Helga Schmid

UCHRONIA

DESIGNING TIME

Birkhäuser

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With a foreword by Paola Antonelli

Birkhäuser Basel

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FOREWORD

In a famous 1993 *New Yorker* cartoon by Bob Mankoff, a businessman is on the phone, looking at his paper diary and blurting out, 'Thursday is out. How about never – is never good for you?' Most of us, even those who do not live in the most neurotic city in the world, can sympathise with the feeling.

Almost thirty years later, things have gotten more tense, and also a bit grotesque. The discrepancy between the two Western-culture notions of time, well defined in Ancient Greece as *chronos* (the objective cadence of time, imposed by colonial powers and adopted almost everywhere, stipulating hours, days, weeks, months, years, and all other temporal paraphernalia) and *kairos* (the subjective flow of life, internal to each individual's experience) has grown deeper. Apps with shared calendars have liquefied personal time and forced many to block hours for unstructured, focused work, so that 'busy' has come to signify freedom. The German Labour Ministry has banned emailing and texting about work outside work hours. All the while, the concept of mindfulness has become a commodity and created a whole industry of more apps, scents, sounds, books, objects, and environments. Progress has its costs.

New technologies bring with them new malaises, and digital technology, which has brought fluidity, adaptability, and accessibility, has also robbed our lives of discretion. We need to act – but not overreact. The universal panic brings to mind another recent moment of apprehension at the end of the last millennium, during the first dot-com boom. The culprit at that time was the so-called personal computer, sitting pretty in people's homes and threatening family and spiritual life.

Consultants advised that those who decided to 'work remotely' using rickety dial-up connections should dress professionally and take a walk around the block in the morning to simulate a commute, or that they should put their machines on timers so they would resolutely shut down at 9 pm. Different era, same extreme measures.

It is a time of major existential crises that threaten not only the survival of humankind, but also of other species and kingdoms. The time crisis is apparently one of the most benign if compared with, for instance, the environmental and human rights ones – some would sardonically call it a First-World problem. It actually presents a great opportunity to re-examine what it means to be humans among other humans and in relation to the environment. Artists and designers have jumped at the opportunity, from Felix Gonzalez-Torres's 1987 *Perfect Lovers* (displaying perfect synchrony between two *kairoi*) to Maarten Baas's 2009 *Sweeper's Clock* (two humans sweeping trash to form the moving arms of a clock over a twelve-hour period) and Christian Marclay's 2010 *The Clock*, to name only three well-known examples. At the time of my writing, Helga is part of the exhibition at Somerset House in London, titled *24/7: A Wake-Up Call for Our Non-Stop World,* together with a rich array of kindred projects.

Leave it to a speculative designer and artist, however, to dispel the frenzy and reset the clock in order to help both scholars and citizens find a new baseline. With disarming clarity and synthesis, and with the support of a deep analysis of existing theories, Helga Schmid has pursued the concept of *uchronia* (a time that does not exist within our extant parameters, an ideal of time we should strive for). Her methodology involves participants in workshops where time can be 'unlearned' (a concept borrowed from Olafur Eliasson) and reformed on new parameters, designed by individuals and groups living in strictly offline 'time communities'. Elements of chronobiology and chrono-sociology, probably epiphanies for many of us, introduce important awareness of what is, unsurprisingly, a Politics of Time. And, as in many other facets of our political and social life, we discover that systems based on values are the utopias we should strive for – not only as far as time is concerned, but also in finance, politics, governance, and more.

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INTRODUCTION

We have created a nonstop 'achievement society',[1] wherein the human body is not capable of keeping up with the constant speed and endurance, where sleep disrupts our productivity and activity around the clock. The 24/7 person is still to be created. Huge efforts have been devoted to the manipulation of the body clock in order to achieve a sleepless, fully awake human being.[2] In *Rhythms of Life,* the biologists Russell Foster and Leon Kreitzman ask: 'Can we create a world in which we can manipulate time to offer a time paradise or "Uchronia" for a time-stressed populace? Or will it be the time hell of "Dyschronia"?'[3]

This book critically investigates our contemporary 'time crisis'. I argue that a new approach to thinking about time is needed, in order to tackle or even overcome the embodiment of our temporal* system, where conventional time keeping has been based on the mechanisms of clocks and calendars. Thus, I use the term *uchronia* to discuss, question and speculate on what kinds of temporal systems are possible and imaginable. Every culture has a deeply rooted and particular perspective on societal time – its unique temporal fingerprint.[4] Time serves as a 'frame of reference'[5] understood and applied by people within each society. From birth onwards, this specific cultural temporality becomes deeply encoded, almost like a sixth sense.[6] Our sense of time becomes part of our personality, as if no other time structure could be possible. When children reach the age of seven or eight, an understanding of the notion of the clock develops.[7]

But any cultural system is undergoing perpetual change. At present, one of the driving forces for change in the Western world is rooted in new technologies. These technologies influence our temporal existence, and play a determining role in forming and reconfiguring how we understand and use time. For example, the mobile phone has changed our behaviour in relation to the temporal arrangement of appointments. In many cases, punctuality has given way to flexibility.[8] The measurement of time by the clock is still pivotal, but societal synchronisation dynamics have changed as a result of digital technologies. This leads to the current state of Western society, which is described as an 'instant network society' or 'high-speed society'.[9] The embodiment of the rhythm and speed of digital life creates an atmosphere in which the perception of time pressures and the scarcity of time is increasing.[10]

The natural rhythmicity* of the human biological clock* conflicts with such algorithmic structures and inhumane rhythms. The expression 'time-crisis' sets a dystopian tone in contemporary debates on the nature of today's temporality.[11] At the time of the Industrial Revolution,

the discrepancy between 'clock time' and the human body clock was described by Lewis Mumford in his book *Technics and Civilization* (1934):

> The clock, moreover, is a piece of power-machinery whose 'product' is seconds and minutes: by its essential nature it dissociated time from human events [...]. In terms of the human organism itself, mechanical time is even more foreign: while human life has regularities of its own, the beat of the pulse, the breathing of the lungs, these change from hour to hour with mood and action, and in the longer span of days, time is measured not by the calendar but the events that occupy it.[12]

From the vantage point of the present, this mechanical time seems slow compared with the high-speed age we currently inhabit. I believe that an awareness of societal time is necessary in order to address our relationship with time. The 'burnout society'[13] is just one description of our relationship with time in sociological theory. The perception of the 'scarcity of time'[14] is common in contemporary society. In this context, the sociologist Judy Wajcman discusses the time-pressure paradox,[15] pointing out the mismatch and misconception between our actual free time at hand in contrast to the feeling of being pressed for time. The philosopher Byung-Chul Han goes further by describing the present-day situation as a *dyschronia*.[16] There is some debate whether this situation is caused by technological acceleration, the acceleration of social change, or only one element in a greater picture.

By exploring the issues that have led to the current situation, I propose a shift in thinking about the current politics of time. I argue that people need to break with common patterns of thought in order to change their perception of time. Meaningful new structures of everyday life must be discussed, based on biotemporal and physiotemporal patterns,* rather than only on conventionality of sociotemporal rules or technological acceleration. I establish *uchronianism* and explore its concept more fully. To date, uchronia is under-explored, especially in comparison to its big brother utopia. So far, researchers use the terminology of uchronia only as a proposition, usually written as an outlook in the final paragraph or chapter of their studies. But in our current time crisis, the adoption of uchronia is far behind in realising its potential. I therefore ask: What characteristics of contemporary temporality does uchronia address? What are the possible applications of uchronian thinking in redesigning society? What are the implications of uchronian thinking? These questions are explored in this book through observation, experiments,

writings, interviews, installations, workshops, events and performances. In Chapter One I propose three faces of uchronianism: uchronia as alternative history, uchronia as temporal utopia, and uchronia as non-existent time. These three categories are based on Lyman Tower Sargent's definition of utopianism. From my art and design perspective, uchronianism must be understood as work in progress, but I show how it can be applied. My intention is to communicate new thinking on uchronia to a wider audience through visualisation of uchronian principles. Inspired by the conceptual framework of Ruth Levitas's book *Utopia as Method,* I frame uchronia as a methodology. My uchronian methodology is situated between utopianism and art and design practice. Thereby, I follow Levitas's understanding of utopia as an 'expression of the desire for a better way of being or of living',[17] using artistic and design methods to explore the potential of uchronian thinking. Throughout the book, I explore the uchronian concept in the following:

Chapter One, 'Uchronia or Dyschronia', is an account of our present day relationship with time, often called a 'time crisis'. I explore the causes of this dyschronian situation from a historical and contemporary perspective, with a focus on desynchronisation* processes between natural, societal and bodily rhythms. Secondly, the chapter presents my definition of uchronia. I suggest three faces of uchronianism: uchronia as alternative history, uchronia as temporal utopia and uchronia as non-existent time.

Chapter Two, 'Uchronian Thinking*',* describes the utopian method defined by the sociologist Ruth Levitas, which I use it as key inspiration for uchronian thinking. Under the umbrella term uchronia, I describe a series of methods I developed to establish the uchronian methodology.

Chapter Three, 'Unlearning Time', suggests a radical break with the existent time system. The chapter starts with distinguishing between uchronian thinking and popular approaches of alternative time such as modified clocks, and the Slow Movement. I translate the artist Olafur Eliasson's concept of 'Unlearning Space' to time, and develop applied approaches to apprehend today's time crisis. This includes the observational project 'Moment Cards', and the thought experiment 'One-Month project series'. Building upon this thought experiment, I developed an approach called the *zeitgeber** method (German for time-giver or sychronizer) as a tool to rethink alternatives.

In Chapter Four, 'Uchronia Workshops', I describe workshops in which I introduced the zeitgeber method and tested the potential of uchronian thinking. Participants were asked to develop their own zeitgeber and live

by it over the course of forty-eight or seventy-two hours. They documented and presented the outcomes of the experiments in exhibitions and public symposia.

Chapter Five, 'Time Communities', concentrates on the application of design methods used in the context of uchronia. I developed four thought experiments entitled 'Time Communities'. As with the previous two chapters, the future scenarios are deeply interwoven with chronobiological and sociological theory. In contrast to these methods, I use one of the thought experiments, 'Circadian Space', and re-contextualise it as an applied project concept.

Chapter Six, 'Circadian Temporality', details the development of the uchronian project as an interdisciplinary collaboration. I have developed the project through collaboration with sociologists, chronobiologists, designers and architects. The Circadian Space is a translation of scientific knowledge into an experimental space. This project displays how the uchronian thinking offers a holistic approach for a living environment.

And finally, in Chapter Seven, 'The Potential of Uchronia', I summarise what I have explored in the previous chapters – the initial definition of uchronianism, and the exploration of uchronian thinking through the lens of design. I further give an outlook on ongoing uchronian projects, such as 'Circadian Dreams', and 'Atemporal Events'.

KEY TERMS

What is Utopia?

Utopia is a term coined by Thomas More in 1516 for his book of the same name. The word is based on the Greek term *ou-topos*, meaning 'no place' or 'nowhere'. In English, the homogeneous interpretation of the terms utopia and *eutopia*, *eu-topos,* meaning 'good place', are used interchangeably.[18] In his book More envisions an idealistic society living on a fictional island. He presents the role of utopia not as a blueprint for the perfect society, but rather an exploration of imaginary ideas and dreaming.[19] In the half-millennium since More's book, many related concepts were developed, and a single definition of utopia cannot do justice to the topic's complexity.[20] I explore an alternative definition from Ruth Levitas, who argues, 'utopia is the expression of the desire for a better way of being or of living, and as such is braided through human culture.'[21]

What is Uchronia?

Uchronia is a concept that derives from 'utopia'. In the same manner as utopia, uchronia is defined as 'no time' or 'non-time' from the Greek 'ou-chronos'. The word uchronia was first used by the French philosopher Charles Bernard Renouvier in his novel *Uchronie* (L'Utopie dans l'histoire)[22] in 1876. I explore the term from a different perspective – that is, uchronia as a temporal utopia.

What is Chronobiology?

Human chronobiology is concerned with cyclical or periodic phenomena in human beings. In this book, my main focus is on the body clock, how it works, its capabilities and limits, and which of its aspects can be influenced or manipulated. A particular focus is on the circadian rhythm.[23]* I use chronobiology to gain an understanding of the circadian rhythm and its functional principles, and incorporate this knowledge in my practice.

What is Chronosociology?

The 'sociology of time',[24] or 'chronosociology', studies generally take two different approaches: the first is 'penetrating the social nature of time in the search of the specificities and differences (as well as links) of social time in relation to other types of time'; and the second approach analyses time 'in contemporary culture, illustrating its changes, the present specificity and new time phenomena'.[25] The second area of study plays a significant role in this book, as the understanding of current time conflicts serves as the starting point for the development of alternatives.

CHAPTER 1

UCHRONIA OR DYSCHRONIA

The 'scarcity of time' dominates present-day thinking in Western societies.[26] This chapter sets out this context, with an account of today's time conflicts in relation to past and present desynchronisation processes. I introduce the current discussion about time politics, from acceleration processes to the shift in our perception of time, and the dsychronian scenario. In talking about the underlying issues, I concentrate on two key figures in the contemporary discussion. The sociologist Hartmut Rosa believes that social acceleration processes (technological acceleration, the acceleration of social change, and the acceleration in the pace of life)[27] affect every aspect of life, causing our feeling of time pressure. He suggests 'resonance experiences'[28] as an answer to acceleration. In contrast, the philosopher Byung-Chul Han discusses in his essay *The Scent of Time,* how acceleration processes are only one aspect of today's crisis. Han sees the main trigger in the rise of the *vita activa* (active life*)* over the *vita contemplativa* (contemplative life).[29] He argues for a shift in perspective by 'revitalisation of the *vita contemplativa* and relearning of the art of lingering'.[30]

My approach is even more radical, by asking for 'unlearning time' in relation to societal time norms, in order to break with the existing system and start afresh with the social concept of time. Critical here is that societal time norms are not regulated. They are constantly evolving, depending on culturally anchored codes following certain patterns of behaviour. The sociologist Eviatar Zerubavel defines what he calls the sociotemporal order.* It is responsible for the regulation of the structure and dynamic of societal life, while the biotemporal pattern* governs the organism. In contrast to the sociotemporal order, the biotemporal pattern underlies a certain rigidity. Specifically, through the daily rhythmic cycle of rest and activity, the body clock provides such a determined framework that it can serve as the underlying model for the development of new temporal structures. This includes long segments of time, for instance sleep and wake periods, and brief time segments determined by physical processes such as the 'speed of perception and processing in our brains'.[31]

On these grounds, I look to the fields of chronobiology and sociology of time in order to approach the topic from a new perspective. In this context, an analysis of the contemporary situation as well as a retrospective view provide an understanding of the deeper, underlying causes of today's crisis, depicting the shift of temporal patterns over recent centuries. It informs the later discussion of alternative temporal structures, avoiding a nostalgic idealisation of the past. As a tool to critique the

present state and suggest alternatives, I bring forward the concept of *uchronia* as 'temporal utopia'. I investigate it as a tool to influence present-day thinking about the format and tempo of life. This chapter thus provides a framework for subsequent ones, contextualising my argument within the fields of design, chronosociology and chrono-biology. I begin with a reflection on the temporal desynchronisation processes of societal time, the human biological clock and natural rhythms, from a synchronised pre-modern age to the initial desynchronisation processes in the modern age. This gives an insight into the deeper causes of today's issues.

SYNCHRONISED TIME PATTERN

External natural rhythms and conditions play a central role in the life of human beings. Before the Middle Ages, the word 'time' was not part of everyday language, but a natural process, not in any manner managed or structured by human beings. A belief in destiny dominated the thinking of earlier societies, and this notion of time is best described as 'liquid time' or 'fluid time' – a continuous flow and experience of time.[32] Splitting up time into small time units was perceived as heathen, and any kind of clock, from sundials and water clocks to candle clocks, were absent from the daily temporal structure of the rural population; they were the privilege of monasteries or the court. Time belonged to God: the eschatological time. The way people experienced and perceived time was connected to specific events or activities – a far cry from today's more abstract perception of time.

In an agricultural society, life and survival was dependent on external conditions like the wind, rain, sunshine duration, or the tides.[33] 'Collectively the daily, seasonal, lunar and tidal geophysical cycles regulate(d) much of the temporal biology of life on Earth.'[34] Daily rhythms (like mealtimes) occurred frequently and without prior arrangement, since the life structure of each individual closely resembled that of others.

As Norbert Elias points out in his study of native tribes in North America, every society functions and runs on an agreed time system. However, the complexity of the system depends on the level of synchronicity the society has reached. Short chains of dependency reduced the complexity of synchronisation processes to a minimum – people grew their own food or built their own houses. This fact, and largely shared life conditions, allowed for a simple and functioning system with a high level of

synchronicity.[35] Transferred to today's living standard and complex chains of dependencies, this simplicity of synchronisation is an unthinkable scenario. When sunrise and sunset defined the hours of sleep, and natural circumstances defined the daily workload, not surprisingly, humans had no knowledge of the circadian rhythm and the inner clock. A scientific awareness and understanding of the functional principles and rhythms of the human body clock only arose in the second half of the twentieth century: the body clock controls and regulates functions on all levels of the human body, including gene expression, physiology, behaviour and cognition.[36] This is expressed by peaks in cognitive performance, physical ability, alertness and sleepiness, or the body temperature. The main 'pacemaker'* for orchestrating the circadian rhythm is the Suprachiasmatic nucleus (SCN), a small region on the midline of the brain that controls the hormone level, body temperature, immune function, physical and digestive activity, alertness and the sleep-wake rhythm (Fig. 1.1).[37] The human body reacts to entrainment* signals, 'by which a biological oscillator* is synchronised to an environmental rhythm such as the light/dark cycle'.[38] The most influential time-giver of the SCN is light, which, depending on its intensity, synchronises the biological clock with the outside conditions of day and night. This explains why the body clocks of our ancestors were perfectly adapted to the 24-hour day-and and-night rhythm predetermined by nature. Furthermore, social time cues such as daily mealtimes or traditional annual festivities reinforced the integration into societal structure.

In summary, 'regular physiotemporal and biotemporal patterns provide us with such a high degree of predictability that we can use our natural environment in itself as a fairly reliable clock or calendar'.[39] The idyll described above also has its flip side. Autonomy, individual liberty and freedom of choice are accomplishments of the modern era. The costs of the recurring rhythm of life result in a lack of autonomy and freedom to choose. Another point of difference to today's perception of time was its value. In an era when time was not associated with the idea of money, expressions such as 'losing time' or 'wasting time' were unthinkable. Contemporary approaches, often under the umbrella of the 'Slow Movement' or the popularised form of 'mindfulness',[40] naively suggest we go back to this idyll, ignoring and romanticising the actual living circumstances of this time period.

Referring to my own upbringing, as I was born and raised on a farm, I have experienced the contrast between agricultural and urban life. I do not glorify this period of time or way of living. The idealised longing for

a lost past ignores that we cannot easily return to such conditions. Even more important, most of us would not want to give up their standards of living and do not understand the consequences of such a 'simple life'. A leap back in time is not the simple answer or solution for today's crisis.

DESYNCHRONISED TIME PATTERN

At the beginning of the 15th century, a continuous desynchronisation process began between the social construct of time and natural rhythms. The introduced 'clock time' allowed for a much more detailed segmentation of time. Many more aspects, like electricity or shift work, led to further conflicts with the human body clock. The more that natural and social time drifted apart, the larger the physical effects on the human body. The harmonious system of the premodern age gave way to the human-made, societal rhythm of clock time.

Over thousands of years, people developed all kinds of devices to measure time, beginning with non-mechanical devices such as sun clocks or hourglasses,[41] until the 11th century when the first water-driven mechanical clock was invented.[42] The wide dissemination of mechanical clocks began in the 14th century, introduced by the Church. From that point onward, clock time found its way into the rhythms of everyday life, and thus changed the perception of time in people's minds.

During the Industrial Revolution, British factory workers protested against their substandard working conditions, but instead of destroying their machines, they smashed the clock at the entrance of their factory. Such attacks on a timekeeping device illustrate the extent to which society was forced into the 'denaturalization of time'[43] and the acceleration of life. According to Mumford, 'The clock, not the steam-engine, is the key-machine of the modern industrial age'.

In the course of industrialisation, the desire for speed arose. In 1909, the Futurist Filippo Tommaso Marinetti declared that the magnificence of the world had been enriched by a new 'beauty of speed'.[44] He praised the natural purity of speed and characterised slowness as passive and backward-oriented. The new space-shrinking technologies like the railway, the automobile and the telegraph fostered the drive for speed, and led to a standardisation of world time in 1884[45] and therefore to the present structure of today's timekeeping.[46] The production of timekeeping devices facilitated the capitalist notion of time as a commodity or, in Benjamin Franklin's words, 'time is money'. It could be 'saved', 'spent', and much else.

As a consequence of constant time keeping, the precise regularity of time entailed the establishment of a modern virtue: punctuality. As part of the system people have to function within, as sociologist Helga Nowotny explains here:

> Laborious learning of punctuality, to which children were habituated at school from an early age – as a preparation for working life – a process which was implemented with brutal methods and required an extremely long time to lead to that internalization which has become a matter of course today.[47]

What got lost during the internalisation of clock time was the understanding and appreciation of one's own body clock, with consequences ranging from depression and obesity to cancer and a lower life expectancy.[48] But not only the clock was used as a structuring tool in the modern era. The Gregorian or Western calendar was first introduced in 1582 and started henceforward a worldwide domination. It is currently the one calendar that can claim universal acceptance internationally for all temporal organisational purposes. Its years, month and days originate in natural rhythms, with weeks being artificial. The calendar allows for processes of synchronisation within society on a macro level. On a micro level, it facilitates precise scheduling by the segmentation of days into hours and minutes. Calendars and the act of scheduling facilitate a structure for everyday life, sacrificing spontaneity for the benefit of certainty.[49] Mumford characterises the situation in the following way:

> A population trained to keep to a mechanical time routine at whatever sacrifice to health, convenience, and organic felicity may well suffer from the strain of that discipline and find life impossible without the most strenuous compensations.[50]

In contemporary time patterns, various levels of synchronicity are possible. Collective societal rhythms are still common,[51] but the development is towards temporal autonomy and flexibility. Clocks and calendars are the principal means of time management, but as these collective societal rhythms slowly disappear, so does the notion of shared time. In urban societies, the importance of natural rhythms continually diminishes in everyday life, as people spend almost all their time indoors and are therefore less exposed to day/night oscillation and seasonal change.[52] This brief historical overview of past synchronisation and dyschronisation

processes serves as a general outline. I showed how the relationship between the sociotemporal, physiotemporal and biotemporal order has shifted over the last 500 years. It brings to the foreground the societal construct of time, dependent on living circumstances, and how rapidly these conditions have changed, especially in the last 200 years. The clock-based system, however, is deeply rooted in these primary conditions which I argue, many issues leading to the today's crisis depend on.

CONTEMPORARY SOCIETY: DYSCHRONIA

Byung-Chul Han characterises the contemporary situation of Western societies as a time crisis, a so-called dyschronia,[53] which originates in the loss of a genuine rhythm. By looking at the concurrent causes of the present form and tempo of contemporary life, I explore alternatives to react against these dynamics:

> Recent studies indicate that in fact people in Western societies do feel under heavy time pressure and they do complain about the scarcity of time. These feelings seem to have increased over recent decades, making plausible the argument that the 'digital revolution' and the process of globalization amount to yet another wave of social acceleration.[54]

I address changes of temporality mediated through technologies from the 1970s and 1980s onwards, when Jeremy Rifkin announced 'computime', which he defined as the 'final abstraction of time and its complete separation from human experience and rhythms of nature'.[55] Triggered by modern technologies such as computers, and later by mobile phones, the prevailing clock-based time has persisted with greater precision (for example with the atomic clock), but certain synchronisation dynamics have changed progressively over the years. For instance, as I discussed previously, punctuality gave way to flexibility, which is now the decisive factor that keeps up the pace of 'hypermodern' life. Mobile phones and other smart devices allow us to be always available to others, enabling instant communication. The credo of today is 'Not Now! Now!'[56]

According to Hartmut Rosa, there are three forms of social acceleration: technological acceleration (transportation, communication, production), the acceleration of social change (cultural knowledge, social institutions, personal relationships) and the acceleration in the pace of life.[57] This leads to shifting temporal structures within our contemporary society. Needless

to say, we are caught in a vicious cycle. The dimensions of social acceleration are depicted by Rosa in his diagram 'The Circle of Acceleration' (Fig. 1.2). To take a single example, it is more apparent now that electronic messages (e-mails) have largely replaced correspondence traditionally undertaken by mail or telephone. Such a development accelerates the communication process and, according to Rosa, therefore leads to social change. That is, the number of e-mails compared with letters increases steadily, engendering the self-imposed need to answer more messages within the same time period. The speed of communication thereby increases, and the desire for a new technological solution to it is proposed – so-called time-saving devices. The circle of acceleration starts anew.

Rosa continues that the ongoing processes of acceleration now even conflict with a number of deceleration processes and other limiting factors. Rosa discusses four categories of deceleration: places of deceleration (e.g. desert islands); 'slowdown as an unintended consequence of acceleration and dynamization'[58] (e.g. traffic jams); 'intentional forms of (social) deceleration'[59] (e.g. Slow Movements); and 'hyper-accelerated standstill or polar inertia.' Collectively, these mean that 'the system of modern society is closing in and history is coming to an end'.[60] Such a hyper-accelerated standstill was previously diagnosed by Jean Baudrillard and Francis Fukuyama, and by the cultural theorist Paul Virilio, known for his concept of 'dromology' (the science of speed). Society is thus rushing towards 'uchronia', what Virilio interprets as 'the century of the speed of light'.[61] This leads in exaggerated form to the political and social theory of accelerationism: to accelerate the acceleration.[62]

In contrast to Rosa, Han poses that time has lost its regulating and organisational aspect. For acceleration processes, a direction or goal is needed, which he argues is lost. Time lacks a sense of direction as well as duration, whereby events are not connected with each other any more. Time is fragmented into the smallest possible unit of atomic particles, and the world shrinks to singular, punctual events. In Han's terms, 'the atomization of time, destroys the experience of continuity'.[63] This has alternately been described as 'instantaneous time'[64], and in the metaphor of 'timeless time'.[65]

They agree on the loss of duration in today's rushed society. The philosopher Martin Heidegger discussed in this context the 'de-presenting of the today'.[66] This describes a pressure on the present moment and how time is perceived in contemporary society. It results in a particular behaviour: out of the hunger for time grows a desire to overload the

now with more and more 'events' in increasingly shorter time frames. The important issue therefore is not the scarcity of time itself; it is the present-day perception of being pressed for time. As sociologist Judy Wajcman demonstrates, the actual number of working hours has remained consistent, or even decreased, over the past sixty years in Europe and the United States, and life expectancy in Western societies is increasing. Together, these indicate that there is more time at hand than ever before; but by contrast, the feeling of being rushed is more present than ever before. Wajcman calls this phenomenon the 'time pressure paradox'.[67]

The result of the perceived temporal pressure is reflected in a contempt for sleep – as non-productive time. People in Western societies changed their sleeping behaviour from a presumed ten hours 200 years ago, to six and a half hours on average today.[68] In *24/7: Late Capitalism and the Ends of Sleep*, Jonathan Crary exemplifies sleep as a significant indicator of how capitalist thinking influences the fabric of everyday life. Today's non-stop society pushes its citizens to constant activity, and ideally constant consumerism. In common with Helga Nowotny, Crary indicates the necessity to reconnect with natural and physical rhythms[69] in order to address the current crisis.

Similarly, John Urry emphasises that 'rhythmicity is a crucial principle of nature, both within the organism and in the organism's relationships with the environment. And humans and other animals are not just affected by clock time but are themselves clocks'.[70] Nowadays this fact is often ignored or overwritten by stimulant drugs (from caffeine and nicotine to cocaine and amphetamines), which in the short-term increase alertness and activity. The rationale behind this is the 'hunger for time'.[71] Nowotny elucidates that 'the impression of the scarcity of time arises only from overtaxing of experience by expectations'.[72] Experience and actions need time, and can therefore be accommodated in a given span of time only in a limited fashion. Nowotny's argument is that the horizon of time and the structure of expectation must therefore be brought into line.[73]

This is mostly done by setting lists of priorities. Returning to the example of sleep, the biologists Steven W. Lockley and Russell G. Foster state, 'society seems to be conspiring to demote sleep in our list of priorities'.[74] In fact, people reduce sleep so as to keep up with what our society glorifies: high productivity, activity and speed. This results in a conflict between social expectations and the actual time available, which creates a state of literal, physical exhaustion that leaves affected individuals with significant problems with managing their life. Hence, the number of people diagnosed with 'Burnout Syndrome' in Western societies is rising.[75]

However, the time crisis originates not in technological acceleration processes, but in the estimation of certain actions: what do we as a society and as individuals consider time well spent or wasted? As Han explains, acceleration is only a secondary process. The core issue manifests itself in an exaggerated appreciation of the *vita activa* (*animal laborans*) over the *vita contemplativa.*[76] This matches with Wajcman's description of social shaping: acceleration is only a —product of contemporary technological culture, rather than the trigger itself.

Marinetti's praise of the beauty of speed, cited above, proves true to this very day. According to Wajcman, the fact is that technologies are a product of culture, and the relationship between temporal rhythms and technological devices is a result of cultural evolution: social shaping.[77] 'Technology is too often seen as outside of social relations. But if time cannot be separated from collective rhythms, assumptions, and hopes of human life, then neither can the technologies that increasingly mark and shape time for us.'[78] This often leads to unintended consequences, which result from human action but not intention. To the same extent, they shape and are shaped by society and only reflect contemporary culture. They are neither the problem nor the solution, which indicates that the time crisis has more deeply ingrained antecedents. It essentially starts with the way we individually think about time, especially its value.

The intensity of being pressed for time varies hugely from person to person. Individualisation emerged from the industrial era and continues to develop, leading to a hyper-individualised society. Zygmunt Bauman discusses in *Liquid Modernity* the shift to the 'society of individuals': people are actors of their own life, transforming their identity in response to the present situation. Bauman refers to modern life as a never-ending casting, where every action is evaluated anew, leaving the responsibility for success and failure fully to the individual.[79] Society and politics are thus increasingly separate entities, detached from individual lives, and the dismemberment of societal structures is the consequence. Previous nine-to-five jobs,[80] standard mealtimes, or the separation of workdays and weekends slowly but surely melt away.

This shift leads, on the one hand, to the individual's autonomy of when to work, eat or rest. On the other hand, it can become a trap, making individuals work longer and longer hours – 24/7. It is now all up to the individual[81] and their status within the social fabric of society. The powerful, economic classes are able to decide on their speed of life. Sarah Sharma discusses in this context the term *power-chronography.**

She detangles the temporal layers that exist between socio-economy classes. The privileged classes dictate the time of others (for instance taxi drivers, cleaners, waitresses).[82] This means an unprecedented freedom for certain classes, but even such hyper-optionality creates unprecedented problems. The same development is seen in work life, where many people now change jobs every couple of years or so. Compared with agricultural society, where people were farmers or craftsmen all their lives, the unconditional identification with one's occupation has vanished. Autonomy, individual liberty and freedom of choice are the dominant features of today's life. The extent to which a person is affected by acceleration processes and hurriedness depends on their status and position within society.[83] The impact of the dyschronian situation on each individual is difficult to measure, but the fact is the common perception of being pressed for time. Individualisation and the desire for autonomy changes the societal pattern and further fosters the desynchronisation of temporal structures in Western society.

An understanding of the human biological clock lends support to the notion of flexibilisation and individual temporal rhythms. Now the individual and his or her individual rhythm take on greater significance. How time is perceived depends on each individual, and our ability to harmonise or synchronise societal time with natural and bodily rhythms. A meaningful new temporal structure must therefore be discussed at the individual level, based on physiotemporal and biotemporal order, rather than on conventionality of sociotemporal rules. Here I position my approach, at the juncture between chronobiological and chronosociological research. I argue that the role of the body clock has to be taken into greater consideration in relation to contemporary time patterns. Crary argues that today 'the disquiet of sleep has a more troubling relation to the future. Located somewhere on the border between the social and the natural, sleep ensures the presence in the world of the phasic and cyclical patterns essential to life [...]'.[84] What will happen in the future relies today on the ethics of chronobiology and the politics of time.

UCHRONIANISM

The concept of uchronia was developed 140 years ago. However, up until now, the neologism pales beside its counterpart 'utopia'. Through an examination of various models, interpretations and ideas of what uchronia is, I will shed some light on a neglected area of contemporary significance.

Charles Renouvier coined the word in his novel *Uchronie*, published in 1876. Two subtitles offer two plausible interpretations of uchronia: 'utopia in history' *(L'Utopie dans l'histoire*), or 'an apocryphal sketch of the development of European civilisation not as it was but as it might have been' *(esquisse historique apocryphe du développement de la civilisation européenne tel qu'il n'a pas été, tel qu'il aurait pu être*). In other words, uchronia was originally conceived as an alternative history. Renouvier's *Uchronie* consists of three parts, which are seemingly written by different authors. In the foreword (*avant-propos de l'éditeur*), an editor presents an overall characterisation of uchronia. The central text, a manuscript of the 17th century originally written in Latin by a victim of the Inquisition, posits the role of the Inquisition in the Holy Roman Empire in over a hundred pages. Finally, the afterword of the editor *(postface de l'éditeur*), signed by Renouvier, addresses the specific features of the literary form of uchronia.[85] According to Renouvier, the term denotes a *utopie des temps passés* or 'utopia of past times'. He elucidates his intention as promoting a new way of thinking as well as the creation of an unusual genre.[86]

The underlying principle of telling a story that deviates from reality has existed since the dawn of humankind. When the first uchronian work was written is still unknown. Pierre Versins was the first to identify one of the earliest uchronian works in *his L'Encyclopédie de l'utopie* (1972). Within the genre of science fiction, he acknowledges Louis Geoffroy's novel *Napoléon apocryphe, 1812–1832: histoire de la conquête du monde et de la monarchie universelle* as the first piece of uchronian literature.[87]

Lyman Tower Sargent talks about the 'three faces of utopianism'.[88] Certainly, the uchronian world is much smaller in comparison to the universe of utopia; yet the reduction of uchronia to alternative history alone does not suffice. One widely shared view is that the term is coextensive to alternative history,[89] but even in Sargent's first category of uchronia, in the genre of science fiction, the definition varies. Taking a cue from Sargent's *Utopianism*, I suggest three faces of uchronianism. I argue that in the current debate on today's time crisis a new approach, in the form of a temporal utopia, is needed to imagine and explore alternatives to the present-day condition.

The first face is uchronia as alternative history, as previously explained. The second face of uchronia is equivalent to a 'temporal utopia' offering an imaginary escape in the form of a time paradise. According to Nowotny, uchronia strongly refers to the utopian concept: 'Uchronias, like utopias before them, have a central social function to fulfil: they contain proposed solutions to particular unsolved problems in a society.'[90] Uchronia is

located in the now or the close future, and is intended to offer a new and better experience of time. Nowotny is concerned with how time is managed in everyday life. Her uchronia is about a better conception of time; thus the uchronian ideal is based on a novel concept in dealing with time. Other scientists have picked up on her model and added concepts for 'female uchronia', 'religious uchronia', and so forth. The third face comprises the use of uchronia in its more etymological sense. Referring to uchronia as 'no-time' *(ou-chronos*), it suggests a 'non-existent time'. In contrast to alternative history, uchronia is not related to a historical event or any precise point in time. Most of the work falling into this category is independent of the linear time concepts of past, present and future. Régis Messac, for example, offers in *Les Primaires* this uchronian definition: 'a remove from time or outside time',[91] which is explored in the artwork of Matali Crasset's *Voyage en Uchronie*. Another example is given by Leo Kreutzer in the Kyffhäuser myth that is discussed in relation to Heinrich Heine later. In this regard, the German neologism *nirgendwann*, meaning anytime and never, expresses the uchronian concept best.

ALTERNATIVE HISTORY

Within accounts of alternative history, the first intensive study of uchronia was written by the French author Emmanuel Carrère in *Le Détroit de Behring: Introduction à l'uchronie* (The Bering Strait) in 1986. Subsequently, a few authors have dedicated themselves to uchronia, with disagreements on the assignment within the genre of science fiction. Whereas the writer Karen Hellekson in *The Alternate History: Refiguring Historical Time* (2001) equates the term with alternate history, alternative history, subjunctive conditionals, or counterfactuals, the literary scholar Christoph Rodiek, in his book *Erfundene Vergangenheit* (*Reimagined Past*, 1997), limits uchronia to a narrative form within the genre of alternative history. Further differentiations occur in terms of its concept of temporality. He suggests the following criteria:

No. 1: Uchronia that is limited to the past. At a particular historical event, the course of history changes and continues as reinvented past. Here the alternative story ends before the time of writing, as in Louis Geoffroy's novel *Napoléon apocryphe* and Charles Renouvier's *Uchronie*.

No. 2: Uchronia as alternative history and of the past and future, like Louis-Sébastien Mercier's *L' An deux mille quatre cent quarante: Réve s'il en fut jamais* (The year 2440: A dream if there ever was one). These

uchronian stories are 'chronologically connected to our past and present but even more crucially by characterizing that future as one belonging to progress and thus linked causally if not immediately to the reader's time'.[92]

No. 3: The most comprehensive definition of uchronia includes alternative past history, futuristic uchronia, and literature which combines both No. 1 and No. 2 George Orwell's *Nineteen Eighty-Four* (1949), for instance, was ranked among futuristic uchronia at the time it was published, and can now be understood as alternative past history or 'uchronia of future history'.[93] Researchers of science fiction argue whether the last category belongs to uchronian literature or not, but to go into this here would take us too far afield.

Renouvier included a tree diagram in the postscript of his manuscript that acts as a visualisation of the uchronian plot in contrast to the course of history (Fig. 1.5).[94] In a typical model of uchronia, a historical event changes at a given point in time, leading to alternative consequences – reality and uchronia bifurcate into different plots. It becomes obvious that within the category of uchronia, definitional disagreements show the complexity of uchronia as alternative history. For me, the following elements come to the fore: uchronia is located between reality and the imaginary; uchronia is not necessarily limited to the past; and at a point of divergence, a parallel narrative unfolds.

UCHRONIA AS TEMPORAL FORM OF UTOPIA

The first to introduce the term uchronia to sociological theory was Helga Nowotny. Her model of uchronia is fundamentally different from alternative history. According to Nowotny's definition, uchronia is closest to the idea of a 'temporal utopia', but she also distinguishes between uchronia and utopia. For her, utopias are fictional places located in the distant future, whereas uchronia is located in the present or the extended present.[95] Uchronia is an attempt to escape the rigidity of clock time through the development of novel time concepts. The intention of new temporal structures is to achieve a better experience of time. Nowotny's uchronia aims for a new structure of social time in contrast to the present model, whereas in alternative history, uchronia is a genre or specific narrative form, but in terms of content does not explicitly refer to alternative time structures.

To introduce her concept in sociological theory, Nowotny suggests three ways to uchronia. The first way expresses the desire for more time, for example in the idea of a 'cockaigne full of time',[96] cockaigne* meaning

an imaginary place of plenty.[97] In such a place the hunger for time would be satisfied by all the time in the world, combined with all the money in the world, and consequently, life would be a paradise of leisure, pleasure and consumption. In the painting *The Land of Cockaigne* (1567), by Pieter Breugel the Elder, an example is given of a mythical place which is utopia and uchronia all in one.

The second way to uchronia is more complex in its approach and oriented towards self-determination and temporal flexibility (as discussed previously). The current strict division of work and leisure time is expected to disappear, giving the individual the right to structure their time for themselves. The current development of flexible time management paves the way for this uchronia. For instance, personal e-mails are written during the working day, while work e-mails are answered at the weekend. Work and leisure can become 'one time' again. Ideally the experience of time would be perceived as unitary passage of time and not as fragmented parts of hours and minutes. However, there are two sides to this coin. On the one hand this development can lead to true sovereignty and temporal freedom. The feeling of being pressed for time can wane as the strict categories of work and free time disappear. On the other hand, in reference to Byung-Chul Han's argument, discussed above, if the appreciation of the *vita activa** over the *vita contemplativa** is the status quo, this might lead to an intensification of time pressure. One project that largely falls into this section is Fiete Stolte's *Measure 8 Days a Week* (2009) (Fig. 1.3). Although the artist never labelled it explicitly a uchronian project, he developed an alternative pattern for organising time. In line with Nowotny's intention to offer a new experience of time, he divided the seven-day week, based on 24-hour days, into an eight-day week with only 21 hours per 'day'. Over the period of three years, he realised a self-inflicted experiment in which he desynchronised himself from society, nature and his own bodily rhythm. He invites others on his website to do the same. Stolte emphasises: 'As your days are shorter than everyone else's you are ahead of people's time while sharing time zones with places in other parts of the world.'[98] He raises the question of whether a person has to live by local time, or if in a globalised world a person shares certain time frames with multiple time zones. Thereby, Stolte addresses the two stipulations Nowotny demands in her second uchronia – temporal flexibilisation and self-determination. However, the demand for the perception of a unitary time* passage remains unfulfilled.

Nowotny's third way to uchronia is one in which there is a breaking out of rigid, standardised time, and in its place, a search for the spontaneity

of the 'vicissitudes of life'.[99] Through a rediscovery of natural rhythms, 'the battle against nature is to be brought to an end and homeostasis replaced by homeorhythmics'.[100] It is necessary, therefore, to reintroduce a cyclical idea of time (e.g. days, seasons, years) into the current predominantly linear lifestyle of clocks and calendars. The starting point is the circadian rhythm. Processes related to the circadian rhythm are the sleep and wake rhythm, or the rise and fall of the body temperature. In art and design, there are a few projects addressing the body clock and the circadian rhythm. The closest examples to mine, especially my Circadian Space (see Chapter Six), were developed by the architect Philippe Rahm. He frames his work as 'physiological architecture'. In collaboration with the Centre for Chronobiology UPK Basel, he developed projects like *Melatonin Room* or *Diurnism* (Fig. 1.4). In *Diurnism* he takes on a new approach to the concept of day and night. Rahm creates an artificial night, in contrast to today's constantly lit environments. He illuminates a museum space with 'orange-yellow bright light which wavelengths, upper than 570 nanometers, are perceived by the body through the melatonin rhythm as a true night'.[101] The project could find a real application for night-shift workers to get a good artificial night's sleep. *Diurnism* is an inspirational example of a spatial experience developed in collaboration with chronobiologists. Thematically, while Rahm criticises the current non-stop society dependent on electric light and utterly unaware of the human bodily rhythm, he does not explicitly explore a uchronian vision of alternative models of time.

In summary, all three of Nowotny's uchronias pursue the goal of removing the 'I have to ...' from daily life and replace it by 'I feel like doing ...'. The essential aspects that characterise her uchronia are: (1) Uchronia is linked to the concept of a temporal utopia; (2) Uchronia is now or in the extended present; (3) Uchronia is about the right use of time with regard to today's societal time; (4) Uchronia is a new approach to understand and use time; and (5) Uchronia is a time paradise, offering a new experience of time. On the basis of Nowotny's uchronianism, the political scientist Valerie Bryson discusses possibilities for a new politics of time. She stresses that 'thinking about non-existent ways of understanding and using time opens up a range of radical alternatives outside the framework of patriarchal norms and the short-term logic of capital accumulation'.[102] Bryson uses uchronia to criticise and reflect upon today's time norms, conditions and values. Rather than imagining an ideal time paradise or the perfect timing, her female-oriented uchronia is a method to challenge today's politics of time by suggesting a list of new, negotiable criteria. The role of uchronian thought is to ask: what time culture is worth

striving for, and what is the set of criteria to organise social time? Bryson's uchronian ideas are intended for the here and now, and whether particularly female or not is negligible in this context. Primarily, uchronia is a useful tool to initiate a discussion about the politics of time.

Other sciences refer to Nowotny's concept as well, for instance chronobiology. In their study of biological rhythms, the scientists Foster and Kreitzman conclude their book *Rhythms of Life* with a chapter on 'Future Times: Uchronia or Dyschronia'. According to them, the notion of time in the future can lead in one of two directions which conform, from their point of view, to the time paradise of uchronia or to Bryson's politics of time. The uchronian ideas are meant to influence today's temporal structures through suggesting a set of criteria to organise future times, more precisely *euchronia* (the Greek *eu* meaning good), or the time hell of *dyschronia* (the Greek *dys* meaning difficult or of bad status), which conforms in their approach to a 'temporal dystopia'. It is not surprising that Foster and Kreitzman mention the term 'dyschronia' in contrast to the uchronian concept of Nowotny. The manipulation of the biological clock can have all sorts of implications in relation to the rhythm of life.

UCHRONIA AS NON-EXISTENT TIME

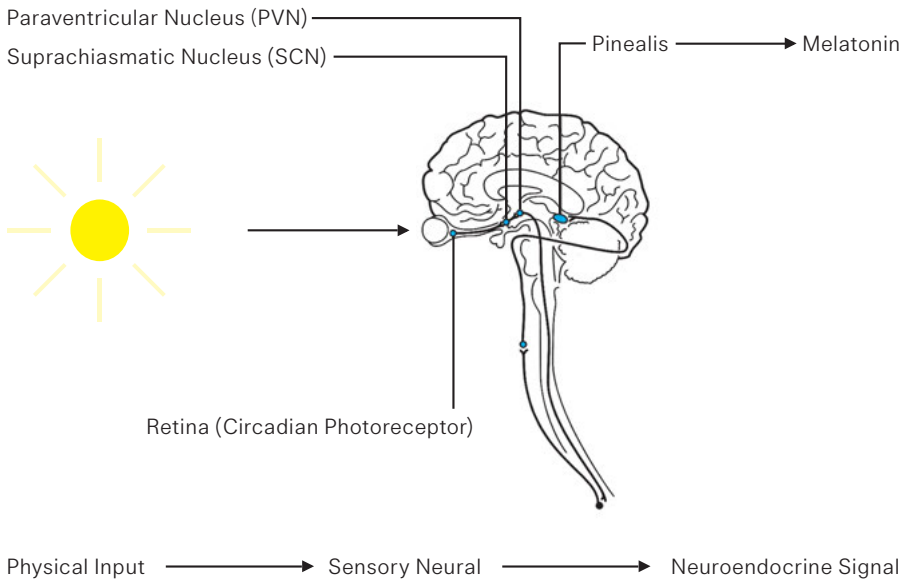
Uchronia as non-existent time is the most difficult and vague to grasp and to define. Expressions like 'no-time', 'anytime' or 'non-existent time', derived from *ou-chronos*, encapsulate the commonalities of this uchronian model. Uchronia here is removed from any temporality (past, present, future) and deviates significantly from the previous categories.

In the essay 'Wege nach Uchronia' (Paths to Uchronia),[103] Klaus Mehner suggests a third 'qualified' or fourth way to uchronia based on Nowotny's approach. Referring to her third way to uchronia (breaking out of rigid standardised time structures and the search for the spontaneity of the 'vicissitudes of life'), Mehner develops his concept in the domain of music theory. He criticises Nowotny's proposal for being superficial, as it does not fundamentally question the linear way of thinking about time. Mehner explains his view by referring to John Cage's *Variations I for David Tudor*: the intention is to overcome the Western concept of time in order to create independent and free processes. Through the great degree of abstraction of Cage's composition and notation, an enormous flexibility is afforded in the interpretation of the piece. In general, Cage's 'anarchistic compositions,' as Mehner calls them, create an unprecedented degree

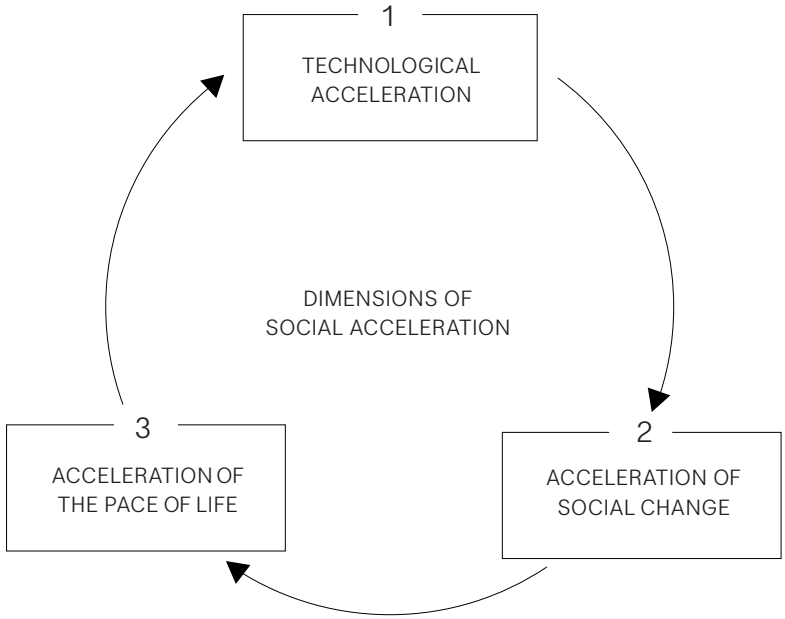
of freedom, leading to a radical understanding of time. In music, Mehner defines uchronia as the dream of temporal freedom. With reference to Nowotny, he argues that his way of conceptualising uchronia is more progressive and successful in terms of achieving a high degree of individual freedom. It remains highly questionable, however, whether his abstract model is comparable to the applied approaches of Nowotny. He leaves the question open as to whether the freedom afforded in Cage's composition can transfer to other areas. But Mehner does suggest a new temporality apart from both linear (e.g. clocks, calendars) and cyclical structures (e.g. days, seasons). Whereas alternative history mainly refers to a past event, the temporal utopia or time paradise suggests temporal perspectives for the present and the future.

This third model of uchronia can thus in no sense be located on a time line. In *Träumen Tanzen Trommeln* (Dream Dance Drums), an essay on Heinrich Heine's work, the author Leo Kreutzer sets out an appropriate example of this kind of uchronia. In the Kyffhäuser legend, the Holy Roman emperor Barbarossa sleeps in a secret chamber underneath the Kyffhäuser hills. As a sign of his presence, ravens circle the Kyffhäuser. Only in the extreme misery of his nation will the emperor wake up and restore the country's former prosperity. Heinrich Heine interprets this legend as a poetic uchronia, referring to it as *nirgendwann*, a newly coined German word, combining 'anytime' and 'never'. Since uchronia can happen at anytime and also never, the legend provides infinite hope for the waiting population. The emperor Barbarossa can wake up 'nirgendwann'. Where utopia suggests an ideal place in the nowhere, the right moment for uchronia is at a non-existent time.

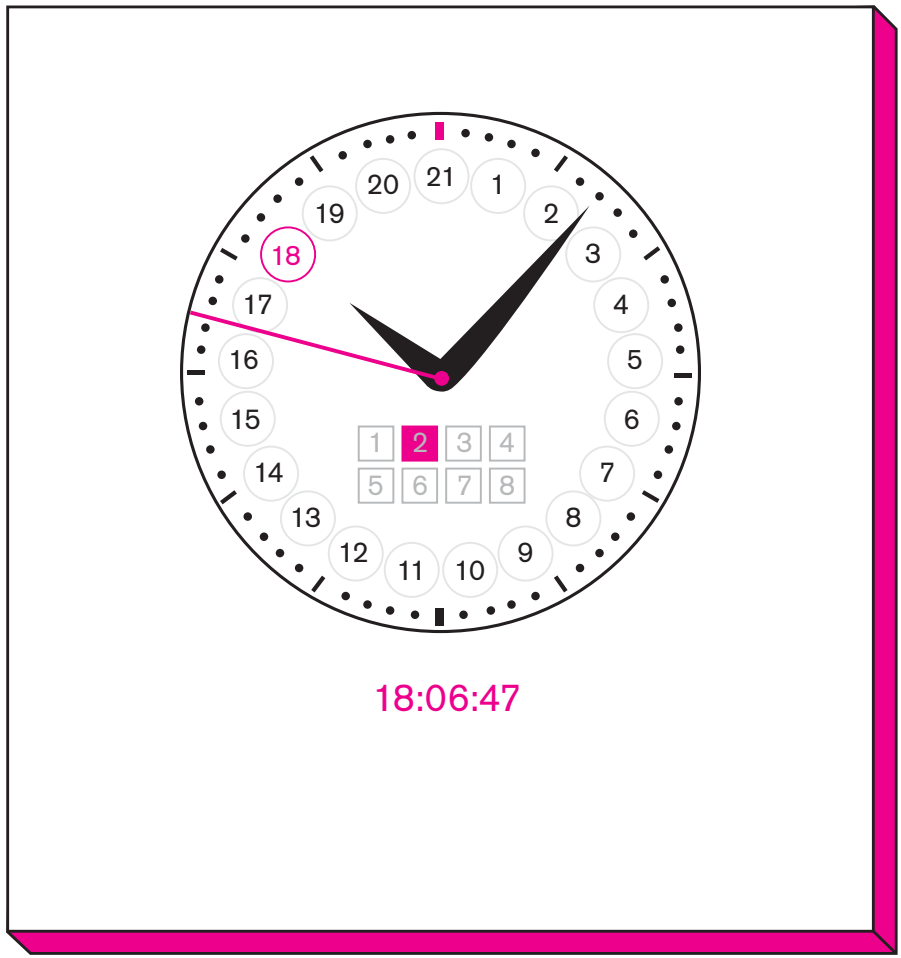
In summary, I have briefly explored the various uchronian models and categorised them into three faces of uchronianism. I concentrate on uchronia as temporal utopia, with a focus on Nowotny's third vision of uchronia, the breaking out of standardised time. At its heart is the search for the spontaneity of the vicissitudes of life. Natural rhythms, especially the human circadian rhythm, are suggested as an alternative to current societal time norms. What is a desirable or preferable time system, appropriate to today's way of living, and what is the temporal ideal worth striving for? The historical perspective on previous temporal structures discussed in this chapter informs the work I discuss in the next chapters. Together with an interdisciplinary approach, it opens up opportunities to enrich and influence the discussions on the present-day perception of time. In the following, I synthesised the various uchronian definitions I discussed in this chapter, in the form of a set of screenprinted uchronian cards. (Fig. 1.5–1.13)



1.1: *Suprachiasmatic Nucleus by T. A. Wehr*, 2001,
redrawn by Décosterd & Rahm, 2002, and Helga Schmid, 2018

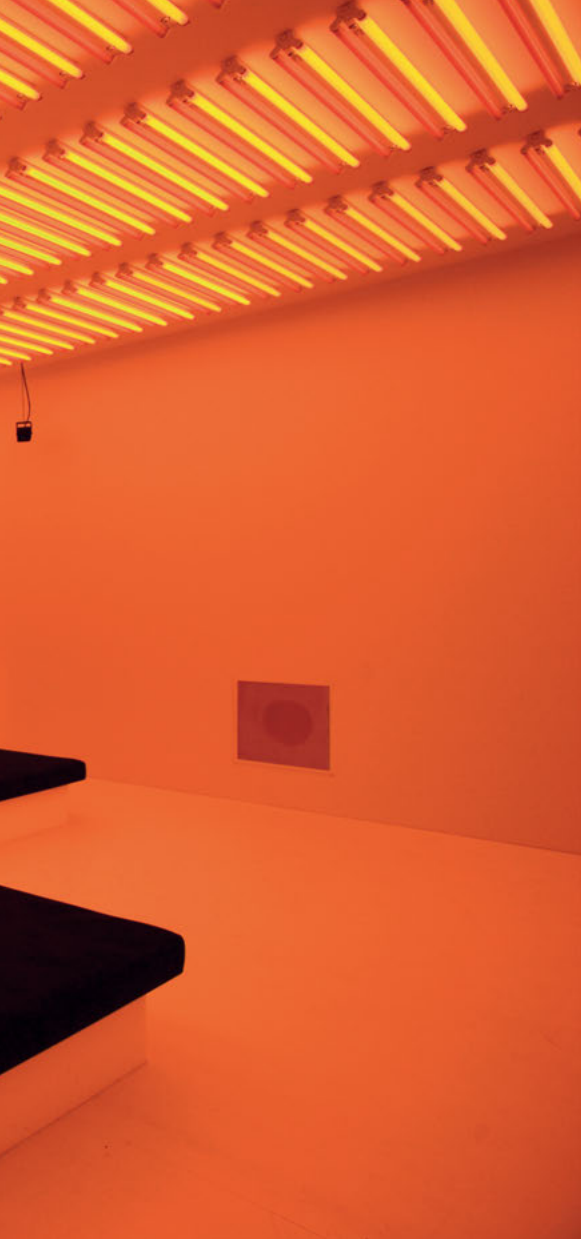


1.2: *The Circle of Acceleration*, 2013, Hartmut Rosa, redrawn by Helga Schmid



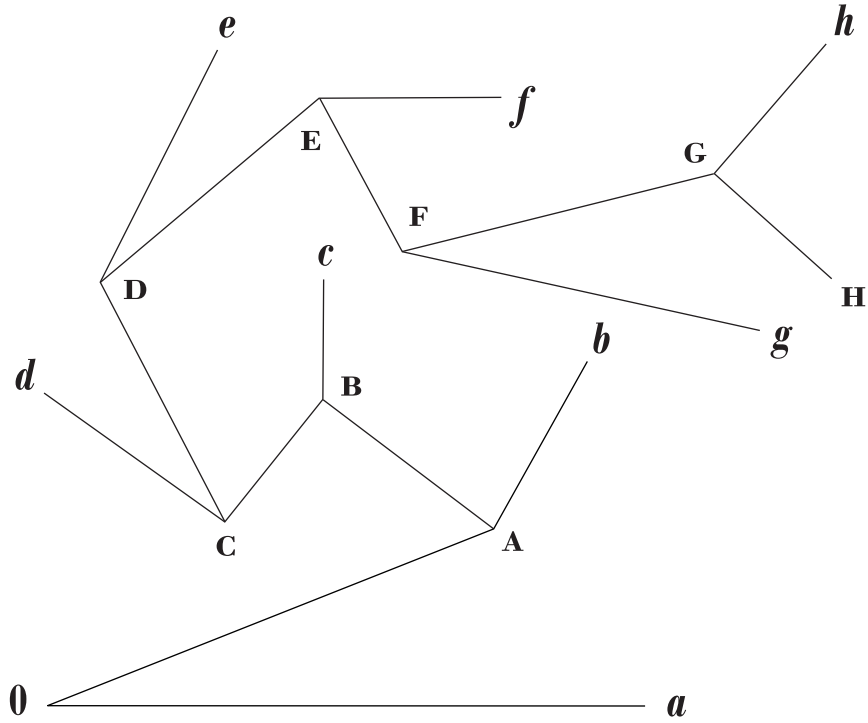
1.3: *Measure 8 Days a Week*, 2009, Fiete Stolte, redrawn by Helga Schmid

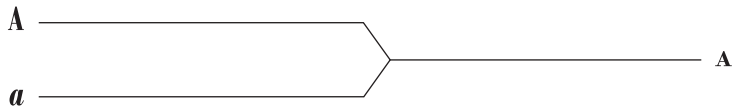
1.4: *Diurnism*, 2007, Philippe Rahm architectes



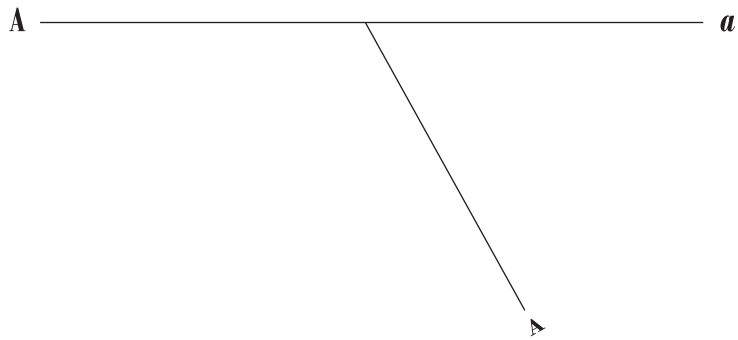
At a certain point in time (0 = point of divergence), the uchronian plot (A) diverts from the course of history (*a*). Uchronia appears as a continuous line, in reference to historical events (*b*,*c*, …).

Uchronie (L'Utopie dans l'histoire), Charles Renouvier, 1876

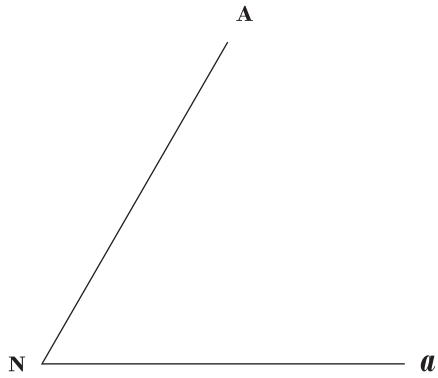




Uchronia (A) bridges the gap between reality (*a*) and the imaginary (A).



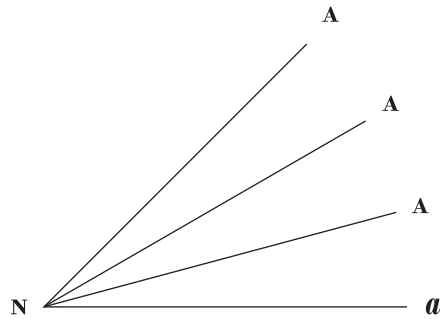
Uchronia (A) swings between two poles, fantasy-madness (A) and truth-reality (*a*).



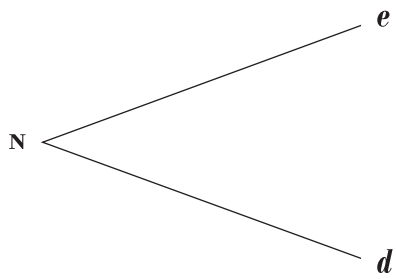
Uchronia (A) is a fundamentally different concept. It offers a new temporality apart from reality's perception of time (*a*) with its linear (e.g. calendars, clocks) and cyclic structures (e.g. days, seasons).

Dyschronia (*d*) is now (N).

Uchronia (A) contradicts reality (*a*) and disrupts the peaceful coexistence between reality and the imaginary world.



Uchronia (A) is a time paradise, offering a new experience of time in the near future. Instead of reality (*a*) three ways to uchronia are possible.



Uchronia is the future. Now (N) two directions are possible, either the time hell of dyschronia (*d*) or the time paradise of euchronia (*e*).

Uchronia is ‘nirgendwann’. A newly coined German word, combining ‘anytime’ and ‘never’, expresses that uchronia might or might not happen in the infinity.

CHAPTER 2

UCHRONIAN THINKING

UCHRONIA AS A METHODOLOGY

In Chapter One, I explained the etymological relationship of the terms utopia and uchronia, and drew similarities between utopian and uchronian thinking. In this chapter, I elaborate on this relationship to formulate uchronian thinking. The sociologist Ruth Levitas is renowned for her research on utopia, particularly for her book *Utopia as Method: The Imaginary Reconstitution of Society*. She summarises her understanding of utopia as a method in the following way:

> A utopian method [...] provides a critical tool for exposing the limitations of current policy discourses about economic growth and ecological sustainability. It facilitates genuinely holistic thinking about possible futures, [...]. And it requires us to think about our conceptions of human needs and human flourishing in those possible futures. The core of utopia is the desire for being otherwise, individually and collectively, subjectively and objectively. Its expressions explore and bring to debate the potential contents and contexts of human flourishing. It is thus better understood as a method than a goal [...].[104]

Levitas points out aspects of utopia which are highly relevant for the development of a uchronian model: concept as method, critical tool, debate, possible futures, holistic thinking and being otherwise. On the basis of Levitas's understanding and definition of utopia, Valerie Bryson defines uchronia as a 'temporal utopia',[105] with a strong focus on the feminist politics of time. Moreover, Helga Nowotny argues that 'uchronias, like utopias before them, have a central social function to fulfil: they contain proposed solutions to particular unsolved problems in a society'.[106] My work builds upon these sociologists' ideas, and applies them in art and design practice.

First and foremost in importance is the understanding of uchronia as a method rather than a defined and unimpeachable goal. Levitas construes three different modes within her utopian method: archaeological, ontological and architectural. She describes the archaeological mode as 'piecing together the images of the good society that are embedded in political programmes and social and economic policies'.[107] The ontological mode entails the 'historical and social determination of human nature',[108] and in the architectural mode she discusses the imagination of potential alternative scenarios for the future'[109] in relation to space. She outlines that in the past, utopia as a method has been neglected in

sociology, because of the institutionalisation of the discipline as an empirical, respectable academic field.[110] Her intention is to reintroduce utopian thinking to social science. H.G. Wells' lecture 'The So-called Science of Sociology' (1906) underpins her argument: 'the creation of utopias – and their exhaustive criticism – is the proper and distinctive method of sociology'.[111]

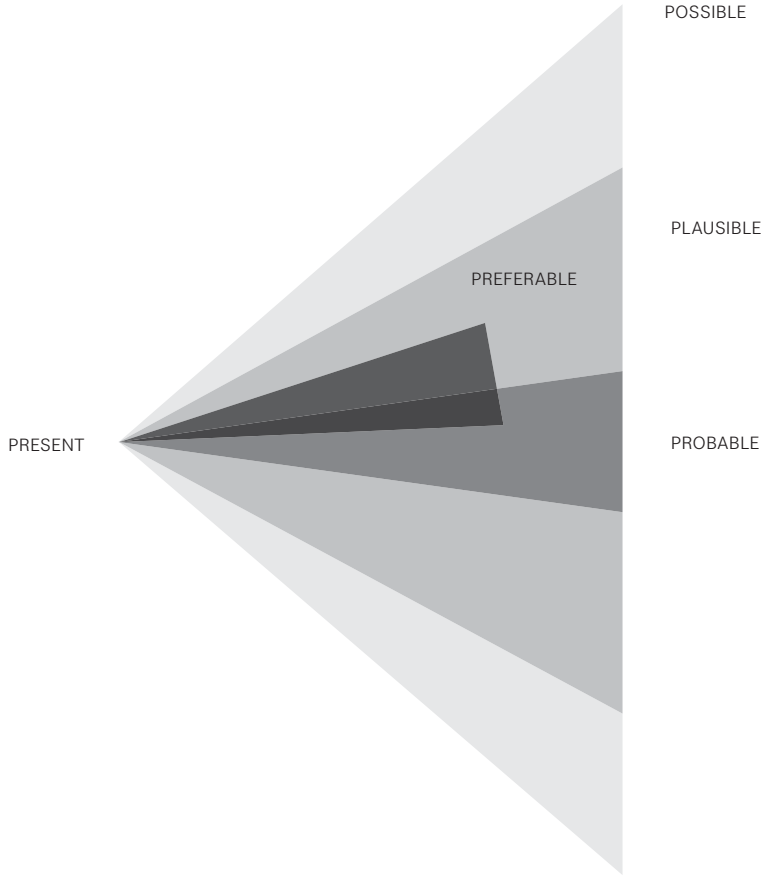
Levitas's definition of utopia as a method, and her three modes within, are the key inspiration for my uchronian thinking. However, she limits the utopian method to social science. She concentrates exclusively on the relationship between sociology and utopia, without encouraging a general application of utopian thinking outside her discipline.

Though my research is inspired by her conceptual approach, I frame uchronia as a methodology rather than a single method. I understand and use uchronia as an umbrella term, under which I apply a series of methods in order to put it into practice. I explore the characteristics of contemporary temporality through uchronia, at first by using a historiographical method, through which I define the term uchronia as temporal utopia (see the previous chapter). This is followed by a series of observations and reflective writing (see Chapter Three). The purpose of these methods is to gain an understanding of the issues related to today's time crises by immersing myself in daily temporal conflicts.

I continue my investigations by looking at the possible applications of uchronian thinking in practice. To this end I use the method of thought experiments to free my thinking about alternative time systems (see Chapter Five). In the course of this, I develop the *zeitgeber* method, which I have tested in workshops (see Chapter Four and Six). Here I apply the approach of 'unlearning' societal time, by asking participants to think about alternatives and test their own uchronias. Another application is practical projects, which serve as examples for how uchronian thinking and the uchronian methodology can be applied.

All these methods reflect my own process, but the methodology is not limited to these methods, nor to a particular discipline. Rather, I am only the first to suggest uchronia as a methodology. I have introduced it in my field of art and design, and encourage it as a general mode of thinking within my interdisciplinary network and beyond.

Before discussing my approach in greater detail, I want to position my methodology within the existing practice of critical and speculative design. Over the years, Anthony Dunne and Fiona Raby's concept of 'critical design' expanded and the 'speculative' element became part of their design philosophy, manifested in the book Sp*eculative Everything*.



2.1: *PPPP* (2013), Anthony Dunne and Fiona Raby, redrawn by Helga Schmid

In it, they reason 'that many challenges we face today are unfixable and that the only way to overcome them is by changing our values, beliefs, attitudes, and behaviour'.[112] Therefore, their focus is on 'the idea of possible futures and using them as tools to better understand the present and to discuss the kind of future people want, and, of course, ones people do not want'.[113]

This is consistent, indeed almost identical with, Levitas's sociological approach I quoted previously, only applied to design: 'A utopian method [...] provides a critical tool for exposing the limitations of current policy discourses about economic growth and ecological sustainability.

It facilitates genuinely holistic thinking about possible futures'.[114] In their definition, Dunne and Raby outline their position with regard to the future. They differentiate between four trajectories, represented as cones in the diagram (Fig. 2.1): probable, plausible, possible and preferable futures.[115] Their design work is situated in the field of the 'preferable future'.[116]

> Not in trying to predict the future but in using design to open up all sorts of possibilities that can be discussed, debated, and used to collectively define a preferable future [...]. Designers should not define futures for everyone else but working with experts, including ethicists, political scientists, economists, and so on, generate futures that act as catalysts for public debate and discussion about the kinds of futures people really want.[117]

Along these lines, Zygmunt Bauman says in relation to social theory:

> To measure the life 'as it is' by a life as it should be (that is, a life imagined to be different from the life known, and particularly a life that is better and would be preferable to the life known) is a defining, constitutive feature of humanity.[118]

Dunne and Raby define their understanding of utopias/dystopias in the exact same words.[119] Levitas even identifies her 'utopian mode as speculative sociology'.[120] However, both act within their own discipline, not recognising how their ideas of utopian thinking overlap with the complementary sociological and or critical design approach. This is where my work and the uchronian methodology is situated.

CHAPTER 3

UNLEARNING TIME

TIME NOT CLOCKS

The psychologist Marc Wittmann explains in his publication *Felt Time* that humans have a fairly accurate sense of time for short intervals of seconds up to a couple of minutes, and that 'the perception of time functions as an error signal indicating that something is amiss'.[121] The number of our daily 'error signals' seems to increase. But we need not accept the given, and question our relationship with time, in line with Ruth Levitas's intention of utopia: 'Utopia also entails refusal, the refusal that what is given is enough. It embodies the refusal to accept that living beyond the present is delusional, the refusal to take at face value current judgements of the good or claims that there is no alternative'.[122]

The scarcity of time, the feeling of time pressure, or the notion of freeing oneself from the ticking clock has been expressed in numerous projects by other people. They discuss, question or reject the current temporal rhythm and look for alternatives. One popular approach in such projects is to modify the object symbolising time: the clock. To give one example of an alternative clock, the Swedish designers Theo Tveteråas and Lars Marcus Vedeler, collectively called Skrekkøgle, developed the watch *Durr* that, instead of telling the time, vibrates at intervals of five minutes. The watch demonstrates that the perception of the passing of time is subjective and varies in different situations. But what does it actually do? It follows the clock-based system by splitting up time into segments of five minutes. To me, this bracelet splits up time even more than a typical time measurement device by adding interruptions or temporal reminders twelve times an hour. This product raises questions like: why would I, as a user, want to be interrupted every five minutes? Is this device meant to increase my productivity and make me work faster? In my eyes, many such redesigned objects only scratch the surface of today's time crisis, without offering or provoking a novel relationship with time. I am looking for a more holistic approach about time, and not a redesign of clocks.

A more profound alternative is suggested in the Slow Movement, which began in the 1960s and '70s as a counter-movement to the acceleration processes of the previous few decades. Its goals are to simplify life, fight for the right to pause, and return to a natural pace of life. One example of design inspired by 'slow' principles is the 'Slow Messenger' by Julian Bleecker and Carolyn Strauss. This device artificially delays the delivery of electronic messages, particularly important and meaningful e-mails.[123] It could be argued, however, that slowing down instant communication

does not positively affect the pace of life, or specifically an overflowing e-mail account. For the sender, nothing changes except a delay in the delivery of their message, and for the receiver the same applies. Therefore, the Slow Messenger does not improve the communication process in today's society. In Hartmut Rosa's terms, there is no breaking of the 'Circle of Acceleration'. Groups like slowLab or the Society for the Deceleration of Time all follow a similar approach. They declare slowness a luxury, and argue that it is the key to bringing back the notion of 'quality time'. They are concerned with what even an ancient Athenian philosopher knew: 'Starving for time does not result in death, but rather [...] in never beginning to live'.[124] Deceleration does not lead to a change of the capitalist system, nor bring back a natural experience of time from the premodern age.

As discussed in Chapter One, the romanticising of past times does not correlate with today's living standards. What is often missing in projects like alternative clocks, and concepts like the Slow Movement, is a forward-looking, holistic approach that facilitates a new way of thinking into our future relationship with time. For this reason, I agree with Dunne and Raby,[125] who argue that a fundamental change in behaviour, beliefs and values is needed in order to overcome today's challenges. With respect to time, this requires a radical break with the existing model of clock time.

UNLEARNING CONTEMPORARY TIME STRUCTURES

I had an eye-opening moment at the event 'Spaces of Transformation: Continuity/Infinity' at Tate Modern in March 2012. As part of the conversation between Olafur Eliasson, Bruno Latour and Peter Weibel, Eliasson explained the concept of 'Unlearning Space – Spacing Unlearning':

> It is necessary to unlearn space in order to embody space.
> It is necessary to unlearn how we see in order to see with our bodies.
> It is necessary to unlearn knowledge of our body in three dimensions in order to recover the real dimensionality of our body.
> Let's dance space.
> Let's re-space our bodies.
> Let's celebrate the felt feeling of presence.[126]

During his presentation, a performer ran on stage in slow motion. The idea behind it was to explore and experience the space fundamentally

anew. This gave the decisive impulse for my approach of 'unlearning time'. As mentioned in Chapter One, our cultural temporality becomes almost like a sixth sense.[127] The aim of my approach is to step away from the current system of clocks. In this context, philosopher Byung-Chul Han has suggested relearning the art of lingering, and sociologist Helga Nowotny argues for a rediscovery of the vicissitudes of life. Taking these two approaches into account, I am not only aiming for relearning or rediscovery, I am aiming for unlearning.

The term 'unlearn' in general usage means discard something from one's memory, for instance learned false information or a bad habit.[128] I refer to the idea of unlearning in relation to artistic practice, rather than an educational approach. The 'Blackboard' paintings Cy Tyombly created in the 1960s are a suitable example of an unlearning process. He was drawing in the dark as a method to unlearn the drawing skills he had acquired during his previous art education – a technique relating to the Surrealists' 'automatic' drawing. 'Twombly explored the mark as the material product of the body.'[129]

In parallel, I explored time as a process of the human body. In order to accomplish a new relationship with, and behaviour within, time, the essential initial step is to move away from its linear time structure towards a new rhythm. The thought behind this was to explore anew what we call time, similar to Twombly's drawings and Eliasson's concept of 'Unlearning Space'.

My approach to tackle the task of unlearning was first conceived as a typographic project called 'Moment Cards' (Fig. 3.2–3.5) and a series of one-month-long self-experiments.

MOMENT CARDS

> Interruption, incoherence, surprise are the ordinary conditions of our life. They have become real needs for many people, whose minds are no longer fed [...] by anything but sudden changes and constantly renewed stimuli [...]. We can no longer bear anything that lasts. We no longer know how to make boredom bear fruit. So the whole question comes down to this: can the human mind master what the human mind has made?[130]

The project began with an observation of everyday, urban life, and along with this a critical reflection on temporality. I developed a loose set of

cards, each of which includes a short story on the front, linked with related research on the back. The stories, ranging from a single sentence to a few paragraphs, discuss subjective perceptions of time in daily life. Their purpose is to translate a common feeling into a few words, with topics ranging from 'hyper-acceleration', 'proper time', 'polar inertia' to the 'rhythms of life'. They are each paired with an analysis of the described moment, explaining the deeper lying causes of the conflict. The cards served two purposes: mapping of my interests in the field, and as a starting point for conversations with others. The title of the project, 'Moment Cards', underlines the free, detached format. The first card set the tone for the following ten: 'Moments are ambiguous in their length – they can be as short as a millisecond, ten seconds or as long as three weeks – it is solely our feeling.' In our current understanding, a moment is loose, intangible, from an unknown length of time, and no longer a unit of time (*momentum*) as in medieval times.[131] My intention was to capture brief feelings, all of which lead to our present-day perception of time. As part of my research, the cards functioned as a mind map and underpinned a better understanding of aspects surrounding today's time crisis.

ONE-MONTH PROJECT SERIES

The Moment Cards provided the groundwork for the series of one-month-long self-experiments. By using speculative and critical design methods, I developed a number of thought experiments, in which I aimed to unlearn the current time system through questioning present perceptions of time. Initially, I suggested four unlearning concepts: Have all the time in the world! Waste your time! Lose as much time as possible! and Dream away your time! (Fig. 3.6–3.8). These are in relation to current understandings of time, all rooted in Franklin's adage 'time is money'. According to the anthropologist Thomas Hylland Eriksen, 'the scarcest resource for people [...] is neither iron ore nor sacks of grain, but the attention of others'. In this expression, he rationalises time as a good that can be devoted to someone else, and furthermore discusses it as the most valuable good of contemporary society. In everyday life this is expressed in phrases like 'wasting time' or 'losing time' – an unthinkable concept in a premodern, agricultural society. Only through the invention of the clock, as discussed earlier, does the abstract idea of time become measurable.

In order to unlearn, I turned these expressions into questions: what does it mean to 'waste time'? What do you actually do or not do, when

you ‘waste’ your time? Levitas did a similar thought experiment with her students in a utopia course she runs. She asked them how they would spend their time if they were financially independent. As she elucidates, many students answered ‘nothing’, but the activities meaning ‘nothing’ were related to the arts, music, sports, socialising or cooking: play time instead of working time.[132]

I further aimed to explore other thought experiments (Fig. 3.9), designed to experience extreme situations while being de-synchronised from the rest of society. For instance, my Time System No. 1 addresses the perception of time: the concept is that every person perceives time differently, regardless of any clock or other time measuring device. The psychologist William James notes: ‘In general, a time filled with varied and interesting experiences seems short in passing, but long as we look back. On the other hand, a tract of time empty of experiences seems long in passing, but in retrospect short’.[133] This phenomenon is commonly seen in extreme situations such as accidents, crimes or natural catastrophes, where both emotional involvement and the amount of informational input are high.

My proposed experiment focuses exclusively on the personal perception of time as the only ‘true’ time that matters. Time becomes an individual and private concept, not accessible to outsiders. When applied to broader society, an image emerges of shared clock time being dissolved in a sea of individual times all operating at various speeds. Through this temporal re-organisation, days might be said not to have the same length.

Other thought experiments evolved around the ideas of surprise, values, decision, multiplication, time-giver and dream. Like the example described above, all the concepts are grounded in my previous theoretical research. These time systems are again treated following a critical and speculative design approach ‘as thought experiments – constructions, crafted from ideas expressed through design – that help us think about difficult issues’.[134] In their form as one-month experiments or suggestive alternative time systems, they were used as a starting point for discussions.

The experiments were proposed as an unlearning method as part of the uchronian methodology. They were suggested as a tool to introduce uchronian thinking to design. However, the scope of the experiments was too great for their implementation, and consequently I did not put them into action. Instead, guided by my practice-led process, I was intrigued by the thought experiment Time System No. 6 on time-givers. The proposal was a practical experiment focused on the use of new external time-givers instead of societal or natural rhythms. The idea

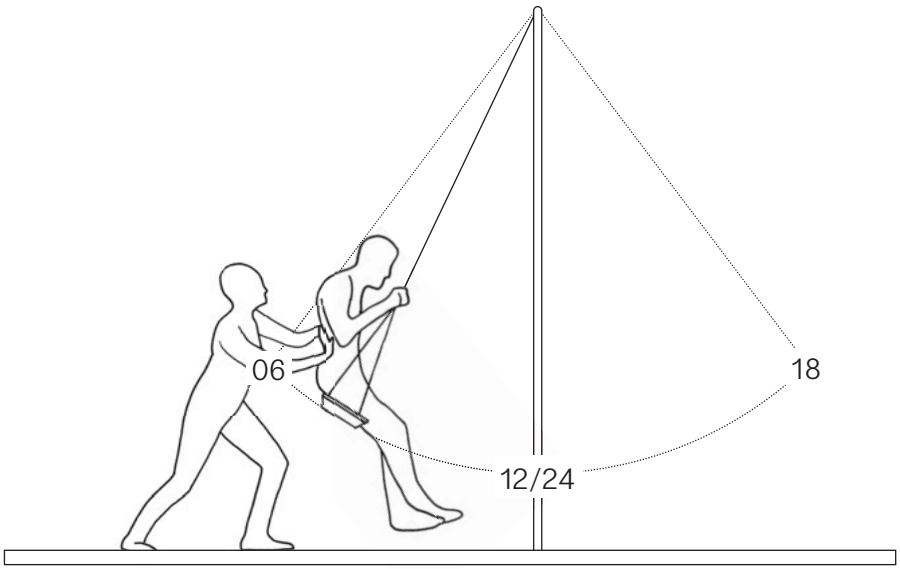
was to explore four different time-givers, each over the course of one week. In the first week, I would internalise the rhythm of another person; in the second, I would adapt to the temporal pattern of an animal (e.g. a cat); in the third week, I would live in synchrony with a plant (e.g. a carnivorous plant); and in the fourth and final week I would internalise the rhythm of a technological device. This initial proposal did however inspire me to look in more depth into the meaning and possibilities of time-givers, also called *zeitgeber*.

ZEITGEBER METHOD

The term *zeitgeber* (German for 'time-giver') was introduced to the science community by the chronobiologist Jürgen Aschoff. As it is now understood in chronobiological research, zeitgeber are entrainment signals: A zeitgeber causes an impulse for a biological oscillator to react and synchronise to external rhythms.[135] For instance, one of the main influences on the human body is light, and therefore the daily day-and-night rhythm serves as a strong zeitgeber. (see Chapter One)

The chronobiologist Till Roenneberg uses Aschoff's terminology, and explains in his research how a zeitgeber influences our being in time, in relationship to our bodily internal time. As shown in Fig. 3.1, a swing[136] and its rhythmic movements represent the human biological clock of its user, swinging in a rhythm of 24 to 25 hours per day. The other person pushing represents external forces that influence the internal body clock, like societal time or environmental cues.[137] There are a number of possible forces to define the speed and amplitude: (1) The person on the swing defines the rhythm through their bodily movement; (2) external forces influence the person on the swing and therefore influence the rhythm; or (3) both external and internal forces define the rhythm with varying strength. All forces, internal and external, together define the individual, daily rhythm. In Roenneberg's study, the focus is on the timing or onset of the pusher and how this influences the body clock.

I use the concept of the zeitgeber and the image of the swing set as an unlearning technique, a key element for the uchronian methodology. Particularly relevant are the external forces that influence the rhythm, the rhythm created by the interplay of internal and external time-givers, and especially the relative strength of each of the forces.
In contrast to Roenneberg however, *when* the zeitgeber influences the rhythm is not particularly relevant. My focus is rather on the explanation



3.1: *Phase Response Curves (PRCs) and Principles of Entrainment Explained with the Help of a Swing Oscillator,* 2003, Till Roenneberg, Serge Daan and Martha Merrow, redrawn by Helga Schmid

and exploration of uchronian thinking, whereby the metaphor of the swing, set in relation to the impulse of zeitgeber, allows a simple and easily accessible method to think outside the common category of clock time. By removing the standard division of time into specific segments of a certain duration, the concept of zeitgeber follows a more holistic approach by shifting the perspective to a number of forces that influence people's perception of time. Currently, the most influential zeitgeber are natural rhythms, societal time, and the biological clock.

Overall, the focus was on the development of a methodology for how to unlearn contemporary time structures. The questioning of current temporal conditions and necessity to 'unlearn' was developed on the basis of my previous investigations, especially Byung-Chul Han's suggestion of a reactivation of the *vita contemplativa,* my observations on present-day time conflicts as part of the reflective piece Moment Cards. Influenced by Olafur Eliasson's talk about 'Unleaning Space', I investigated the possibilities for unlearning, specifically looking into the artistic practice of Cy Twombly. The thought experiment One-

Month Project Series served as the first attempt to remove categories of thinking about time as a commodity, as expressed in phrases like waste time, lose time or have time.

In the process of developing the thought experiments, I explored the concept of the zeitgeber. Reflecting on the impact and duration of the one month projects, I decided to focus specifically on the concept of zeitgeber. To think about zeitgeber, rather than clock-based time, offers an unconventional approach to think about temporal influences. It frees time from the internalised categories of hours, minutes and seconds. After gaining this insight and reflecting on the possible impact and applications of a zeitgeber on the relationship with time, I developed the zeitgeber method. In the following chapter, I explore this method through applying it in workshops.

3.2–3.5: *Moment Cards*, 2013,
Helga Schmid

Moments are ambiguous in their length – they can be as short as a millisecond, ten seconds or as long as three weeks – it is solely our feeling.

Sometimes I wish I had a tiny photo camera integrated into the frame of my glasses. Each time during the one hundredth of a millisecond in which I blink, the camera would take a picture to capture the time when my eyes are closed. Therefore, I could see and remember the part of my daily life I missed out on. Afterwards I create a stop motion film from these thousands of pictures. Only I hope I can find the time to watch it.

I cast up my eyes feeling sleepy. How come it is already morning again. The last days of the week have been exhausting, and the pressure and stress have stiffened my body again, especially the shoulder blades. What another two hours of sleep would mean to me right at this moment! Can I not sacrifice a part of my week-end to have more time now, may-be two hours of Sunday's time? Sundays are overrated anyways.

No.No.No.

'Hi', I wave to the world and get up. Still drowsy with sleep, wondering where my kitchen and the 'holy' machine, my coffee maker, is. Instead of walking there I start to imagine the smell of coffee.

Minutes pass.

The smell is better than the taste, better than getting ready and better than discipline, control and punctuality all together. I sink back into my bed with the intent to deduct the time from my future.

This one phrase ‘the future is no longer what it used to be’ scrawled onto the wall of a rundown building, always catches my eye, when I run past it. Once I asked my grand-parents if this is true and they just looked at me with surprise.

3.6–3.8: *One-Month Project Series*, 2012, Helga Schmid

I'm losing as much
time as possible.

I'm sick of paying
so much for
being faster.

I don't care about
being on time or
missing out
on something
or keep
saving time.

Let's lose it.

I have time for
everything.

Whatever it is.

There is nothing
that wouldn't
be worth
my time.

Whatever
happens
happens.

I'm wasting
as much time
as possible.

I'm sick of efficiency,
work overload,
multi-tasking or
what other
'useful' time
management
strategies
are out there.

Time System No.1: VALUES

Economic prosperity, growth and freedom of choice promise personal happiness today.

Changing focus on values like patience, respectability and love transform the behaviour in time.

A lifelong schedule based on novel values shapes the lifetime of each individual anew.

Time system No.2: SURPRISE

Time managment has lost its relevance. Optimisation has lost its importance.

Life becomes a series of coincidences. People do what they want to do. Nothing is planned any more.

Life is full of surprises from now on.

3.9: *Time Systems No. 1–7*, 2012, Helga Schmid

The
Marvellous
Orchestra
of Time

Imagining time means imagining life.

Time to
think about
Uchronia

Time System No.3: DECISION

It knows your schedule,
It knows your body,
it understands you
(sense and sensibility)
and decides everything
for you.
A small and cosy object –
close to you, very personal,
trustworthy, intimate and
only accessible to you.

Time System No. 4: PERCEPTION

The clock is obsolete!
Your time is not the
same time as my time.
Once, with clock time,
it was all the same.

Now perceived time is the
only real time that matters.
The 'one time of society'
dissolves in a sea of
times of various speeds.

Time System No.5: MULTIPLICATION

Split yourself up.
Reach out to not miss out.
Take every option you can.
Parts of you take part.
Optimise yourself.
Multiple being instead
of multi-tasking.

Time-compression at its best.

Time System No. 6: TIME-GIVERS

Look out for a new time-giver.
Forget about sun and moon,
clocks or society.

Everybody has their own
time-giver.
Your neighbour lives the time of his
lawnmower, your girlfriend of her
cat, and you of … .

Time System No. 7: DREAM

Each individual body clock has
its own rhythm. Being awake
and asleep, when and wherever,
means truly living the rhythm.

Closed eyes and open eyes are
everywhere: dream and reality
are equally important for living,
content-wise and time-wise.

CHAPTER 4

UCHRONIA WORKSHOPS

Since 2014, I have been running uchronia workshops with design students internationally. They have been part of my teaching at the Royal College of Art in London, and the School of Time, a research initiative by Z33 – House for Contemporary Art.[138] The workshops are a possible application and implementation of uchronian thinking in design. Here students are asked to question contemporary temporality by exploring their individual perception of time, and develop criteria for their own temporal system – their uchronia. The first two workshops are discussed here in detail.

UCHRONIA WORKSHOP 1

The first workshop ran over five days, Monday to Friday, 27 to 31 of November 2014, as a 48-hour experiment. Twelve students were selected from across the RCA, including first and second year MA students from Architecture, Sculpture, Visual Communication, Information Experience Design, Fashion Womenswear, Jewellery and Metalwork, and Critical Writing in Art and Design. On Monday, the students were briefed for the experiment. At the beginning I asked them to talk about their own interest in the topic of time, by answering three questions:

1. How do you perceive time in your everyday life?
2. How would you like to spend your time (in an ideal world)?
3. How have you explored temporality/time in your own practice?

I then grouped them into three teams of four. In the afternoon, the groups were asked to decide upon a zeitgeber they wanted to live by for the 48-hour experiment. On Tuesday the actual experiment began. I allocated each group an experimental space which I had selected beforehand. The groups did not know what to expect. They were free to choose what to bring, but all three groups had to leave their phones and any other time-giving devices with me. I equipped them with a basic mobile phone (with time and date display obscured) for emergencies, and instructions on how to get to their designated space. At approximately 2 pm each group started their experiment, lasting until Thursday approximately 2 pm, in order to guarantee similar experimental conditions. I visited one group directly, and called the other two groups to signal the end of the experiment. Afterwards, I interviewed each group about the course of the experiment. The project ended with presentations in one of the experimental spaces.

Group One
Rotherhithe Library
In Search of Lost Time[139]

4.1: *Uchronia Workshop 1*, Rotherhithe Library in London, 2014
Photograph: Lise Hovesen

The first group carried out their experiment in the former Rotherhithe Library in London, a large, open space with a stage and an accessible rooftop (Fig. 4.1). They chose to continuously read out loud Proust's *In Search of Lost Time* as their zeitgeber over the course of 48 hours. Each chapter of the book served as a time unit. By taking turns, always one member of the group reads a chapter out loud, while another member was knitting for this period of time. As each person was given a different colour yarn, so the length of knitting for each chapter was visualised by the change in colour. This produced a visual output of each time unit. The other two students listened, wrote, cooked or slept meanwhile (Figures 4.4–4.8).

One of the students described her experience of the temporal experiment as follows:

> I think we chose this as a way of exploring the notion of time as an essentially human construct, and therefore as something we can construct in any way we want. Our project played with ideas of activities which have really endured over time: oral story telling and the childhood craft of dolly knitting. In the input, it was interesting to see time construction as something which unites a group. In the output, it was interesting to see time visualised in a tangible sense.
>
> The experiment offered together an experience of escapism and returning [...]. Initially the desire to look at the time was strong and the necessary comfort of knowing what stage of the day it was challenging. But the reading continued and the knit developed, providing a new source of time and this eventually overruns the desire to look at the time.
>
> In the uchronia workshop we switched off time for a few days – the replacement of time with the conceit of the new zeitgeber was the switch – and when we came back to it (almost like a space or a condition) it was like we could smell it again, or see its outline.

Group Two,
Pumping Station
Time to Eat

4.2: *Uchronia Workshop 1*, Pumping Station in Cheshunt, 2014
Photograph: students (Group Two)

The second group chose hunger as their time-giver. They were sent to a remote place on the outskirts of London: a former water pumping station, surrounded by forests and meadows (Fig. 4.2). Away from societal rhythms, they focused on their bodies, specifically their feelings of hunger, and explored these by cooking, under the additional temporal influence of music.

This was their manifesto:

> We will respect our companion's chronobiology.
>
> We will live without traditional time conventions for 48 hours and enjoy the pleasure of eating and listening to music.
>
> We will aim to consume three meals a day together.
>
> We will aim to document this experience and produce a book and film.
>
> We will use music as a measuring unit.
>
> Music will be an ingredient.
>
> Music will be the authority.
>
> We will decide on the music together in response to our mood, weather, food and surroundings.
>
> We will let our stomachs tell the time.

The group documented their mealtimes by texting me when they where about to eat, and made a guess about the actual clock time (Fig. 4.9–4.11). One student wrote about the experiment:

> I'm always hungry so I rely heavily on the time to dictate when I eat. I'd like to say that this experiment taught me I should just eat when I'm hungry, [...] it also taught me that ... time is a key ingredient.

28.10.2014 19:13

Hihelga we r jus abt to hv dinner, wanna eat at 1830 but had some trouble with the oven. think its around eight now?

28.10.2014 20:41

Cake and i think arond 10 now?

29.10.2014 11:14

We have been cooking and eating for an hour now.. around 1130?

29.10.2014 17:20

We are having "late lunch" haha more like starter of dinner

29.10.2014 19:11

Ccchorizo dinner 8 30

30.10.2014 10:40

Hi helga we are just sitting down for breakfast now estimated time 12

30.10.2014 12:58

Having cake 2pm

Group Three
Eaton House Studio
Space as Zeitgeber

The third group was send to a pink mansion in Essex, just outside London (Fig. 4.3). They decided on the space as their zeitgeber, with the intention to create a narrative around the (elaborately and thematically decorated) rooms of the house. The French novel *Against Nature*[140] by Joris-Karl Huysmans served as their inspiration. The novel is about a French aristocrat who leaves his decadent upper-class life in Paris for a remote villa in the countryside. Isolated from society, he creates his own artificial world full of eccentric art, luxury perfumes, exotic jewels and classic literature. Interestingly, the owner and creator of the pink mansion identified many parallels between her work and the novel.[141]

4.3: *Uchronia Workshop 1*, Eaton House Studio in Essex 2014
Photograph: ©Eaton House Studio 2012–2019

Over the course of the 48 hours, the students wandered through the house, from room to room. The numerous bedrooms and bathrooms dictated the rhythm, leading to a biphasic sleep pattern,[142] in contrast to our societal day-and-night rhythm (monophasic sleep pattern).

The psychiatrist Tom Wehr suggests that this is the natural sleep of human beings, in contrast to the monophasic pattern today's society so strongly believes in. In one of his studies, he asked volunteers to live their regular lives, but without modern light sources. In the winter months, when the experiment was carried out, the participants' daily routine was limited to the daylight hours. As in the premodern era, the twelve or more hours of darkness were no longer perceived as an 'active' time frame. Subjects slept an average of eight hours a night, separated into two segments (biphasic sleep). It would seem that the homeo-rhythmic pattern of sleep has been overwritten by the societal concept of monophasic sleep, probably to fit better into an efficiency-driven world.[143]

The students created short films, images and drawings inspired by the different rooms and invented imaginary additional rooms (Fig. 4.12–4.17).

Upon reflection, the workshop explored possibilities for new zeitgeber, through the potential of uchronian thinking. Like Olafur Eliasson's exploration of space, this workshop opened up an unexplored space for thinking about new ways of understanding and using time. The three groups stepped out of the societal system by each forming their own, independent collective. Although this was only for a short period of time, it had a lasting impact on the participants, based on material from interviews and questionnaires I conducted afterwards. (To note, all the quotes in the chapter are from student questionnaires conducted between October 2014 and November 2016.)

All the students agreed in the interviews that they would have liked to extend the experiment to a longer period of time, ideally around a week. One of my questions addressed the difficulty of not knowing the time: *After leaving clocks and the digital world behind, did you feel the need to know the time or follow a certain kind of structure during the 48 hours?* Here the answers showed great deviation. Some students expressed a real necessity to know the time, one student to such an extent that she expressed her anxiety by shouting in the woods. Others experienced it as a form of freedom:

> I was surprisingly fine with not knowing the time. It was quite a relief actually. When the group would speculate about the time, I felt a bit apprehensive, as if it took away from the experience.

> Our experiment had quite a tight structure, which might be why we were more immersed and it was easier to forget about the clock or digital world.

One of my main questions focused on the impact of the workshop and experiment on the participants: *Did this 48-hour experiment change your thinking on the present structure of time? And if yes, how?* Here are two of the answers:

> This experiment has had a profound impact on how I feel about time. Being constantly in the making or reading, really put me into a flow of productivity. Productivity being something more analogue and physical. It really makes me want to make things and keep going despite the hours of the clock.

> Yes. I think it has changed my thinking. Perhaps not limited just to time but more broadly on ideas that many human constructions that we live by without thought could be challenged to produce a creative output. I think it also challenged my thinking about reasons for constructing time; producing a society that is in sync is perhaps good for our well-being socially. The experiment would have been very different if it was a singular experience.

These two examples express the profound impact of the experiment on the participants, though this of course varied from person to person. One student expressed her relief from the daily temporal fragmentation by the experience of an uninterrupted workflow in the experiment, and this experience made her recognise our 'atomised time', speculating that it might even influence her creative process and mode of working later on. The other student had a far-reaching insight, in line with Norbert Elias's understanding of time as 'a means of orientation in the social world'.[144] This was a result I was hoping for in this experiment: an essential and radical questioning of the given societal construct of time.

Around one year later, and again two years later, I asked the students again about the impact of the experiment, to gather information on the longitudinal aspects of the study. One student said:

> I would love to do the experiment again. [...] The present time has made man extremely materialistic. We are constantly doing something and don't have the time to get bored.

Another student described the general impact as low, except it changed the behaviour and thinking in certain moments:

> A walk in the woods did not take as long as we expected it would. Now I sometimes just take a walk and time to chill when I feel stuck instead of forcing my brain to work at the desk. It shortened my time of procrastination at certain moments — I was reminded of how long the preparation of a meal could take vs. the time to consume it.

For one student, the workshop as a whole was more impactful than just the experiment:

> I would say the main thing [the experiment] changed is that I am often recognising and thinking of alternative time telling devices. For instance a flickering light, or a rotating bus-stop billboard advert. [...] For several months after the experiment I thought about time a lot more but I would say this was a result, not of the physical experiment, but of the conversations surrounding the experiment and my experience with the participants.

The majority of students, however, described the experiment and workshop as an impactful event:

> Yes. I think it has changed my thinking. Perhaps not limited just to time but more broadly on ideas that many human constructions that we live by without thought could be challenged to produce a creative output. I think it also challenged my thinking about reasons for constructing time; producing a society that is in sync is perhaps good for our well-being socially. The experiment would have been very different if it was a singular experience. It was a very special experience. One-year later after this workshop I am looking to continue to experiment (artistically, personally) with my own experience of spaces and time. Since the workshop I have been thinking how my own practices fit in to this; designing, redesigning spaces for a reflective, creative and slower pace.

This allowed me to draw some initial conclusions about the workshop: I agreed with the students that the workshop should run over a longer period of time. The success of such an experiment, however, is highly dependent on the strength of the chosen zeitgeber. Group One, reading

Proust, had the most immersive experience, as the chapters gave the experiment a clear structure and defined time units. Group Two also chose a strong zeitgeber, hunger; however, the implementation of this in the experiment was rather fuzzy. *De facto*, they followed their appetite rather than actual hunger. In their manifesto they talk about three mealtimes, which reflects the typical Western norm, but not necessarily the feeling of hunger. Indeed, this group expressed the strongest need to know what time it was. I argue that this is the result of their weak implementation of their time-giver, whereby they were following the common societal norms of three mealtimes a day. Group Three had the most experimental approach by being guided solely by the space. What was interesting here as a result is how the group immersed themselves in the space. For instance, the great variety of bedrooms in the mansion was reflected one-to-one in their sleep patterns: over the 24-hour period they slept multiple times (polyphasic sleep pattern), rather than sleeping once in a single block of usually seven to nine hours (monophasic sleep pattern). Because of the uniqueness of the space, the group experienced a new rhythm apart from societal norms.

This workshop was the first exploration of the zeitgeber method under the concept of 'unlearning'. Within the workshop, the method proved itself as an adequate tool to move the thinking about time away from clock-based time. It allowed me to explain my research approach of 'uchronian thinking' or 'thinking about alternative zeitgeber', in an accessible and comprehensive manner to the workshop participants. The students understood the impact of zeitgeber on their being in time, rather than the fragmentation of time into hours, minutes and seconds. In the conversations and discussions later on, time in relation to the clock was no longer a topic of interest. The zeitgeber replaced the clock. The workshop, incorporating the zeitgeber method, turned out to be good to introduce uchronian thinking into design. For this reason, I decided to continue with the workshops, taking into account my findings from this initial workshop.

UCHRONIA WORKSHOP 2

In the second workshop, I reduced the size of the student groups from four to just two, to facilitate the development of an impactful zeitgeber. I changed the duration of the workshop to seven weeks, rather than

one, allowing the students two weeks for the development of a zeitgeber; extending the experiment from 48 to 72 hours; and adding four more weeks for the documentation, reflection and project elaboration before a public, evening event.

In January to March 2016, I carried out the second workshop with six MA students from the Visual Communication programme at the Royal College of Art, London. It ran over the course of seven weeks. In the first week, I briefed the students and asked them to develop and decide upon a zeitgeber. In the second week, they refined their time-giver, expressed their experiment in a hundred-word abstract, presented their concept to the group, followed by a group discussion and individual group tutorials. The experiment was carried out in smaller groups of two students over an extended period of around 72 hours from a Friday to Monday.

This time the experimental spaces were a converted Victorian warehouse in London (Fig. 4.18–4.29); a windmill in Sudbury, Suffolk; and a Georgian town house in Broadstairs, Kent. After the experiment, we had a conversational session about their experience, sharing and discussing the different outcomes of each group. The students were asked to translate their experience into a project for another month. They also filled out a questionnaire, similar to the students of the first workshop, adjusted to their experiment conditions (72 instead of 48 hours). The expanded practice project finished with an evening event and exhibition open to the public at one of the experimental spaces (converted Victorian warehouse in London).

The essential part I changed in the second workshop was the length of the experiment (from 48 to 72 hours), the number of students in a group (from four to two) and the duration of the entire project (from one week to seven weeks). The changes of the setting were based on the questionnaires and conversations with the first participants, and my findings. To guarantee the development of a strong zeitgeber, I reduced the groups to two, which simplified the decision-making process and implementation of the zeitgeber. Furthermore, the second group of students had more time before, during and after the experiment. This allowed the participants beforehand to develop and prepare their zeitgeber, experience living by the new zeitgeber more in-depth, and also after the experiment, have time to reflect on their experience and express their findings through projects like installations, books, photographs and moving-image pieces. Over the past years, I have altered the workshop, depending on the group size, the location and the available time frame.

The second workshop showed similar, impactful results like the first workshop. The changes in duration of experiment and workshop turned out to be successful, as evaluated in the questionnaires and final student projects. The students had more time to immerse themselves in the experiment, reflect on their experience, and create work based on this. I do not go into a detailed analysis here for the sake of brevity, as these findings echo and reinforce those from the first uchronia workshop. I simply summarise with a quote from a student of the second group:

> I definitely felt as if my lifestyle puts me completely out of tune with the natural rhythms of my body. It gave me an insight into how I structure the way I do things — I think the way I carry out my work is largely motivated by time. This seems unnatural — because it doesn't allow periods of reflection. These periods gave me extremely valuable opportunities to grasp and formulate my ideas. I left feeling incredibly inspired. It also made me think about the relationship between time and materiality. Before the experiment, I felt as if there was a direct correlation between physical activity, material and time. Time spent not physically doing work seemed wasted, non-existent, lazy. Expending energy and creating material value seemed like a proof of time being used to its full capabilities. Now I feel as if time spent working mentally is extremely valuable, despite having nothing physical to show for it. [...] I understand now that there is more to time rather than just physical objects. Time can be measured in emotions, ideas and plans for the future.

SUMMARY

Over the years, I have adjusted and altered the outlines of the workshop, depending on the group of students, the location and the duration. Overall the uchronia workshops represent one implication of uchronian thinking within design practice. They open up a new perspective on today's temporality for the workshop participants through the exploration of alternative temporal structures. In both symposia, the students' experiments, the project documentation, and the resulting projects were presented (Fig. 4.30–4.38). At the beginning, I introduced the concept of uchronia and outlined the workshop idea, followed by presentations. I encouraged the students to talk about their experiences and open up the conversation to the audience. But it is not only through public

presentations of the experiments and student's projects at the end of each workshop, the uchronian projects are open to a wider audience through social media platforms.

The workshops represent one application of the uchronian methodology within design practice. They open up a new perspective on today's temporality for the workshop participants through the exploration of alternative temporal structures. First and foremost, the workshops serve as an example of how to implement Helga Nowotny's third way to uchronia, the 'vicissitudes of life', as one student formulates it:

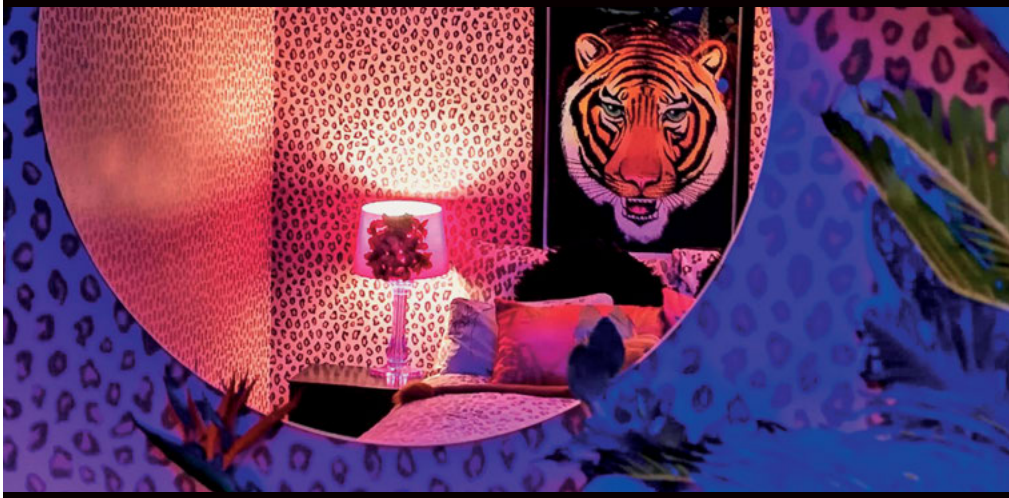
> [The experiment] did surprise me and excite me, it entertained me, and most importantly made me playfully aware of how little of my life is spent idling in free-form and experimenting away from the constraints of time. [...] I felt like an explorer in an extraordinary situation, so I decided to behave, at times, extra-ordinarily. For instance, I wore a one-piece tiger costume for the first day, finding it more apt to the place than any of the clothes I was wearing.

4.4–4.8 *In Search of Lost Time*, 2014,
Group One, Rotherhithe Library, London
Photographs: students (Group One)

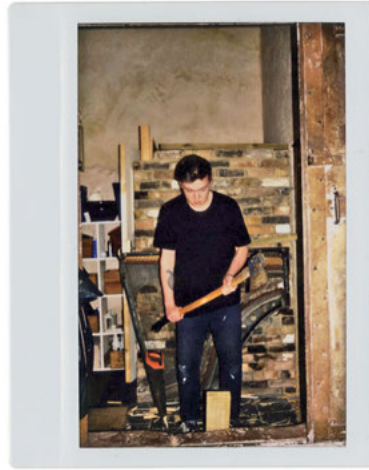
4.9–4.11: *Time to Eat*, 2014,
Group Two, Pumping Station, Cheshunt, Hertfordshire
Photographs: students (Group Two)

4.12–4.17: *Space as Zeitgeber*, 2014, Group Three, Eaton House Studio, Tiptree, Essex
Photographs: students (Group Three) and ©Eaton House Studio 2012–2019

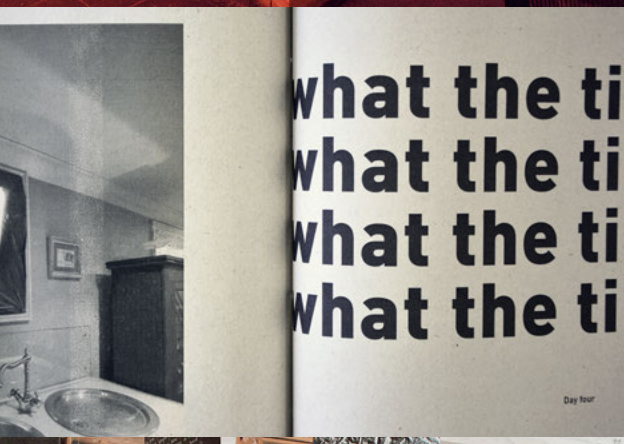


4.18–4.29: *Time and Making,* 2015, Uchronia Workshop 2, Group One, Victorian Warehouse, London
Photographs: students (Group One)



4.30–4.34 *Uchronia Symposium 1*, 2014,
Rotherhithe Library, London
Photographs: Dominic Tschudin and Dr Florian Schweiger



4.35–4.38 *Uchronia Symposium 2*, 2015,
Victorian Warehouse, London
Photographs: Gilad Visotsky

CHAPTER 5

TIME COMMUNITIES

This chapter investigates the potential of uchronian thinking through the use of critical and speculative design methods. In thought experiments, I envision alternative time systems by suggesting four different models in the form of time communities. To reiterate, the definition of thought experiments in Dunne and Raby's terms, it is a method to free our thinking from conventional norms, and explore something outside of reality.[145] These thoughts are then implemented and visualised through design. This method opens up the possibility for an imaginary and radical break with temporal conventions. In setting them up, it enabled me to extend my ideas about alternative time systems beyond the scope and restrictions of the previous workshops. In these thought experiments, I take into account James Auger's approach of a 'perceptual bridge',[146] for which I use chronobiological and sociological theory. He outlines that for the success and believablility of a speculative design project, the 'design speculation requires a bridge to exist between the audience's perception of their world and the fictional element of the concept'.[147] That is why I introduce a brief history of the origins of previous chrono-biological experiments, which builds the foundation for the speculative time communities. Each of the time communities reacts to a current time conflict by creating their own temporal framework. These experiments exemplify how to create a link between chronobiology and sociology of time through design. In the process of developing these scenarios, I used my previous theoretical research on time conflicts (Chapter One) and the Moment Cards (Chapter Three) as a basis and source of inspiration.

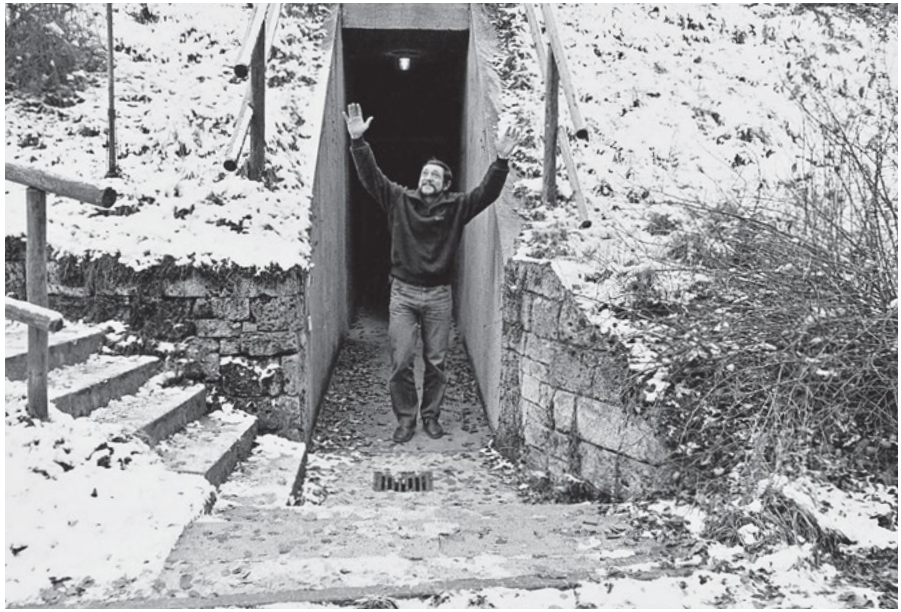
CHRONOBIOLOGICAL THOUGHT EXPERIMENT

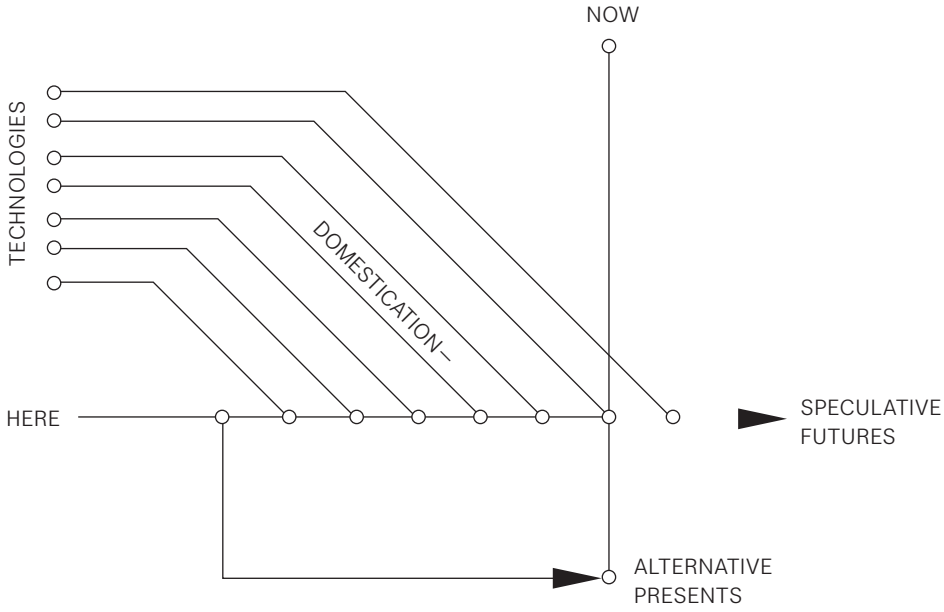
Around one hundred years ago, when clock time had already long been ingrained into human minds and behaviour, interest in human bodily rhythms emerged. The more disconnected people became from the natural environment, the more they felt the urge to understand their internal clock. A number of scientists began to explore the possibilities and limits of the human body and its endogenous clock.

In the 1930s, the physiologist Nathaniel Kleitman and his assistant placed themselves 400 metres underground in a cave in Kentucky. Over a period of one month they explored the rhythmic changes of their body temperature – the first evidence of the internal clock.[148] In 1962, a similar research project was carried out by the French speleologist[149] Michel Siffre. In this 63-day underground experiment, he isolated himself in a subterranean cave from all possible time cues (day and night, clocks and calendars) and created an environment that allowed him to focus on his own bodily rhythms of hunger and sleep. He continued his work with a series of 'Underground Time Isolation Experiments', all of them supporting the emergence of a new research field called 'chronobiology'.[150]

Prompted by the sharp increase of shift work in the 1960s and '70s and the resulting potential for health impairment, a long-term research project was started by Professor Jürgen Aschoff of the Max Planck Institute in Munich, funded by NASA. From 1964 to 1989 the Andechs bunker, an institute with two isolated apartments situated inside a mountain at Andechs in Bavaria, served as a 'neutral', 'timeless' laboratory for Aschoff's chronobiological experiments (Fig. 5.1–5.4). The rooms were shielded against every external time cue: light, sound, vibrations and electromagnetic variations.[151] Over 25 years, 446 people, mostly research students, stayed in the apartments for the duration of between one and several weeks. The subjects were identified by numbers from one to 446.[152] During the experiments, Aschoff and his colleague Rütger Wever measured body temperature, urine output, sleep-wake cycle and physical activity of their subjects and asked them to keep an in-depth diary about their physical and psychological well-being. After a short period of adaptation at the beginning of the experiment, most of the participants described the isolation as a very productive time, some even talked about an extended existence.[153]

5.1–5.4: *Andechs Bunker Experiment*, 1964–1989, Jürgen Aschoff
Photographs: Wolfgang Filser and Peter Blachian, Max Plank Institute

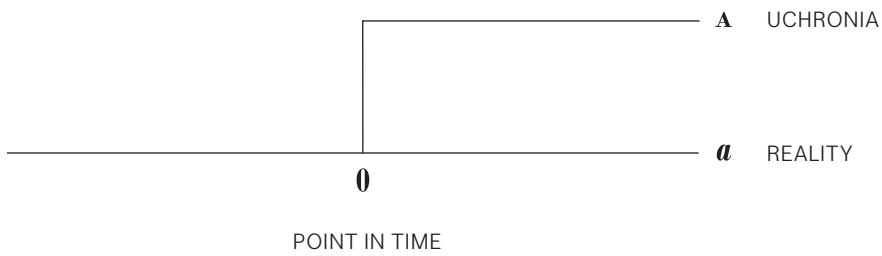




5.5: *Alternative Presents and Speculative Futures*, 2013, James Auger redrawn by Helga Schmid

The Andechs bunker experiment is the starting point for my thought experiments. A fictional account of post-Andechs time-collectives forms the framework for a series of uchronian scenarios that speculate on alternative temporal structures in the present. I refer to Auger again, who suggests two strands in order to achieve a successful speculative design project (in his case in relation to technological developments). In the diagram above (Fig. 5.5). he elucidates the positioning of speculative projects in relation to the now: alternative presents and speculative futures.* As discussed in Chapter Two, Dunne and Raby situate their work in the first strand of the speculative futures, more precisely the preferable future, to which Auger adds the second strand of alternative presents.

For my thought experiments I used the approach of alternative presents. I developed four fictional time collectives: The free-running*



5.6: *Uchronia Model,* drawings, 2013, Helga Schmid
A historical event changes at a given point in time (0), leading to consequences other than the course of history. Reality (a) and uchronia (A) bifurcate into different plots.

rhythm group, the synchronisation zone inhabitants, the resonance collective, and the Circadian Space community. I suggest that, years after the Andechs bunker experiments, a number of former subjects get together to form these time collectives. Based on their positive experiences in the time-free environment of the Andechs laboratory, they decide to eliminate the current temporal organisation to develop their own temporal framework in the sociotemporal and biotemporal spaces they have created. This is the point in time where I separate my speculative scenarios from the course of history and reimagine the present. This method links back to uchronia as it was originally outlined by Charles Renouvier, and its definition as alternative or alternate history (Fig. 5.6). Auger acknowledges the relationship by stating that 'this method is similar to the historiographical practice of counterfactual histories and the literary genre of alternate histories'.[154]

SPECULATIVE TIME COMMUNITIES

Thought experiment No. 1
Andechs Alumni
Free-running Circadian Rhythm Group

In the year 1997, six former subjects, No. 21, No. 83, No. 174, No. 211, No. 391 and No. 417 of the Andechs bunker experiment occupy the unused bunker in the Bavarian Alps as their prospective living environment. Isolated from all external conditions such as light, sound, vibrations and earth's electromagnetic variations, the bunker allows them to establish different models of temporal rhythms. Every six months in rotation, two people of the group are in charge of supporting and looking after the other two group members. In the original experiment, 'the apartments could be entered only through a corridor separated by two thick doors, each of which could be opened only if the other one was closed. This hallway served as a link between the time-free world inside and the time-driven world outside'.[155] The same remains true for the conditions of the returning experimental time inhabitants. In complete isolation from all external time cues or temporal patterns of social life, the participants celebrate the free-running rhythm of their bodies. All four individuals were among the one-third of subjects who, in the original experiment, experienced an internal desynchronisation, which meant that 'the sleep-wake rhythm together with the rest-activity rhythm continued at a slower pace than other, more basic bodily functions, such as waxing and waning of body temperature or of hormones'.[156]

This new time collective suggests what life would be like without the influence of any external time-givers either from nature or from society. It is a reaction against the embodiment of digital time or any other opposed external zeitgeber. In a purely artificial environment, the ideal way of living is autonomous. The time concept of the community addresses the current process of individualisation, which has been described by Zygmunt Bauman in *Liquid Modernity* (see Chapter One). They are taking it to such an extreme that the unconditional focus on the self and the inner rhythm could lead to a new society of isolated individuals existing in their personal time capsules.

Thought experiment No. 2
Synchronisation Zone
Treehouse Collective

In the year 2010 a group of eight people build a spatial structure that allows for only the minimum of 'proper space' and 'proper time'. As an active response to the growing need for proper time, the time community aims to satisfy this longing by sharing each and every moment in extreme spatial closeness. The notion of 'proper time'* or Eigenzeit,[157] literally translated as 'time belonging to the self' or 'self-time', is explored in great detail by Helga Nowotny.[158] She discusses the relevance of proper time within Western society and analyses why the need for proper time increases throughout modernity. Interestingly, the awareness of proper time was a result of industrialisation and the division of time into working time and leisure time. The need to spend time by oneself is a result of today's hyper-individualised world and the longing for temporal sovereignty.

Ideally, there would be no need to long for proper time at all, as it was centuries ago. The longing for proper time arises from a time conflict, and the more tangible the conflict situation, the more intense the longing for proper time. But the developing contemporary time structures do not leave time for self-time; instead free time becomes rare and increasingly fragmented into ever-smaller segments.[159] In opposition to this contemporary development, the collective coins the expression 'unitary time' to characterise their ideal of time as an undivided whole. Synchronisation processes by means of devices such as smart phones, computers or clocks are abandoned; instead, physical closeness allows for togetherness without any kind of time management. In order to achieve their objective – the highest possible level of synchronisation – the group has constructed a tiny treehouse as their shared living space. Remote from society, their way of living suggests that an extremely limited space creates a kind of 'synchronisation zone'. This space opens up the rhythm of human activity to a time concept that does not rely on the regularity of clocks and calendars.

Thought experiment No. 3
Resonance Community
Backward-oriented Time Collective

In the year 1998, an unknown number of people, probably nine to twelve, occupy an old empty farmhouse somewhere in the Bavarian countryside. Quite unnoticed, the squatters live there for a couple of years without contact with their neighbours. Not much is known about them and their living conditions, except for a couple of artefacts left behind in the space. Notes and drawings, wiring systems, complex structures and so on help to draw some conclusions about the temporal regularity and structure of their social life. Analysing the material it becomes obvious that the group lacked interest in anything relating to the future.

The reason might be found in current sociological theory: the prevailing view of the future of postmodern society is expressed as the theory of the 'shrinkage of the present' (*Gegenwartsschrumpfung*),[160] which was introduced by Hermann Lübbe. Compared with the visions of the future that were current during the Industrial Revolution, the future today appears to be closer and closer to the present. The idea that constant progress leads to a steady improvement of one's living conditions and therefore the vision for a better future has been replaced by the fear of worsening prospects.

> The future [...] is increasingly overshadowed by the problems which are opening up in the present. The future no longer offers the projection space into which all desires, hopes and fears could be projected without many inhibitions because it seemed sufficiently remote to be able to absorb everything which had no place or was unwelcome in the present.[161]

The categories 'past', 'present' and 'future' cease to exist as the future becomes the 'extended present'.[162] As a result, people lose the future space for imaginings, visions and new ideas: they have to happen now, right in the present, the 'extreme present'.[163]

In a similar way, Dunne and Raby describe today's relationship with dreams. Like for the future, all the visions are gone, and the dreams are reduced to hopes.[164] The problem is that the perception of the future is too real. Previous generations' visions of the future were much more open and optimistic compared with today's younger generations. This mindset is the result of the experiences people have as a generation.[165]

The same applies to political and social events. Taken together, these factors influence individual biographies as well as whole generations. Consequently, the visions and expectations of the future depend heavily on each generation's wealth of experience.

In 1998, the young time collective is tired of the contemporary view of the future, progress and growth, and decides to create their own temporal system. Instead of focusing on the future, they develop a backward-oriented structure. Rather than planning ahead, time is organised and categorised after the event. The future itself becomes an open, unknown field, devoid of plans and ideas, whereas the present is concerned with learning from the past. In some of the found notes and materials, the reflective involvement with their daily experiences becomes clear and, in particular, how these events resonate later on in their lives. The past is seen as a process of constant change, or as Sigmund Freud suggests:

> We live forward, but we understand backwards. And, as we acquire new experiences, or new perspectives on the old ones, as we sometimes expand our understanding or deepen our insights, so the interpretation of the past can change over time. [...] we 'reframe' our view.[166]

It turns out that every individual member of the group has created a different 'calendar' system to record their experiences. It can be inferred that for this community, time organisation is an individual and probably very private concept.

Thought experiment No. 4
Circadian Space
Biotemporal and Sociotemporal Living Space

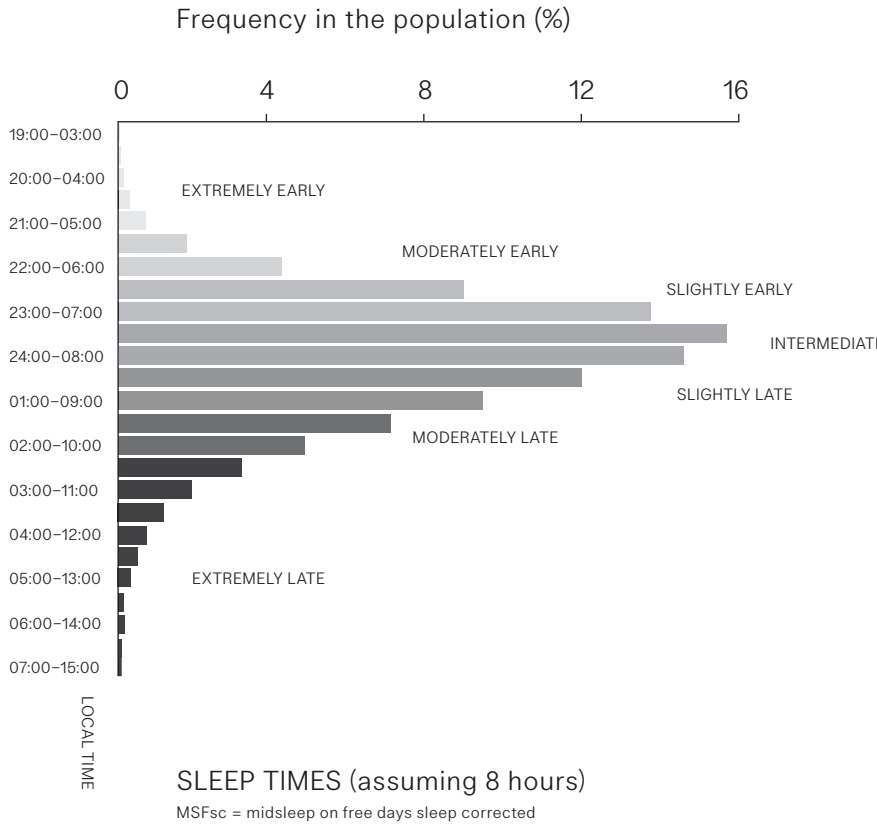
A group of Andechs alumni developed a novel architectural structure in the form of a biotemporal and sociotemporal living space. Similar to the social construct of time, represented by the symbol of the clock,[167] the architectural space represents a new form of social synchronisation. As a reaction to the feelings of impotence when dealing with man-made ideas of time, the architectural space suggests a new rhythmicity in the way we 'eat, sleep, breathe, use energy, digest, think, concentrate, communicate, and interact'.[168] By each listening to their own body clock and its various rhythms, the members of the collective focus on the experience of their internal time in synchrony with the social rhythm of the group.

For the human body clock, natural light is the most influential zeitgeber to entrain the internal to the external day.[169] However, people in Western societies spend only a few hours outside each week, with the consequence of a desynchronisation of the human body clock from the natural day-and-night rhythm.[170] The societal time dominates the bodily rhythm, with the consequence of shifting sleep patterns on workdays and free days. This often leads to a malaise similar to jet lag: 'social jet lag'.[171]* However, its occurrence on a day-to-day basis – and not just occasionally on a long-distance flight – is problematic. The phenomenon is particularly common among night-shift workers, but is also increasingly encountered in a large proportion of the population in Western societies – in fact, 80 per cent of the general population use an alarm clock to wake up in the morning.[172]

Because of the low exposure to external light, specific 'chronotypes'* (internal timing types) take on greater significance, from the extreme early birds rising at 5 am in the morning to the very late risers at 1 pm. The chronotype of each individual is predetermined by genes and depends on age and gender. The strict division into 'larks' and 'owls' is not representative of the diversity of existing chronotypes.[173] (Fig. 5.7)

The idea of the Circadian Space is underpinned by the circadian rhythm. The circadian community constructs a large circular building consisting of a series of rooms that together form a closed loop. The space itself resembles the scheme of the circadian rhythm. The members of the community pass through the various rooms, each at their preferred speed, according to their own rest–activity rhythm and their personal

chronotype. The structure allows them to live in synchrony with their body time on the one hand, and, on the other, to be in synchrony with all those members of the collective who reside in the same room. The shared spatial situation allows for a straightforward synchronisation process between the inhabitants. All time measuring devices become obsolete, especially the alarm clock, as the space predetermines a temporal structure itself.



5.7: *Distributions of midsleep on free days sleep corrected*, in *Chronotype and Social Jetlag: A (Self-) Critical Review*, 2019, Till Roenneberg, Luisa K. Pilz, Giulia Zerbini and Eva C. Winnebeck, redrawn by Helga Schmid

SUMMARY

In sum, each of the scenarios builds upon chronosociological and chronobiological research discussing temporal phenomena in everyday life (see Chapter One). Elements of the two scientific fields are interwoven with each other in order to achieve a plausible scenario and approach the topics from a different viewpoint.

I used these thought experiments to reach out to experts in both fields. I was honoured to have an interview with Prof. Hartmut Rosa, whose work has been highly influential in the field of cultural criticism of technological progress. Especially his theory on social acceleration has been relevant for my work. In the interview with Rosa, it became clear that the design approach differs to his discipline of sociology, and that design thinking adds a new perspective:

> I think it is a highly interesting approach, not to look at routines or moral values [approach of psychologists or sociologists], but rather through architecture or temporal structures. In contrast to routines or moral values, these are not ethically charged, they simply determine institutional patterns and rhythms. [...] Perhaps this is a good thing for established academic disciplines, because [design] is challenging these disciplines by using rather applied approaches.[174]

The four scenarios are a means of exploration of ideas and possibilities outside the societal norms. Already the uchronia workshops demonstrated how simple it is to step outside the existing time system, and even the short experiments of 48 or 72 hours seemed to show a significant impact on the participants. My intentions, in line with Helga Nowotny's uchronian approach, were to influence students' thinking about time, and therefore influence their understanding of contemporary time structures in the now. One student even said in the feedback session, right after the experiment ended, that he did not want to get his smartphone back, the phone representing the connection point between him and the external world. He did not want to give up the freedom he gained over the course of the workshop. In the second workshop, students responded in a similar way immediately after the experiment. They did not feel an urge to stop the experiment and get back.

Similar to the workshops, the fictional groups isolate themselves from society in order to follow their own rhythm. The scenarios go one step further by proposing a radical escape and break from the Western norm;

from an experiment to an actual way of living. The suggestion of time communities contrasts with today's way of living, as Rosa points out:

> Modernity's overarching value is autonomy [in all areas of life], although I wonder whether or not we made a mistake here. [...] [Your projects] suggest a new form of standardisation, [...] geared to certain principles [for example] of the circadian rhythm – a fascinating approach. [Each scenario] implies processes of collectivisation.[175]

Rosa's comment confirms my intention of the thought experiment. In the context of critical and speculative design, the purpose is to provoke a discussion about today's temporal norms, and the understanding and usage of time. In the conversation with Rosa, one question became very clear: 'The central intuition is always the conception of autonomy: No one should tell me what to do! [...] The question is, if we as a society would want regular rhythms back?'

I used the thought experiments as a starting point for conversations with experts in other academic disciplines. What I discovered as an interesting methodology for my work was the combination of practical workshops and speculative projects. It allowed me a fruitful, mutual interplay of applied and conceptual ideas. Hence, as a result of the discussions, I used one of the scenarios, the Circadian Space community, as the leverage point to develop a concrete project in collaboration with chronobiologists and sociologists. In the next chapter, I will discuss the transformation from a thought experiment to an applied context.

CHAPTER 6

CIRCADIAN TEMPORALITY

In this chapter I explore how uchronian thinking can be implemented in design practice. I transform the speculative scenario of the Circadian Space into applied concepts and projects, based on the outcomes and findings of three body phase workshops (an interdisciplinary design workshop with an interior designer, a circadian self-experiment, and a body phase workshop with a performer), and conversations with experts in chronobiology, sociology, interior design, light design and architecture.

CIRCADIAN SPACE

No single object could better symbolise the dominance of societal time in Western societies than the alarm clock. It interrupts the physical need for sleep and rudely dominates our body clock. It functions as the general clock within our society, regardless of personal bodily rhythms. Life is dictated by external time-givers (societal expectations day and night), but what happens if we concentrate on our body and individual time signature? The project Circadian Space investigates an alternative time system based on the circadian rhythm. In collaboration with chronobiologists, sociologists and an interior architect, this involves the construction of a temporary architectural space representing the body clock. Hours, minutes and seconds recede in importance as the space becomes the clock. The aim of the project is to challenge thought patterns regarding the temporal structure of life, and to stimulate a public discussion on imposed external time versus internal bodily rhythms.

The starting point for the project is the human circadian rhythms (Fig. 6.3). As an experiment, this project exemplifies how daily life could be structured differently. This approach is an example of what Helga Nowotny has described as the third way to uchronia: through the 'vicissitudes of life' (see Chapter One). The project is a novel exploration of how scientific research can be translated through design, into a lived, aesthetic experience.

As a first step, the performance of the body, and consequently the circadian rhythm, is divided into approximately seven distinct phases of sleep, transition and activity. These phases have been informed by chronobiological research (Table 6.1), numerous conversations with chronobiologists, a 12-hour design workshop (described below), and categorised with reference to BBC's 'Body Clock: What makes you tick?'.[176] The actual duration of each phase, however, varies from person to person and day by day. According to Karlheinz Geißler, 'the clock is

the opposite of rhythm, it is a different quality. The clock is repetition without exceptions. The clock is rigid, while rhythm is flexible'.[177] In my project, this has been taken into account, and the alignment of hours to the phases is removed. The emphasis of the project is on the human circadian rhythm, incorporating the variety of duration.

WAKE-UP PHASE The wake-up phase is one of the shortest phases, with an average of between half an hour to one hour. In this stage, the body undergoes a transition from sleep to wake, from lying to standing wide awake. Biological attributes include the sharpest rise of blood pressure, cortisol and testosterone secretion, while melatonin secretion stops. The ideal lighting condition is a sunrise moment: from a dark reddish, low-light intensity to an activating blue with higher intensity.

COGNITIVE PERFORMANCE PHASE The first peak of the day is the cognitive performance phase. It is one of the longest phases, with a duration of approximately three to five hours. During this period, the body is at its peak with regard to concentration, short-term memory, and logical reasoning. The heart rate and blood pressure are at their maximum. The body position might vary over the course of the phase, changing from active positions of walking and standing to sitting still. Concerning the light, it is at its brightest stage, in full spectrum. This is comparable with the path of the sun through the course of the day, which is at its highest point.

NAP PHASE At an interval of approximately twelve hours from the point of deepest sleep (in the sleep phase), the body undergoes a second rest phase as part of the circadian rhythm. The nap phase lasts for around thirty minutes to two hours. In this stage, alertness and concentration significantly decrease. The phase is not intended for deep sleep in complete darkness, but rather for taking a rest and contemplating. In terms of light, dimmed lights of a very low lux rate consisting of red-orange light are ideal.

PHYSICAL PERFORMANCE PHASE The second peak of the day is the physical performance phase, with an average duration of three to five hours. Bodily strength is at its peak, and this is categorised as the most active phase within the circadian rhythm. The biological attributes of this phase are peaks in alertness, grip strength, muscle strength, lung and cardiovascular performance, cardiovascular strength, the highest body temperature and blood pressure, as well as lowest sleep propensity.

The ideal light conditions are external daylight. The duration of the physical performance phase is in contrast to present-day living conditions. The predominant body position of an average city dweller is sitting for up to 15 hours each day.[178]

INTUITIVE PHASE This stage is a cool-down phase, where creative thinking and playfulness is at its peak. The mind starts to wander, logical thinking dissolves into a rather playful stage. The light modulates through a variety of colours representing a sunset moment.

SLEEPINESS PHASE From the intuitive phase the body experiences a smooth transition into the sleepiness phase. The hormone melatonin sets in, which leads to a decrease in alertness and sleepiness. At a duration of around two to three hours, this phase coincides with the biological processes of increased sleepiness and suppressed bowel movements, leading to the sleep phase. In terms of light, the sleepiness phase is associated with a dimmed light of a very low lux rate consisting of red-orange hues.

SLEEP PHASE The sleep phase is the longest stage of the circadian rhythm, but varies widely from five to eleven hours for an adult. In this phase, the body experiences its deepest sleep, lowest alertness, and lowest body temperature. The light condition represents the night and the subject is ideally in complete darkness.

The scheme of the circadian rhythm was translated into a conceptual design for an experimental installation. Like the social construct of time represented by the symbol of the clock, a circular architectural space represents the body clock (Fig. 6.4–6.14). Participants are asked to live in this newly designed environment, pursuing their own independent rhythms, irrespective of the present-day temporal organisation.

The participants live together in the space over the period of one week. The space is free of any time-giving devices. It is divided into seven rooms/phases that form a closed loop. There is only one possible walking direction:[179] each of the rooms serves a different function (e.g. sleep, wake-up, concentrate, nap, move, create and rest). The six participants pass through the various phases, each at their preferred pace, according to their own rest and activity rhythm. In a 'timeless zone' (inner and outer circle) are nutrition zones, a sanitary zone and storage space for personal belongings. The hallway (white space) in

the inner circle of the building allows access to all the facilities. The beginning and end of the experiment depends on the bodily rhythm of each participant. The entrance point of the space is in the sleep phase. Each individual enters the space and starts the experiment right before they fall asleep. The experiment ends individually for every participant, after passing through seven loops. They exit the space in their last sleepiness phase. This leads to an individual conduct of the experiment for each participant, following their chronotype.

For the body, natural light is the most influential time-giver to synchronise the internal to the external day. However, in 2010 Westerners spent an average of around 2 to 2.3 hours outside each day. Figure 14 shows the development from the years 2002 to 2010, and the duration is further decreasing to 1 to 2 hours today.[180] As a result, the impact of natural light (overcast day = 1,000 lux; brightest sunlight = 120,000 lux) on the body is decreasing, and the low light intensity indoors (e.g modern office = 300 to 600 lux) does not compensate for the shortage (Fig. 6.15).[181] The consequence is a desynchronisation of our internal time from the natural rhythm. Because of the low exposure to external light, specific 'chronotypes' gain in importance.[182]

The Circadian Space therefore reflects this. In most spaces, it has no outdoor access and the only external light coming through windows is carefully regulated. This combines with internally regulated light adjusted to the rest-activity phases. Special consideration is given to the light intensity and the light spectrum in each of the phases, as this critically affects the internal clock.[183]

Participants keep a diary, documenting their perceptions of time and bodily rhythms. They are not allowed to use computers, mobile phones or any display devices, as these additional light sources influence their human circadian rhythm. Roenneberg neatly summarised the project goal as follows:

> [The experiment] displays how a world would look like – you are building a miniature representation of the world – in which everyone is free to follow their own internal rhythm. [...] With the objectives of showing, that with the [individual], utmost of biotemporal freedom, the society would not fall apart into an autistic chaos. [...] [The project has the potential] to show, although the participants are utterly following their biological rhythm, and not other influences [fellow participants or societal norms], that the social life between the six participants is not collapsing, but rather develops new dynamics.[184]

In the following, I describe the process and case studies which formed and informed the project concept of the Circadian Space. The case studies were essential preparatory workshops, experiments and performances for the large-scale experiment. The aim of all these workshops was the spatial elaboration, including interior and exterior, of the Circadian Space.

INTERDISCIPLINARY BODY PHASE WORKSHOP 1

In the first workshop, I related the design process to the human circadian rhythm and the body clock. As a guideline I used the table of the circadian rhythm by Foster and Kreitzman (Table 6.1).[185] The idea was to design the interiors of the Circadian Space to follow our personal daily rhythms. I used the seven body phases, discussed above, as the parameters for the body phase workshop. In a lively debate and exchange of ideas with the interior designer Ulrike Lehner, we sketched out possible plans for the space. On the premise of the original model of the speculative time community and the preparatory work, Lehner and I ran the workshop in 2014 at the Royal College of Art (Fig. 6.16).

The set-up of the workshop was as follows. We assembled the structure of each room (different sized circle segments), one at a time, and drew sketches of the space layout, over the time period determined by our own body clocks. In our previous collaborative work we had already determined a minimum space for the actual experiment, which we used as a point of reference (Fig. 6.17–6.19).

Based on these initial architectural sketches, we outlined the space with adhesive tape and constructed the space with plain and movable paper walls. As elaborated earlier, each phase had a different size, depending on the approximate duration of the phase – for instance the sleeping space was the biggest space, while the wake-up and nap phases are, due to their short duration, the smallest circle sections. There was light from above, but no windows. Clocks or other time-giving devices were removed, as well as phones. We used a laptop for sketches and notes, however without internet access and a hidden time display. The furniture and equipment was reduced to the basic needs for each phase. The experiment was continuously recorded by a video camera (visible to us). Food was provided beforehand and always available. During the experimental session, we had no encounter with other people.

Only in order to use bathroom facilities did we leave the space. The simple mock-up of the space and the experimental set-up gave us a first, and first-hand, impression of the actual experiment. Even through the short period, we gained an insight into the immersive nature of the experiment. The experience of time in this living situation, with a focus on the biological clock, was particularly interesting. In everyday life we are used to checking the time as a reference point for working hours, mealtimes, rest or sleep. Alan Lightman, in the short story '24 April 1905' in his novel *Einstein's Dreams,* discusses a world with two times, mechanical time and body time:

> [...] there are those who think their bodies don't exist. They live by mechanical time. They rise at seven o'clock in the morning. They eat their lunch at noon and their supper at six. They arrive at their appointments on time, precisely by the clock. They make love between eight and ten at night. [...] When their stomach growls, they look at their watch to see if it is time to eat.[186]

Removing oneself from this way of thinking and structuring of time created a very unusual situation. We were almost left alone, reduced to our bodies. Not that we had never experienced time periods without clocks, for instance beach holidays, but in these cases natural influences like sunlight replace the clock. To consciously perceive your own body rhythms was a more difficult task than we had expected. The transitions from active to rest phases were very fluid, and not at all related to the contemporary fragmentation of time. We lived by body time, as Lightman's narrator describes:

> They do not keep clocks in their houses. Instead, they listen to their heartbeats. They feel the rhythms of their moods and desires. Such people eat when they are hungry, go to their jobs [...] whenever they wake from sleep, make love all hours of the day. Such people laugh at the thought of mechanical time. They know that time moves in fits and starts.[187]

Another interesting aspect of the experiment was the enclosed living situation. Although most of us spend our time mainly indoors,[188] not having the option to go outside was perceived by us as a strong disconnect from the outside world. The light from above gave us a clue about the time of day, even though it was not perceived as relevant

information. The enclosed space, as much as it felt limiting from a spatial perspective, gave us freedom in the temporal sense. I also note our experience between the relationship of the time of the day and our creative thinking and the design process. Analysing the bodily rhythm, we experience peak and low periods, for example a high concentration level in the first half of the day – what I call the *cognitive performance phase*. These qualities dropped over the course of a few hours to a low point, termed *nap phase*. While working on the design of the spaces, we always changed the size of the room, the light conditions and the furniture in relation to these rhythms. In the cognitive phase, this was a large space, brightly lit with desk and chairs, while the nap phase was one of the smallest rooms, dimly lit and equipped only with a couch. This turned our attention to bodily posture and movement, from upright standing and sitting, actively moving and running, to relaxed lying. The design process was thus not limited to sitting at a desk and working at a laptop, but rather embedded in all our actions, from playing badminton to sleepy daydreaming on the couch.

The workshop was a very inspiring and productive practice for the further development of the interior landscape of the Circadian Space. It has implications for how we think about the ways we want to work, the creative process and what time of the day might be best for which task. It gave us a new perspective on dwelling, independent of the 'usual' typology of a house like bedroom or kitchen. The physicality of our bodies was at the centre of our considerations, and as the spaces are only used once a day during a certain period of the circadian rhythm, ideal conditions for specific bodily conditions can be created. This includes parameters like the light spectrum and light intensity, room temperature, colours, textures, atmosphere and furnishings. This approach shows significant resemblance with Philippe Rahm's 'interpretive architecture'. For him the focus is on climate; however, the methodological approach is comparable:

> The goal is to come up with an architecture free of formal and functional predeterminations, a de-programmed architecture that is open to variations of season and weather conditions, day/night transitions, the passage of time, and the appearance of novel functions and unexpected forms. What we are working toward is a reversal of the traditional approach to design in order to achieve a new spacial organisation in which function and form can emerge spontaneously in response to climate.[189]

My focus is on the human body, especially the body clock as parameter for spatial development. Each phase is thus designed following the circadian rhythm rather than the standard room categories. In the terminology of Rahm, this constitutes a de-programming of the predetermined standards. Through its monofunctional programming of each room uniquely for one specific body phase during a single day, the conditions within the room are optimised for a certain body phase.

To give an example, the wake-up phase consists of three sections. In this phase the body undergoes a transition from sleep to wake, from lying to standing wide awake. This is addressed in the room through four areas: a soft lying area as a transition from the bed, leading to an area for stretching and warming up of the muscles, followed by an area for sitting upright, and finally inducing standing up in order to walk to the next phase. The lighting conditions in the room simulate a sunrise: from the dark reddish, low light intensity to an activating blue with higher intensity (lux rate). This reflects a sensual aspect of architecture, like that shown in the exhibition *Sensing Spaces: Architecture Reimagined* at the Royal Academy in London, 2014: 'There is a sense of pleasure in moving from darkness to light or vice versa because as human beings we're cyclical. How light reflects and how light is contained is the stuff of architecture'.[190]

One more crucial finding worth mentioning is related to the physical performance phase. With regard to our circadian rhythm, this phase has an average duration of around four hours, in which performance like muscle strength, grip strength and flexibility peak. In the experiment, we estimated that we spend less time in this active phase. As both of us are desk workers, the duration seemed unusually long. Looking at an average city dweller's schedule today, they spend ten to fifteen hours per day sitting.[191] What the architectural model of the Circadian Space brings to light is the conflict between the default human body position of sitting in an urbanised, chair-based world and the physiology of the human body, by allocating at least around one quarter of each day to physical activity.

The workshop resulted in a series of sketches and design ideas for the interior of the space. After the workshop I gathered all my material and wrote a detailed briefing for each of the body phases, which I used as the basis for the following practice projects (Table 6.3–6.4). This workshop also sparked the idea for a performative project, discussed subsequently, which in purest form concentrates on the timing of the day in relation to the individual bodily rhythms.

INTERDISCIPLINARY BODY PHASE WORKSHOP 2

In chronobiological research, human scientific self-experiments have been used to investigate the bodily, internal clock and its functional principles independent from external cues (see Chapter Five). I draw inspiration for my self-experiment from the initial 63-day underground experiment of Michel Siffre, which he documented in great detail in *Beyond Time.*[192] The intention of this experiment was to 'unmask' my own internal bodily rhythm. As already explored in the previous body phase workshop, the perception of individual phases was challenging, as we are unused to listening to the internal body clock closely. In this context, Foster and Kreitzman explain, 'Despite electricity and atomic clocks, our bodies still beat to a daily cycle. We do not recognise it for what it is because we live now in a world beset with all manner of artificial timing cues so that our basic internal clocks are often "masked"'.[193]

In a film studio, I staged a performative exploration of internal time. The duration of the self-experiment was 16 hours, in a space without windows or other external light. During the session, I had the studio space to myself, uninterrupted and quiet. I reduced the setting to the absolute minimum, creating a space to unlearn and discover, reminiscent of Cy Twombly's technique of painting in the dark. I used a single spotlight as my only external influence, which created a light cone representing physical space. The reduction to almost nothing except light allowed for a highly concentrated and intensive, pure experience of time and space. The body as my guide determined the rhythm of the experimental session, with no means to check the time.

It was an eye-opening experience for me to solely perceive the body phases of my internal rhythm, comparable to what Nietzsche describes in the essay *Twilight of the Idols, or How to Philosophize with the Hammer,* 'Learning to *see* – getting your eyes used to calm, to patience, to letting things come to you';[194] Byung-Chul Han builds upon Nietzsche's thought by saying: 'that is, making yourself capable of deep and contemplative attention, casting a long and slow gaze'.[195]

What the experiment brought to light was the artificial rhythm I live by on a day-to-day basis. Following the societal norms, the day already starts with an enforced point in time through the ringing of the alarm clock. From then onwards the day is structured and fragmented into a range of tasks assigned to certain periods of time. In the experiment however, time was perceived differently. Clock time or digital time lost its meaning in the time and space I was dwelling in, coming to feel

almost like a foreign language. Even for such a short period of time, I lived beyond time. I got a notion of what Siffre describes of his underground experiment. He lost all notions of clock time: 'Time no longer means anything to me'.[196] Siffre elucidated:

> I lived according to my moods, and I never lacked time to accomplish a task. How could it have been otherwise, since time existed only in me, since I created time and was indeed my own clock? Both time and space were motionless and frozen in the depths of the earth.[197]

It was a freeing experience, as there was no necessity to know the time. Hunger did not disrupt the experiment; rather it was an embedded activity as part of bodily rhythmicity. In day-to-day life, mealtimes often structure the day into certain periods of time, dependent on specific cultural norms, as opposed to the actual feeling of hunger and thirst.

In comparison with the body phase workshop, the difference was the pure concentration on my own individual circadian rhythm. It was an isolated self-experiment, with no equipment except one light source and no task to fulfil other than listening to my body (Fig. 6.20).

During the experimental session I perceived the passing of time as slow, and the 16 hours as longer than my average day. I had the feeling I was given time. With my body as the focus of attention, the slightest movement or action became important. I listened to my heart beat, pulse, my breathing, the blinking of the eyes or other muscle contractions. The unmasking of the circadian rhythm was simpler for certain phases (nap phase, sleepiness phase) than for others (cognitive performance phase, physical performance phase, intuitive phase). Especially the length of a phase, posture and bodily movement varied in clarity and definability. As described above, I perceived time passing as a continuous flow. In chronobiological research, there is no single valid categorisation of the circadian rhythm into phases, as I suggest for the Circadian Space. As shown in Table 6.4, chronobiologists instead discuss peak and low points in performance. This experiment provides support for their approach. The ideal translation of the circadian rhythm into a spatial structure would therefore be a transitional space, with the exception of the sleep phase as a clearly defined room.

Over the course of the experiment, I was able to sense peak times and low points in performance, including the increase and decrease of concentration, activity and sleepiness. During the experiment, however, I used the elaborated phases as a point of reference. In the Circadian

Space they become a means to visualise the circadian rhythm to a wider audience. The phases, however, should not be understood as rigid categories, rather as a point of reference in the space. At what point in time to move to the next phase is an individual decision, not an unalterable fact.

To summarise the experiment, it added a new dimension to my thinking about the contemporary temporal structure. The body phase workshop had already on some points, like the liquidisation of time in comparison to the fragmented clock-based structure. But this performative workshop was much purer and concentrated on the perception of the inner clock. I realised how deeply embodied clock time is. I also understood how abstract and artificial this temporal construct of clock time appeared outside the framework of the Western temporal system. The simple removal for only 16 hours made clear that 'time is a social construct', meaningful only in a particular context.[198] According to Siffre, 'I am free!'[199] The disconnect from clock time and connect with body time was a truly liberating and inspiring experience.

INTERDISCIPLINARY BODY PHASE WORKSHOP 3

Following my self-experiment, I collaborated with the performer Elina Loukou. The intention was not to repeat the experiment, but to visualise the body phases as illustrative material for my research. I provided her with a briefing about the circadian rhythm and the phases, and discussed the performance with her in two preceding sessions. In these meetings I introduced her to the topic, but gave her the freedom to interpret it from a performer's perspective. It was relevant for me to see her approach of bodily movements in relation to the phases. In my self-experiment I had neither intended nor put thought into the illustrative nature of my movements. In some phases, her interpretation and my movements overlapped obviously, like the sleep phase; while others, like the intuitive phase or concentration phase, differed considerably.

Preparatory to the performance in the RCA's Moving Image Studio, we discussed the addition of equipment and the particular clothing. Once again, I gave her the artistic freedom to decide upon her interpretation. She chose layered clothing in order to add or subtract an item contingent on the respective body phase. Otherwise, she decided to forgo any additional equipment. Hence, the setting of the scene was identical, only with one other deviation: during each body phase,

we changed the size of the light circle depending on the average length of the phase following my shooting map (Table 6.3). The light circle of the sleep phase, for instance, was the largest, due to the average sleep duration of eight hours, while the nap and wake-up phase were the smallest circles, due to their average duration of an hour. This is a relevant aspect for the visualisation of the circadian rhythm, to put the phases in temporal relationship to each other, whereas it would have been too disruptive to change the circle sizes during my experimental session.

Over the course of two days, we worked on the body phase performance, with the support of technicians Rodrigo Cañas and George Duck. In the shooting map, I set out different durations for each phase, in relation to a 24-hour day. The circadian day of most people has a tendency towards 25 rather than 24 hours. This, however, highly depends on each individual, and no universal length of the circadian rhythm can be determined (as the term's Latin roots already suggest: *circa* and *diem*, 'about a day'). Thus I decided to align the shooting duration with the established length of a 24-hour day (Fig. 6.21).

The collaboration with Loukou was fruitful for further project development. It was useful to see the interpretation of the brief from another practitioner's perspective. In comparison, my self-experiment was a very calm but concentrated experience, and the same was true of our two-day session. Observing the scene, watching her sleep, wake up, etc, unfolded a beauty I did not expect. It revealed an internal process from a certain intimacy and sensuality. Particularly the sleep, wake-up and sleepiness phase are very private periods of time in everyday life, normally not exposed to an outside viewer.

This work reminded me of the artist Christian Marclay's installation *The Clock*. In this work, he looped 24-hour video footage from thousands of film scenes displaying the time of day, showing clock faces and watches, or of people saying the time. Some galleries are open 24 hours to show the whole piece, allowing visitors to watch a scene displaying the clock time, for example, of 3:15 am at the actual time of 3:15 am. This piece has been described as mesmerising and addictive,[200] the connection to clock time similarly disappearing and the piece instead reflecting the rhythm of societal life, with waking-up scenes at around 7 am, busy commuting and travelling between 4 and 5 pm, and dream sequences between 3 and 4 am.

Although it seems like the opposite to my research, I draw parallels here with the circadian rhythm performance. In the centre of both pieces is the depiction of the temporal rhythm of life over the duration of a day.

Marclay's piece shows life in the world of 'mechanical time' in Lightman's words, for example eating lunch at twelve o'clock and making love in the evening between eight and ten.[201] My work externalises internal time and displays the rhythmicity of Lightman's 'body time'. In both cases, a shift in behaviour, movement, language and thoughts becomes visible from morning, noon, evening to night. One of the protagonists in André Gide's novel *The Counterfeiters* expresses this as follows: 'If I were not there to make them acquainted, my morning's self would not recognize my evening's. Nothing could be more different from me than myself'.[202]

As a result of this performative session, we discussed the possibility of a later collaboration with performers (with diverse chronotypes to represent a cross-section of society) to turn this experience into a public circadian rhythm performance of 24 to 25 hours. The collaborative work with Loukou enabled me to switch sides, from performer to observer, and as a consequence sparked the idea for a large-scale public performance.

Moving from a speculative to an applied approach, I considered numerous locations for the experiment. I looked at existing spaces as well as considering the development of a new space. It is important to mention, regarding the discussion about the space, the experimental set-up. In conversations with chronobiologists Anna Wirz-Justice and Russell Foster as well as lighting designer Ulrike Brandi, it emerged that the Circadian Space should take into account today's urban living conditions. In daily life, light as a zeitgeber has lost its significance, as most urban dwellers mainly live indoors and are hardly ever exposed to external light (as outlined in Chapter Six). The space should thus take this fact into account and simulate an 'indoor' situation.

In Chapter One I discussed the three major influences on our temporal existence – natural rhythms, societal norms and the human body clock. For the space, this opens up two possibilities. As I focus solely on the biological rhythm and eliminate the societal clock time and natural rhythms, it is a decisive factor to consider using an existing or newly built space, and moreover, where the space should be situated – in a natural/rural or urban environment. In the original thought experiment of the Circadian Space, I envisioned a novel spatial structure built by one of the time communities. The interior designer and I, in our experiment, proceeded on the assumption that this space would be build from scratch. In summary, one of the aims of critical and speculative design is to foster public debate in the form of thought experiments, most commonly through objects and visualisations.[203] As part of my research, I developed the Circadian Space as a thought

experiment, displayed via an initial model of the proposed space and later on in detailed graphics and plans. I pushed the idea into another territory by using it as a starting point for collaborations, conversations, workshops, and performances. I investigated how 'design for debate'[204] can be explored through an applied approach. My range of activities was extensive in order to push the conceptual idea to a new level. I presented the project idea to a variety of people, from city council members in a small town in Germany to researchers of the Fraunhofer Institute, at research conferences, public conferences, and companies. I embraced dialogue and collaboration as a medium for further project development. The project sparked conversations with a broad audience, including many of whom had never heard of critical and speculative design. Dunne and Raby acknowledge the concern of speculative design practice becoming 'a sophisticated form of design entertainment'[205] or 'escapism, utopianism or fantasy'.[206] By taking the approach outside the design field, I initiated a conversation and debate.

The conversations also sparked an exchange between the disciplines of chronosociology and chronobiology. Through the project development, I became involved in both fields (readings, talks, conversations and collaborations), to a much greater extent than I had in the project's previous form as a thought experiment. In concrete terms, it suggests the realisation of a collaborative project under the umbrella of uchronianism.

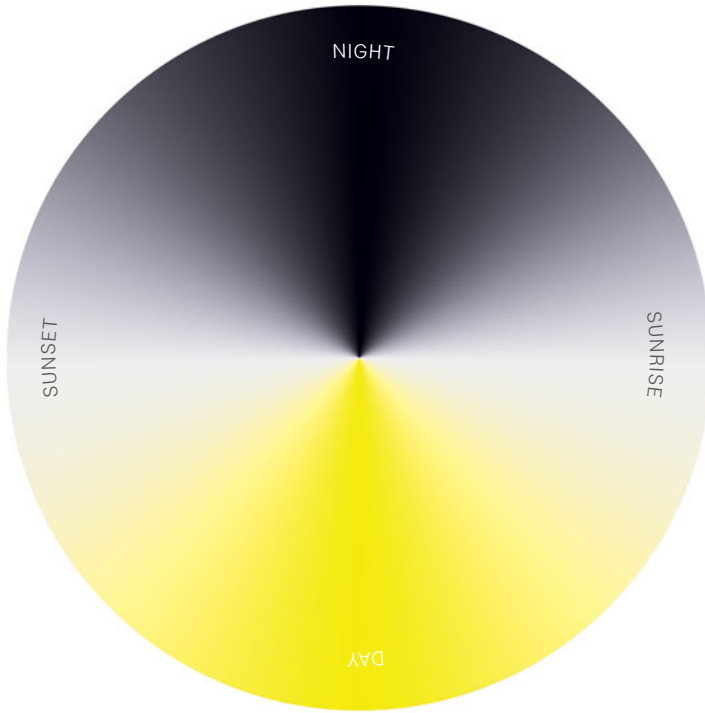
AROUND A DAY

Building upon my research into circadian temporality, I developed the artistic project *Around a Day*. The piece was part of my residency at the Design Museum in London and a commission by Z33 – House for Contemporary Art for the Istanbul Design Biennial 2018. The project includes a photo series in relation to the seven bodily phases of rest, transition and activity: the sleep phase, the wake-up phase, the cognitive performance phase, the nap phase, the physical performance phase, the intuitive phase, and the sleepiness phase (Fig. 6.22–6.28).

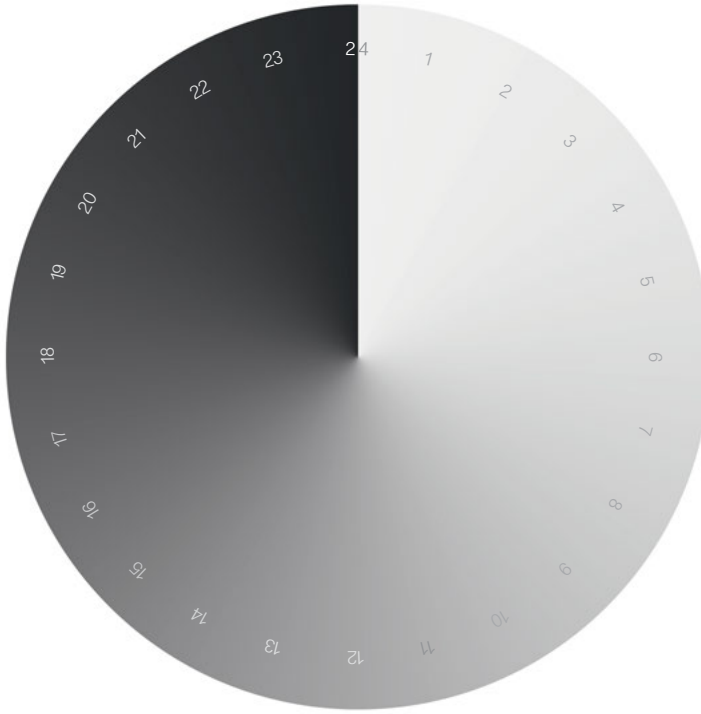
Over the period of around 24 to 25 hours, the photographer Tereza Červeňová and I observed and documented the circadian rhythm of one person (model Delfina Fantini van Ditmar). She was briefed only to live her day without any clock-giving device and following her daily bodily rhythm. Nothing was staged, the model wore no make-up and the photographer and I worked only with existing light sources, choosing

instead to concentrate on how the body slowly changes over the course of the day. Working mostly in portraits and close-ups, the image series captures the peak moments of each stage, of how her body transforms over this period of time. Again in the words of the writer André Gide: 'If I were not there to make them acquainted, my morning's self would not recognize my evening's'.

I used the image series as part of an immersive video installation in the exhibition as part of the Time School at Istanbul Design Biennial (Fig. 29–31). The work was developed in collaboration with Piotr Ceglarek, Tereza Červeňová, Mále Uribe Forés, Michaela French and Delfina Fantini van Ditmar. The installation displays the circadian rhythm of around 24 hours compressed in a twelve-minute loop. In harmony with the body images, the light transitions through the seven phases, independent of clock time. The project raised awareness of how we structure time in relationship to the body and space by introducing alternative criteria for a temporal structure outside the current norm. In contrast to the sociotemporal order, the biotemporal order is reliant upon a certain rigidity. Specifically, through the daily rhythmic cycle of rest and activity, the body clock provides such a determined framework that it can serve as the underlying model for the development of new temporal structures. This includes long segments of time, such as sleep and wake periods, and brief time segments, like the pulse and the heartbeat. The human circadian rhythm is a way of thinking and living based on bodily time. Through it we can imagine a new temporal paradigm.



6.1–6.3: *Influential Zeitgeber: Day-and-Night Rhythm, Clock Time, and Human Circadian Rhythm*, 2014, Helga Schmid



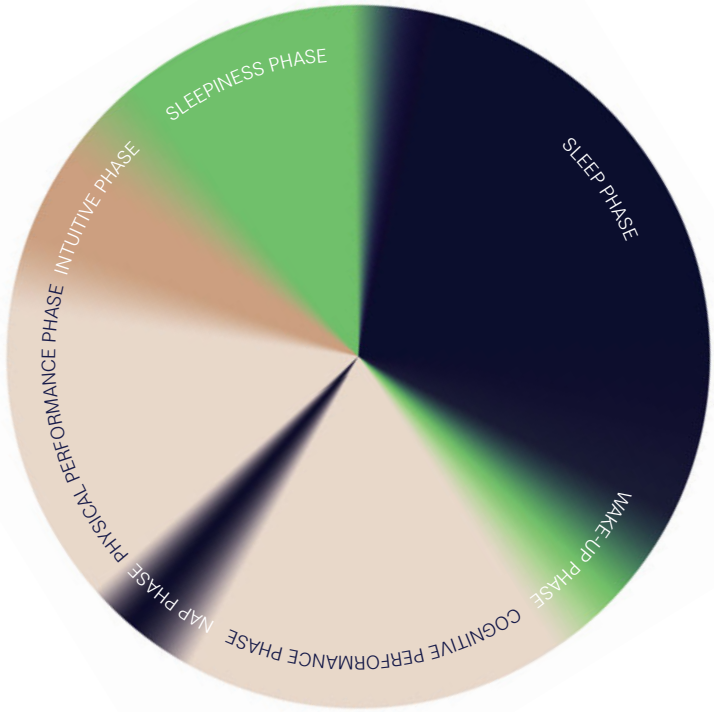
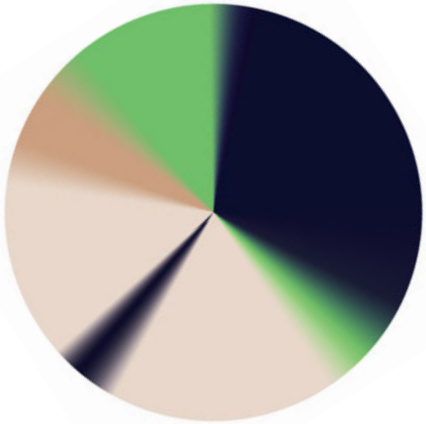
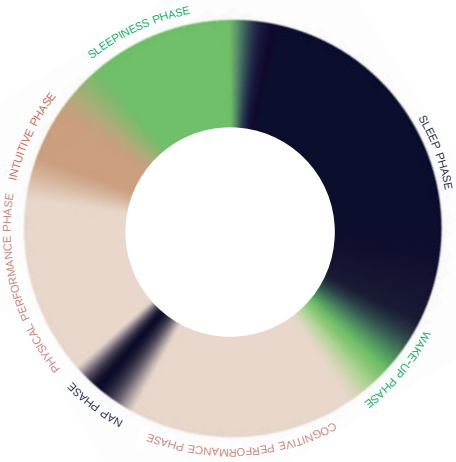
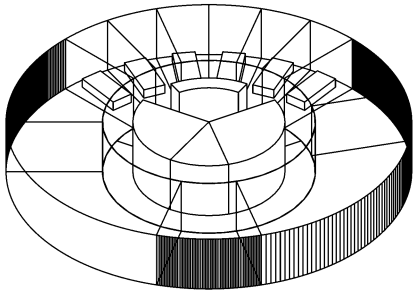


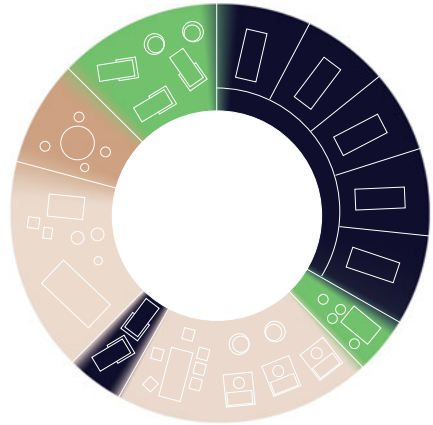
Table 6.1: *Rhythms of Life*, 2004,
Russell G. Foster and Leon Kreitzman,
redrawn by Helga Schmid

TIME	PERFORMANCE	BIOCHEMISTRY
00:00–02:00	Sleep initiation Gastric motility	Growth hormone Uric acid concentration Prolactin
02:00–04:00		Glucose (under a constant routine) Triacylglycerol (under a constant routine) Lymphocytes Eosinophils
04:00–06:00	Body temperature Concentration Deepest sleep Urine production Birth (natural, not induced)	Melatonin ACTH FSH LH TSH Glucose (under a constant routine)
06:00–08:00	Sleepiness/tiredness	Cortisol Testosterone Plasma catecholamines Fight or flight system Platelet viscosity Blood viscosity Fibrinolytic activity NK-cell activity
08:00–10:00	Bowel movement Blood pressure	
10:00–12:00	Concentration Short-term memory Logical reasoning Blood pressure	
12:00–14:00	Concentration Short-term memory Logical reasoning Urine production Airway patency	
14:00–16:00 16:00–18:00		Insulin
18:00–20:00	Body temperature Alertness Cardiovascular efficiency Muscle strength Flexibility Grip strength Sleep propensity	
20:00–22:00	Gastric acidity	
22:00–24:00	Gastric acidity Bowel movement	

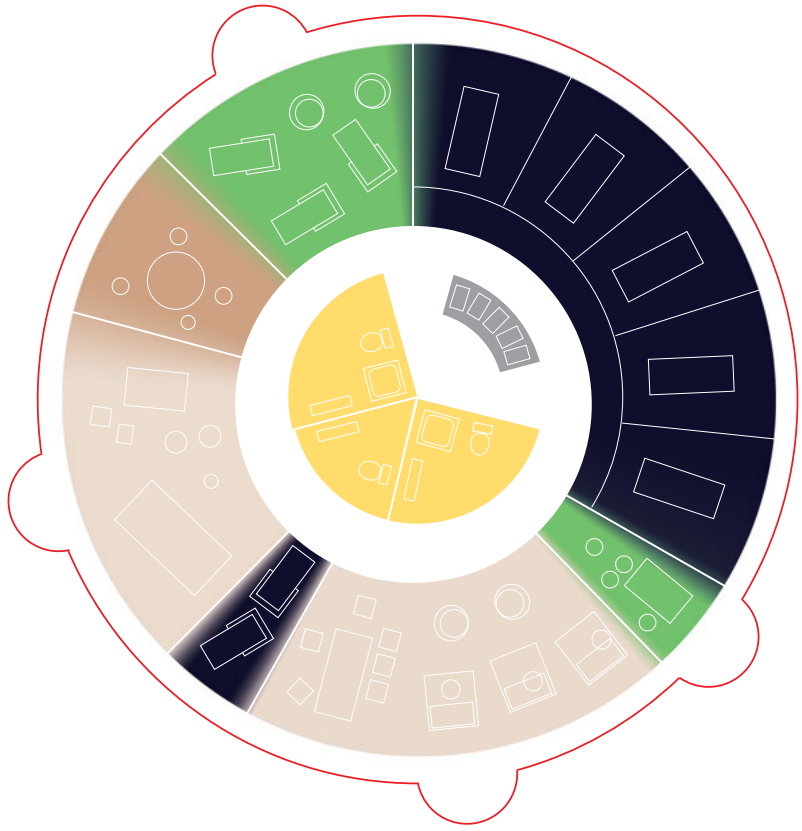






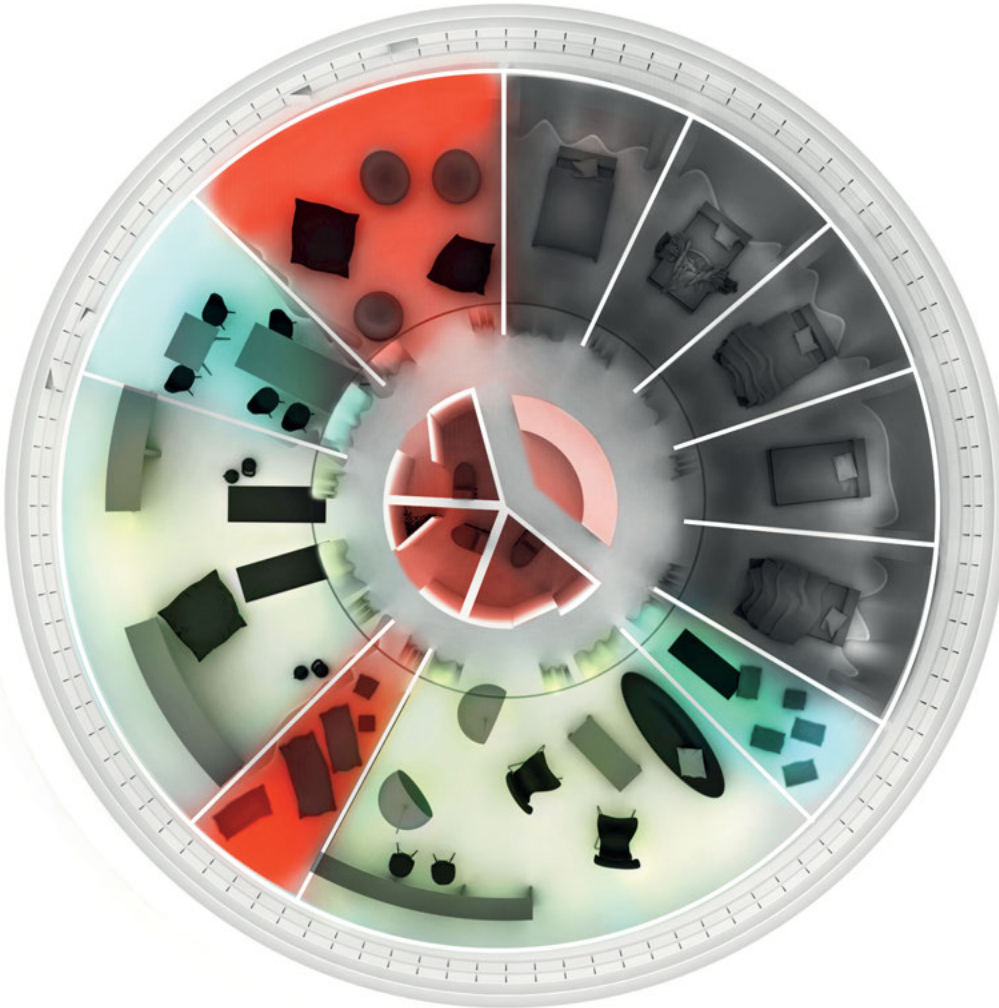


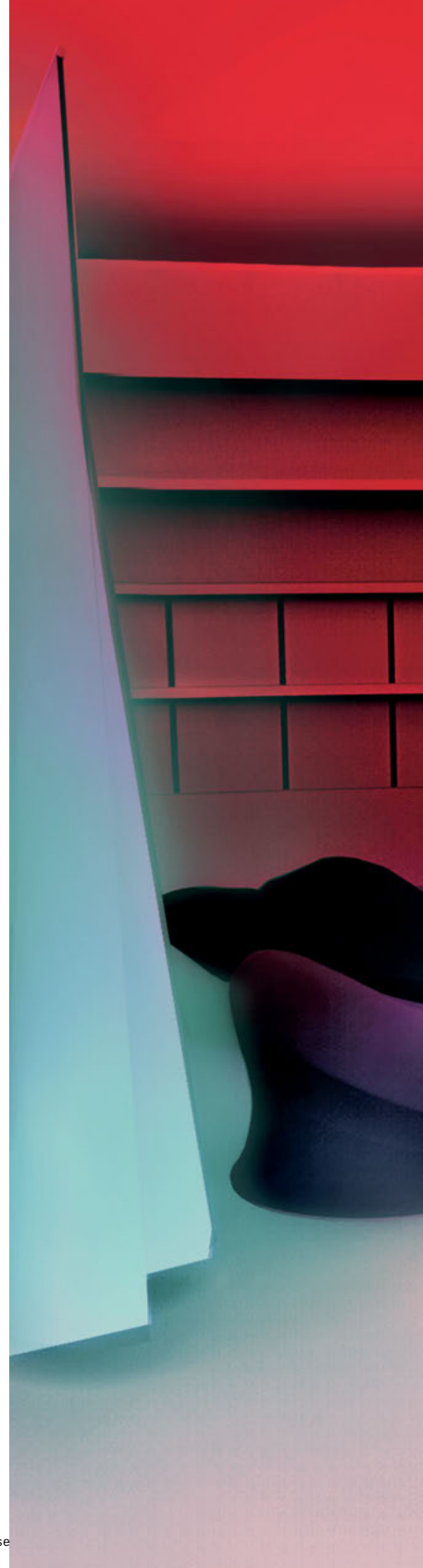
6.4–6.7: *Translation of the Circadian Rhythm into a Living Space*, 2014, Helga Schmid. The circadian rhythm is classified into seven phases. These are directly translated into an architectural space, e.g. eight hours of sleep = 1/3 of the day, represents 1/3 of the space.

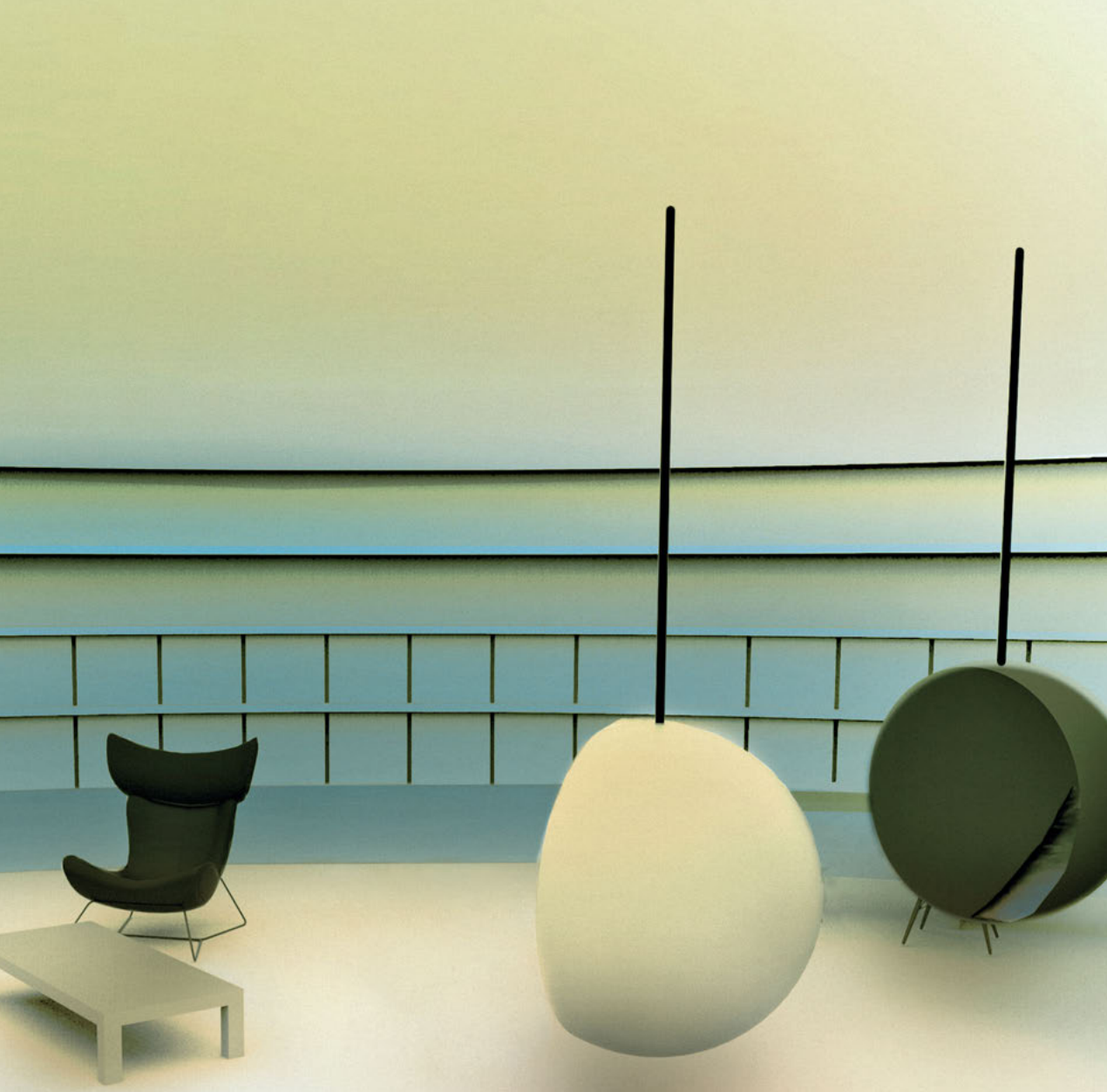


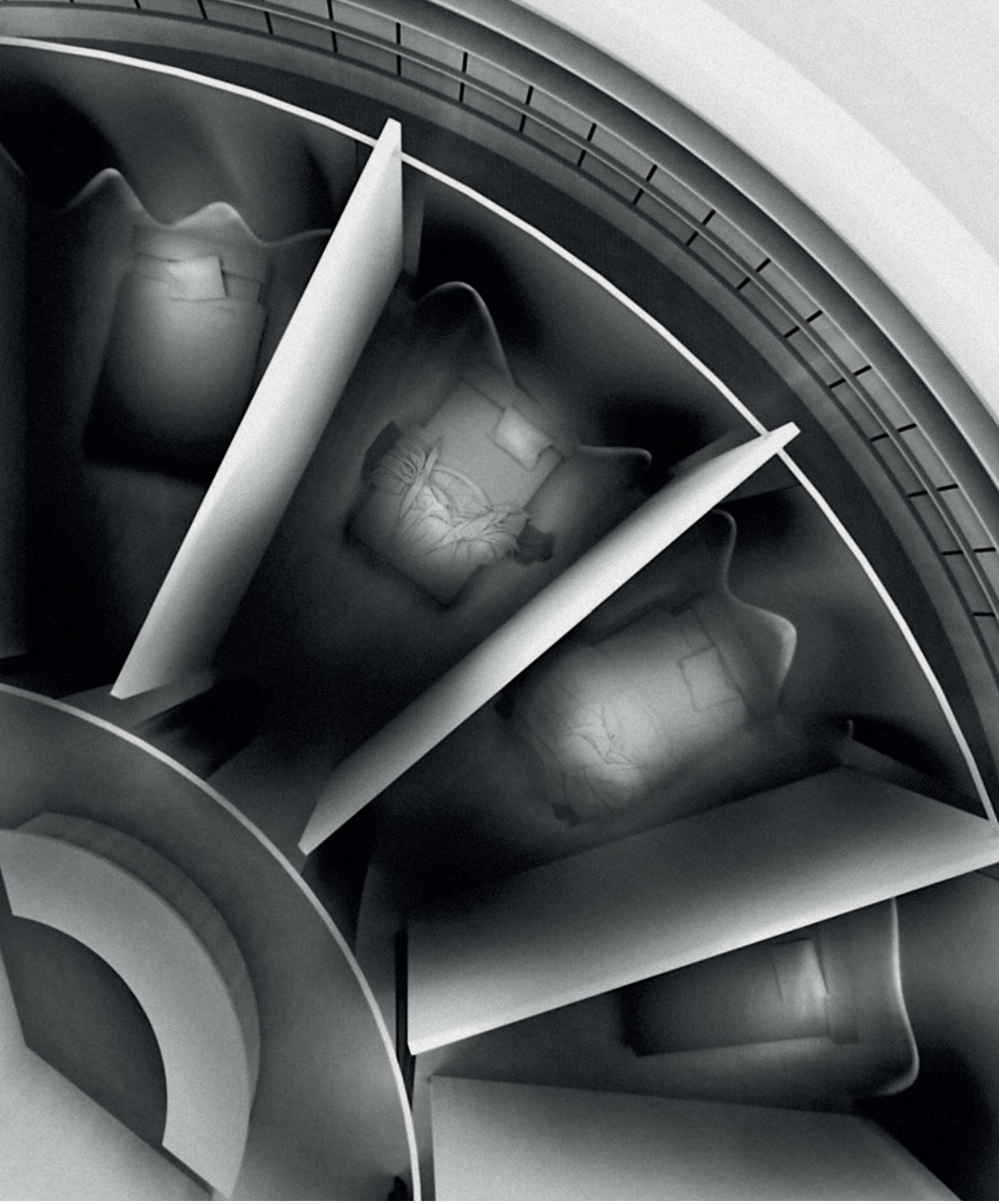
6.8: *Circadian Space Diagram,* 2014, Helga Schmid
The dimensions of the space are 16 diameters in the visualisation.

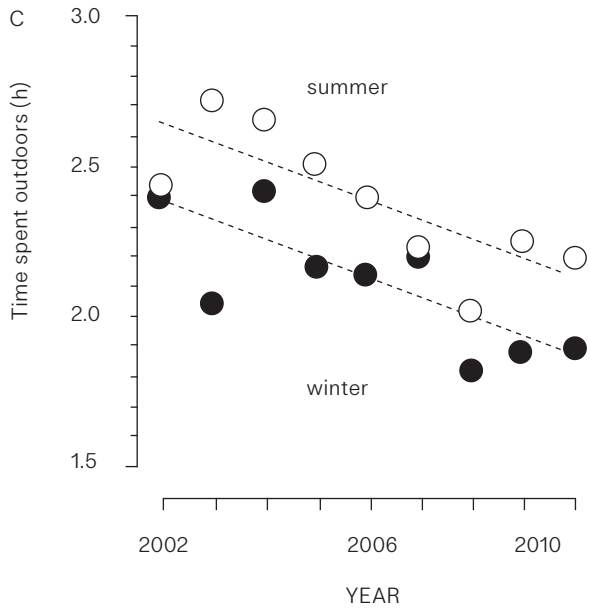
6.9–6.13: *Circadian Space,*
Kelly Spanou and Helga Schmid









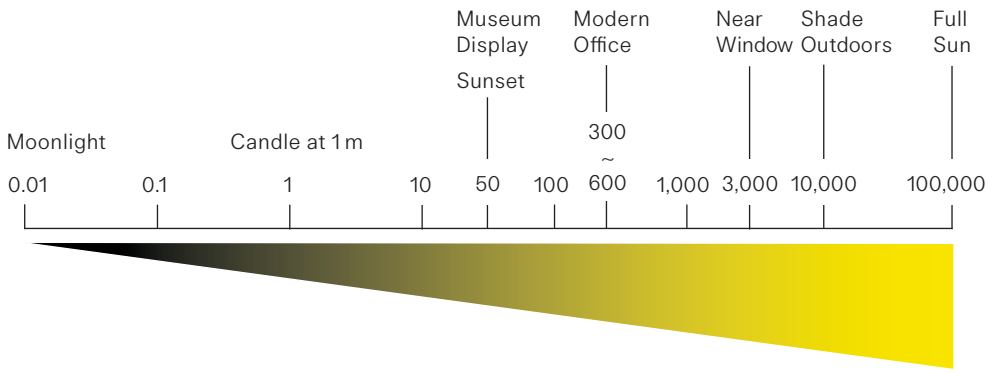


6.14: *Light Exposure Over the Past Eight Years*, 2012, Till Roenneberg et al.

6.15: *Environmental Light Levels (lux)*, 2015, Russell G. Foster

Table 6.2: *Environmental Light Levels (lux) ~ 1×10⁹*, 2015, Russell G. Foster

ENVIRONMENTAL LIGHT LEVELS (LUX)

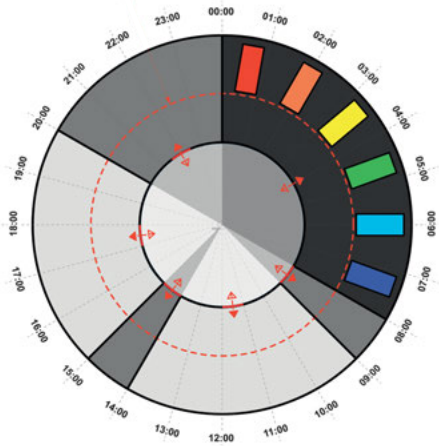


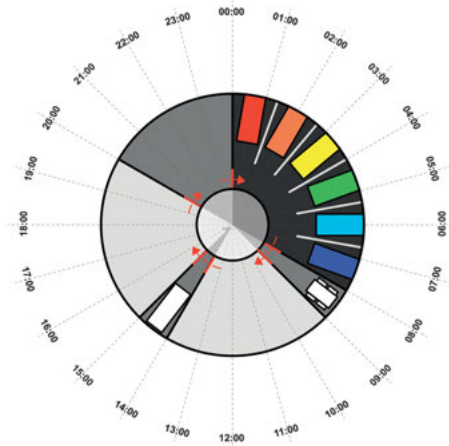
ENVIRONMENTAL LIGHT LEVELS (LUX) ~ 1×10^9

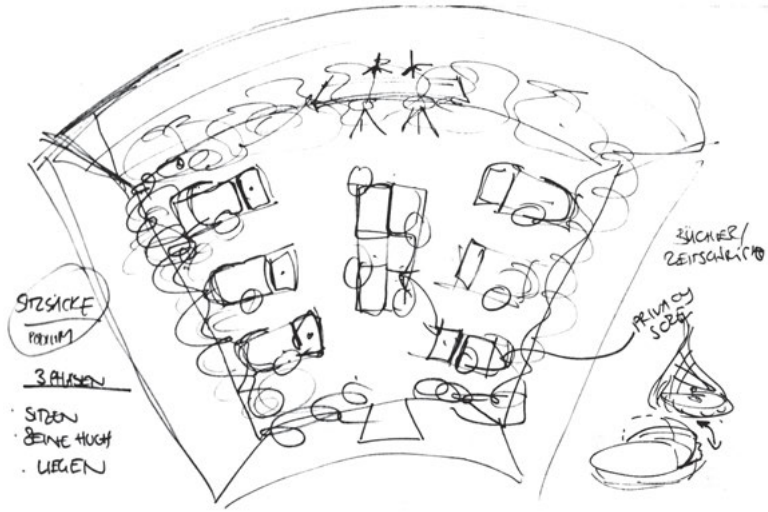
Illuminance	Example
120,000 lux	Brightest sunlight
110,000 lux	Bright sunlight
20,000 lux	Shade illuminated under clear sky at noon
1,000-2,000 lux	Typical overcast day, midday
<200 lux	Extreme of darkest storm clouds, midday
~50–300 lux	Sunrise or sunset
40 lux	Fully overcast, sunset/sunrise
<1 lux	Extreme of darkest storm clouds, sunset/sunrise
<1 lux	Moonlight
0.01 lux	Quarter Moon
0.002 lux	Starlit clear moonless night sky
0.00014 lux	Venus at brightest
0.0001 lux	Starlit overcast moonless night sky

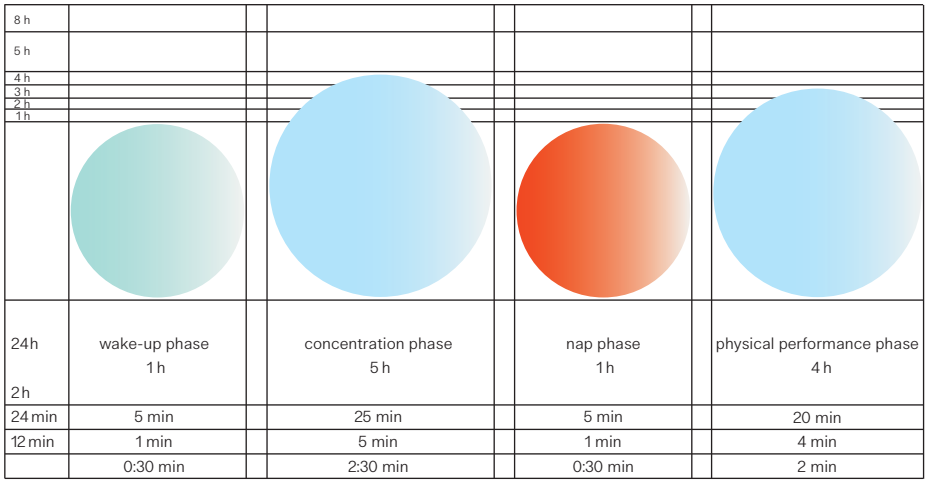
6.16: *Documentation of the Interdisciplinary Body Phase Workshop*, 2014, Ulrike Lehner and Helga Schmid

6.17–6.19: *Initial Architectural Sketches of the Space*, 2014, Ulrike Lehner









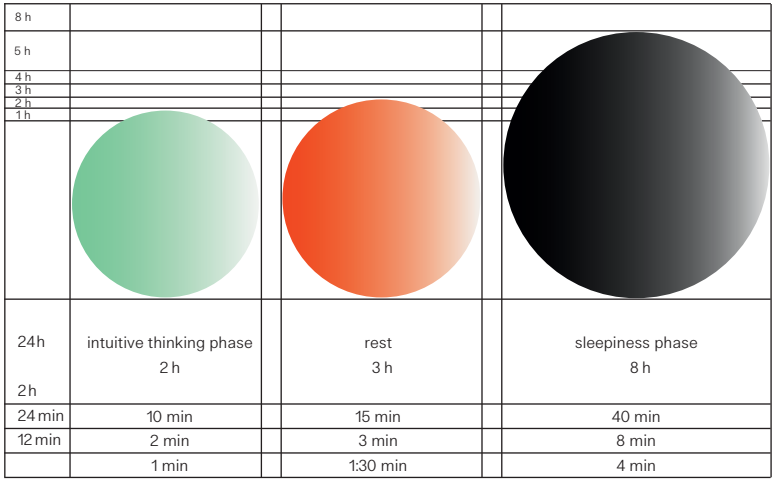


Table 6.3: *Body Phase Workshop: Shooting Map*, 2014, Helga Schmid

Table 6.4: Circadian Workshop Briefing, 2014, Helga Schmid, developed in reference to Table 6.1

ROOM	CIRCADIAN PHASE	DURATION	PEAK BIOLOGICAL ATTRIBUTE	LOW BIOLOGICAL ATTRIBUTE	LIGHT (LUX RATE)	BODY POSTURE
1	Sleep Phase	6–10h	Melatonin peak Gastric motility Deepest sleep	Body temperature Attention Vigilance	'NIGHT' dark: 0 lux	lying
2	Wake-up Phase	1/2–1h	Blood pressure (sharpest rise) Testosterone secretion (highest)	Melatonin secretion (stops)	'SUNRISE' dimmed: soft blue 350 lux	sitting stretching standing
3	Cognitive Perfor-mance Phase	3–4h	Cortisol level Logical reasoning Alertness Short-term memory Concentration		'DAY' bright: full spectrum 500 lux	sitting standing moving
4	Nap Phase	1–2h		Alertness	'SHADOW' dimmed: red-orange 50 lux	lying
5	Physical Perfor-mance Phase	3–4h	Alertness Grip strength Muscle strength Lung and cardiovascular performance Cardiovascular strength Core body temperature Blood pressure	Sleep prospensity	'DAY' bright: full spectrum 500 lux	moving
6	Intuitive Thinking Phase	1–2h	Intuitive thinking Creativity		'SUNSET' soft light: 350 lux	sitting standing moving
7	Sleepiness Phase	2–3h	Melatonin production	Body temperature drops Bowel movement suppressed	'DARKNESS' red-orange 50 lux	sitting lying

6.20: *Body Phase Workshop: Self-experiment*, 2014, Helga Schmid

6.21: *Body Phase Workshop with Performer*, 2014, Elina Loukou and Helga Schmid

6.22–6.28: *Around A Day*, 24h Image Series, Helga Schmid in collaboration with Tereza Červeňová (photographer) and Delfina Fantini van Ditmar (SMART model)

6.29–6.31: *Circadian Space*, Salt Galata, Istanbul Design Biennial, 2019, Helga Schmid in collaboration with Piotr Ceglarek, Tereza Červeňová, Mále Uribe Forés, Michaela French and Delfina Fantini van Ditmar

CHAPTER 7

THE POTENTIAL OF UCHRONIA

INTERDISCIPLINARY UCHRONIAN CONCEPT

In Chapter Six, I outlined the Circadian Space project. The project was born out of my interdisciplinary design approach and consists of the translation of chronobiological knowledge about the human circadian rhythm into an experimental space. In the artistic realm, the project is categorised as a novel artistic-scientific architecture, and it displays the potential of uchronian thinking through an applied approach. In the workshops leading up to the concept development, a holistic approach for designing environments was taken, by relating the daily bodily rhythms to the design of working and living spaces. Thereby I was taking aspects like body posture, muscle strength or peak of concentration into account as parameters for the design. My workshops highlighted the conflict between the current state of a 'sitting culture' of ten to fifteen hours per day, in contrast to the bodily rhythms, where physical activity over the course of hours is an embedded part of the day. Professor Thomas Kantermann highlighted the novelty of my approach from a chronobiological perspective:

> Chronobiology studies individual biological rhythms, generated by individual biological clocks which are synchronised to a natural environment that we – more or less – all share. Helga Schmid goes beyond that, by studying the individual interaction between biological rhythms and design, a unique endeavour that I hope many will share. The Circadian Space project exemplifies especially two things: firstly, an intelligent study design to better understand how individuals with different biological rhythms live together when isolated from the natural environment, and secondly, a natural desire for individuality deeply rooted in our biology. The Circadian Space aligns nicely with historical experiments on biological rhythms, and opens intellectual space for a novel line of research on chrono-design.[207]

CIRCADIAN DREAMS

To develop the Circadian Space and chrono-design in practice, as part of my 2018 residency at London's Design Museum I designed an immersive installation containing a bespoke bed built by Savoir Beds and supported by LedFlex, with a light and sound piece composed by Piotr Ceglarek. For museum visitors, this compressed the ~24 hour

circadian cycle into a twelve-minute loop they could experience while reclining on the bed dreaming about their own daily rhythms (Fig. 7.1–7.2) As Dunne and Raby say, 'The days of designers dreaming on behalf of everyone have passed but designers can still facilitate a dreaming process that unlocks people's imaginations'.[208]

The lighting in the installation changed from a red sunrise to an activating blue, following the seven phases I have described previously. The addition of the subtle electronic sound composition changed the nature of the space and the experience in a significant way, while also serving to mask the noise from the surrounding museum. While the space was not circular as in the Circadian Space, I was able to treat the enclosed room with white padded fabric, which additionally reflected the bespoke lighting, further heightening the sense of immersion.

Over five months, many people visited, university design programmes brought groups of students, and the project became widely shared on social media and in the press. Reviewing the project, the architecture magazine *Blueprint* said, 'If the conventional binary division of the home into sleeping and waking spaces no longer applies, could we be looking at a fundamental transformation of how we design our domestic interiors?' The installation happened to coincide with the publication of a chapter of mine in a book series titled *Interior Futures*, which explored similar themes. Along with continuing coverage of the project in the design press, this shows how uchronian ideas are beginning to spread.

ATEMPORAL EVENTS

In order to enact uchronian thinking in time as well as space, I developed the concept of *atemporal events* – as with the Circadian Space, these are events designed and structured around alternative time-givers, not clock time (Fig. 7.6–7.9).

Designing Time was the first atemporal event. The concept and event planning was based on the human circadian rhythm, with the intention to create a liquid or fluid experience of time over the course of one day. This concept is in contrast to current event programming, with usually very compact line-ups and schedules detailed up to each minute. This day-long event, in February 2019 at the Design Museum, was divided into seven bodily phases based on the circadian rhythm. The event started slightly after the museum opened (10 am) and went on until the museum closed (~6 pm). During this period the event followed the human circadian

rhythm. This included seven phases, but none of which was locked to any specific clock time.[209]

The event was held in a large room in which daylight was blocked. The seven bodily phases were linked to lighting conditions in an installation by artist Nayan Kulkarni, with guest speakers and performers for each phase. Following my successful collaborations with visual and sound artist Piotr Ceglarek, I enlisted him as one of the performers; he and fellow artist Ronnie Deelen created a live electronic soundtrack to accompany some of the speakers, and their performance was solely featured in the Nap and Sleep Phase. Demystification Committee, another pair of sound artists, similarly performed, and visitors were greeted at the entrance by a projected installation by artist Mále Uribe Forés. Attendees were welcome to come and go, lounging on a number of large round pads in the room matched the Circadian Dreams bed, which was concurrently on display. They were invited to stand, sit, lie down or sleep.

Chronobiologist Debra Skene, speaking in the Physical Performance phase, noted that our eyes are used for much more than vision – for example sending light data to the brain's timing mechanism. The problem, she explained, is that today many of us don't have natural time-givers; thus it was appropriate that the event was held in a dark room on a sunny day. She described some of the earliest chronobiology experiments in which plants were placed in the dark and still found to open and close their leaves, demonstrating the existence of internal clocks. In mammals, the *suprachiasmatic nuclei** – which she called the master clock – will still emit oscillating electrical activity when removed from the brain and kept alive in a Petri dish.

Clock mechanisms have now been discovered all over the body. They manifest in measurable circadian rhythms which can be different but are closely coordinated. The role of such clocks, she said, relates to survival – with regular cycles, an organism can prepare itself for upcoming times of the day and year. This is evident in hormones such as cortisol, which increases just before waking. 'It's all about being in time with your body,' she said, 'and your body being in time with your environment.'

She explained what happens when we get out of sync with our environment. Skene and colleagues had recently recreated Aschoff's bunker experiment, by placing a person in a lightless bunker in the UK. As in my experiments with students, the researchers asked the man to guess what time it was at regular intervals, and found that his estimates became later and later, providing further evidence for the average 24.5 hour human circadian rhythm. 'Our rather sluggish circadian rhythm',

Skene said, cannot keep up with shift work and flying across time zones – not only the master timekeeper in our brains, but oscillating mechanisms in many of our cells and organs. After a long flight, she said, 'my heart might be in St Louis but my liver might be in Pittsburgh'.

Philosopher Federico Campagna took participants on a cosmological journey beyond reality, by deconstructing time from a philosophical perspective – as a linear, measurable phenomenon in our worldly experience, as a cyclical archetype in our language and imagination; and as an ineffable phenomenon in the eternal present. The domain of *when* is situated in the field of being – of possibilities, while that which is outside our experience is the field of *never*, of impossibility. Beyond this, he could only illustrate with punctuation, not words: if the question mark frames the question 'When?' as within the possible, the ellipsis [...] signifies that which exists beyond but which we can never know – not the end of time but the suspension of reality. Thus within a single entity exist many different temporalities, like all the clock cells within our bodies. What, then, is the future? According to Campagna, it is the limit point of infinity – that which it strives for but never reaches. The end of the future, then, is the end of all reality – the Apocalypse in theology. This point, too, serves as a position – for looking back at, and judging, all that came before. Retrospectively, it sets an order for all that came before. But even this seeming end of all ends is not the end. Campagna identified *apocatastasis* in relation to apocalypse, as a kind of alternative ending – from Ancient Greece, the term denotes 'a solution to what happens when the world ends', he explained. In this solution, everything is not destroyed but saved. What's more, this occurs not at the end, but continuously, every single instant. It is a refusal of judgement that allows for every possibility. This neatly echoes the definition of uchronia as alternative trajectories, outside of clock time. There is one final stop in Campagna's journey however – death. When we view time from this position, it is one of decay, when the question 'When?' resolves itself, not because it is saved, but because it unravels, and fades away.

In summary, Campagna showed how time is not one thing but has many dimensions, visible when viewed from different positions, wherein time reveals itself in different forms. 'The challenge is to be able to move from one to the other', he concluded, 'because by moving from one to the other, the world appears in different guises, temporality flows in different ways, and different realms of the possible emerge' – thereby changing the hegemonic position from where a society looks at itself. 'We have to think carefully where we want it to move, according to what

consequences it brings and what kind of world we want to see', he concluded his talk. This eloquently summarises all my research and practice on uchronia – facilitating ways to envision alternative notions of time and ways of being otherwise, in Ruth Levitas's words. Further atemporal events, as well as spatial projects, are planned.

UCHRONIAN THINKING

In the course of my research, I discovered the basic idea of uchronia, which is situated within sociological theory. I explored the term in all its meanings and as a result, it became clear that uchronia has been investigated solely in its definition as alternative history. This goes back to its original roots in the alternative history novel *Uchronie,* published in 1876, where the word was coined. However, all the other various facets of uchronianism have not been explored so far. In Chapter One, I outlined three faces of uchronianism: uchronia as alternative history, uchronia as temporal utopia and uchronia as non-existent time. These categories are a first approach, and must be seen as work in progress. But most importantly, uchronia is underexplored as a temporal utopia.

In this book, I focus on the definition of Helga Nowotny*:* uchronia as a temporal utopia or 'non-existent ways of understanding and using time'.[210] Now, more than twenty years later, her understanding of uchronia is still a new and uncharted territory, currently mentioned only by a handful of researchers in sociology, theology and chronobiology. I approach the topic from a design perspective. Through a collection of workshops, performances, experiments, speculative scenarios, projects, interviews and conversations, I have investigated the potential of uchronian thinking together with designers, researchers, light designers, interior architects, performers, and design students.

I developed a uchronian methodology, under which I use a series of artistic and design methods, some especially by me (e.g. zeitgeber method), others already used in current research practice. In order to accomplish a new relationship with and behaviour within time, the essential step was to 'unlearn' clock time and move away from its linear temporal structure towards a new rhythm. The idea was to start afresh with what we call time, similar to the artist Olafur Eliasson's concept of 'Unlearning Space'.[211] Only when truly stepping beyond these boundaries, through dissent from the current temporal categories of hours, minutes and seconds, is a truly new approach to today's time politics possible.

Uchronia is a way to look at the world through a different lens. I had the pleasure to observe the world, or better, the time in our world, through this lens. It was an enriching experience that opened up my eyes in many ways regarding how to think about our present-day relationship with time. In particular, I realised how the steady haste made me often forget which direction I was running in or which goal I was actually rushing to. With this book, I offer a fresh approach to our contemporary relationship with time. In a society of individuals, the clock seems like an old-fashioned device diminishing everything to one unitary time. Through the embodiment of digital time, we 'burn-out' as a society. The 24/7 world we have created is not sustainable for our bodies and minds. Slow is not the universal answer, as the speed of certain processes and actions is appreciated and highly valued within our society. The problem resides more in the lack of direction, the wiring and the nervousness of the individual, that needs to be addressed.

Now, more than ever before, it is up to the individual how to structure their time. A full timetable or schedule does not necessarily result in fulfilled time. No device and no one else can solve or make these decisions for us. In the here and now, every day bears anew the potential to explore and experience uchronia.

UCHRONIA MANIFESTO

The manifesto has a long history as a blueprint and call for change. Most notably, the 1848 *Communist Manifesto* of Marx and Engels had profound effects on global geopolitics which continue to be felt and discussed. For Marx indeed, 'Time is everything, man is nothing; he is at the most the incarnation of time. Quality no longer matters. Quantity alone decides everything: hour for hour, day for day [...]'.[212] I do not compare myself to Marx for various reasons, yet my ambition, as I have detailed in this volume, is similar – no less than a global revolution against the tyranny of clocks and calendars in favour of the sovereignty of the individual body situated against natural environmental cycles. As such, this whole book acts as a manifesto. I summarise the main call for action in the following points.

1

The perception of having ‘no time’ is not only an individual issue. It is an essential, structural concern within Western societies, which needs to be addressed in the politics of time.

2

Technologies shape and are shaped by society. They are neither the problem nor the solution.

3

Deadlines – not bound to any laws or regulations – cross all the boundaries of labour and leisure, public and private, across all time zones.

4

We are imprisoned in our own system of clocks and calendars, even so they are only one element in the interplay of temporality (lived time).

5

Time is the true metric for human satisfaction and welfare rather than economic prosperity.

6

Now is the time to question our existing working patterns and our current temporal structure.

7

Now is the time to unlearn clock time and gain temporal freedom.

8

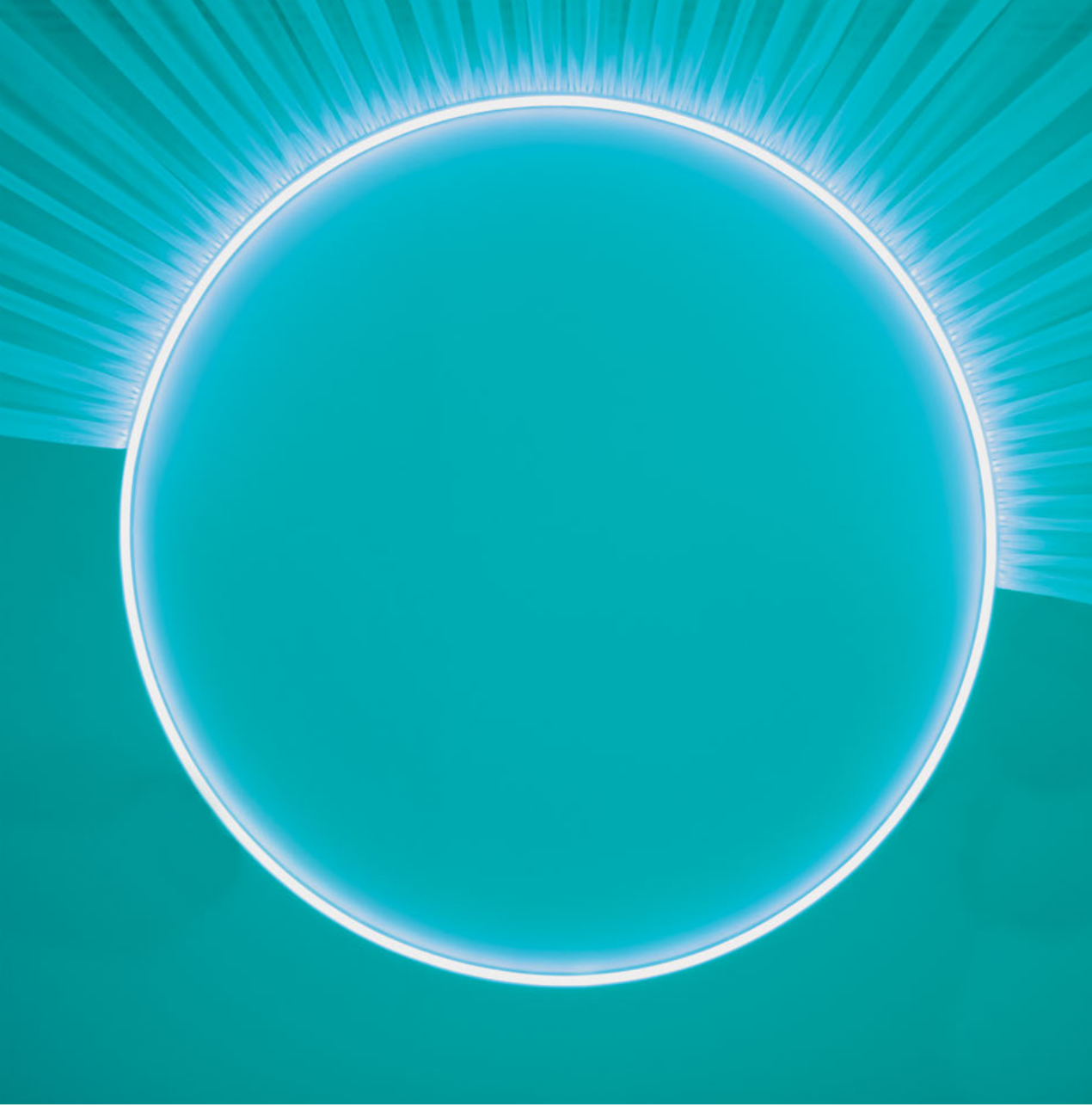
No one can hold us back from consciously experimenting with the design of time, on an individual and societal level.

9

Time is like an orchestra. It is about the right timing, with time spans reaching from one moment up to deep time.

10

It is time for Uchronia, the temporal Utopia.



7.1–7.5: *Circadian Dreams*, the Design Museum, London, 2019, Helga Schmid in collaboration with Piotr Ceglarek, Mále Uribe Forés and Emily Candela. Photographs: © Francisco Ibáñez Hantke. Supported by Savoir Beds and LedFlex

7.6–7.9: *Atemporal Event: Designing Time*, the Design Museum, London, 2019, Helga Schmid in collaboration with Mále Uribe Forés and Kevin Walker. Photographs: © Francisco Ibáñez Hantke.
Supported by Savoir Beds, Funktion-One and Royal College of Art

GLOSSARY

All terms in the glossary are marked with a * in the main text.

Biological clocks. Self-sustained oscillators which generate biological rhythms in the absence of external periodic input (for example, at the gene level in individual cells).

Biotemporal patterns. Biotemporal patterns are those time behaviours of a biological organism that represent the structure of its time-based activities.

Chronobiology. Derived from the Greek (*chronos* for time, *bios* for life, and *logos* for study), the word is used to denote the study of biological rhythms.

Chronosociology. The sociology of time investigates the principles and structures of temporal systems of Western societies.

Chronotypes. A human attribute reflecting at what time of the day the physical functions (hormone level, body temperature, cognitive faculties, eating and sleeping) of an individual are active, change or reach a certain level.

Circadian rhythm. From Latin *circa* and *dies*, 'about a day'. A biological rhythm that persists under constant conditions with a period length of around a day.

Cockaigne. An imaginary place of plenty.

Desynchronisation. External: loss of synchronisation between rhythm and zeitgeber. Internal: loss of synchronisation between two rhythms within an organism.

Entrainment. The process by which a biological oscillator is synchronised to an environmental rhythm such as the light–dark cycle.

Free-running. The endogenous rhythm exhibited by a circadian system under constant conditions.

Jet lag. A malaise resulting from a sudden move to a different time zone (often by trans-meridian flight).

Oscillator. A system capable of producing a regular fluctuation of an output around a mean. In chronobiology, an oscillator refers to the molecular mechanism within a cell capable of generating self-sustained rhythms.

Pacemaker. Structure capable of sustaining its own and of regulating other oscillators.

Physiotemporal patterns. Stemming from physics and astronomy and representing temporal regularities in quantities, these patterns regulate the movement of physical bodies.

Proper time or Eigenzeit. A time solely belonging to the self.

Power-chronography. The social fabric of a society consists of temporal differences, with higher economic groups dictating the time of others.

Rhythmicity. The state of having rhythm.

Social jet lag. A malaise similar to jet lag, resulting from differences between the external social time (clock time) and the internal biological clock.

Sociotemporal order. A pattern which regulates the structure and dynamics of social life.

Speculative future. Future scenarios and products are imagined on the basis of current developments in science or technology.

Suprachiasmatic nuclei (SCN). Paired nuclei within the ventral hypothalamus that function as the circadian pacemaker in mammals.

Temporal. Lived time, in a particular political and economic context.

Uchronia. A hypothetical time period, based on the word utopia (Greek *u-topos* meaning 'no place', replaced by *chronos* meaning 'no time'). Uchronia is a time that does/did not exist.

Unitary time. A whole, undivided concept and experience of time.

Vita activa. The active life, categorised into three activities of labour, work and action (in reference to Hannah Arendt).

Vita contemplativa. The contemplative life, understood here as the 'experience of being [Seinserfahrung]' in contrast to the active, nervous life.

Zeitgeber. From the German for 'time-giver', an entrainment signal.

The terms in the glossary are from:

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THE AUTHOR

Dr Helga Schmid is a London-based designer/artist. In her work, she opens up a new world of temporality (lived time) situated at the intersection of design, sociology and chronobiology. As the founder of Uchronia, an artistic research practice and platform, she explores the multifaceted nature of time in an academic and cultural context.

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She has received a number of international awards including the Type Directors Award, Art Directors Award, Best German Books Award as well as a Fulbright scholarship and two DAAD scholarships. Helga has a background as a communication and interaction designer, holding a postgraduate degree from the University of Applied Sciences in Augsburg, a Master's degree from the School of Visual Arts in New York, and a PhD from the Royal College of Art.

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THANK YOU

In Samuel Beckett's play *Waiting for Godot,* the two characters Vladimir and Estragon talk about their temporal experience:

> Vladimir: That passed the time.
> Estragon: It would have passed in any case.[213]

It made me reflect on my own experience of time in the last few years. Certainly, writing this book was an enriching way to pass the time – a time full of new, unknown and unexpected moments. I wish to express my sincerest gratitude for the fantastic, unconditional and beautiful support I have experienced during this period of my life.

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IMAGES

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1.1: *Suprachiasmatic Nucleus (SCN) by T. A. Wehr,* 2001,
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ed. by Urs Staub (Basel: Birkhäuser, 2002)Diagram simplified by Helga Schmid
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redrawn by Helga Schmid
1.3: *Measure 8 Days Week*, 2009, Fiete Stolte,
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1.4: *Diurnism*, 2007, Philippe Rahm Architectes, image by Adam Rzepka,
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1.5–1.13: *Uchronia Models*, double-sided screen print, 2013, Helga Schmid

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3.1: *Phase Response Curves (PRCs) and Principles of Entrainment Explained with the Help of a Swing Oscillator,* 2003, Till Roenneberg, Serge Daan and Martha Merrow, in 'The Art of Entrainment'*, Journal of Biological Rhythms*, III, 18 (2003), 183–194
3.2–3.5: *Moment Cards,* 2013, Helga Schmid
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4.18–4.29 *Time and Making*, 2015, Group One, Victorian Warehouse, London.
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4.30–4.34 *Uchronia Symposium 1*, 2014, Rotherhithe Library, London.
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5.5: *Alternative Presents and Speculative Futures*, 2013, James Auger,
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6.8: *Circadian Space Diagram,* 2014, Helga Schmid
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