

Time reveals everything

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It is perhaps the most common and unconscious moment of everyday life in modern societies: checking the clock to see what time it is. That is not difficult to do. We are surrounded by clocks. Not only on all our watches and smart devices, but also on our microwave, oven, dishwasher, refrigerator, extractor hood, hob, washing machine, dryer, and coffee machine. And not only at home, but also outside on the church steeple, the information boards at railway stations and bus stops, in our motor cars, on billboards, even on the scoreboards of sports clubs. Checking the time tells us “not only where we stand vis-à-vis the rest of the day, but also how to respond” (Honoré, 2005, p. 19). We made time a reality and we often attribute this to Isaac Newton, who was convinced of an absolute time in nature. A uniform time that flows independently of all that goes on in the world and could be measured by moments of absolute time that still exist in their own right.

To substantiate this claim, we equated the second with the period between two ground states of a caesium atom and we depend for our cycles of days, months, and years on the movements of the celestial bodies known to us. We even tried to explain the week using celestial bodies (Colson, 1926). However, Siffre’s famous cave experiments in 1972 showed us that our inner bodily rhythms do not align with the 24-hour day (Foer, 2008). Similarly, the leap years, ~days, and ~seconds, the varying number of days per month, the out-of-synchronisation of the first day of the week with the first day of the first month of the year, the inexplicable week-weekend rhythm, and the failed attempt to replace it with a rational decimal system (Van Tienoven, Glorieux, Minnen, Daniels, & Weenas, 2013) prove that time is not reality but something quite different. But what?

True duration

Time is the only basic quantity that cannot be perceived with our physical senses, in contrast to, for example, distance that is visible or weight and temperature that can be felt. The Church Father Saint Augustin has become famous for his saying that he knows what time is as long no one asks him to explain it. In the same vein, Newton's idea of time was criticised by thinkers such as Bergson, who argued that the way mathematicians use time shows that they are concerned only with measuring things and not with their nature. Bergson considered time identical to the continuity of inner life or pure duration. To him, this unfolding time is not measurable, simply because measurement implies division and superimposition, in so doing taking away the true nature of time. Compare it to describing the rainbow. This is also only possible by means of a division of demarcated colours (Bergson, 2002). The idea that time is measured through the intermediary of motion and that time is expressed in terms of space is proven by the way the simplest words used to describe spatial relations are also used for temporal relations (e.g., *at* the door vs *at* noon, *within* a prison vs *within* a year, *around* the house vs *around* one o'clock) (Deutscher, 2006). Bergson speaks of unfolded or spatialised time.

While Bergson allows time to be measured – but not understood – with moments of absolute time, Norbert Elias (1992) criticised the so-called self-existence of the units of measurement used to indicate time. According to Elias, the human experience and conceptualisation of time changes in line with the process of civilisation. In the early stages of human societies, people communicated time at low levels of abstraction (“specifying abstractions”). They used “sleep” for what we now call “night” or “harvest” for what we call “year”. Gradually, with the development (or civilisation) of societies and an increase in knowledge, time attained higher and higher levels of abstraction and generalisation (van Tienoven, 2019). Nowadays time is used in a highly abstract way. The human experience of what is called “time” changed in the past and is still changing, and therefore results from the accumulated experience and knowledge of humanity. Elias rejected the “a-priori-synthesis” that human beings are by nature equipped to form a concept of time.

Moreover, the problem with today's very abstract and generalised conceptualisation of time is that today time is perceived as a reality, whereas in fact time is invisible. How do we measure something that cannot be perceived with human senses? Clocks only represent time but are not “time” themselves. The idea that time is self-existent and available to be measured by human beings has, according to Elias, to do with the tendency to use words that make movements to tangible things (i.e., the idea of reification). In our language one

might say things such as “the wind blows” or “the river flows”, but is there a wind that does not blow or a river that does not flow? According to Elias, the same happened with time: time became reified; time is made a reality rather than kept as a symbol.

Time through moments

The assumption that time can be measured is preceded by the discussion whether time is a natural given as Newton or Bergson supposes. Criticism comes from thinkers such as Bachelard and Leibniz, who argue that a single true duration does not exist, nor does it flow continuously. In fact, Bachelard considers there to be multiple durations of unequal length since every human being, every thing, every appearance, has its own duration and the only flux that exists is “the nothingness” between all these durations (Bachelard, 1950). Any duration can be experienced only through instants, through discontinuities, and time is therefore an infinite succession of these isolated instants. In a similar vein, Leibniz argues that nothing happens without there being a reason why it should be so rather than otherwise, and therefore we derive time from events and not the other way around (Withrow, 2003 [1975]).

We have already seen that, according to Elias, the transitioning of societies is central to the change in the experience or representation of time. In modern societies, our notion of time is shaped strongly by the ordering of collective, social actions. In other words, time is derived from collective rhythms of joint actions. However, that does not make the notion of time non-committal, because this notion of time also serves an impersonal set of indispensable guidelines for daily life that transcend the individual. Emile Durkheim therefore concluded that time is a social fact, a characteristic of society, and that “it is not *my* time that is thus arranged; it is time in general, such as it is objectively thought by everybody in a single civilisation” (Durkheim, 1965 [1912], p. 10).

From this idea the breeding ground for time use research follows logically. After all, it implies that the social life of the group is reflected in their time expressions and that whenever these expressions become generalised temporal structures, they serve as a mechanism for the coordination of everyday life (Schöps, 1980). This also gives the notion of time its intersubjective characteristic, which is crucial to meaningful coordination of daily acting simply because otherwise expectations are not possible (Lewis & Weigert, 1981). The latter turned out to be increasingly problematic in line with the further development of societies and the increasing need to communicate and

coordinate time between groups or societies. Finally, we fall back on a time-reckoning based on astronomical observations and chemical processes (such as the ground states of the caesium atom) and which we now regard as standard time. Yet Sorokin and Merton (1937) speak instead of *time Esperanto* which has been forced upon mankind because local time systems were not able to interact with societies that had other systems.

Temporal structures

The use of standard time naturally facilitates time use research. It combines the best of two worlds. It uses the standard units of measurement to expose temporal structures and use them to study the social organisation of societies. The work of the American sociologist Eviatar Zerubavel provides a framework from which the social organisation of daily life can be studied. Particularly in his work on hidden rhythms, Zerubavel (1982) argues that the organisation of social life is subjected to temporal structures that are normative, institutional, and (techno)logical in nature. Institutional temporal structures largely refer to timetables, such as opening hours, school hours, departure times of public transport, but also laws that determine how long we can work, until what age we must go to school, or when we are considered an adult by law. (Techno)logical temporal structures refer to natural limits on time, such as the speed at which we can travel or the duration of pregnancy, and to a logical sequence of events, such as sowing before harvesting. Normative temporal structures arise from the collective rhythms as mentioned above. These are the unwritten yet compelling structures that arise through collective action and that are at the same time maintained by this collective action. They give direction to daily life by determining what is socially acceptable and desirable behaviour. These normative structures enable us to say when a long silence becomes uncomfortable, to judge whether it is too early to go to a bar, or to arrange our daily lives in such a way that we can do things together.

What is clear from all these temporal structures is that they enable or constrain (daily) life in terms of when things happen, how long things last, how often things recur, and in what order things happen. The temporality of all our (daily) actions is therefore expressed in their timing, duration, tempo, and sequence. Measuring these time characteristics of acting is precisely one of the greatest strengths of time use research. Time use research typically consists of a chronological record of sequential activities often for 24 hours per day and for several days in time diaries. These activity records say something about when certain activities take place, how long they last, how often they recur during,

say, the day, and what preceded and followed them. This completes the circle. The absolute, standardised and supposed natural moments of time allow us to measure the time use of daily life and thus reveal the collective temporal rhythms by which societies are organised.

Let time reveal!

Time reveals everything. That this is not only a philosophical truth, but can also become reality, is evident from the foundation of Research Group TOR in 1982. Not coincidental at all is TOR the abbreviation of *Tempus Omnia Revelat*, which is Latin for “time reveals everything”. Professor Ignace Glorieux was part of this group for more than four decades. Now, in 2023, the time has come for him to retire. With this book we reflect on his career, not to look back, but to provide an overview of the current state of affairs in conducting time use research and research into time – a process in which Ignace Glorieux played a major role.

Ignace Glorieux joined the Research Group TOR in 1983 as a graduate teaching assistant. From the outset he was involved in doing time use research and, as befits a member of the latter half of the baby boomer generation, he would experience a process by which time use research with paper-diaries and questionnaires, with hand-drawn checkboxes, conducted by interviewers, and a hand-coded database evolves into a modular data-collection platform that offers online time use research via web and mobile applications without the intervention of interviewers and coders.

The first time use study he was involved in was the TOR84 study from 1984. This study focused on the consequences of unemployment. In this study, 95 employed, 56 short-term unemployed and 55 long-term unemployed individuals kept a time diary for one day. Characteristic of the time diary in this study was the large amount of contextual information asked, including interaction partners, level of satisfaction, whether not doing the activity meant deviating from the usual way of doing things, and the motivation and assessment of the activity. The subsequent time use study, TOR88 from 1988, used the same diary but involved 1,265 respondents from the Flemish population between the ages of 20 and 40 who kept a time diary for three days. In this study, the focus was rather on the gender difference in the labour market participation. Both time use studies formed the empirical basis for his doctoral research on action and meaning, and the role that work plays in this. In 1992, Ignace Glorieux obtained the degree of Doctor in Sociology and in 1995 his work was published in book form with the title *Arbeid als zingeveer* (EN: *Labour as a giver of meaning*) (Glorieux, 1995).

By that time, he was also part of the international network for time use research. Initially, this network was part of the four-yearly conference of the International Sociological Association (ISA), with conferences being held in New Delhi, India in 1986, in Madrid, Spain in 1990, and in Bielefeld, Germany in 1994. In between these ISA conferences, time use researchers would meet more frequently and in 1988, in Budapest, a group of researchers, of whom Ignace Glorieux was a member at that time, decided to set up the International Association for Time Use Research (IATUR) and, under that name, organise annual time use research conferences.

The 1988 meeting in Budapest is important for another reason. During this conference, an extensive discussion was held for the first time about what the minimum requirements were for conducting time use research in order to compare different studies with one another. It would be the first impetus for the Harmonised European Time Use Surveys (HETUS) guidelines that are used to this day in the design of time use surveys in the European Member States and associate countries.

Throughout his academic career, Ignace Glorieux shared his knowledge of time use research with statistical institutions, including through working groups within Eurostat, within UNSD, or, more specifically, for example, as part of a TAIEX mission in Algeria and most recently through the World Bank in the time use study organised in Vietnam. Naturally, he also plays an advisory role closer to home, because in 1999 Statistics Belgium would make Belgium one of the first countries to carry out a large-scale time use survey based on HETUS guidelines. This study was repeated in 2005 and 2013.

Ignace Glorieux is also responsible for the analysis of the Belgian time use data. He conducted various commissioned studies, including those for the Ministries of Labour, Culture, Mobility and Equal Opportunities. In addition, as a time use expert, he is regularly asked to provide explanations in newspapers, on radio and on television about everything that is linked to time – from the time pressure people in their thirties experience to the time spent by the elderly after retirement, and from the unequal division of labour between women and men to the reorganisation of the school calendar. In addition, he regularly gives lectures to lay audiences about time and temporal structures and even holds the symbolic position of Minister of Time in the Belgian city of Tongeren.

The Belgian time use data are not the only data he has worked with. In 1999 and 2004, Ignace Glorieux was able to secure funding from the Flemish community on two occasions to carry out large-scale time use surveys among the Flemish population aged between 16 (in 1999) or 18 (in 2004) and 75 years. In comparison to the Belgian time use surveys, these time use surveys were carried out by him and his research team from the Research Group TOR. It is

unique that a university research group should conduct time use surveys under its own management. Moreover, in contrast to the Belgian time use surveys, the respondents did not fill in details of a randomised weekday and weekend day, but of seven consecutive days. This enabled a thorough study of the weekly rhythm of daily life.

A third Flemish time use survey followed in 2013 which was linked to the development of the data-collection platform for Modular Online Time Use Surveys (MOTUS). This funding came from the Hercules Fund. The 2013 time use survey was conducted entirely online – yet another unique venture in time use research.

All of these time use data gave rise to many very diverse research opportunities. Throughout his academic career, Ignace Glorieux supervised doctoral research on, among other subjects, gender division of labour (Koelet, 2005), time pressure (Moens, 2006), commensality patterns (Mestdag, 2007), career interruption (Vandeweyer, 2010), part-time work (Laurijssen, 2012), meal and cooking habits (Daniels, 2016), daily routine (van Tienoven, 2017), methodology of time use research (te Braak, 2022), a shortened working week (Mullens, 2023), and the past, present and future of time use research (Minnen, 2023). Much of this research has been presented at IATUR's annual conferences. Ignace would miss only five conferences during his academic career. In 2003 he and his research team organised the conference in Brussels and in 2013 he became President of IATUR and brought the association to Belgium. His retirement coincides with the end of his second term as President of IATUR.

But his career did not end here. The data-collection platform MOTUS appears largely to meet an international demand for measuring time in a cheaper and more twenty-first-century way (read: online through web and mobile applications) yet still in a scientifically based way. The task and time-load measurements of different groups of employees were now also part of the time use arsenal of the Research Group TOR. In 2015, he and his team organised the time-load measurement of university professors at the Vrije Universiteit Brussel (Verbeylen, Glorieux, Minnen, & van Tienoven, 2016). Several other studies followed, including the largest-to-date measurement of the time allocation of teachers in primary and secondary education in Flanders. More than 10,000 teachers would eventually sign up to participate in the study (te Braak, van Droogenbroeck, Minnen, van Tienoven, & Glorieux, 2022). In addition, MOTUS would also enter the European scene: through project funding from Eurostat, MOTUS is attracting the attention of National Statistical Institutes. The success of MOTUS led to the last type of funding that was not yet on Ignace Glorieux's résumé as a principle investigator: Innoviris funding for the

creation of a spin-off. In 2018, *hbits* was founded under the leadership of his longest-serving colleague, Joeri Minnen, with Ignace Glorieux as one of the partners. This shows not only the versatility of what time use research can do and what it can lead to, but also the versatility of Ignace Glorieux's academic career.

The book

From the above it is obvious that time use research is multifaceted in many respects: the way it is conducted, the challenges it encounters and the opportunities it presents, the purposes it serves and the topics it addresses, and the underlying theoretical grounds on which it is motivated and conducted. In line with Ignace Glorieux's multifaceted academic career, this book aims to highlight this versatility with contributions from time use experts from all over the world who have been part of his network throughout his career.

Part 1: Conducting time use research

The first part of the book touches on the versatility of conducting time use research. The first chapter to follow, by Jiri Zuzanek, focuses on the ongoing discussion of the reliability of methods collecting time use data. All methods have their advantages and limitations. In his chapter, Jiri Zuzanek focuses on the time diary method and the experience sampling method, yet not from the perspective of comparing one against the other but from the perspective of their potential complementarity.

Not only do methods vary in the field of time use research, but so do modes. Increasingly, the focus lies on moving away from paper-and-pencil modes towards digital and smart ways of collecting data on how people spend their time. In the next chapter, Joeri Minnen and Theun Pieter van Tienoven discuss the past, present and future of time use research and highlight some of the challenges of and opportunities for a paradigm shift towards new technologies.

The first written time use studies using the well-known diary method were motivated by the desire to map out how workers spend their time. After all, working hours are one of those important collective rhythms that structure our daily lives. George Bevans (in 1913) in the United States studied working men, Pember Reeves (in 1913) in the United Kingdom studied working-class families, and Stanislav Strumlin (between 1920 and 1930) studied different types of workers and the unemployed in Russia.

To this day, time use research still lends itself very well to studying economic activity. In the following chapter, Jonathan Gershuny and Michael Bittman provide two examples. First, their chapter demonstrates how the permeation of IT in daily life contributes to remote paid work and home shopping during the time of the COVID-19 pandemic. Second, their chapter focuses on the labour processes of early childhood educators and carers and demonstrates how time measurement reveals that this labour process is characterised by a large variety in short tasks that require not only rapid switching but also a great deal of multitasking.

Time use research is not limited to economic activity only. It records all daily activities throughout the day. As a result, it quickly became embraced by National Statistical Institutes (NSIs) as a measurement of living conditions, quality of life, and other social and economic indicators. In the next chapter, Juha Haaramo, Hannu Pääkkönen and Iiris Niemi take us on a journey of measuring time beyond paid work and the challenges that came with it. Even though many NSIs and other institutions, such as the OECD, the UNECE, and the Beyond GDP initiative, continue to rely on time use data, this journey is not yet at its end and challenges, such as digitalisation and the use of smart statistics, keep arising.

The last chapter of this first part takes a step back to look at time use research from a theoretically reflective perspective. Werner Schirmer argues in this chapter how Luhmann's theory of social systems can be used to understand the temporal structures of a society and to interpret the results of time use research. He explains that Luhmann sees society as functionally differentiated and that each function system creates its own time which follows from the unique rationality and operational logic related to the function it performs. In a society there is temporal incongruity and a need for temporal coordination, which leads to time scarcity and time pressure.

Part 2: Using time use data

The second part touches upon the versatility of the use of time use data to study social issues, on the one hand, and to explore their applications in various scientific disciplines, on the other. In the first chapter of this part, Laurent Lesnard and Jean-Yves Boulin show how three waves of historical time use data from 1985 until 2010 allow changes in working time estimates to be broken down into changes that arise from changes in sociodemographic characteristics and changes that can be attributed to other factors, such as policies. They reveal that in France the tax exemption for part-time work was an effective policy that reduced working time because it encouraged part-time work, especially among women.

The fact that it is mainly women who work part-time has a completely different cause, which is better understood, thanks to the insights provided by time use research. This, of course, has everything to do with the fact that women still take on the lion's share of unpaid work. In the following chapter, Lyn Craig and Liana Sayer explain how time use research has not only helped to make this previously invisible work very visible but has also helped to shed light on the mechanisms underlying the gendered division of labour.

The combination of work and family responsibilities leads to great time pressure, especially for women. Yet they are not the only ones for whom the day seems to have too few hours. Surprisingly enough, the ever-increasing reduction of working hours and the resulting increase in free time has not led to more relaxed everyday life. In fact, as Francisca Mullens and Petrus te Braak write in the next chapter, free time in modern societies has several characteristics that actually increase time pressure. Their research shows that the fragmentation, diversification, and contamination of time can actually make leisure stressful.

These characteristics of free time are largely in line with the role IT plays in our daily lives today. Using IT is much less an activity in itself and much more something we do during another activity, something which easily interrupts activities or something that facilitates an activity. In the second to last chapter, Ruben Vanderplas and Ike Pikone report on the Flemish time use survey from 2013 and show how a collaboration between media scholars and time use researchers makes it possible to study the mediatization of everyday life and the potential opportunities that may lie ahead.

The book ends with another example of the interdisciplinary characteristic of time use research based on the possibility of time use research distinguishing between main and secondary activities. One of those main activities that is very often accompanied by a secondary activity is transport. In the final chapter, Imre Keseru, Cathy Macharis, Joeri Minnen and Theun Pieter van Tienoven investigate whether travel time is wasted or is used for other activities. This turns out to be more complex than initially assumed, as the type of auxiliary activities performed while travelling largely depend both on socio-demographic characteristics and on modes of transport.

To conclude

This book shows that time reveals a lot – much more than there is room for here. The book presents only the tip of the iceberg of what time use research allows us to study and represents only a selection of the time topics that Ignace Glorieux and his team have worked on during his illustrious career. It is obviously

impossible to give an exhaustive list, but empirically, time is of course not limited to duration alone, but the timing of activities also plays a role (Glorieux, Mestdag, Minnen, & Vandeweyer, 2009). Theoretically, activities with the same lexical meaning can have completely different subjective meanings, depending on their temporal, spatial and social context (Glorieux, 1993). Thematically, there are still several topics that are not covered in this book, including sleeping times (van Tienoven, Glorieux, & Minnen, 2014), commensality (Mestdag & Glorieux, 2009), cooking (Daniels, Glorieux, Minnen, & van Tienoven, 2012), or physical activity (van Tienoven et al., 2018). Analytically, not only the time use of women and men, or working people, is worthy of study, but also that of the unemployed (Elchardus & Glorieux, 1989), of adolescents (Glorieux, Stevens, & Vandeweyer, 2005), of the elderly (van Tienoven, Craig, Glorieux, & Minnen, 2022), or, yes, also of pensioners (van Tienoven, Minnen, & Glorieux, 2022). Methodologically, time use research still faces the challenges of a digital and smart way of data collection in an era in which respondents are less inclined to participate and concerns about privacy and security are a recurring theme (Minnen et al., 2014; Minnen, Rymenants, Glorieux, & van Tienoven, 2023).

We therefore hope that this book goes further than just a tribute to the work of Ignace Glorieux. In the context of his retirement, we offer this book in the form of free access. We hope it inspires readers to use time use research in their quest to better understand societies with all their challenges and inequalities. Let us continue to use time to reveal even more, because someday everything will be all right!

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