben, und lesen, und sie als göttlich eingegebene Schriften annehmen müsse. – Das erste ist richtig; aber das letzte nicht. (Ernesti: 437)

An essential point for Semler in the whole review was the fact that Ernesti believed him to be principally orthodox and well-meaning:

What is more, we have noted well that Dr Semler means well for the religion itself, although he is mistaken, as we suspect, in the main issue.

Wir haben übrigens gar wohl gemerkt, daß es der H.D.S. mit der eigentlichen Religion gut meynet, wenn er gleich in der Hauptfrage, wie uns dünkt, unrecht hat. (Ernesti: 438)

The greatest potential threat, that of heresy, was thus disposed of.

In his own constructive contribution, Ernesti attempted to render plausible a hypothesis as an alternative to Semler's denigration of many Old Testament texts. This hypothesis of a theocracy, i.e. God's direct rule over the Israelites in the days of the Old Testament, was intended to explain how procedures of organization, rites and laws in the Old Testament could be recognised as revealed by God despite being very specifically designed to apply only to the life of a particular people in a particular historical period. He thus suggested a way out of the dilemma that the texts of the Old Testament were traditionally seen as inspired by God but seemed, on the other hand, to be irrelevant to the religious life of Christians in the 18th century.

2.6.2 *Semler's response to Ernesti*

Semler responded to Ernesti's review in the preface to Part III of his treatise. His reply was quite similar in tone to Ernesti's contribution, containing, among others, the following functional elements:

- i. showing respect and recognition,
- ii. giving a precise account of his fellow expert's theses,
- iii. positioning himself in relation to these theses by means of argumentation.

It also contained a defence of his own position in the form of a further explanation of it. Like Ernesti, Semler highlighted their common perception of the facts brought to bear in the discussion, but then pointed out their differences in drawing conclusions from those facts, but also hinting at his own readiness to compromise, as in the following example:

However, I am not at all inclined to reject these new principles of Dr Ernesti's, for whom I have great respect; I much rather believe that they will help many a reader to eliminate doubts more thoroughly than does the conventional doctrine [...].

(Treatise, Part III, Preface: d2b)

Allein ich bin gar nicht gesonnen, diese neuen Grundsätze des Hrn D. Ernesti, den ich mit großer Hochachtung verehere, eigentlich zu widerlegen; ich glaube vielmehr in der That, daß sie manchen Lesern zu dieser Absicht eine Genüge thun werden, sich mancher Zweifel auf eine gründlichere Art zu erwehren, als bey der gemeinsten Lehrart angehet [...]. (Abhandlung, Dritter Theil, Vorrede: d2b)

This willingness to compromise seems to be based both on a sufficiently broad set of common assumptions and on Semler's respect for Ernesti as an eminent scholar. The latter can also be seen in the following passage:

I have often said that I am prepared to learn from other people; I always learn from such as Ernesti; but I can learn nothing from incompetent reviewers.

(Treatise, Part II, Preface: a8a)

Ich habe es schon oft gesagt, ich will gerne von andern lernen; ich lerne auch von einem Ernesti alle Tage; aber von schlechten Recensenten kann ich nichts lernen.

(Vorrede, Zweiter Theil: a8a)

Speaking in general terms, there is evidence here that, in the 18th century too, it was not always the strength of arguments alone, detached from the person making them, which fostered the willingness to compromise.

2.7 A mediatory review and Semler's response

2.7.1 *Michaelis' review*

After Semler's treatise had been reviewed several times, and he had responded to those reviews, the controversy had reached a stage where an attempt could be made to arbitrate or to mediate. In 1772, such an attempt was undertaken, at least in part, by Johann David Michaelis, theologian and orientalist, in a journal edited by himself. He stated this intention most clearly in the following passage on Semler's denial of the divine origin of certain Old Testament books:

If he [Semler] has rejected too much here or not proceeded carefully enough, then there may remain a middle way between him and those who accept everything and are not careful enough either.

Hat er nun hier zu viel verworfen, oder nicht sorgfältig genug verfahren, so wird zwischen ihm, und denen, die alles annehmen, und auch nicht sorgfältig verfahren, vielleicht eine Mittelstraße übrig seyn. (Michaelis: 43)

Semler accepted this direction to a "middle way" in principle: "I will gladly suffer the suggestion of such a middle way" ("Ich will es gern leiden, daß so ein Mittelweg angewiesen wird", Reply to Michaelis, Treatise, Part III: 488). However, as we shall show, he did not accept the arbitration in general.

We now turn to the structure of Michaelis' review. In the first part, he defends Walch, the Göttingen reviewer, saying that the latter's review "seemed very modest" ("[ihm] sehr bescheiden vorkam", Michaelis: 27) and that Walch had assured him "that he had not intended to brand Semler a heretic" ("dass er nicht die Absicht, Herrn D. Semler zu verkätzern gehabt [habe]", Michaelis: 32). He criticises Semler for his harsh reaction in describing his opponent as an oaf and Walch's review as "Göttingen drivel" ("Göttingisches Gewäsche", Michaelis: 28). And he adds that he himself would rather not become the butt of Semler's polemics.

Turning from the tone of the controversy to the content of Semler's "Treatise", Michaelis begins by supposing that Semler might have been misunderstood by some reviewers, but that Semler is not without blame for this, having "not written clearly enough" ("nicht deutlich genug geschrieben", Michaelis: 31). Michaelis sees one possible reason for this in Semler's tendency, as he sees it, almost always to speak "as if he had theologians from the last century, or from the first thirty years of this century, in front of him and was arguing with them" ("als wenn er Theologen des vorigen Jahrhunderts, oder aus den ersten 30 Jahren des jetzigen, vor sich hätte, und streitet mit ihnen", Michaelis: 32). According to Michaelis, the reviewing theologians had felt displeasure with Semler's presenting ideas as innovative which they already believed and taught (cf. Michaelis: 39).¹⁰ In the rest of his review, Michaelis repeatedly demonstrates his concurrence with Semler's view of the status of Old Testament books such as *Ruth* or the *Song of Songs* and defends him against the misunderstanding that "he allows for no more of the Word of God in the Bible than in, for instance, a heathen philosopher" ("er gestehe der Bibel kein anderes Wort Gottes zu, als etwan einem heidnischen Philosophen", Michaelis: 43). Concerning these texts he basically accepts Semler's position:

and if somebody promised to prove that it [the Book of Judges] had not at the time of Christ been among those books seen by the Jews as divine, [...] I would listen to him not simply impartially but also eager for him to be right, because I would thus have several fewer objections to revealed religion. (Michaelis: 55)

und wenn jemand verspräche zu beweisen, daß es zur Zeit Christi nicht unter den von den Juden für göttlich gehaltenen Schriften gewesen sey, [...] so würde ich ihm nicht blos mit Unpartheylichkeit, sondern auch mit einer Begierde, daß er Recht behalten möchte, zuhören, weil ich alsdann manche Einwürfe gegen die geoffenbahrte Religion weniger haben würde. (Michaelis: 55)

Finally, he also said explicitly that "I am not his opponent, but rather agree with him, as will have been witnessed, in more than one of the places in which he

10. Considering the course of the controversy, one might reasonably doubt if Michaelis' assumption was well-founded.

diverges from received wisdom” (“Ich bin sein Gegner nicht, sondern stimme, wie man gesehen haben wird, mehr als einmahl wo er von dem gewöhnlichen abgeht, mit ihm überein”, Michaelis: 93).

On the other hand, Michaelis criticized incomprehensible passages and the continuing absence of detailed investigations. He also accused Semler, rather like Walch did, of a fundamental non sequitur: “and I do not at all see how it follows from the fact that the Israeli laws have nothing to do with us that they were not given by God” (“und ich sehe gar nicht, wie daraus, daß die Israelitischen Gesetze uns nichts angehen, folgen solle, daß sie nicht von Gott gegeben sind”, Michaelis: 64). Concluding his review, he sees Semler’s main achievement as having drawn attention to the problem of the canon:

Presumably, Semler truly has the credit of having made numerous scholars, particularly his opponents, aware of this issue and requiring them to examine it more closely. (Michaelis: 83)

Vermuthlich hat Herr S. das wahre Verdienst, mehrere Gelehrte, sonderlich seine Gegner auf diese Fragen aufmerksam zu machen, und ihnen genauere Untersuchungen abzunöthigen. (Michaelis: 83)

2.7.2 *Semler’s response to the mediatory review*

As we mentioned before, Semler neither accepted this mediation taken as a whole nor submitted to Michaelis’ position as referee. He also seemed to doubt the reviewer’s presumed impartiality.¹¹ In general, he saw the *reader* as the ultimate judge between the two parties: “The two parties [...] have no other judge than every thinking, searching reader” (“Beide Parteien [...] haben sonst keinen Richter, als jeden denkenden und forschenden Leser”, Treatise, Part III, Preface: b6a). With his reply to Michaelis, he kept the debate open and, with defensive moves, corrections and additions to his historical evidence, he potentially opened a new round of discussion. It is remarkable, however, that in his response to Michaelis we perceive a notable change in Semler’s debating behaviour. He repeatedly emphasized the significance of the principle of tolerance and indicated that he obeys it himself. He employed a moderate tone, even when defending himself against criticism, and he abstained from insults. In this change one could recognise the influence of Michaelis’ criticism of Semler’s previous tone in the debate, which was partly determined, according to Michaelis, by “affect”.

11. Given that Michaelis was the publisher of the *Göttingischen Gelehrten Anzeigen*, where Walch’s review had been published, his doubt was probably not entirely unfounded.

3. Objections and principles of communication

Having distinguished between four types of review and the associated different ways in which the controversy was pursued, we now turn to examining a number of typical objections raised by participants and the various reactions to them, which promise to provide a glimpse into the stock of principles of communication contributing to the implicit “theory of controversy” held by participants at the time. Methodically, this step of our analysis is founded on the assumption that in many cases communication principles are made explicit in the form of “points of order” (Hamblin 1970: 303) or are presupposed by such moves. Of course, principles of communication are often *implicitly* followed or contravened. Evidence of such a practice can also be found, but showing this in detail would call for a more exhaustive analysis than we can provide here. So we shall make a start by investigating explicit references to such principles in relevant types of objection.

3.1 Objections to a lack of clarity

Clarity is a high-ranking concept in the context of this controversy. In the texts under investigation, the word *deutlich* (‘clear’) is used to call utterances transparent and comprehensible, in the sense of the rhetorical principle of *perspicuitas*. Its negation, the word *dunkel* (‘obscure’), is frequently used to criticize lack of clarity. Objections of a lack of clarity are raised principally against Semler. Michaelis begins his review with the comment “Faced with this book, a reviewer should indeed be afraid – for understanding what Semler does or does not wish to say is extremely difficult” (“Bey diesem Buche sollte einem Recensenten in der That angst werden: denn zu verstehen, was Herr S. sagen oder nicht sagen will, ist überaus schwer”, Michaelis: 26). As already indicated, he sees it as a problem in the preceding debate that Semler had been misunderstood by reviewers as a result of his obscurely expressing his position (Michaelis: 31f.). One of the obscuring factors, according to Michaelis, was Semler’s use of Latin and Greek terms:

However, the practice of adding Greek and Latin to German texts, where the dead language is more obscure and where one could be more precise in German, is: well – I do not want to say what that is.

allein Griechisch und Latein in deutsche Schriften zu mengen, wo die todte Sprache dunkler ist, und man im Deutschen bestimmter reden könnte, das ist: doch – ich mag es nicht sagen was es ist. (Michaelis: 54f.)

There are also other clarity-related problems that are discussed in the course of the debate, such as the problem of terminological vagueness. In the Göttingen review, for example, Walch criticized the vagueness of Semler’s concept of inspiration,

which, according to Walch, made Semler's criticism of traditional views of inspiration unclear. The distinction between the Word of God and Holy Scripture was also, in Walch's opinion, "nowhere presented clearly and precisely" ("nirgends deutlich und bestimmt vorgetragen", GR: 827). Semler defended himself against this objection by explaining that nothing depended on a particular understanding of the concept of inspiration and that the possible lack of clarity was therefore harmless:

I therefore leave it to the reader to understand inspiration as all the *orthodox* would have it be, who unceasingly criticize Calixtus and others, or to understand *inspiratio* or *assistentia* as a subtype of *revelatio*. [...] nothing depends on whether one has a wide or a narrow concept of inspiration.

Ich lasse es also dem Leser selbst frei, er mag unter Eingebung alles verstehen, was die Orthodoxen haben wollen, welche Calixtum und andre deshalb unaufhörlich bestreiten: oder sie mögen Inspirationem, assistentiam, als das minus von dem maiori, revelatio selbst unterscheiden. [...] es liegt gar nichts daran, ob man viel oder wenig zur Inspiration rechnet. (AGR: 262)

Since the idea of inspiration did however play an important role in the whole controversy, it is doubtful whether this successfully put an end to Walch's objection.

Another example was Semler's criterion for distinguishing between truly divine and purely human books. Semler, Walch complained, only gives one indication of what this criterion is – and "very vaguely" at that ("sehr undeutlich", GR: 828) – namely the growth of "moral knowledge" (*moralische Erkenntnis*) in the individual.¹²

If it had pleased Dr Semler to tell us what these moral truths are to which alone he grants the honour of divine inspiration, we would perhaps be in a position to say for certain what he sees as divine and what he does not. However, he did not do this either.

Wenn es nun dem Hrn. D. gefallen hätte, uns zu sagen, was denn das vor moralische Wahrheiten sind, welchen er allein die Ehre der göttlichen Eingebung eingestanden, so würden wir vielleicht im Stande seyn, mit Gewißheit zu sagen, was er vor göttlich halte, oder nicht. Allein auch dieses ist nicht geschehen. (GR: 828f.)

This objection Semler rejected as well: "Is it therefore I, and I alone, who can specify this for all others? Need not the reader do that for himself [...]?" ("Kan ich es also allein, ich allein, für alle anderen specificiren? Mus es nicht der Leser selbst

12. In various passages, Semler gave indications as to how this problematic concept of "moral knowledge" should be understood. He obviously used *moralische Erkenntnis* to refer not only to moral improvement in a secular sense, but also to spiritual knowledge (*geistliche Erkenntnis*) or religious edification (*Erbauung*). The latter well-meaning interpretation was given to Semler's concept by Michaelis (Michaelis: 50).

thun [...]?”; AGR: 281). He thus labelled his vagueness as an essential *openness* and tried in this way to evade the criticism.

3.2 Objections to a lack of proof

Someone writing an academic treatise should provide evidence for his claims and, if necessary, give an explicit proof. Neglect of this duty was a frequent complaint, as in the following of many examples from Walch: “A historical claim, without proof. How can it be proven that [...]?” (“Eine historische Angabe, ohne Beweis. Woher kann bewiesen werden [...]?”; GR: 831). On one occasion, Michaelis too accused Semler of providing insufficient evidence: “Semler, who simply makes statements without investigating [...]” (“Herr Semler, der ohne Untersuchung blos Aussprüche thut [...]”; Michaelis: 86). Generally speaking, the question of provability played an important role in this controversy, as the Hamburg reviewer stated:

there is therefore infinite gain for religion and theology when everything is well and truly proven, and when everything that cannot be well and truly proven is left out.

so gewinnt die Religion und Gottesgelehrsamkeit unendlich, wenn alles wohl und wahrhaftig bewiesen, und was nicht wohl und wahrhaftig bewiesen werden kann, hinausgethan wird. (HR, Num. 64: col.7)

This is, of course, very much an Enlightenment attitude. The question of whether or not something can be proven was thus also important for Semler’s criterion for the divinity of texts. Michaelis protested that Semler’s criterion of moral improvement was not a useful one, because it lacked intersubjective validity. He suggested that a different criterion, namely whether there are historical errors in the text, would have the advantage that one could prove or disprove it (Michaelis: 58f.). The individual’s gut feeling, in contrast, seemed a dubious foundation for certainty:

in which case one remains in great doubt as to what in the Old Testament one should see as divine if one does not dare, as Semler does, to make a judgement on the basis of a feeling that one is being edified.

in welchem Fall man denn in einer großen Ungewißheit bleibt, was man aus dem A.T. als göttlich anzusehen habe, wenn man nicht, wie Herr S. aus eigenem Gefühl von Erbaulichkeit zu urtheilen wagt. (Michaelis: 50)

When evidence is scarce, it is sometimes possible successfully to meet the call for evidence by shifting the burden of proof. Semler, for example, tried this strategy against the Göttingen reviewer, Walch, on the question of the divinity of Old Testament books:

This [disproving Semler's claims], as the reviewer knows, is not so easily done, however; I would like to ask him at least, if he finds this easier, to prove to me the divinity of *Ruth*, *Esther* and *Nehemias*.

Dis weis aber der Recensent, ist so leicht nicht thunlich; ich wil ihn wenigsten hiemit bitten, wenn er dis besser verstehet, so sol er die Göttlichkeit vom Buch Ruth, Esther, Nehemias, gegen mich darthun. (AGR: 238)

Of the various forms of proof that are discussed in this controversy, we will briefly consider the argument from authority here. Appeal to authority had been increasingly criticized since the 16th century, so it is not surprising that Semler frequently condemned the practice as prejudice, as he did in the preface to Part II, a6a. This did, however, not prevent him from occasionally pointing out that he was in agreement with Luther, when it seemed useful. Criticizing appeals to authority played an important role in Semler's defence, allowing him to deflect reviewer's objections in many cases. He sometimes ascribed reviewers' conservative positions to their reliance on authorities, psychologically explained as fear ('Angst') and dread ('Furcht'), as in his response to the review in the *Auserlesene Bibliothek* (Treatise, Part III: 443).¹³ He claimed that his opponents' only standard of criticism was how far he (Semler) diverged from the established theological views in the current *Compendia*. By turning his back on authorities, Semler also marked a departure from the common practice of the church of deciding controversial issues by ecclesiastical authority. On this subject, Semler repeatedly spoke of how *orders* are not acceptable as ways of solving theological or religious disagreements, as they prevent religious improvement: "[...] so that religion is not prevented any longer in its true growth by theological commands" ("[...] damit nicht durch theologische Befehle fernerhin die Religion in ihrem wahren Wachstum gehindert wird", Reply to Michaelis, Treatise, Part III: 502).

3.3 Objections to irrelevance

The objection of irrelevance was raised in various contexts. In one case it concerned one of the core issues of the treatise, at least as the reviewers saw it:

Not everything in the books of the Bible is for everyone [...] – that we do not deny: but that is not the question. The question is rather what their source is, whether they are purely human or divine. This bears no relation to the former.

Es ist nicht alles in den biblischen Büchern für alle [...] das leugnen wir gar nicht: aber es ist auch dieses die Frage nicht. Es ist die Frage, was haben sie für einen

13. In contrast, Semler repeatedly praised his own courage.

Ursprung, ist er ganz menschlich, oder ist er göttlich? Dis hat keinen Zusammenhang mit dem ersten. (Ernesti: 438)

The reviewers made an even more radical accusation of irrelevance when they cast doubt on the relevance of Semler's whole aim by saying that he had nothing new to say and that the position he was attacking had long since been abandoned by the majority of theologians. Michaelis told him quite clearly that it was fruitless to argue with the dead:

[...] one wishes therefore that Semler would not fight so fervently against shadows from times past to try and better people who can no longer read him: he should rather write, on the basis of the knowledge we now have, for the present.

[...] *so wünscht man, Herr S. möchte nicht gegen Schatten älterer Zeiten so eifrig fechten, noch Leute zu bessern suchen, die ihn nicht mehr lesen können: sondern lieber mit Voraussetzung der Kenntnisse, die wir wirklich haben, für die gegenwärtige Zeit schreiben.* (Michaelis: 94; cf. also 32ff.).

Semler too made use of the principle of relevance in his defence, as it relieved him of the need to face objections considered irrelevant by him in some cases. In the reviewers' criticism, he claimed, the main issue ('die Hauptsache') threatened to be obscured when numerous minor points were brought to the fore:

could it be that it was right to treat such things alone and let the main issue disappear in the noise? [...] Is it that such trivialities have an influence on the issue?

war es denn aufrichtig, daß man solche Dinge allein auffing, und die Hauptsache in den Lärm einhüllete? [...] Sind solche Nichtswürdigkeiten etwa von Einfluß in die Sache? (Reply to the review in the *Auserlesene Bibliothek*, Treatise, Part III: 444)

3.4 Objections to taking a questionable position

An objection that was obviously considered specifically relevant for the field of theology was the objection based on the principle that a particular (theological) view should not be published if it was questionable or dangerous. The German word used in this context was *bedenklich*, an expression that, in 18th century German, had a range of meanings including 'dubious', 'questionable', 'alarming' and 'potentially dangerous'. So it is somewhat difficult to translate. In this controversy, it was principally the danger that Semler's project might destroy the foundations of religion that was seen as alarming by his opponents. A particular form of this type of objection could be called the domino-effect objection: if one Bible passage goes, the whole book might go (cf. Michaelis: 60). Semler's reactions to such objections varied. On the one hand, he strictly rejected this principle for the field of scholarly inquiry: "Whether or not an issue is questionable has no influence at all

on the search for the truth” (“Bedenklichkeit hat überhaupt gar keinen Einfluss in die Beurtheilung des Wahren”, AGR: 320). On the other hand, he tried to protect himself against suspicions of heresy by means of frequent statements suggesting his own devoutness (e.g. AGR: 293; 312ff.). As we saw earlier on, some reviewers also came to his defence against this suspicion:

In short, we find Dr Semler’s theory [...] hardly questionable for any danger it might bear for the divine standing of the scriptures; on the contrary, we recognise his theory as very useful in preventing even the smallest and slightest doubts on the subject.

Kurz, wir finden die Theorie des Herrn Doctors [...] so wenig für das göttliche Ansehen des geschriebenen Worts bedenklich, daß wir sie vielmehr für sehr nützlich erkennen, den gemeinsten und scheinbarsten Zweifeln dagegen vorzubeugen.

(HR, Num. 163: col.6; cf. also Michaelis: 44f.)

3.5 Objections to a lack of impartiality

Impartiality (*Unpartheylichkeit*) was a highly regarded principle not only for the participants in this debate, but also for Enlightenment discourse in general, although the opponents in controversies quite often departed from it themselves. In the last paragraph of his review, Michaelis eloquently expressed his regard for the principle of impartiality:

I can easily believe that I have not pleased any party, neither those who agree with everything Semler says nor his opponents: to please them was not my aim, however, since to do so I would have had to have taken sides, and if neither party is completely pleased with me, it is proof of my impartiality. It is consciously that I strive for impartiality, and to be impartial is not an honour I would like to have taken from me.

Ich kann leicht glauben, daß ich es keiner Parthey, weder denen die alles an Herrn S. billigen, noch seinen Gegnern recht gemacht habe: dis war aber auch meine Absicht nicht, den sonst müßte ich Parthey genommen haben, sind aber beyde Theile mit mir nicht völlig vergnügt, so wäre es vielleicht ein Merkmal, daß ich unpartheyisch geschrieben. Dis ist es, wessen ich mir bewußt bin, und dis ist eigentlich diejenige Ehre, die ich mir nicht gern nehmen lassen möchte (Michaelis: 94)

Despite their avowals to the contrary, the different sides in the debate had grave problems with impartiality. In fact, they frequently accused one another of taking sides in an unacceptable way. Walch, for example, accused Semler of lacking impartiality: “Only reporting this honestly would accomplish impartiality” (“Dieses ehrlich zu melden, würde erst Unpartheylichkeit sein”, GR: 839). Semler, for his part, repeatedly accused Walch of taking sides, as in the following instance: “It

is highly biased [...] for the reviewer to describe the Rev. Götze so gently” (“Es ist höchst partheyisch, [...] daß der Recensent den Herrn Pastor Götze so sachte beschreibet”, AGR: 393).

3.6 The principle of tolerance

Taking other people’s opinions seriously and allowing others their own points of view is not a principle that is necessarily practiced in controversies. This is certainly true of many religious controversies, as is well known from reformation or counter-reformation controversies.¹⁴ Historically, the principle of tolerance is considered a characteristic Enlightenment principle. So it is not surprising that in the debate under investigation this principle should be mentioned on various occasions, if not always adhered to, as has already been seen with the related principle of impartiality. Semler himself is an interesting example. On the one hand, his writings are marked by such apodictic expressions as “no thinking Christian can [...]” (“kein denkender Christ kann [...]”), and he is far from tolerant of writers of polemical reviews. Michaelis writes about this rather ironically:

If someone who writes thus and has so little time for those who think differently from him had civic powers over those who are called orthodox, what would become of them, e.g. of Doctor Walch [...]? This is the question which has been often raised against a certain type of tolerance preacher and which may well come to the reader’s mind here.

Wenn einer, der so schreibt, und gegen anders denkende so unleidlich ist, bürgerliche Macht über die sogenannten Orthodoxen hätte, was würde aus ihnen, aus Herrn Doctor Walch [...] werden? Dis ist die Frage, die schon so oft gegen eine gewisse Gattung von Predigern der Toleranz aufgeworfen ist, und die hier manchem Leser wieder beyfallen möchte.
(Michaelis: 30)

On the other hand, Semler repeatedly formulated his position in ways which made his tolerance of people with different views explicit: “This is my opinion, which I do not, however, wish to make a general doctrine”, (“[...] ist meine Meinung, die ich aber nicht zu einer allgemeinen Lehre erhebe”, Treatise, Vol. III: 463). Faced with the objection that there may never be agreement among thinking readers on how to judge the canon, he answered as follows: “I have nothing against this, as what I want the least is to decide anything for others. I only claim the freedom to investigate [...]” (“Wowider ich gar nichts habe, indem ich am wenigsten etwas

14. On 16th century religious controversies, cf Gloning (1999), Glüer (2000), Bremer (2005) and Dingel (2013).

für andere festsetzen wil. Ich behauptet nur die Freiheit der Untersuchung [...]”, Treatise, Part III: 506). A similar sentiment is shown in the following passage:

I do not wish to expressly refute these two points; as I claim the right to investigate freely, all the candid comments and observations from the other side must necessarily also be a part of that investigation. I merely wish to make known what I think.

Ich will das erste so wenig ausdrücklich widerlegen, als das letzte; indem ich eine freie Untersuchung behaupte, so gehören nothwendig auch auf der andern Seite alle freien Anmerkungen und Beobachtungen wider mich, in diese Untersuchung. Aber ich will nur zu erkennen geben, was ich denke. (AHR, Treatise, Part II: 605)

Semler’s view of the tentative and incomplete character of his project also fits into this attitude (cf. Treatise, Part III: 448), as does his basically cooperative view of scholarly work: “I would gladly see other scholars making further progress here” (“Ich wil es gern sehen, wenn andre Gelehrte es hierin noch weiter bringen können”, AHR, Treatise, Part III: 555). This tolerant attitude did, however, not extend to what he considered to be destructive criticism.

3.7 Principles of politeness

Participants in a controversy often consider it part of their communicative task to present themselves in the public sphere as a successful representative of their respective position. On the other side of the coin, the participants run the risk of being injured and insulted and of losing face. For this reason, issues of politeness often have an important role in controversies. In the present corpus of texts, active politeness can be seen, for example, in the use of titles (“Dr Semler”, “der Hr. D. S.”; “Privy Councillor Michaelis”, “Herr Hofrath Michaelis”) and laudatory epithets (“the worthy Dr Ernesti, that most excellent scholar”, “der würdige Hr. D. Ernesti, dieser ganz vortreffliche Gelehrte”), in compliments (“the reviewer proves himself a scholar”, “Der Rezensent zeigt sich als einen Gelehrten”), as well as in expressions of gratitude (“With a great many thanks to the author”, “Mit sehr vieler Danksagung gegen den Verfasser”) and of humility (“There may be others of more respectable and illustrious merit; I am well aware of this”, “Es mögen also andere viel ansehnlichere und glänzendere Verdienste haben; ich weiß es wohl”, Treatise, Part II, Preface: b6b). Passive politeness shows in cases where participants avoid certain types of verbal expression, such as name-calling, insults, personal reproach, derisory remarks or hurtful irony. However, time and again in the debate under investigation here, all these types of utterance were *not* avoided, which failure was then also duly criticized.

In their reflections on the course of the controversy, the participants thus focussed not only on the form of the arguments and their relevance to the subject,

but also on the “tone” of the exchange, on mutual recognition between opponents, on whether aggressive expressions were sought or avoided, on the use of “harsh words” (“harte Worte”), on things said in anger or influenced by “affect” and on the fact that they were not “mild” (“glimpflich”) in their treatment of one another. There is also explicit evidence that the authors thought twice before going into print about whether or not they had struck the right tone. Michaelis, for example, reported that Walch, before publishing his review, gave his text to two fellow theologians, who were also friends of Semler’s, in order to discover “whether any expressions were possibly too harsh” (“ob etwa ein Ausdruck zu hart seyn möchte”, Michaelis: 27).

In the following examples of reflection on questions of politeness in the course of this controversy, two aspects are of particular interest: the role played by particularly Christian principles and the relationship between principles of politeness and principles of scholarly debate.

Questions of politeness are addressed in various passages. In his introduction, Michaelis criticized Semler’s aggressive tone:

[...] and yet the man who must ask such patience for his own writing is [...] so harsh towards his critics that there is little hope of escaping without getting to hear of fools and foolishnesses (this is Semler’s favourite word) [...]

[...] *und doch ist der Mann, der für seine Schreibart so viel Geduld zu erbitten hatte, [...] gegen Rezensenten so hart, daß man kaum hoffen kann; ohne von Tölpel oder Tölpeleyen (dis ist Herrn S. Lieblingswort) zu hören, davon zu kommen* [...]
(Michaelis: 26)

In his review, Walch remarked on the earlier dispute between Semler and Reuß, the Chancellor of Tübingen University:

(The reviewer) admits that he does not like to see the harsh and insulting expressions which have been used by both sides and would wish that Chancellor Reuß had not given Dr Semler cause to complain of them. Nonetheless, Semler did not morally have the right to pay like with like, let alone to allow himself to use harsh words towards others [...].

(Der Rezensent) *bekennet aber, daß er [...] die auf beyden Theilen gefallene heftige und beleidigende Ausdrücke ungerne sehe, und wünsche, daß Hr. K.R. dem Hrn. D.S. sich darüber zu beklagen, keine Ursach gegeben. Unterdessen aber hatte Hr. S. dadurch nach der Moral kein Recht, gleiches mit gleichem zu vergelten, vielweniger aber sich harte Worte gegen andere [...] zu verstatten.* (GR: 838f.).

Semler, however, did not accept this rebuke, pointing out the special status of academic discourse:

When other people are flippant enough to speak offensively of things which their distant cousins in faith consider venerable – that is evidence of bad manners and a lack of propriety; but scholars making completely free judgements are not bound by these rules of manners.

Wenn andere Menschen, aus Leichtsinne, schimpflich reden von Dingen, die fremden Religionsverwandten verehrungswürdig sind: so streitet es wieder die gute Aufführung und Lebensart; aber daß Gelerte ganz frei urtheilen, gehört nicht unter diese Lebensart. (AGR, Treatise, Part II: 381)

For himself, Semler called for tough academic debate instead of moralistic discourse:

I wish for *strict opponents* concerning the scholarly matter in question; moralistic discourse such as this reviewer subjects me to because he lacks relevant learning are of no use to the issue.

Ich wünsche mir strenge Gegner in der Gelehrsamkeit, was die Sache betrifft; moralische Discurse, wie dieser Recensente, aus Mangel der Gelehrsamkeit, mir entgegen setzt, sind zu der Sache unnütz. (AGR, Treatise, Part II: 394)

Nevertheless, he combined his rejection of the “moralistic discourse” with a retort, also explaining the reason for his harsh mode of expression:

Why should I allow myself to be preached to on morality – since my reviewers take the liberty of vilifying me [...]. Were I to speak mildly, my screaming reviewers would drown me out.

Ich sol mir Moral predigen lassen; da die Recensenten sich herausnehmen, mich zu verunglimpfen. [...] Wenn ich sachte redete, so würden mich die schreienden Recensenten vollend übertäuben. (AGR: 394)

In other passages too, Semler reacts irritably to supposed insults (“And this other distortion is even more coarse and offensive”, “Noch gröber und beleidigender ist diese andere Verdrehung”, AGR, Treatise, Part II: 376).

Generally speaking, Semler’s debate with the writers of polemical reviews demonstrates an interesting conflict between principles of politeness on the one side and the principle of forthright expression in academic debate and principles of successful strategy on the other. This conflict is heightened by special demands for Christian meekness, as referred to by Walch in his review:

[...] since we wish for nothing more than that theologians conducting controversies should do so meekly, as is the essential character of the true Christian and virtuous theologian.

[...] *da wir nichts mehr wünschen, als daß, wenn Theologen Streitigkeiten führen wollen, solches mit Sanftmuth geschehe, die einen so wesentlichen Character eines wahren Christen und eines rechtschaffenen Theologen ausmacht.* (GR: 840)

Considering the history of theological controversies, it has to be said, however, that Walch expressed a pious wish here which was often not fulfilled. Indeed, the lack of meekness and humility in theological debates has often been remarked upon.

4. On the outcome of the controversy

Controversies can have various types of outcome, such as a solution being found to a problem, an unclear issue being clarified, one party being convinced by the other, or a compromise being found.¹⁵ At the end of the controversy which Semler documented in the volumes of his treatises, no obvious resolution to the conflict was in sight. However, for all their criticism of the way the controversy had been pursued, those participating in it still seemed to see a point in it, and this in spite of being well aware of traditional pitfalls of scholarly disputes. This awareness can be seen in Semler's referring to earlier controversies as "a base scribblers' war" ("niedrigem Federkrieg", Treatise, Part II: Preface, a4b) or a scholastic "war over words" (a "Logomachie") (AGR: 269). He also saw a connection between the form of traditional polemical debates and theological narrow-mindedness:

And there is no art in screaming, shouting, mocking and swearing; these were merely the old traits of those people who sought spiritual and theological glory in presenting their theological whims as the only clear divine truth.

("Reply to the Review in the *Auserlesene Bibliothek*", Treatise, Part III: 443)

Indessen ist Schreyen, Lärmen, Spotten und Schimpfen weiter keine Kunst; es war der alte Charakter der Leute, die eine geistliche und theologische grosse Ehre darin suchten, daß sie ihre theologischen Grillen für die einzige klare göttliche Wahrheit ausgaben.

(Antwort auf die Rezension in der "Auserlesenen Bibliothek", Abhandlung, Dritter Theil: 443)

There is no doubt that Semler also aimed this remark at his contemporary opponents. At the same time, however, he expressed his hope that the debate might contribute to the advance of knowledge and the propagation of that knowledge in public:

15. On types of outcomes of controversies, cf. also Dascal (1998) and Engelhardt and Caplan (1987).

If other scholars will also choose to inform me of their judgements and their just criticism in this way, there is no doubt that our contemporaries will very soon discover how useful this discussion is to the increase and improvement of their own knowledge.

Wenn noch einige Gelehrte auf diese Art ihre Urtheile und ihren billigen Tadel, mir mittheilen: so ist keine Zweifel, daß unsre Zeitgenossen sehr bald den merklichen Nutzen in Vermehrung und Berichtigung ihrer eigenen Erkenntnis finden werden.
(AHR, Abhandlung, Zweiter Theil: 571)

[I shall also answer] some reviews which indeed treat the investigation in question in such a way as to enable further clarification of this increasingly important subject.
(Treatise, Part III, Preface: b1a)

[Es folgt die Beantwortung] *einiger Recensionen, welche [...] in der That mit der angefangenen Untersuchung so umgehen, daß eine fernere Aufklärung dieser nach und nach immer wichtigern Sache dadurch befördert werden kann.*
(Abhandlung, Dritter Theil, Vorrede: b1a)

Thus, a useful effect of the debate was seen in the potential for additional scholars to join the theological project. Indeed, having established the topic for further research could be considered a major success of this controversy. Michaelis saw Semler's contribution as useful partly because "he forces others to investigate" ("daß er andere zum Untersuchen zwingt", Michaelis: 86), and Semler did try to persuade other experts to share their knowledge and teach him:

On the occasion of these wide-ranging reflections, I take the liberty of again presenting several dubious points in order to prompt, for myself and my contemporaries, further teaching from such a great and virtuous religious scholar.
(Treatise, Part III, Preface: c5a)

Ich neme mir die Freiheit, bey dieser weiten Vorstellung, aber malen einige Bedenklichkeiten mitzutheilen, um weitere Belehrung von einem so grossen und rechtschaffenen Gottesgelehrten für mich und unsre Zeitgenossen zu veranlassen.
(Abhandlung, Dritter Theil, Vorrede: c5a)

[...] and because, finally, I so gladly welcome what any scholar can tell me of the connections of pivotal and established truth I might have missed, impossible as it may anyway prove to evade any well-founded instruction delivered under the gaze of the community of Christian scholars [...]. (Treatise, Part III, Preface: a6a)

[...] *da ich endlich so gerne von allen Gelehrten die mir etwa fehlenden Verbindungen entscheidender ausgemachter Wahrheit hierüber annehmen wil, als wenig es möglich seyn kan, mich gründlichen Belehrungen, welche unter den Augen der christlichen gelehrten Welt mir mitgetheilet werden, zu entziehen [...].*
(Abhandlung, Dritter Theil, Vorrede: a6a)

In addition, Ernesti hoped the debate would also lead to progress in public teaching on how to use the Bible:

It would surely be beneficial for the church and for Christianity, a thing for which God should be greatly thanked, if Dr Semler's writing and the argument that has arisen about it provided the opportunity to improve the public teaching of how the holy scriptures are to be used, particularly the Old Testament, about which we have very often heaved a sigh in secret.

Es wäre doch eine der Kirche und dem Christenthume heilsame Sache, dafür man Gott recht danken müßte, wenn diese Schrift des Herrn D. und der darüber erregte Streit Gelegenheit gäben, die öffentliche Lehrart über den Gebrauch der heil. Schrift, insonderheit des A.T., zu verbessern, über die wir sehr oft heimlich geseufzt haben.

(Ernesti: 439)

Independent of the contributing writers' explicit opinions, readers can observe a number of advances in the course of the debate. As for Semler, the objections raised by the reviewers prompted him to formulate his position more clearly and comprehensively (as in the 18 points in his preface to the second volume), to give additional evidence for the claims of his treatise (as in the treatise "On Inspiration and the Canon" in the second volume) and to attempt the clarification of many individual points. In the second edition of the treatise in 1776, Semler added numerous small specifications and some explanatory passages, doubtless partly in response to objections that his original explanations were not clear enough. The reviewers' objections enabled readers to see the potential problems of Semler's position more clearly than they could if they only read the treatise proper, as well as to grasp the structure of the debate more comprehensively than they could if they only read Semler's summary of it. Finally, the extent of theological knowledge available at the time on the subject of the canon was investigated and documented, and various suggestions for research were formulated, particularly by Ernesti and Michaelis, resulting in the increased clarity of the research project of biblical criticism. It can also be seen as a generally useful outcome of this controversy that a debate which began as an inward-looking theological discussion despite being concerned with "every thinking Christian" was made accessible to a wider public. Of course, one of the results of the controversy was also that it brought publicity for Semler personally and for his ideas. It is clear that he estimated the overall usefulness of his participation highly enough to pursue the controversy through quite a number of publications.

5. Conclusion

We conclude by briefly summarizing some of the results of our case study. In our analysis we focussed on the pragmatic organization of a number of contributions to this theological controversy and on the intertextual connections between these contributions. Our study not only dealt with types of moves and strategies used in this controversy but also with text types or genres (e.g. types of reviews, treatises, traditional polemical pamphlets, and personal letters). Reviews play a particularly important role in the onset and development of this controversy. We found different types of review which serve distinct functions. As a basic function, they provide information on a new book to members of the republic of letters, at the same time contributing to the evaluation of this book. But the range of functions found in this controversy far surpasses these standard functions. One remarkable function is that of an alternative to a traditional pamphlet. In such critical or even polemical reviews their authors tried to refute Semler's treatise by criticizing his form of presentation, noting supposed mistakes, diagnosing lack of adequate proof, and in general belittling his achievement. The format of review provided the reviewers with the opportunity to criticize the author's position and to marshal arguments against his position without the obligation to deal with the whole treatise point by point. So this short text type contributed efficiently to the confrontation of scholarly views. Moreover, in this controversy, reviews were used to make a counter-proposal to parts of the author's position, to suggest topics for further research and to attempt to mediate or to adjudicate in the controversy. So reviews proved to be quite a flexible instrument of scholarly discourse in this period. Over and above these functions for scholarly discourse, reviews and responses contributed to making available new topics and associated views on these topics to a wider public.

Semler's responses were no less flexible. This is documented in his choice of various text types, from extended prefaces used as summaries to traditional refutation pamphlets, additional treatises and the documentation of private letters supporting his position. It also shows in the variation in tone he used in responding to different reviews, from polemical rhetoric to polite agreement and friendly explanation. His publication strategy of providing a whole cluster of texts representing the course of the controversy afforded him the opportunity to present the debate from his point of view and thereby to influence the public reception of the controversy.

As for the implicit – and partly explicit – “theory of controversy” of the participants in this debate, one significant aspect we noticed is the importance they attached to certain communication principles, including some which could be considered characteristic Enlightenment principles like tolerance, impartiality,

and fairness concerning the presentation of the opponent's views. This does, however not mean that these principles were not regularly violated. In fact, their being violated was the most frequent reason for their being mentioned. Being impartial ("unparteiisch"), for example, was obviously a highly regarded principle, but one that, at least in the more polemical contributions, was regularly infringed. The same was true of the principle of politeness. Other principles like the principle of meekness belong to the canon of Christian virtues. Finally, as scholars, the participants of this controversy were all well-versed in the application of traditional principles of dialectics and rhetoric. Another aspect of their theory of controversy which is worth mentioning is their general attitude towards this kind of debate and its possible outcome. Although they explicitly condemned scholarly bickering, they generally accepted controversy as an instrument of scholarly progress contributing to the clarification of competing positions and to the growth of knowledge. Learning from other scholars by means of critical discourse was considered an important source of insight. And finally, at least some of the participants believed that public discussion of important religious matters contributed to the dissemination of relevant knowledge to a general audience and that it could contribute to improving the accepted views on points of Christian doctrine in wider circles.

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Controversy and conversion

Friedrich Albert Carl Gren and the phlogiston controversy (1790–96)

Gerd Fritz

1. Introduction

From the 1770s onwards, the French chemist Lavoisier and others introduced radical innovations in the field of chemistry, especially in the theory of combustion and calcination (i.e. the oxidation of metals). By the end of the 18th century, these innovations and the controversies surrounding them and spurring them on were considered by many as a scientific revolution, and the development in chemistry initiated by this revolution was later described as a prototype of a scientific “paradigm change” (cf. Kuhn 1962/2012: Chapter 6).¹ Although a large part of this chemical revolution certainly took place in laboratories and was connected to the sophisticated use of furnaces, retorts and pneumatic troughs, it was also a major complex of communicative events, taking place in various settings, different media and in a wide range of text types.² Such contexts and media of communication included

- i. private conversations,
- ii. public presentations of papers,
- iii. private letters and letters to scholarly journals,

1. Even Gren, a strong opponent of Lavoisier’s theories, termed this development a “revolution” in the second edition of his handbook of chemistry in 1796 (cf. Section 5).

2. An interesting combination of text types can be found in the thread of controversy sparked by Kirwan’s “Essay on phlogiston and the constitution of acids” (1787). This challenge to the anti-phlogistic movement was answered by a number of long critical “notes” by well-known French chemists, including Lavoisier, which were annexed to the French edition of Kirwan’s “Essay”. These notes were translated into English and attached to the second edition of Kirwan’s “Essay” in 1789, accompanied by Kirwan’s “additional remarks and replies”. One of the French annotators was Guyton de Morveau, with whom Kirwan had a long private correspondence on chemical matters (cf. de Morveau and Kirwan 1782–1802). In his letter of Nov. 4th, 1788, Kirwan strongly complained to de Morveau about these notes.

- iv. letters to newspapers for the general public,
- v. journal articles,
- vi. textbooks,
- vii. book reviews.

These communicative activities contributed to the emergence of new ideas as well as to the propagation and dissemination of these ideas. At the same time this complex of communicative activities contributed to creating networks of researchers, the formation of scientific “parties”, e.g. the phlogistic and the anti-phlogistic parties, and the development and stabilization of scientific communities, e.g. the community of scientific chemists in Germany (cf. Hufbauer 1982).

Looking at these communicative activities from a pragmatic point of view, we can distinguish a large variety of communicative action types, of which we give a short list here:

- i. reports of actual experiments,
- ii. descriptions of the apparatus used for an experiment,
- iii. criticism of the execution of an experiment,
- iv. naming witnesses to an experiment,
- v. descriptions of *types* of experiment,
- vi. extended narratives of a series of experiments and the development of experimental designs,
- vii. theoretical interpretations of experiments,
- viii. arguments for a given theoretical interpretation of the results of experiments,
- ix. argumentation trying to refute such interpretations,
- x. explanations of chemical reactions,
- xi. objections against explanations of chemical reactions,
- xii. communication of unsolved problems,
- xiii. suggestions for the use of terminology,
- xiv. mentioning principles of good scientific practice and scientific discourse,
- xv. public announcements of a researchers’ conversion to a new theory,
- xvi. summarizing and commenting on the course of the controversy.

In many cases, communicative acts of these types were combined to produce complex configurations of moves intended to push forward the debate, to convince one’s opponents, to strengthen the position of one’s own party, and to teach chemical novices.

Another important aspect of the course of this controversy from a pragmatic point of view is the structure of its topics and the dynamics of topic management, both in individual contributions to the controversy and in threads of such contributions. Cases in point are the related topics of the negative weight of phlogiston,

the experiments with “red calx of mercury” (mercuric oxide), the nature of heat and light, and the question of the constitution of water. These topics form part of a large network of topics discussed in the course of the late 18th century chemical controversy.

One of the most interesting aspects of this controversy is its remarkable dynamics. As has been noted by various historians of science, Lavoisier proceeded in several steps, from very cautious first statements in the 1770s to an explicit attack on the phlogiston theory in his *Réflexions sur Phlogistique* of 1783 and finally to the magisterial presentation of his own complete system, including the new nomenclature, in his *Traité élémentaire de chimie* of 1789. The same can be said of the responses of “traditional” chemists confronted with the claims of the new chemistry, e.g. the stepwise retreat of the German representatives of the phlogiston theory. The latter process is one of the major topics of the present case study.

The overthrow of the phlogiston theory has been described under various aspects, e.g. as the change of a conceptual scheme (Conant 1950), as the introduction of a new paradigm (Kuhn 1962/2012) or as a “shift in guiding assumptions” (Perrin 1988).³ The fact that this type of process was also fundamentally a communicative event was, of course, generally recognized, but it is only recently that this fact has been focused on more closely. An example of the latter kind of approach is Barrotta’s analysis of the case of Joseph Priestley as an example of “scientific dialectics in action” (Barrotta 2000). In the framework of historical pragmatics this approach can be further developed by focusing on the details of the pragmatic organization of the course of (threads of) the controversy as well as of individual contributions. The list of communicative acts given above gives a basic idea of the kinds of elements that play a role in the pragmatic analysis of this controversy.

The German thread of the phlogiston controversy, which I analyse in this paper, has often been regarded as a mere rear-guard action at a time when the chemical revolution was more or less concluded.⁴ Opposing this common view, Frercks, however, claims that the reception and discussion of Lavoisier’s theory in Germany was more sophisticated, more serious, less uniform and more creative than has generally been assumed. In some respects he considers the examination of Lavoisier’s theory in the context of this controversy to be more of a “transformation” than a mere reception (Frercks 2008: 332). A case in point is the debate on the nature of heat and light. In any case, this process of reception and discussion is interesting for its properties as a controversy and its function in the development

3. A brief survey of developments in the historiography of the Chemical Revolution is given in McEvoy (2000).

4. Accounts of this part of the phlogiston controversy can be found in Partington and McKie (1938), Vopel (1972), Hufbauer (1982), Seils (1995) and Frercks (2008).

of the German chemical community. It is remarkable in several respects. One such respect is its outcome. In 1793, Friedrich Albrecht Carl Gren (1760–1798), professor of chemistry and physics at the University of Halle and one of the protagonists of the pro-phlogiston side, finally converted to Lavoisier's competing theory of oxidation, which he had been fighting for several years. Another interesting aspect is the fact that a substantial part of the controversy was conducted in chemical journals, so we have here a good example of the function of 18th century scholarly journals. Other media that played an important role in this particular controversy were private letters, textbooks and a widely-read journal for the general public.

The present case study analyses the pragmatic organization of individual contributions to the controversy with their characteristic moves and strategies and also their connections to other contributions. It focuses on the dynamics of the controversy, especially on Gren's steps of retreat and the contributions convincing him of the validity of the new theory. These steps are represented by the threads of controversy dealing with the negative weight of phlogiston and the crucial experiment with red oxide of mercury and by the history of the successive editions of Gren's handbook of chemistry. In dealing with the relevant texts, I particularly focus on the use of different text types and media, e.g. journal articles, letters, and handbooks. Finally, the analysis exhibits the participants' views on principles of scientific research and of scientific communication, especially their appreciation of the function of critical dialogue in science.

2. A brief survey of the controversy

I begin this survey of the German thread of the phlogiston controversy by sketching a few basic tenets of the phlogiston theory, which, in various versions, had been the leading chemical theory of combustion from the beginning of the 18th century up to about the 1780s, when several researchers, most notably Lavoisier, proposed an alternative, which was soon accepted by many chemists as superior and which, in a stepwise process of dissemination, supplanted the earlier theory.

The basic tenets of the phlogiston theory, proposed in 1703 by the German physician and chemist Georg Ernst Stahl, professor of medicine at the University of Halle, were the following: The theory postulates a "principle" called *phlogiston*, a substance that is involved in the process of combustion and calcination. Metals were supposed to be compounds, containing a calx (in modern terms: an oxide) and phlogiston, which is released in the process of calcination (oxidation), leaving the calx as a product of this reaction. Conversely, in the reduction of a metal from its ore (an oxide), phlogiston was thought to be added to the ore, producing the metal. So this interpretation of the processes of oxidation and reduction is the

exact inverse of the modern interpretation, where metals are simple elements that become compounds by taking up oxygen in the process of oxidation, which again give off oxygen in the process of reduction.⁵ The phlogiston theory seemed to give a coherent explanation of many chemical processes, so it is not surprising that it was successful and that many chemists tenaciously held on to it. Thomas S. Kuhn very appositely expressed the merits of the phlogiston theory as follows:

The much-maligned phlogiston theory [...] gave order to a large number of physical and chemical phenomena. It explained why bodies burned – they were rich in phlogiston – and why metals had so many more properties in common than did their ores. The metals were all compounded from different elementary earths combined with phlogiston, and the latter, common to all metals, produced common properties. In addition, the phlogiston theory accounted for a number of reactions in which acids were formed by the combustion of substances like carbon and sulphur. Also, it explained the decrease of volume when combustion occurs in a confined volume of air [...]. (Kuhn 1962/2012: 99)

One of the major problems for phlogiston theory, however, which became apparent when chemists began to analyse processes of oxidation and reduction quantitatively, was the fact that a metal *increases* in weight on calcination.⁶ This fact was puzzling if one assumed that a substance was *given off* in this reaction. One solution to this puzzle was the assumption, which plays a role in our controversy, that phlogiston has negative weight, an assumption that creates problems of its own. A completely different solution was the hypothesis, developed by Lavoisier, that in the process of combustion and calcination something is *taken up* from the atmosphere, namely oxygen, not *given off*.

When Lavoisier's discoveries became known, they presented a challenge to all those chemists who accepted the basic tenets of phlogiston theory and they sparked a debate, in the course of which the number of recalcitrant supporters of phlogiston gradually decreased from 1785 onwards. Finally, in the late 1780s and early 1790s, "the trickle of converts (to Lavoisier's theory) became a stream" (Perrin 1988: 114). This debate was not restricted to France. In England, well-known chemists, e.g. Richard Kirwan and Joseph Priestley, partook in this controversy. Kirwan, a long-time staunch defender of phlogiston (cf. Kirwan 1789),

5. Related assumptions concerned the nature of water and air: Water and air were supposed to be simple substances, whereas Cavendish and Lavoisier showed water to be a compound (hydrogen and oxygen) and Lavoisier proved that air was a mixture of gases (mainly nitrogen and oxygen).

6. Another problem was that phlogiston was never isolated as an element. Kirwan (1789: 3) noted: "... they [i.e. chemists] were never able to exhibit this substance singly and by itself".

converted in 1791, whereas Priestley, although he himself had discovered oxygen, remained a phlogistonist until his death.⁷

For German chemists, information on the developments in France became available from 1775 onwards, partly through private correspondence, partly through letters and articles translated and published in various journals. Starting in 1780, Lorenz Crell regularly published translations of Lavoisier's articles in his chemical journals, especially in his *Chemische Annalen*, a highly-regarded professional journal of chemistry founded in 1784.⁸ In this period, Lavoisier's theory was mainly regarded as just *one* theory among others, on a par with the various versions of the phlogiston theory. This changed at the latest when Lavoisier's *Traité* was published and reviewed in 1789 and when individual chemists made an effort to defend and disseminate the new theory.⁹ Most prominent among these chemists was Sigismund Friedrich Hermbstädt, Professor of chemistry in Berlin, who organized the publication of a translation of Lavoisier's *Traité* in 1792, giving it the provocative title *System der antiphlogistischen Chemie*, and who replicated Lavoisier's experiments and published his results in chemical journals. This stimulated several proponents of phlogiston theory to attack the new theory, prominent among them Friedrich Albert Carl Gren, the editor of the *Journal der Physik*, a journal that published many articles on chemistry. Gren took on the challenge by criticizing the French chemists for their theorizing and by uttering doubt as to the quality of their experiments and the reliability of their reports. At the same time he defended the phlogiston theory by modifying it stepwise and adapting it to the new challenge.¹⁰ He had various reasons for not adopting the new system. The first was that he had tried to replicate some of the crucial experiments without success, e.g. the experiment with combustion and reduction of phosphorus, where he always failed to generate pure air (oxygen), but instead found pure air plus phlogisticated air (nitrogen). His own defective experimental data made him doubt the

7. Priestley continued to use the name *dephlogisticated air* for what was called *oxygen* by the antiphlogistonists.

8. Vopel gives a chronological list of Lavoisier's works published in Germany from 1775–1798 (Vopel 1972: 274–284). Some of Lavoisier's writings were also reviewed in German chemical journals and in special review journals.

9. Lavoisier's *Traité* was reviewed in Crell's *Chemische Annalen* (1789, Vol. 2: 94–95), in the *Göttingische Anzeigen von gelehrten Sachen* (1789, Vol. 2: 2067–2069) and, quite in detail, in the *Allgemeine Literatur-Zeitung* (1790, Vol. 2, No. 133: 337–344 and No. 140: 393–394).

10. Partington and McKie (1938) show how Gren responded to this challenge by creating three successive versions of phlogiston theory.

reliability of the French experiments.¹¹ He also did not find convincing Lavoisier's theory of heat and light.¹² Reasons *for* assuming the existence of phlogiston were on the one hand the empirical fact that light and heat, which he equated with phlogiston, were given off in combustion and on the other hand the fact that the concept of phlogiston seemed to provide a plausible explanation for many phenomena, e.g. the phenomena of combustion and calcination and, as mentioned by Kuhn, similarities between metals.

One of the adaptations of the phlogiston theory, which was meant to accommodate the problem of increase in weight in combustion and calcination, was the assumption of "negative weight" ("negative Schwere") of phlogiston, which provoked a sub-controversy of its own, in which Gren took part. A second part of the controversy, in which Gren played a prominent part, was the debate on the experiment with red calx of mercury, which was considered a crucial experiment for the acceptance of Lavoisier's theory. Both of these sub-controversies are discussed in this article. Gren finally converted to the new theory of oxidation in 1793, at least partially, and in 1796 he based the chemical nomenclature published in volume 4 of his *Systematic Handbook* on Lavoisier's nomenclature and also presented a survey of simple elements and compounds based on the antiphlogistic theory, albeit adding a second survey based on his own version of the phlogistic theory. By this time, to all intents and purposes, the phlogiston controversy was over.

3. The debate on the negative weight of phlogiston

3.1 Gren vs. Westrumb

Experiments by various chemists had shown that metals gain weight upon calcination and, conversely, lose weight on reduction. Similarly, it had been observed that substances like phosphorus gain weight upon combustion. Assuming that phlogiston had weight like other substances, this created a major problem for the phlogiston theory, which explained calcination by loss of phlogiston and reduction by addition of phlogiston. In Kuhn's terms, this was a grave "anomaly" in the phlogiston

11. The same is true of the experiments with the analysis and synthesis of water, which he could not replicate.

12. In Lavoisier's theory and in his nomenclature heat and light were viewed as chemical elements. It is worth mentioning that Lavoisier himself was in doubt as to the status of and the relation with one another of these elements. In his *Traité* he wrote: "[...] nous ne sommes pas même obligés de supposer que le calorique soit une matière réelle." (Lavoisier 1789: 5) and "La lumière est-elle une modification du calorique, ou bien est le calorique une modification de la lumière?" (Lavoisier 1789: 6).

system (cf. Kuhn 1962/2012: Chapter 6). Among the various attempts to solve this problem, the assumption of “negative weight” of phlogiston was prominent.¹³ This hypothesis provoked a lot of discussion, especially in Germany in the late 1780s. One of its most determined defenders was Friedrich Albert Carl Gren. In the present section I shall analyse some of the aspects of the attacks on the concept of negative weight and of Gren’s responses.

In 1789, Gren made two major efforts to defend his theory of negative weight, which he had proposed in his dissertation of 1786. The first was a response (“Replik”) to an article by Johann Friedrich Westrumb, himself an adherent of the phlogiston theory, which the latter had published in a collection of small treatises in 1788,¹⁴ the second an extended series of paragraphs in part II of the second volume of the first edition of Gren’s *Systematic Handbook*.¹⁵ I shall concentrate here on Gren’s reply to Westrumb, which, on the whole, presents the same arguments as the handbook account, and give a short summary of the relevant handbook passages in Section 5, which deals with the use of handbooks as a vehicle of controversy.¹⁶

In order to understand Gren’s responses, it will be useful to give a short summary of relevant passages in Westrumb’s article (Westrumb 1788). Westrumb begins by complaining about the confusing state of the art in combustion studies. When reading recent publications, he found himself in a labyrinth, searching in vain for light and finding but darkness and doubt. He therefore decided to make his doubts public, assuming that, in science, publishing one’s doubts performs a service to truth. A few sentences later he adds a mitigating remark, stating that the doubts he harbours concerning the doctrines of a writer never diminish the deep respect he has for the man. Doubt that does not degenerate into censure is very well compatible with respect. This kind of polite move is quite characteristic of the tone of discussions among the members of the chemical community and of enlightenment scientific discourse in general. It does, however, not preclude occasional aggressive moves, as we shall see.

Westrumb then turns to Gren’s views, enumerating the main tenets of Gren’s position. Of these assumptions the most central is the proposition that phlogiston is without weight, that it even has negative weight (Westrumb 1788: 285).

13. Vopel (1972: 140f.) mentions various versions of this hypothesis that had been proposed since about 1750.

14. Westrumb (1788), Gren (1789).

15. This volume was published in 1790, however the preface is dated November 20th, 1789.

16. The handbook account of the debate on the negative weight of phlogiston was analysed in some detail in an excellent article by Partington and McKie (1938).

He suggests that this proposition has not strictly been proved, but rather concluded from the fact that the weight of a metal increases upon calcination. What he finds difficult to understand is how something can be matter and at the same time weightless (Westrumb 1788: 286). He further mentions that this hypothesis is founded on another hypothesis concerning the components of phlogiston, i.e. heat and light, forms of matter which are both weightless, and he feels that this hypothesis has also not been adequately proved by experiments. He does agree with Gren that a metal calx differs from its metal in the fact that it lacks phlogiston. He wonders, however, how such a lack of matter could be responsible for the gain in absolute weight (Westrumb 1788: 288). This is a particularly interesting passage, as the gain of weight upon calcination is exactly one of the major problems of the phlogiston theory, which Westrumb, however, at this point still accepts. He then mentions a number of experiments by chemists like Boyle, Priestley and, in particular, Lavoisier, which seem to contradict the assumption of negative weight of phlogiston, and goes on to give a list of questions that should be answered by Gren. He ends this list of problems by complaining once more about the unsatisfactory state of the theory of combustion:

Thus, doubts and questions accumulate; thus one plunges from one labyrinth into the next, if one compares one theory to the other; it is in vain that one looks around for light, but still truth must lie somewhere in the middle of all these differing and contradictory opinions.

So häufen sich Zweifel und Fragen, so stürzt man aus einem Labyrinth in ein anderes, wenn man eine Theorie neben die andere stellt; vergebens sieht man sich nach Licht um, und doch liegt die Wahrheit gewiß in der Mitte von all diesen so verschiedenen und sich widersprechenden Meinungen. (Westrumb 1788: 289)

After this outbreak of rhetoric, he returns to the problem of plausibility inherent in the phlogiston theory. Agreeing that this theory explains the gain in weight of metal calces, he still wonders if it would not be more in consonance with common sense, if one could uphold the thesis that something is *added* when a calx becomes heavier than its metal. He then presents a hypothesis of his own, based on his experiments, namely that metal calces contain water, a hypothesis which he also attributes to Priestley (Westrumb 1788: 296). After discussing a few problems concerning the composition of phlogiston, he finally mentions another objection to Gren's theory: Gren assumed, on the basis of experiments, that the absolute weight of a metal calx smouldered for a long time in a sealed container does not diminish but always stays the same. But this, Westrumb insists on the basis of *his* experience with experiments, is not the case. So the question arises, where the calces take their phlogiston from after losing it earlier on in the course of combustion. He feels that his own hypothesis could help, i.e. that water consisted of pure

air and phlogiston and that water was a component of metal calces. He concludes by stating that some clarification is urgently needed here and that it would take the combined efforts of all chemists at home and abroad to finally illuminate these regions of obscurity (Westrumb 1788: 298).

In spite of its friendly tone, this article presented a significant challenge to Gren. He took up the challenge by writing a long article, which in many respects was very much like a “classical” refutation pamphlet (Gren 1789). In the body of the text, Gren answered Westrumb’s questions and doubts point by point. In this text, as in Westrumb’s, rules of politeness are meticulously followed. Gren addresses Westrumb as “my dearest” (*mein Theurer*) and “venerable man” (*vereh-rungswürdiger Mann*), he pays tribute to Westrumb’s acumen and modesty and his generally acknowledged merits, and he praises his love of truth and his diligent and zealous research (Gren 1789: 420). Another interesting feature of Gren’s writing is his tendency to intersperse his articles with general remarks on scientific practice and scientific discourse like the following:

[...] and authority and tradition do not play a role in natural science, neither does tolerance. (Gren 1789: 424)¹⁷

I hate all hypotheses made up out of thin air and I have always used the safe path of experimental study. I base my theorems on facts and on experiments. (Gren 1789: 419)

Should everyday language be allowed to hinder the progress of scientific research? (Gren 1789: 429)

I am convinced by my senses of the existence of these substances (i.e. heat and light), what else do I need? (Gren 1789: 430)

In my practice, to explain a natural event means nothing else but to search for the properties of the substances that provide the sufficient reason of every change of the condition of the bodies, which we call a natural event, or to reduce them to natural laws. (Gren 1789: 440)

To assume *actio corporum in distans* (i.e. the action on one another of bodies not in immediate contact, GF) contradicts common sense and all correct metaphysical concepts. (Gren 1789: 459)

It is a major advantage of my hypothesis, if that is what you want to call it, that all the phenomena follow so *easily* from it. (Gren 1789: 439)

17. This maxim did not prevent Gren from frequently referring to Newton as an authority. I give this and the following quotations in my translation.

In the introductory passages of his article, Gren comments rather critically on the actual state of controversy in the field of chemistry and also states some points of his scientific credo. As a first move, he explains his original intentions in his earlier writings on these topics. In view of the endless contradictions in recent and older chemical scholarship, the deceptive and pervasive sophistry of French chemists and the tendency of his (German) contemporaries to accept theories proposed by foreigners, theories that some mountebank had advertised to the republic of letters, his intention had been to encourage a healthy scepticism, both towards the much-praised British theory of Kirwan and the Gallic one of Lavoisier (Gren 1789: 417f.).¹⁸ Like Westrumb, he found himself walking in a labyrinth, finding darkness instead of light, when he read articles on these topics. He blames this situation on the inclination of chemists to seek hypothetical explanations without verifying if these hypotheses were in accordance with well-known natural laws. The elements of xenophobia discernible in these passages surface now and then in this debate, not surprisingly, as the phlogiston theory is sometimes regarded as “the German theory”. But in general the idea of an international community of scientists in the republic of letters prevails. The metaphors of labyrinth and darkness, which Gren takes up from Westrumb, are a clear symptom of a crisis in chemistry as they perceived it.

After voicing the suspicion that some of the problems mentioned by Westrumb could be put down to his (Gren’s) having expressed himself too briefly and not clear enough, Gren proceeds to state his position in nine points and to explain these points in more detail. This textual strategy is related to the traditional practice of stating the “status controversiae” at the beginning of disputations. Of these nine propositions, the first six concern problems of phlogiston (Gren 1789: 421):¹⁹

1. The substance of heat has no weight; rather it has the opposite of weight: absolute levity.
2. In this respect, the substance of light is similar to the substance of heat.

18. “Meine Absicht war vielmehr, bey den unendlich vielen Widersprüchen der Neueren und Alten über jene Gegenstände, bey den täuschenden und so sehr um sich greifenden Spitzfindigkeiten französischer Chemisten, und bey der Bereitwilligkeit unserer Zeitgenossen die Theorie des Ausländers anzunehmen, die irgendein Schreier in der gelehrten Welt angepriesen hat, vernünftigen Skepticismus rege zu machen, und das Unzulängliche und Falsche, sowohl in der gepriesenen britischen Theorie eines *Kirwans*, als auch in der gallischen eines *Lavoisier* darzuthun” (Gren 1789: 417f.).

19. Propositions seven to nine concern the nature of *Luftsäure* (“aërial acid”; i.e. CO₂), the composition of different *Luftarten* (i.e. gases) and the nature of dephlogisticated air (Gren 1789: 421).

3. Phlogiston consists of the substances of heat and of light that are chemically united with the disparate components of the combustible body and thereby bound together.²⁰
4. Therefore, phlogiston, too, has no weight and has the same properties as these substances.
5. Through the addition of phlogiston or the substance of heat the absolute weight of a body decreases.
6. Through the loss of phlogiston or the substance of heat from a body the absolute weight of the latter increases.

The first three form the basic assumptions of Gren's theory of phlogiston, and the following three are a logical consequence of the first three. The fact that heat and light are given off in combustion is evident to the senses. This piece of empirical evidence seems to be particularly important for Gren's adherence to phlogiston.

Of these propositions, the first two, which are construed in parallel, seem to be particularly controversial, so Gren has to spend some effort in defending them. For this purpose he introduces the differentiation between necessary and accidental properties of matter. He then refers to Newton as having stated that weight is no necessary property, but only accidental. From this he goes on to assert that heat and light are two kinds of matter that are not subject to gravity and have no weight (Gren 1789: 424). He does not accept the objection that heat and light should have weight because all matter has weight. In order to support his assumption he gives an argument, formulated as a rhetorical question: "How should light and heat diffuse downwards from the sun, if it had weight relative to the sun?"²¹ In order to anticipate another objection, namely that if light and heat had no weight they would fly away from the earth, he claims that all the other heavy substances have an affinity with heat and most of them with light, so that these are bound within them.

After having proved, according to his assumptions, that phlogiston has no weight, he prepares to prove an even stronger proposition, i.e. that phlogiston has *negative* weight. His first step consists in making a linguistic point: although everyday language does not use an expression like *negative weight* ("negative Schwere"), there is no conceptual problem in assuming that two forces are directly opposed to one another like *plus* and *minus* in algebra. As an example from mechanics he gives the case of a ball affected by two forces in opposing directions. In this case

20. "Das Phlogiston besteht aus dem mit den ungleichartigen Bestandtheilen des verbrennlichen Körpers chemisch vereinigten, und dadurch gebundenen Stoff der Wärme und des Lichts" (Gren 1789: 421).

21. "Wie will sich Licht und Wärme von der Sonne abwärts verbreiten können, wenn es gegen die Sonne schwer ist?" (Gren 1789: 425)

the amount of the smaller force has to be subtracted from the amount of the bigger one. From this he concludes that there is no contradiction in the assumption that a body should gain weight by the loss of a component and lose weight by its addition. At this point, Gren has still another question to answer: How does he justify the assumption that phlogiston is composed of the substances of heat and light? In answering this question he refers to the evidence of his senses, which shows that heat and light are given off as fire in the process of combustion (Gren 1789: 430).

The second part of Gren's article consists of a point-by-point explanation and refutation of Westrumb's questions and objections. In each case, Gren quotes Westrumb's remarks and then goes on to deal with them in great detail. As mentioned before, this procedure is characteristic of a classic refutation pamphlet and leads to a quite voluminous text. As this part of the article contains many repetitions of what had been treated before, I shall only note a few remarkable passages that show Gren's textual and rhetorical strategies.²²

At one point, Westrumb makes an objection of circularity concerning Gren's explanation of calcination as the loss of phlogiston. On the one hand, Gren seems to conclude this from the gain of weight, on the other hand he uses this assumption as an explanation for the loss of surrounding air. Gren responds by asserting that in founding his theory he followed the "path of induction" ("den Weg der Induction", Gren 1789: 439), making the following inferences: "If phlogiston has the property of absolute levity, then the absolute weight of air must be reduced in the same amount as the calx gains weight, and that is exactly what happens" (Gren 1789: 439). Shortly later, Gren insists on not having *assumed* the weightlessness of phlogiston, but of having *inferred* it on the basis of undeniable fact (Gren 1789: 451).

A remarkable example of dialogue is found in one of Gren's responses to Westrumb's doubts (Gren 1789: 451), where Gren quotes Westrumb ("I am in doubt.") and directly answers with "And I believe it":

p. 288. A metal calx does indeed seem to differ from its metal by a lack of phlogiston. Could this lack of one component, however, cause the gain in absolute weight? I am in doubt.

And I believe it, on the reliable basis of the reasons given so far.

22. An interesting feature of some of Gren's texts, which I shall however not go into in detail, is his religious rhetoric. The following examples can be found on the same page of Gren's article: "[...] the hand of the Almighty ensured that [heavy bodies] could not fly away from the earth [...]"; "The reason why light and heat matter do not pass completely away from the earth is that the highest wisdom has provided all heavy matter with affinity and cohesive force towards matter of heat" (Gren 1789: 425).

This is part of Gren's use of rhetoric, which is apparent in many places. Another such piece of rhetoric can be found in a passage where Westrumb suggests that it would make more sense to the common mind if something was added to the metal upon calcination (Gren 1789: 292).

That this does not make sense to a mind that is not used to abstract ideas – my god! – what's that to me? I only write for the thinking man. The uninitiated may leave it unread, if it is not palatable to them. (Gren 1789: 465)

As I mentioned in my account of Westrumb's paper, he, at one point, gives a whole list of questions, which are partly related to Lavoisier's experiments. For this critical passage, Gren decided to respond sentence by sentence ("Wort für Wort", Gren 1789: 453), as this list not only presented a challenge, but also provided an opportunity to clarify several points, an opportunity which Gren duly availed himself of.

The final passage of Gren's paper is worth quoting in full, as it shows not only Gren's certainty of having successfully met Westrumb's challenges, but also his attitude towards criticism in scientific discourse (Gren 1789: 479):²³

This, my dearest friend, is the candid presentation of my reasons why I did not yet feel justified by your objections in giving up a theory that is so easy and comprehensible and to assume a different one, the impossibility of which stands to reason. Up to now, I do not know any fact that would strictly contradict my explanation. It is neither obstinacy nor contrariness that motivated me to defend my theorems. On the contrary, I shall be the first to disclose my error, if I receive *uncontrovertible* reasons against me; and thus, by means of my paper, I may myself give occasion for closer examination of the truth. *Opinionum commenta delet dies natura judicia servat*. ["Time destroys the figments of man's imagination, but it confirms the judgement of nature." Cicero]

3.2 Gren vs. Mayer

After this spirited defence of Gren's theory, the controversy on the negative weight of phlogiston was not over. In the following year, Johann Tobias Mayer, professor

23. "Dies, theuerster Freund, ist die freymüthige Darstellung meiner Gründe, warum ich mich durch Ihre Einwürfe noch nicht für berechtigt halte, eine Theorie aufzugeben, die so leicht und faßlich ist, und eine andere anzunehmen, deren Unmöglichkeit bald einleuchtet. Bis jetzt kenne ich noch keinen Umstand, der meiner Erklärung geradezu widerspräche. Es ist nicht Hartnäckigkeit und Geist des Widerspruchs, der mich zur Vertheidigung meiner Sätze antrieb; ich will vielmehr der erste in der Anzeige meines Irrthums sein, wenn ich *unwiderlegbare* Gründe gegen mich erhalte; und so gebe ich vielleicht selbst durch diesen meinen Aufsatz wieder Gelegenheit zur nähern Erforschung der Wahrheit. *Opinionum commenta delet dies natura judicia servat*" (Gren 1789: 479). [The Latin motto is taken from Cicero, *De natura deorum*, II.2.]

of mathematics and physics at the University of Erlangen, launched a new attack, this time from the point of view of physics and mathematics. In a letter to Gren, of which the latter published an extract in his *Journal der Physik*, Mayer politely uttered some doubts about Gren's doctrine of the negative weight of phlogiston.²⁴ According to Mayer, Gren's doctrine had the following consequences:

[...] the less phlogiston a body contains, the less, therefore, something counteracts the natural gravity of its elements, the more quickly it should fall, and, another consequence, pendulums made of substances containing much phlogiston should, *ceteris paribus*, oscillate much more slowly than those containing less phlogiston, e.g. one made of lead should oscillate more quickly than one made of iron etc. All this seems to contradict the evidence of experience.

(Mayer 1790a: 206)

Mayer then goes on to give an example, calculating the ratio of oscillation for pendulums of lead and of iron according to Gren's assumptions, and reaches the conclusion that Gren's results are not verified by experience. He concludes by writing: "I have no doubt that you will find this objection from a mathematical point of view relevant to your doctrine" (Mayer 1790a: 208). This concluding remark was, of course, a polite understatement, as Mayer's calculations were obviously intended as a *reductio* argument.

Gren's response takes the form of "remarks on the preceding letter" in the same issue of his journal (Gren 1790b). He admits that Mayer's subtle reflections *seemed* to force him to retract his past ideas, but claims that, in fact, they were probably based on a misunderstanding of Gren's use of the word *Schwerkraft* ("gravity") – a misunderstanding possibly due to his unclear use of the word. He then points out the necessary distinction between *Schwere* (explained as "the force of acceleration", i.e. gravity) and *Gewicht* (explained as "weight") and then tries to show that Mayer's calculation did not refute his theory:

If, however, it is not the accelerating force or gravity ("Schwere") that is reduced in a phlogisticated mass [...], but rather the moving force ("bewegende Kraft") or the weight ("Gewicht"), then the pendulum of leaded glass cannot oscillate more quickly than the one made of lead.

(Gren 1790b: 213)

Therefore, Meyer's objection did not affect his theory. Gren concluded his remarks by stating that he was now looking forward to having his propositions examined by the connoisseurs and that he would be glad if he would be put right.

24. Mayer (1790a: 205–208).

Mayer answered straight away in an article that was published in the same issue of Gren's Journal (Mayer 1790b).²⁵ He begins by declaring that he was glad that Gren found space in his journal to publish his objections and also that Gren considered them more relevant to the problem at hand than others that had been made before. He wished that the negative weight of phlogiston could be proved, as, in his opinion, this theory explained a number of phenomena, also in meteorology, more easily than other modern theories. Even if the phlogiston theory should not be confirmed, it had in any case prompted important investigations and the clarification of concepts and had thereby advanced science (Mayer 1790b: 359). He then goes on to clarify that he, as a mathematician, had certainly *not* confused gravity and weight, whereas he suspects that Gren did not bear in mind the important difference between *mass* and *weight* (Mayer 1790b: 360). As an example of the problems involved in this non-differentiation, he discusses Gren's example of lead and lead calx in detail. All this amounts to his maintaining his objections.

In this case again, Gren answers in his journal by publishing "editor's remarks" ("Bemerkungen des Herausgebers") directly adjoining Mayer's article (Gren 1790c).²⁶ As an opening move he proposes a general maxim of science and justifies his persistence in defending his theory:²⁷

It is only by means of doubt and objections that we discover truth; and only these will illuminate the way to it. It should, therefore, be everybody's duty who wants to rightly bear the name of scientist to use all the doubts and objections brought to bear against his claims to the advantage of truth and to gratefully accept them, if they provide an indication that he has not yet realized the truth or has moved

25. "Schreiben des Herrn Prof. Mayer in Erlangen an den Herausgeber, über die negative Schwere des Phlogiston"

26. "Bemerkungen des Herausgebers über vorstehendes Schreiben"

27. "Nur durch Zweifel und Widersprüche entdecken wir die Wahrheit; und nur jene hellen uns die Bahn auf, die zu ihr führt. Es müsste daher die erste Pflicht eines jeden seyn, der auf den Namen eines Naturforschers Anspruch machen will, alle Zweifel und Widersprüche, die gegen seine Behauptungen gemacht werden, nur zum Vortheil der Wahrheit zu benutzen, und sie mit Dank anzunehmen, wenn sie Fingerzeige für ihn abgeben, dass er die Wahrheit entweder noch nicht erkannt, oder sich von ihr entfernt habe. Eingedenk dieser Pflicht werde ich daher gar keinen Anstand nehmen, so bald ich überzeugende Gründe des Gegentheils vor mir sehe, zu gestehen: *aliud putavi, deceptus sum*. In dem Punkte des gegenwärtigen Streits aber ist es nicht Eigensinn, nicht Geist des Widerspruchs, wenn ich behaupte, dass ich durch die Bemerkungen meines mir so verehrungswürdigen Freundes nicht widerlegt, sondern vielmehr in der Wahrheit meiner Lehre bestätigt bin; und ich danke diesem gelehrten Manne, dass er durch seine Zweifel, die er mir so freundschaftlich mittheilte, Gelegenheit gegeben hat, meine Sätze mehr zu berichtigen, zu erläutern, und wie ich hoffe, gegen die wichtigsten Einwürfe gerettet zu haben" (Gren 1790b: 371f.).

away from it. Bearing in mind this duty, I shall not hesitate to concede *aliud putavi, deceptus sum* ["I believed otherwise, but I was wrong"], if I can see convincing reasons for the opposing stance. In this particular point of the present controversy, however, it is neither stubbornness nor contrariness if I claim that through the remarks of my venerable friend I have not been refuted but rather confirmed in the truth of my doctrine; and I am grateful to this learned man that, by voicing doubt in a friendly way, he gave me the opportunity to correct my propositions, to clarify them and to save them from the most important objections.

(Gren 1790c: 371f.)

The need for this remarkable assertion of his scientific ideals and for such an effort at justification could be seen as an indicator of the pressure Gren must have felt in the course of this controversy. It is worth noting that some of the formulations he uses here are exactly the same as in his parallel justification vis-à-vis Westrumb. Gren agreed that his theory potentially contradicted natural laws, adding, however, that the objections made by Mayer confirmed his basic belief in his theory by showing him how to make a necessary (minor) modification. In response to these objections he conceded that the sum of absolutely light parts of a body could have no influence on the reduction of acceleration, although it influenced the weight. He conceded that the accelerative power ("vis acceleratrix") of parts (of the body) with negative weight was completely unknown, but that one would have to assume that the acceleration of negative weight must be *extremely* small (Gren 1790c: 379). On account of this modification he felt that it was no longer necessary for him to answer Mayer's propositions point by point.²⁸

In the same year Mayer and other "esteemed scholarly men" ("schätzbare, gelehrte Männer"), whom he accepted as judges in this matter, wrote letters and articles proving that a mathematical formula Gren had used in an attempt to refute Mayer was not valid.²⁹ These contributions to the controversy prompted Gren to a final statement concerning the negative weight of phlogiston (Gren 1790d).³⁰ In this statement he conceded that the formula he had used was indeed not valid and that it led to consequences contradicting fundamental laws of mechanics, and he retracted his arguments intended to refute Mayer's objections. "I value truth above all; and therefore I have no problem retracting my propositions as well as admitting my error" (Gren 1790d: 199). This concession, however, did not lead to

28. Obviously, Gren's failure to see the relevance of (all of) Mayer's objections was due to a certain lack of knowledge of mechanics.

29. A detailed critique refuting Gren's arguments against Mayer was written by Carl Friedrich Hindenburg. This critique is dealt with in detail by Partington and McKie (1938: 38ff.).

30. "Meine letzte Erklärung über die negative Schwere des Phlogistons"

his giving up (the modified version of) his theory. He maintained the “empirical proposition” (“den Erfahrungssatz”) that in the loss of phlogiston and the substance of heat (“Wärmestoff”) other atoms were increased in their absolute weight as a general law, even though he did not know how this works (“wie es zugeht”).³¹ He concluded this statement by uttering the wish that someone should present him with a different theory that would sufficiently explain all the phenomena of combustion and calcination, as his experience showed him that it was neither *air* nor *water* which caused the increase in weight of metal calces. The same, he added, was true of Lavoisier’s *oxygène*, the existence of which he could not in any way consider as proven (Gren 1790d: 200).

Obviously, Gren was in a rather uncomfortable position at this point of the controversy in 1790. Although there were also some supporters of his theory among the German chemists and mathematicians (cf. Partington and McKie 1938: 46ff.), he had no decisive new arguments in favour of his theory. He suggested some minor modifications, which did, however, not fundamentally change the “status controversiae”. On the other hand, he was not yet prepared to accept Lavoisier’s theory, as it still seemed to leave many problems unsolved that, to Gren’s mind, were solved in phlogiston theory. On the whole, these were mainly the problems I mentioned in my introductory passages, i.e. doubts about the quality of Lavoisier’s experiments, the evident empirical fact of light and heat (= phlogiston) being given off in combustion, and the assumed explanatory power of the phlogiston theory.

It was only two years later that a decisive step forward was taken in this controversy, namely the debate about Lavoisier’s “notorious” experiment with red calx of mercury and a similar experiment with phosphorus. This thread of the controversy will be the topic of the next section of this article.

4. Crucial experiments and further steps of retreat

4.1 A second phase in the controversy

The publication of Lavoisier’s *Traité* in 1789 and its reviews in various journals marked the beginning of a new phase of the phlogiston controversy in Germany. As I mentioned before, Hermbstädt began to prepare a German translation of the *Traité*, which was to appear in 1792. But even before this date, German chemists

31. In a footnote to an article by Langsdorff (*Journal der Physik* 5, 1792: 50) Gren complained that reviewers of his journal had inexplicably reported that he had revoked his theory of the negative weight of phlogiston.

felt the need to react to the new state of the controversy. As we have seen before, one of the protagonists of the phlogiston side was Gren, who staged a general attack on the new theory and whose publications and publication strategies in this phase of the controversy I shall now examine.

Apart from short notices in the *Chemische Annalen* (1790 and 1793) and later publications for a general audience in the *Intelligenzblatt* of the *Allgemeine Literatur = Zeitung*, Gren mainly used his own journal, the *Journal der Physik*, to publish not only his own contributions to the controversy, but also letters, short notices and articles of others that were involved in the controversy. It is worth noting here that he not only published contributions from his own side of the debate but also articles from opponents, e.g. Hermbstädt. This provided him with the opportunity to present a lively picture of the ongoing controversy in his journal and, at the same time, to demonstrate his impartiality. Hermbstädt himself published in the *Chemische Annalen*, the *Journal der Physik*, and also the *Intelligenzblatt* mentioned before.

As for the *text types* of the relevant articles, we mainly find comparisons of the competing theories, notices reporting new experiments, and discussions of the quality of experiments and the interpretation of these experiments. I shall start by looking at a brief contribution by Gren that was published as early as 1790 in the *Chemische Annalen* and then go on to deal in more detail with an extended discussion of Lavoisier's theory by Gren in the *Journal der Physik* of 1791.

The short notice in the *Chemische Annalen* was a letter to the editor with the heading "From Prof Gren in Halle":³²

The most important and most recent news I have to announce is that, according to my discoveries, the red calx of mercury, if calcinated in open containers, does not give off any dephlogisticated air in closed containers; – that this main pillar of Lavoisier's system is therefore totally lost; [...] The representatives of the antiphlogistic theory in France will certainly not be able to uphold their system, in spite of their heated defence of it. (Gren 1790a: 432)

32. "Das wichtigste und neueste, was ich Ihnen zu melden habe, ist, daß nach meinen Entdeckungen, der rother Quecksilberkalk, wenn er in offenen Gefäßen calcinirt worden ist, nichts von dephlogistisirter Luft bey seiner Wiederherstellung in verschlossen Gefäßen giebt; – daß diese ganze Hauptstütze des Lavoisierschen Systems also wegfällt; – Die Antiphlogistiker in Frankreich werden doch bey aller Hitze, mit welcher sie ihr System verfechten, es doch wohl nicht auf die Dauer halten können" (Gren 1790a: 432).

"Antiphlogistiker" is Gren's name for his antiphlogistic opponents. Kirwan had coined the neologism *Antiphlogistians* to refer to the supporters of the antiphlogistic hypothesis, "not by way of obloquy, but to prevent circumlocution" (Kirwan 1789: 7). *Phlogistonists* and *antiphlogistonists* are the names used in the English literature for the "parties" in this controversy (e.g. Hufbauer 1982).

This notice, with its rather vague reference to Gren's "discoveries" ("Entdeckungen") was a challenge to the antiphlogistic side, stating that one of the foundational experiments of the antiphlogistonists did not provide the results proclaimed by Lavoisier's followers. In this short notice Gren used an architectural metaphor, calling this experiment a "main pillar" ("Hauptstütze") of the antiphlogistic system, a metaphor he regularly used in the following publications and which was also taken up by his opponents. Of course, this brief challenge lacked backing and could only be considered a first move in Gren's attack.

4.2 A comparison of theories

A much more substantial contribution followed in 1791, in the third volume of the *Journal der Physik*, under the title of "An examination of the recent theories of fire, heat, inflammable matter ["Brennstoff"], and air" (Gren 1791).³³ In this lengthy article Gren set himself the goal of impartially answering three questions: whether this new theory was necessary, whether it had any advantages compared with the phlogiston theory, and whether it was sufficient to explain the phenomena which it was meant to explain.

The structure of this article was quite sophisticated. It opened with a brief history of the phlogiston theory, which was intended to show that, at least in some respects, antiphlogistonists had misunderstood the phlogistonist doctrine ["Lehrbegriff"]. The result of this presentation of the theory was that phlogiston, according to Gren, consisted in the combination of heat and light, two elements which Lavoisier also assumed in the form of *calorique* and *lumière*, so that, from this point of view, Lavoisier had no compelling reason to abolish the term *phlogiston* and to erect a new system ("ein neues System zu errichten", Gren 1791: 446).

However, Gren argued, there might be other aspects of combustion and calcination that might justify advancing a new theory. In order to ascertain if that was the case, Gren proposed a detailed comparison of the two competing theories concerning combustion phenomena. This comparison was intended to indicate if there were grounds for discarding the phlogiston theory or if, possibly, there were reasons for *correcting* and *modifying* it. Considering the latter possibility was, of course, already a remarkable concession.

In this second part of his article, Gren first gave a comparative survey of the basic elements assumed in the two theories, presenting the relevant terms juxtaposed in a table with two columns.³⁴ In this arrangement he followed Lavoisier's

33. "Prüfung der neueren Theorien über Feuer, Wärme, Brennstoff und Luft".

34. On the use of tables in late 18th century chemistry cf. Roberts (1991).

comparison of “old” terms and “new” terms in his *Traité* (Lavoisier 1789: 192), with the only difference that Gren put the old terms “according to the doctrine of phlogiston” on the left side and the new ones “according to Mr Lavoisier’s system” on the right side of the page, whereas Lavoisier put the new ones first. This survey already shows some basic differences between the theories, e.g. the phlogistonist assumption that water was a simple element as opposed to Lavoisier’s assumption that water was a compound made up of hydrogen and oxygen, which is why water did not show up in Lavoisier’s list of simple substances at all. At the end of this survey, Gren noted that his system only needed 31 elements, whereas Lavoisier needed 33, which – to him – proved that at least at this point the phlogiston theory was superior in terms of simplicity.

The following main part of the article consists of a series of text “modules” dealing with various combustion phenomena and two long paragraphs dealing with reduction experiments and the decomposition of water. The modules each contain five elements, the first naming a chemical experiment and giving references to where it was described, the second describing the chemical reaction as such, the third giving an explanation of the reaction in terms of the phlogiston theory, the fourth giving an explanation in terms of Lavoisier’s theory, and the fifth presenting Gren’s reflections on the experiments and the competing explanations. This textual structure also partly reflects a structure we find in Lavoisier’s *Traité*, where he describes many experiments in three parts, “Préparation”, “Effect”, and “Réflexions”, so there is a subtle element of intertextuality here. Among the experiments discussed in Gren’s article there are three that play a decisive role for the outcome of the debate, the preparation of phosphorus oxide (*Phosphorsäure, acide phosphorique concret*) by combustion, the decomposition of water, and the reduction of mercuric oxide (*Quecksilberkalk*). All three experiments were considered by Gren to be crucial for upholding the claims of the new theory.

Concerning Gren’s attempt at refutation of Lavoisier’s position it is the fifth element of the “modules” which is most interesting. Here Gren tried to demonstrate that there were alternatives to Lavoisier’s explanations and that Lavoisier’s explanations were either self-contradictory or in contradiction to accepted natural laws.

In the case of the oxidation of phosphorus Gren produced several objections to Lavoisier’s explanation. Of these the strongest was that Westrumb, another well-known German chemist, had made “beautiful” experiments (“schöne Versuche”, Gren 1791: 467) showing that “Phosphorsäure” [i.e. phosphorus oxide in modern terminology] could be prepared under exclusion of air using sodium bicarbonate. From this he concluded that phosphorus oxide must “preexist” in phosphorus. Therefore it could not be produced by the combustion process, which again meant that Lavoisier’s experiment could not prove the existence of oxygen (Gren

1791: 468). Similar observations relating to sulphur and the preparation of sulphur oxide lead Gren to the following conclusion:

As acid of vitriol [i.e. sulphur dioxide] preexists in sulphur and phosphoric acid [i.e. phosphorus oxide] also preexists in phosphor so that these are not produced from an ingredient of respirable air, Mr Lavoisier's explanation completely collapses and, generally speaking, one of the main pillars of the whole system is lost.

Da also die Vitriolsäure im Schwefel, und die Phosphorsäure in Phosphor schon prä-existiert, und nicht erst durch einen Bestandtheil der respirablen Luft erzeugt wird, so fällt die ganze Erklärung des Hrn. Lavoisier, und überhaupt eine Hauptstütze des ganzen Systems weg. (Gren 1791: 471)

As for the decomposition of water the situation was somewhat different. Here Gren reported that he himself and other German chemists had tried to replicate Lavoisier's experiment, but did not get Lavoisier's results. In this context, Gren described his own experimental arrangement in detail, emphasizing in particular that the connection between the clay pipe and the glas retort he used was perfectly sealed, so that no air could intrude from outside. From this negative result of these experiments of his own and others he concluded that Lavoisier must have made a mistake somewhere ("daß Hr. Lavoisier sich bey seinem Versuche geirrt haben müsse", Gren 1791: 485). This assumption had a twofold direction of thrust. Firstly, it was meant to undermine Lavoisier's image as an excellent experimenter, and secondly, as this experiment was considered one of the basic experiments in the debate, this result could compromise Lavoisier's total system:

This is in fact one of the fundamental experiments against Lavoisier's system, and this experiment alone is sufficient to overthrow it.

Es ist dies in der That einer der Hauptversuche gegen das Lavoisiersche System, und er allein ist hinreichend dasselbe umzustoßen. (Gren 1791: 486)

Gren's reflections on this experiment also lead him to a conclusion concerning fundamental principles of empirical research. In chemical research, according to Gren, facts should have precedence over hypotheses ("Meinungen", Gren 1791: 437). So his experience with this experiment fostered the suspicion that Lavoisier's view of the composition of water was merely a theoretical figment:

Comparing everything in Lavoisier's system, I find it quite probable that it was necessary for him to assume his hypothesis concerning the composition of water from hydrogen and oxygen in order to avoid obvious gaps in his theory. From what I have adduced it follows clearly that this composition has only been assumed, not proven.

Wenn ich alles in dem System des Hrn. Lavoisier vergleiche, so dünkt es mir in der That sehr wahrscheinlich, daß er die Meinung von der Zusammensetzung des Wassers aus Hydrogène und Oxygène nothgedrungen annehmen mußte, um nicht sichtbare Lücken in der Theorie zu veranlassen. Aus dem, was ich angeführt habe, erhellet deutlich, daß diese Zusammensetzung angenommen, nicht erwiesen ist [...].
(Gren 1791: 490).

As a last topic of Gren's article I mention here his discussion of an experiment that was to become the crucial experiment in the debate on phlogiston and Lavoisier's new system, the "notorious experiment" ("den berühmten Versuch"), as Westrumb called it, on the reduction of mercuric oxide.³⁵ Gren stated its importance as follows:

The defenders of the antiphlogistic system consider this experiment as one of the mainstays of this system and as a principal reason against the assumption of phlogiston. We shall see if it provides proof for or against them.

Diesen Versuch sehen die Vertheidiger des antiphlogistischen Systems als eine Hauptstütze desselben, und als einen vorzüglichen Grund gegen das Phlogiston an. Wir wollen sehen, ob es für oder wider sie beweise.
(Gren 1791: 479)

There was no immediate reaction to this challenge to the antiphlogistic side, but the agenda for the next round of controversy was set.

What is, maybe, most interesting about this comparison of theories is that Gren related various aspects of the competing theories point by point so that connections and divergences of the different approaches became visible and the two theories could, at least partly, be seen as solutions to similar problems.

4.3 The notorious reduction experiment

In the summer of 1792 both parties started new attacks, using the reduction experiment with red mercury calx [i.e. mercuric oxide] as a decision procedure for the conflict.³⁶ This experiment could function as such because, according to Lavoisier and his followers, the reduction of mercuric oxide in a closed container by heating only produced mercury and gave off oxygen without any possible source of phlogiston. If one assumed, as the phlogistonists did, that mercury consisted of mercury calx and phlogiston, there had to be a source of phlogiston in the reduction process. Therefore, if there was no such source, the phlogiston hypothesis was false. On the other hand, if no oxygen evolved in this process, the oxygen hypothesis was false.

35. In a letter to Gren, printed in the *Journal der Physik* (Westrumb 1792: 32).

36. A detailed narrative of this phase of the controversy is given in Hufbauer (1982: 118ff.).

A complication of this situation lay in the fact that there were two ways of preparing mercury calx, one by a long process of heating (*Mercurius praecipitatus per se*) and an easier and cheaper one by using nitric acid. Although, by this time, there was consensus that the product of these two ways of preparing the substance was (basically) the same, Gren suspected that mercuric oxide prepared by the second process might absorb water, which could then be the source of vital air, i.e. oxygen.

The next steps of the controversy evolved as follows. In his *Journal der Physik* (Vol. 6, 1792) Gren wrote an article on “a new experimental confirmation that mercury calx prepared under heating (*Mercurius praecipitatus per se*) did not produce vital air on reduction by smouldering”.³⁷ This confirmation was due to Johann Friedrich Westrumb, who had made the reduction experiment with *Mercurius praecipitatus per se* and had found that the calx yielded drops of water but not even the minutest bubble of air. This result he reported to Gren in a letter. Gren concluded that those researchers who had found oxygen in the reduction process had used the cheaper kind of mercury calx with its addition of water. This led him to the following outburst of rhetoric:

The basic pillar of the system is falling down, and with it the whole system must necessarily collapse. One day one will admire the sophistication of the builder, who applied so many ornaments, and one will regret that the foundations were treacherous and ramshackle.

Der Grundpfeiler des Systems fällt, und mit ihm muß das ganze System zusammenstürzen. Man wird so dereinstens den Scharfsinn des Baumeisters bewundern, der sovielen Zierrathen daran anzubringen wußte, und bedauren, daß das Fundament trügligh und morsch war. (Gren 1792a: 31f.)

Gren also sent Westrumb’s letter to the *Intelligenzblatt* of the *Allgemeine Literatur-Zeitung*, thereby generating publicity for the controversy among the general public.

About the same time, Hermbstädt wrote an article in the *Chemische Annalen* reporting three successful reduction experiments with freshly prepared mercury calx, each one of them in the presence of expert eye-witnesses (Hermbstädt 1792a). What is characteristic of this article is Hermbstädt’s detailed description of the experiment and the apparatus used to conduct the experiment and his reference to expert eye-witnesses. The latter move became a central manoeuvre in this phase of the controversy.³⁸ In this article Hermbstädt also formulated a number of searching questions for the phlogistonists, among them the question why no

37. “Neue Bestätigung durch Versuche, daß der im Feuer bereitete Quecksilberkalk keine Lebensluft bey seiner Wiederherstellung für sich im Glühen liefert” (Gren 1792: 29).

38. On the role of eye-witnesses in early modern science cf. Shapin (1994: 213f.).

body could burn in an absolute vacuum. In the same volume of the *Chemische Annalen* Hermbstädt published a follow-up article in which he addressed Gren's and Westrumb's objections to Lavoisier's reduction experiment and its interpretation. In this article he reported a recent successful experiment by Prof. Klaproth, a well-renowned experimenter, and also made some suggestions why Westrumb's experiments might have failed. He closed his article by referring to Gren's rhetoric about the falling pillar and answered it in kind:

The basic pillar stands upright and on it the whole antiphlogistic system will weather any storm.

Der Grundpfeiler steht fest, und auf ihm muß das ganze (antiphlogistische) System jedem Sturme Trotz bieten. (Hermbstädt 1792b: 398)

Gren published this article together with two other contributions from the antiphlogistic side in the following number of his own journal (December 1792). One of these contributions, a report on a successful reduction experiment from a young Swiss chemist, J. Peschier, who also mentioned the presence of expert eyewitnesses, had been published before in the *Intelligenzblatt*. So by this time, the state of the debate was public knowledge. In a commentary on these articles, Gren admitted that the red mercury calx per se could indeed yield dephlogisticated air (i.e. oxygen), but that the presence of oxygen was due to the water that was attracted by the hygroscopic calx (Gren 1792b: 445). So at this stage of the debate the question of the correct performance of the experiment was a central issue. If the antiphlogistonists could prove that by using adequate measures they could exclude the possibility of absorbed water in the calx, Gren would find it difficult not to accept their results.

4.4 Gren's conversion and its background

In the spring and summer of 1793 it became increasingly difficult for Gren to maintain his position on the theory of oxidation. In two articles published in the *Chemische Annalen* Hermbstädt made several moves which were hard to counter for Gren. In the first article, he gave a detailed narrative of the procedure by which he made sure that there was no water in the mercuric calx prepared for reduction (Hermbstädt 1793a: 340f.) and he reported that he had successfully performed the experiment more than ten times.³⁹ This detailed narrative was explicitly aimed at

39. As the editor of the journal noted, this article was written earlier than the second one that had been printed earlier in the same issue of the journal.

Gren's objection that the vital air found in this experiment was not evolved by the mercury calx as such but by water attracted by the calx:⁴⁰

In order to avoid the objection that the calx contained water drawn from the surroundings, I first heated it in a crucible up to glowing heat, so that a part of the mercury was already reduced. This calx, which was still nearly glowing, I poured into retorts, which I had also heated nearly to glowing beforehand, and then I quickly reduced the calx. There was not the least trace of water vapour to be found; [...]. (Herbstädt 1793b: 340f.)

What we have here is a good example of what we find quite frequently in these narrative passages, namely a close interrelation between narrative and argument, where elements of the narrative were used as backing for theoretical interpretations and arguments.⁴¹

At the same time, Herbstädt challenged Gren to perform the experiment himself, as what he said here was “not mere *reasoning* but a report of facts” (“denn was ich hier sage, ist nicht *Raisonnement*, es ist Erzählung von Thatsachen”, Herbstädt 1793a: 343). This was a blow to Gren, because, apart from one unsuccessful experiment in November 1792, he had so far only acted as a commentator, not as an experimenter, in the mercury calx debate.

In his second article in this number of the *Chemische Annalen*, Herbstädt reported that, on the third of April 1793, he had successfully performed the reduction experiment in the presence of thirteen impartial eye-witnesses, among them prominent personages like Baron Alexander von Humboldt, two professors, and, last but not least, as Herbstädt gleefully noted in a footnote, three students of Gren's, who, until then, had been “confirmed phlogistonists” (“gute Phlogistiker”, Herbstädt 1793b: 303). This article was also sent to the *Intelligenzblatt*.

Gren did not react to this attack directly, however. It was only in November and December 1793 that Gren accepted defeat and officially publicized his “conversion” (“Bekehrung”) in several journals. In the *Chemische Annalen*, Westrumb published an abstract of a letter by Gren to him with the “latest statement by Professor Gren about phlogiston” (Gren 1793a: 341ff.). In this letter Gren stated that Götting in Jena had performed an experiment in the presence of witnesses in which phosphorus totally absorbed vital air and that Trommsdorff, a well-known

40. “Ja, um dem Einwurfe nicht ausgesetzt zu seyn, er enthalte aus dem Dunstkreise angezogenes Wasser, erhitzte ich ihn vorher allemal erst in einem Schmelztiegel bis zum Glühen, so daß ein Theil des Quecksilbers sich schon reduzirte. Diesen fast noch glühenden Kalk schüttete ich in vorher gleichfalls noch fast bis zum Glühen erhitzte Retorten, und reduzirte schnell; aber hier war auch keine Spur Wasserdampf zu bemerken; [...]”. (Herbstädt 1793b: 340f.). A similar passage is to be found in one of Mons' letters to Gren (Mons 1793: 342).

41. On the the links between narrative and argument in 17th century science cf. Holmes (1991).

German apothecary and chemist, had achieved similar results. Of course, this had been one of Lavoisier's central experiments, but Gren accepted it only now that an "unsuspicious" experimenter had performed it. In the same letter he mentioned that van Mons, a young Belgian chemist with whom Gren had already corresponded earlier on, had reported new experiments with mercuric calx, which demonstrated that mercuric calx gave off vital air (i.e. oxygen) on reduction. Gren's explicit conversion statement reads as follows:

Opinions may only be defended as long as they do not contradict facts. Therefore, I do not hesitate to give up *my total former system*, accepting the antiphlogistic doctrine *for the most part*. Nevertheless I have not yet become an antiphlogistian, viz. I do not oppose phlogiston, but I steer a middle course, following *Leonhardi* and *Richter*.

Meinungen dürfen nur so lange vertheidiget werden, als sie mit keiner Thatsache im Widerspruche stehen. Ich stehe also gar nicht an, mein ganzes bisheriges System aufzugeben; und die Lehrsätze der Antiphlogistiker größtentheils anzunehmen. Demohngeachtet bin ich noch kein Antiphlogistiker, d.h. ich widerstrebe dem Phlogiston nicht, sondern ich betrete die Mittelstraße, nach dem Beyspiele der Herren Leonhardi und Richter. (Gren 1793a: 342; author's emphasis)

The middle course Gren mentions consisted in identifying phlogiston with the basis of light.⁴²

Later on in this year (on December 12th, 1793), Gren answered the letter from Mons mentioned above, who had written to Gren reporting five experiments with mercuric calx which substantially corroborated the findings of the antiphlogistonists. However, Mons' friendly tone and his suggestions of compromise obviously made it easier for Gren to accept these results and to confess his change of position, actually using the word *Bekehrung* 'conversion' in this remarkable document:

I now find the system which I used as my basis for chemistry so shaken in its foundations that I would have to become a traitor to truth if I should try to continue defending it. At the very time that I received your letter, the coincidence of several factors combined in convincing me of the truth of some of the antiphlogistic theorems that evidently contradicted my own system: and I have to confess that your letter finally resolved all doubt, and the results of your experiments perfected my conversion.

Dieß System, das ich bisher in der Chemie zugrunde legte, finde ich jezt in seinen Grundfesten so erschüttert, daß ich an der Wahrheit zum Hochverräther zu werden fürchten müßte, wenn ich dasselbe länger zu vertheidigen suchen wollte. Ein

42. This modified theory is explained in more detail in the second edition of Gren's handbook (Gren 1794b: 133–158).

Zusammenfluss mehrerer Umstände vereinigte sich gerade zu der Zeit, als ich Ihren Brief erhielt, um mich von der Wahrheit mehrerer antiphlogistischer Lehrsätze, die mit meinem System in offenbarem Widerspruch standen, auf das evidenteste zu überzeugen; und ich gestehe es, Ihr Brief verjagte meine letzten Zweifel, und die darin aufgestellten Erfahrungen vollendeten meine Bekehrung. (Gren 1794a: 14)

Gren then goes on to mention the experiments by Götting and Trommsdorff and an experiment on the composition of water by von Hauch from Copenhagen. However, he also repeats his earlier reservation voiced in his letter to Westrumb that the doctrine of phlogiston (as the matter of light) might be a useful addition to the antiphlogistic system, contributing to a combined theory. He ends on an optimistic note, acknowledging the positive value of the controversy:

And thereby I hope to have contributed to settling a feud among chemists that was beginning to get out of hand, but which still contributed to the growth of science, to the confirmation of truths and to the multiplication of known facts.

Und so hoffe ich dann zur Beylegung einer bisherigen Fehde unter den Chemisten beygetragen zu haben, die, so bitter sie auch auszuarten anfang, doch zur Erweiterung der Wissenschaft, zur Bestätigung von Wahrheiten, und zur Vermehrung von Thatsachen beygetragen hat. (Gren 1794: 18)

It is remarkable that Gren should have completely avoided mentioning Hermbstädt explicitly, whose efforts must have played a decisive role in Gren's change of mind. Maybe his reference to the controversy's "getting out of hand" was an implicit acknowledgement of this fact. And maybe the "the coincidence of several factors" mentioned in the letter to Mons also included Hermbstädt's attacks.

The most spectacular publication of Gren's conversion, as far as publicity was concerned, was his announcement "To the chemical public" in the *Intelligenzblatt* (Nov. 22nd, 1793). The text was a combination of parts of his letters to Westrumb and Mons. He mentioned Götting's and Trommsdorff's experiments with the combustion of phosphorus, completely avoiding mention of the "notorious" reduction experiment. He then acknowledged his change of standpoint, adding, however, once more a qualification by presenting his idea of a combined system that contained his idea of phlogiston as the matter of light. Concluding this brief notice, he added an advertisement for the new edition of his handbook of chemistry.

Summing up this portion of my article, we find three major topics in this part of the controversy, (i) a number of crucial experiments, of which the mercuric calx reduction experiment deserves pride of place, (ii) the techniques of experimentation and the apparatus used in performing these experiments, and (iii) the interpretation of these experiments and the discussion of these interpretations in relation to the general theory of combustion and calcination. At a certain point

in the controversy, mainly with Hermbstädt's attacks, the centre of debate shifted from the hypotheses (*opinions, Meinungen*) used in interpreting the experiments to the technicalities of the experiments themselves. And this, with some delay, proved the turning point in the controversy and brought about Gren's conversion.

These topics were dealt with in characteristic text types, namely detailed narrative reports of experiments, detailed descriptions of apparatus, especially sealing techniques, passages of interpretation and argumentation, and finally passages reflecting on scientific methodology in general. So what we find here is quite a different array of text types from what we find in the theological or philosophical controversies of this volume. This array of text types is further diversified by the use of various media formats, personal letters, letters reprinted in specialist journals, detailed scientific tracts published in specialist journals, e.g. Gren's comparison of theories of combustion, and finally short articles addressing a general public in the *Intelligenzblatt*. This sophisticated use of text types and media formats is one of the things that make this controversy special. It is therefore particularly interesting to see that Gren also used another medium, namely his handbooks of chemistry, as an instrument of controversy, a topic that I now turn to in the final part of this article.

5. Handbooks as a vehicle of controversy

Nowadays, we tend to differentiate between textbooks and handbooks, textbooks being used for teaching students, handbooks having the function to document the state of the art and to provide information to non-specialist scholars in the field. In the early days of modern chemistry, this was not necessarily so.⁴³ In the case of Gren and others, their handbooks both documented the most recent developments of chemistry and provided study materials for students. In the title of the first edition of his "Systematic handbook of the complete chemistry" (Halle 1787) Gren explicitly mentioned that it was "designed for the use in his lectures".⁴⁴ However,

43. On the history of chemistry textbooks cf. Lundgren and Bensaude-Vincent (2000).

44. *Systematisches Handbuch der gesammten Chemie. Zum Gebrauche seiner Vorlesung entworfen*. The preface to the third edition stated that the handbook, particularly the second edition, was popular both as a textbook for self-instruction and as a compendium to accompany lectures ("sowohl als Lehrbuch zum Selbstunterricht, wie auch als Leitfaden zu Vorlesungen", Gren and Klapproth 1806: III). The first and second editions of Gren's handbook were well received by reviewers (cf. the laudatory reviews in the *Allgemeine Literatur-Zeitung* 1788, Numero 55: 594–596 and 1795, Numero 337: 578).

as we shall see, he also used his compendium as a vehicle for the discussion of new developments, thereby contributing to the ongoing chemical controversy.

The first foretaste of this practice was given in Gren's preface to the first volume of the first edition. After making a few general remarks on the state of the art in chemistry and explaining the layout of his handbook he pointed out that his own theories diverged in several issues from established views and that this might attract criticism. From there, he embarked on a critical passage, censuring a tendency in German chemists to accept theories on the authority of foreigners without properly examining them and to propose new theories prematurely, on the basis of a single experiment. This, he complained, led to a proliferation of theories, of which he could only treat the best or the most remarkable. Finally, he uttered his hope that his book would contribute to the detection of mistakes and the detailed examination of certain scientific propositions. These remarks were still fairly general, but they already showed the author's critical attitude.

More specific points of criticism can be found in relevant passages of the body of the text. Two such passages, not surprisingly, concerned the processes of combustion and the nature of water. In his treatment of combustion processes, Gren drew attention to several relevant theories (Gren 1787: §§ 323ff.), including those proposed by Scheele, Lavoisier and Crawford, mentioning also Priestley and Kirwan. What is remarkable here is the fact that Lavoisier's theory was treated as just one among a number of recent theories, of which all the others represented versions of the phlogiston theory. In §§ 326f. Gren presented Lavoisier's "opinions" ("Meynungen"), mentioning the fact that Lavoisier did not assume the existence of phlogiston. He then went on to list Lavoisier's reasons for his views on combustion, namely

1. that there is no combustion without "pure air" ("reine Luft", i.e. oxygen in Lavoisier's terminology),
2. that this pure air is lost in the course of combustion,
3. that the remnants of the "fixed substances" ("fixe Körper") after combustion gain exactly as much weight as the air loses through the loss of its portion of pure air.

Gren conceded that this theory had many attractive aspects ("sehr viel Einnehmendes") and that, in various respects, it gave a simple explanation for many experiments. He also admitted that, for these reasons, this theory had found quite a number of adherents, mainly in France.

In § 328, however, Gren voiced two major objections. He claimed that Lavoisier's theory could not explain the generation of heat and that his (Gren's) own experiments showed that after the "phlogistic processes" ("nach den phlogistischen Processen", i.e. after combustion) there was no remnant of air in the

combusted substance. So, according to Gren, Lavoisier still owed an explanation for these important aspects of combustion. From there, Gren went on to outline Crawford's theory, a version of the phlogiston theory, which he described as "comprehensible, perceptive, and based on many experiments" (Gren 1787: § 330). He indicated that this theory was about to be commonly accepted, but, in this case as well, he claimed that it was inadequate. So what we can see here is that at this point there was not only controversy between adherents to phlogistic and antiphlogistic chemistry but among phlogistonists as well.

His critical assessment of various theories gave Gren the opportunity to present his own theory (Gren 1787: §§ 331ff.), where he assumed that combustion consisted in the loss of phlogiston and that phlogiston was the "bound matter of heat and light" ("gebundene Materie der Wärme und des Lichts zugleich"; Gren 1787: 216). He explained his view in much detail and exemplified the application of this theory with reference to various chemical reactions.

In a similar fashion Gren dealt with the chemical properties of water (Gren 1787: § 358–§ 371). After describing in some detail the features of water, its role in nature, and techniques of distillation, he addressed the topic of "the transformation of water into air" ("Verwandlung des Wassers in Luft", § 366–§ 371). He stated that, by burning a mixture of "dephlogisticated air and inflammable air" (i.e. oxygen and hydrogen), Cavendish in England and Lavoisier and La Place in France had shown the probability of the old conjecture being true that air was based on water. He then continued by reporting experiments of his own that raised doubts as to the reliability of the experiments performed by the aforementioned chemists. Finally he recapitulated the central point of the hypothesis put forward by the English and French chemists, i.e. the hypothesis that water was not an element but a compound. However, as a result of his own experiments and reflections he claimed that the conclusions drawn by Cavendish and others as to the compound nature of water were rash and premature and that water should continue to be counted among the simple elements.⁴⁵

From these observations on Gren's presentation of problems of combustion and the properties of water we can see that Gren used his textbook to contribute to the ongoing controversies on the antiphlogistic chemistry by playing down the status of this challenge in the case of combustion and by expressing doubt in the case of the compound nature of water.

This tendency was even more pronounced in the second part of the second volume, published in 1790 (Gren 1790e). By this time the challenge presented by Lavoisier's antiphlogistic theory had obviously become stronger, so that Gren

45. "Das Wasser möchte also wohl noch in der Reihe der Elemente stehen bleiben müssen" (Gren 1787: 241).

considered it necessary to devote extra space to the discussion of this theory. In the sections on metals and their calces he first described basic features of the process of calcination and then posed the critical question: “How is it possible that these metal calces are heavier in their absolute weight, if they are differentiated from their respective metal only through their lack of phlogiston?” He pointed out that this problem provided antiphlogistonists with their main objection against the phlogiston theory and also the mainstay of their own theory. As some people still seemed to find his own version of the phlogiston theory hard to understand, he felt the need to explain it once more in more detail (“weitläuftiger”) (Gren 1790e: § 2032). This he did in the following paragraphs. He then mentioned various other opinions (“Meynungen”, § 2040f.), and from § 2043 onwards he added a detailed discussion of the views of those scientists who assumed calcination to be explained by the combination with gases (“luftförmiger Stoffe”, Gren 1790e: 83), beginning his discussion with a rather polemical remark: “If ever an explanation was paradoxical, it is surely the explanation of calcination in terms of the aspiration of air” (“Einsaugung der Luft”, Gren 1790e: 85) and then going on to list a number of objections against this type of explanation, e.g. the objection that the well-known experiment with mercury calx could not prove what it was meant to prove, because in preparing mercury calx moisture is attracted, which is later given off as dephlogisticated air. He then listed six reasons that Lavoisier had given for his explanation (Gren 1790e: § 2047) and tried to refute them by presenting a long list of problems that, in his opinion, were not solved by this explanation (§ 2048). Continuing his attempt at a refutation of the antiphlogistic system, he also discussed the problem of the production of water from inflammable and dephlogisticated air (“aus brennbarer und dephlogistisirter Luft”, § 2051), producing various objections and doubts concerning certain experiments and their interpretation. It is worth noting that in doing so he was digressing from the topic of metals, which was the main topic of this section of his handbook. Before reverting to his main topic he summarized the result of his excursus on recent theories of combustion and calcination by claiming that the facts mentioned in the preceding paragraphs could not persuade him to give up his own theory:

What has been mentioned in § 2040–2051 can therefore not prompt us to give up a theory that easily and comprehensibly explains the facts and fits all phenomena and to accept a different one that directly contradicts the eternal laws of nature and does not correspond with the relevant phenomena. (Gren 1790e: 90)

Later on in his book Gren reverted to the reduction experiment with red mercury calx, which he described as the basis and mainstay (“die Grundfeste und die hauptsächlichste Stütze”) of Lavoisier’s theory of combustion and calcination. In view of the importance of this experiment, which I dealt with in the previous section, Gren felt compelled to discuss it in more detail and to adduce factors suited

to undermine the subtle system of Lavoisier and to provide powerful foundations to his own theory (Gren 1790e: 189). In the following paragraph (§ 2251) he listed nine objections against the execution and interpretation of this experiment, and a few paragraphs later he concluded that Lavoisier's explanation could not be correct (§ 2255). "On the contrary", he continued in the following long paragraph, "all the remarkable phenomena available in the calcination and reduction of mercury provide the strongest proofs for my theory of phlogiston ("brennbares Wesen"), calcination and the generation of air" (Gren 1790e: 192). These elements of proof are then listed and explained at length (§ 2256).

So what we see in this volume as well as in the first one is that Gren used relevant passages in his handbook not only to describe the state of the controversy but to actually join in the debate, combining detailed argumentation with open polemics.

In 1794, a year after his formal conversion to the new chemical system, Gren published the second edition of his handbook (Gren 1794b). As we have seen, his conversion was performed with certain reservations. The fact that Gren was still in two minds about Lavoisier's system also shows in several aspects of this new edition of his handbook. In the preface of the first volume he made explicit some of his doubts and misgivings. As the formulations of this preface are quite revealing, I shall give a longish passage here in translation (Gren 1794b: x–xi). After mentioning the fact that many new discoveries had been made since the first edition, which made this new edition necessary, he commented on the phlogiston controversy:

The conflict of the parties for and against phlogiston ["Brennstoff" in Gren's terminology, GF] has contributed to the correction of many hypotheses, to the discovery of various facts, and to the perfection of science. However manifold the weapons may have been with which the doctrine of phlogiston was attacked, I still believe that this doctrine has survived this controversy undefeated. [...] I have taken the antiphlogistic system as the basis of my doctrinal system, but I have also pointed out the deficiencies it has, which one can fill out with the help of the phlogiston doctrine. Making use of this sisterly alliance ["schwesterliche Verknüpfung"] of both systems, it will hopefully no longer be possible for the systems to fight each other. I did, however, also consider it my duty towards my readers to give the explanations of the phenomena according to the antiphlogistic system unmodified and without any additions. Thus, it is left to the readers' judgement to decide between this system and the combined system. Apart from that, I have refrained from any kind of extensive polemics. [...] I have used a uniform nomenclature, and I hope that my readers will not disapprove my choice of naming, which has in part been made necessary by the new system and which many writers have already adopted.

What Gren was doing here is very interesting, and it is not completely obvious how we should interpret these moves. On the one hand these moves could be seen as a straightforward attempt to save at least part of the phlogiston theory by producing a kind of hybrid theory, an attempt that could be explained psychologically by the simple fact that Gren was stubborn and still not prepared to accept defeat and by his wish to save face. Seen with the benefit of hindsight, this seems to be the obvious interpretation. On the other hand, however, taking into account the state of the controversy from Gren's point of view, these moves could be regarded as a genuine attempt to combine the strengths of both competing theories and to facilitate reconciliation among the warring parties, an attempt completely in accordance with scientific rationality. A third interpretation, which is not incompatible with the second, is that Gren, in spite of his formal conversion, was still fundamentally undecided at this point and was trying to make sense of this ambivalence.

This ambivalent attitude is also shown in the body of his text. One issue where he still found Lavoisier's theory unsatisfactory was his explanation of the light produced in the course of combustion. Gren therefore decided to retain phlogiston as the "basis of light" (Gren 1794b: § 229). Later on, in his chapter on combustion, Gren explicitly referred to Lavoisier's *Traité* on various occasions (e.g. § 255), but now and then we find relics of the earlier system, e.g. in the following terminological excursus:

The component of atmospheric air that makes it capable of keeping fire alive and allowing respiration in animals is called *Lebensluft* (*aër vitalis*), on other occasions *reine Luft* (*aër purus*), *brennstoffleere* oder *dephlostizirte Luft* (*aër dephlosticatus*), *Feuerluft* [i.e. fire air, GF], and *Sauerstoffgas* (*Gas oxygenium*, *Gas oxygène*).

(Gren 1794: § 242)

What is remarkable here is the fact that Gren mentions Lavoisier's term last in this list of terminological variants.⁴⁶ As I shall show, the reason for this is explained later on in Gren's text.

A certain ambiguity can also be found in the paragraphs on the "theory of fire and combustion". After some general remarks on combustion, Gren gives a brief historical account of the phlogiston theory (§§ 253f.) and then goes on to present Lavoisier's theory. Here, again, the wording of the introductory passage is revealing (§ 255):

Mr Lavoisier, to whom we mainly owe our more detailed knowledge of the conditions and circumstances of combustion mentioned before (§ 240. 245.), considered himself entitled ["hielt sich für berechtigt"] after these experiences to give up the assumption of a specific basic combustible substance or phlogiston altogether

46. The word *Sauerstoff* is still the expression for *oxygen* in present-day German.

and to explain the phenomenon of combustion without it. The chemical system he built is therefore called the *antiphlogistic* system.

In this passage, Gren still seems to distance himself somewhat from Lavoisier's theory. However, in the following paragraph he once more explicitly confesses his conversion, albeit immediately adding qualifications as before (§ 256):

The total disappearance of pure air during combustion of phosphorus prompts me to accept the most salient and distinctive propositions of Lavoisier's system; however, various phenomena of light, which have already been mentioned above, and other reasons, which will become apparent in the following, force me to recognize an extra combustible substance ["Brennstoff"], which I regard as the basis of light [...]. Therefore, I do not assume several entities, as Lavoisier does. I am, furthermore, not convinced that the basis of vital air ["Lebensluft", i.e. oxygen] causes the formation of acid from the substance combusted in vital air, as many combusted substances show no formation of acid at all [...]. Therefore, I regard the use of the term *oxygen* or *Sauerstoff* [literally: "acid substance", GF] as premature.

After voicing these qualifications and objections, Gren continues by explaining Lavoisier's theory of combustion, giving the burning of phosphorus as an example.

A similar strategy can be observed in Gren's treatment of the chemical properties of water. Similar to his presentation in the first edition, he begins by giving a survey of the general properties of water, following this with an outline of Lavoisier's account of the chemical nature of water. However, in this volume he presents Lavoisier's account in more detail than in the first edition, repeatedly referring to Lavoisier's *Traité*, which had appeared in the meantime. Up to this point, the reader could get the impression that Gren was convinced of this account. But, in this context again, he adds a passage in which he tries to rescue the phlogiston account (§ 285):

Even if one accepts Lavoisier's account of the composition of water, one can just as easily explain the experiments mentioned above if one does not deny the existence of phlogiston ["Brennstoff"], in addition giving a more detailed account of the phenomena of light on the basis of the definition of phlogiston given above.

Having voiced these reservations, Gren, in the following paragraphs, mentions some other scholars, e.g. Priestley, who also doubted the validity of Lavoisier's conclusions. So the whole question seems to be open again. This ambivalence is characteristic of Gren's attitude at this late stage of the controversy.

The next step of retreat can be seen in the fourth volume of the second edition of Gren's handbook, published in 1796. This volume consists of three major parts, a section on chemical nomenclature, a second section containing a survey of the simple and compounded substances and a third section giving tables of chemical affinities.

From our point of view, the introduction to the section on chemical nomenclature is particularly interesting. In this introduction, Gren begins by giving a short history of chemical nomenclature before the advent of scientific chemistry and then continues by describing the innovations after the development of the phlogiston theory. He praises the many discoveries which the combined efforts of chemists all over Europe made possible and shows how these discoveries in the framework of the “new” phlogiston theory made terminological innovations necessary. At this point he reaches a critical stage in his historical account, when he gets to the new French nomenclature developed by Lavoisier and his collaborators. The first passage of this paragraph is worth quoting in full:⁴⁷

When a great and total revolution of the existing chemical doctrine was initiated by the new system of the immortal Lavoisier and when the name *phlogiston* was considered a nuisance and a folly by the originator and the adherents of the new system, all the terms that reminded one of the old system were regarded as objectionable and one rightly assumed that the new doctrine could not be given a better foundation than by connecting the changed concepts with (adequate) terms.
(Gren 1796: 5)

Gren then complains that the antiphlogistic party not only got rid of terms reminiscent of the phlogiston theory, but also of completely “harmless” traditional terms which could have been preserved. He does, however, readily admit that this new French nomenclature is a masterpiece, using short and apt expressions particularly suited to making necessary distinctions.

As for the adaptation of this nomenclature to German, he points out that it could be useful not to sever all connections to established terminology, in order not to impede communication and to facilitate the teaching of nomenclature. In the context of these reflections Gren makes many useful general observations on the introduction of new terminologies, which I cannot go into here. His conclusion is to compare the various adaptations developed up to this point and to select the best suggestions, preserving established terminology as far as it seemed compatible with the actual state of chemical knowledge. He gives detailed explanations for his choice of expressions like *Sauerstoff* for French *oxygène* and he also explains why the word *phlogiston* is to be found in the nomenclature. At this point he takes the opportunity to make one more defensive move in favour of phlogiston, returning

47. “Als durch das neue System des unsterblichen Lavoisier eine große und totale Revolution des bisherigen Lehrgebäudes der Chemie begann, und der Name *Phlogiston* dem Urheber und den Anhängern des neuen Systems zum Aergerniß und zur Thorheit geworden war, fand man alle Benennungen anstößig, die auf das alte System hinwiesen, und man glaubte mit Recht, die neue Lehre nicht besser begründen zu können, als daß man die umgemodelten Begriffe an die Worte knüpfte” (Gren 1796: 5).

to his objection that Lavoisier's system provided no explanation of the phenomenon of light in combustion. He does however explain that he refrains from using expressions like *dephlogistisirte Luft* ("dephlogisticated air"), because "the other party" (i.e. the adherents of the "new" system) might take offence. In this context, he refers once more to the principle of impartiality ("Unparteylichkeit", Gren 1796: 11), a principle that is often mentioned in enlightenment discourse, and he finally asserts that the strictest antiphlogistonist could use his nomenclature without taking offence.⁴⁸ Historically speaking, this prudent strategy proved quite successful, as large parts of Gren's German nomenclature are used up to the present day.

Another form of compromise, which shows the same ambivalent attitude, can be recognized in the second section of this edition of the handbook, which is devoted to giving an overview of the simple and compounded substances. What Gren does here is to present *two* surveys, one based on the antiphlogistic system and one on the phlogistic system. This gives the reader the opportunity to compare the two and the choice of accepting or rejecting one or the other. For Gren, this was obviously a Solomonic solution to his dilemma.

6. Concluding remarks: Life between two paradigms

The ambivalence and the ambiguities we found in Gren's responses to the new chemistry are worth reflecting upon from the point of view of the paradigm change which is generally assumed to have occurred in the transition from phlogiston chemistry to oxidation chemistry. In his "Structure of scientific revolutions", Thomas S. Kuhn contemplated the "gestalt switch" between two successive paradigms, referring to the well-known figure introduced by the psychologist Jastrow, which can be seen either as a duck or as a rabbit.⁴⁹ It is not unreasonable to interpret Gren's responses in the context of such a gestalt switch. What seems to be the case in this situation is that Gren was able to perform such a switch back and forth, keeping in mind the properties of both chemical systems and relating them to relevant experiments. In the course of the controversy, he had learned to see both sides and to relate the two theory types to one another. So his position was very much like that of a bilingual speaker of both theory-languages. (The same is probably true of his opponents in the controversy, who had also started out as phlogistonists.)

48. "Uebrigens wird der strengste Antiphlogistiker meine Nomenclatur ohne Anstoß brauchen können" (Gren 1796: 19). In fact, Gren seems to have had the idea that his nomenclature was more or less theory-neutral.

49. Kuhn (1962/2012: Ch. X). Cf. also Wittgenstein's reflections on the problem of "seeing as", exemplified by the duck-rabbit figure (Wittgenstein 1967: 228).

He had, however, not reached the point, which most chemists reached by the end of the 18th century, where the ducks of the phlogiston theory had finally become Lavoisier's rabbits. In this situation between the paradigms, he viewed the relation between the two theories as a case of ambiguity and also of overlap and complementarity, which he expressed through the metaphor of "sisterly alliance".

The detailed analysis of controversies provides access to this kind of critical situation of a life between two paradigms. Close scrutiny of the interaction of the opponents shows how reference to aspects of the opposing theories was accomplished and how common ground between the opponents could arise. In the light of this analysis it seems at least doubtful if, in this case, "the proponents of competing paradigms must fail to make complete contact with each other's viewpoint" (Kuhn 1962/2012: 148).

At the same time, the close study of scientific controversies like the phlogiston controversy shows the social background of theoretical dissension, in this case demonstrating the pressure exerted by parts of the relevant scientific communities. So this form of investigation usefully complements the analysis of paradigm changes as changes of theory.

As far as Gren's handbooks are concerned, the final stage of the controversy was reached in the third edition of his handbook, which was edited in 1806 after Gren's death (1798) by the well-known German chemist Martin Heinrich Klaproth, who had converted to the antiphlogistic theory as early as 1792. Klaproth's preface is a valuable document of the changes in the world of chemistry since Gren's death, so it is worth quoting a longer passage from this preface. After stating that he compensated for the increase in volume made necessary by recent new discoveries by shortening the explanations which Gren had given within the framework of phlogiston theory, Klaproth explained his own guidelines for the new edition:

As is well known, Gren was prominent among those chemists who bravely fought for the preservation of phlogiston, following their opinion at the time. When he published the second edition, he had, however, come closer to the new system to such an extent that he no longer used the name *Brennstoff* in the sense of Stahl's phlogiston, but rather to refer to the base of light which appears, combined with the substances of heat, as vivid light in combustion processes. With this in view he added his own explanation according to his modified *Brennstoff* doctrine to the explanation of the relevant phenomena according to Lavoisier's system. As such a double presentation, however, to my mind unnecessarily complicates the study of science for beginners, I decided to restrict my presentation of Gren's *Brennstoff* doctrine to those elements that appeared sufficient for a historical understanding of this doctrine. For the rest, however, I have tried, as it were, to put myself into Gren's mind, and to elaborate this new edition in the way my deceased friend would have done, had providence granted him a longer term of life.

Thus, by 1806, the phlogiston theory and the phlogiston controversy were history.

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The book gives an introduction to the new research field of Historical Pragmatics of Controversies and provides seven case studies (from 1609 to 1796) on controversies in the fields of astronomy/astrology, medicine, chemistry, philosophy, and theology. The protagonists of these controversies include both famous authors like Kepler, Hobbes and Leibniz and internationally less known authors like the German theologian A.H. Francke and the chemist F.A.C. Gren. The case studies examine the organizing principles of historical controversies, language use, moves and strategies, topic management and text organisation, and the adherence to communication principles in these controversies. At the same time they analyse the use of different text types and media in the course of controversies, including pamphlets, journal articles, reviews, scientific handbooks and letters. In addition, the case studies demonstrate early modern writers' resources from disputation practice, dialectic, and rhetoric and show developments of the practice of polemical writing during this period.

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