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Citation for published version:

Pschetz, L 2015, 'Isn't it time to change the way we think about time?', *Interactions*, vol. 22, no. 5, pp. 58-61. <https://doi.org/10.1145/2809502>

Digital Object Identifier (DOI):

[10.1145/2809502](https://doi.org/10.1145/2809502)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

Interactions

Publisher Rights Statement:

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Isn't It Time to Change the Way We Think About Time?

Larissa Pschetz, University of Edinburgh

A number of publications have been concerned with the ways in which digital networks and systems may affect perceptions of time and everyday rhythms. Concerns are often directed to how new technologies may contribute to an overall speeding up of everyday life, and the negative consequences of this influence. In this forum I would like to turn the discussion around and challenge designers and HCI researchers to question the very idea of a dominant condition of acceleration. I suggest the focus on acceleration has restricted our imaginative and explorative possibilities, and propose that instead of focusing on frameworks that assume a single time, we adopt a more pluralistic approach to temporality, investigating the multiple ways in which time is expressed in the world.

Our approach to temporality often simply reinforces the very idea of acceleration. On the one hand, we assume that only those who are able to keep up with a fast pace are likely to succeed. Therefore, we take on the role of developing artifacts and systems that would help people to catch up with such fast rhythms. On the other hand, we perceive this acceleration as problematic and consider how technology could promote a slowing down, or how it could help individuals to cope with this acceleration. In both cases, however, we assume acceleration as universal, which does not necessarily correspond to how time is expressed in the world.

Paradigms of a Single Time

Over the past half century, much research on temporality has nurtured the idea of time as a single, all-encompassing expression, which has been accelerated by new technological developments. Several publications portray time prior to the industrial revolution as being task-focused and, as such, flexibly managed by workers who were able to respond to the unevenness of natural and social rhythms. However, with the shift to hourly labor, the separation of work and leisure into specific periods of the day, and the drive to maximize profits through increased productivity, the industrial revolution is said to have inaugurated, through the deployment of clocks and calendars, a new temporal discipline that would divorce Westerners from an intuitive and embodied relationship to time.

New information and communication technologies are said to have introduced a further break, where “network time” has overthrown “clock time.” While work on the dominance of clock time emphasizes discipline, optimization, and consequent acceleration, work on network time emphasizes expressions of time compression, constant connectivity, fragmentation of schedules, and real-time production and consumption.

These narratives are widely accepted as common sense; however, recent research suggests that they are, in fact, misleading. Not only were clocks widely employed before the industrial revolution, but people's use of this technology is also more complex and should not be reduced to efficiency and discipline. Laborers in the Middle Ages negotiated work conditions based on time spent on the job, and task-based time still persists nowadays, even in contexts regarded as dominated by the clock. Though there are many examples of actions that are organized and coordinated through a globalized network of time, there is still a range of local, idiosyncratic, and context-dependent time awareness that continues to play important roles in our lives. Different cultures, groups, and individuals create their own temporal infrastructures to anticipate, delay, and negotiate time through everyday interactions; and our bodily and social rhythms are still strongly influenced by daily and seasonal cycles. In other words, time is more nuanced than we often assume. Disregarding this pluralism feeds into the exclusion of certain practices, individuals, and natures, and supports the dominance of others, creating problematic experiences of time. The dominance of acceleration, for instance, not only introduces internalized pressures but also creates social differences and offers justification for the appropriation of material resources [1] and other people's time [2].

Paradigms of a Single Time and Design Practice

Dominant narratives of a single time also constrain design practice and our creative possibilities. First of all, and perhaps most easily evidenced, they *discourage exploration of more situated and nuanced temporalities* and encourage the development of artifacts and systems that reinforce taken-for-granted notions, as in the recursive problem described above. This may lead to a flattening of rhythms, or to the assumption that all times are the same, even when considering qualitatively different expressions, such as differences in day and night hours when designing 24-hour services. Flattening rhythms becomes more problematic when considering issues of acceleration. If acceleration is regarded as universal, all times become prone to optimization, and speed becomes associated with value. Activities that are at the heart of the productive system are then regarded as fast, while those at the periphery are regarded as slow. Tools developed in this context therefore tend to reproduce the value placed on "fast" activities. As identified by Gilly Leshed and Phoebe Sengers [3], personal productivity tools developed to improve time usage have the side effect of reinforcing the idea that one needs to always be busy. The notion of universalized acceleration may further contribute to justifying the design of products with high rates of energy consumption and material disposal.

Second, the belief in dominant narratives of time creates a tendency to *locate temporality within technological artifacts and systems* and to ignore the breadth of temporal expressions beyond

and around these technologies. The idea that clocks and communication systems define time detaches temporality from human practices. This way, instead of considering how artifacts and systems may affect socio-temporal relationships, designers may simply focus on how artifacts and systems may help individuals to cope with time, as if they had no control over it. A clear example is the appointment diary that individuals imprint with a supposed power to control their time, disregarding their own role in filling out their diaries: “*for it is we human beings who make time*” [4].

The assumption that there is a single time that has evolved throughout history also helps to *reinforce notions of linear progression*. This may lead to a cult of what is new, for example, by disregarding older events and sources, or to the conclusion that particular technological developments are “inevitable.” Temporal linearity even compromises more critical design proposals such as speculative design and design fictions, which tend to place critical issues in the future, even when they exist or are latent in the present (or, indeed, the past). Michael Burton and Michiko Nitta’s project *Republic of Salvation* (2011), which was exhibited at the MoMA-NY in 2013, demonstrates this problem. As discussed by John Thackara [5], the installation aims to discuss how the world would react to a future scenario of global food scarcity, but the project fails to look at the complexities of the current food economy. Their future scenario resembles the situation in which millions of people already live in developing countries [6]. In this case, instead of treating the present as a heterogeneous and multifaceted context, it is considered to be uniform and progressing in a linear way toward the future.

Finally, these dominant narratives contribute to *simplifying proposals that would otherwise help to promote more varied perceptions of rhythms*. This is particularly noticeable in developments of movements such as slow technology and slow design, which have been appropriated in mainstream discourses respectively as anti-technology and as a call to return to pre-industrial practices and manually operated artifacts. This attitude can be seen in exhibitions such as the Slow Tech exhibition at the 2011 London Design Festival, which featured projects suggesting a technological blockage, such as the conceptual *Social Bomb* which, once thrown, would force everyone within range to take a break from social network services, and the Taking Time: Craft and the Slow Revolution exhibition in 2014, which toured several cities in the U.K. praising the slowness associated with craft skills.

Considering Multiple Temporalities

The Printer Clock and the TimeBots are two interventions developed with my colleagues in Design Informatics that attempt to look beyond paradigms of single time, by drawing attention to

alternative temporalities in the context of the classroom, and tactically exposing networks of times, so as to illustrate multiplicity and variety.

The Printer Clock emphasizes the embodied and situated nature of time, pointing to the mesh of activities and characters that come together to create time. Students initially receive kits containing a small clock and a camera; they are invited to use this material to document their routines. These images are then time-stamped and used to build up a database upon which the Printer Clock artifact will draw. This artifact, enhanced with a printer and a computer that stores the students' pictures, resembles a grandfather clock. Pulling the cord inside the clock activates the computer, which lights up the clock face and prints a picture that was taken at that particular time but in the past. The fragmented experiences from days in the past present themselves as time-readings, inviting students to establish connections between them and the moment that they were experiencing at the time of the request. Time is therefore presented through the activities of others. The variety of pictures not only reveals the difference in rhythms but also helps foster greater temporal empathy within that group.

The TimeBots intervention aims to challenge the idea that the world is in a state of constant acceleration by inviting students to reflect on the multiple speeds of their day. It includes small three-wheeled robots that can be programmed with the help of tokens to run as slow, medium, or fast in a five-step sequence, representing feelings about speed in five periods of the day. The intervention starts with a series of warm-up questions about how students feel about speed, describing activities, people, places, and objects that they consider slow, medium, and fast. Students are then asked to focus on a regular weekday and describe their feelings of acceleration in five periods of this day, marking their thoughts on a dedicated form. After this reflection, the robots are distributed and decorated to create a sense of personal identification, and each student records their feelings of speed onto their robots by using dedicated tokens. The robots are then released together into a pen, running over the five speeds in a continuous loop, so as to enact the collective rhythm of the classroom.

These projects seek to draw attention to the multiple ways in which time is expressed in the everyday. They suggest a shift in approach, from assuming a single, uniform time to considering multiple temporal expressions. Such a change would contribute not only to expanding our creative scope as designers, but also to challenging dominant perceptions more broadly, expanding the repertoire of temporality within and beyond the discipline.

Instead of simply thinking about time as uniform, we should attempt to identify local, situated, and hidden temporalities, paying particular attention to temporal practices and expressions that are

unique to individual locations and groups. These situated expressions have the potential to inspire radically new designs, as well as to contribute to the recognition of temporalities that are outside the productive system, therefore contributing to more inclusive ways of understanding time as a whole.

Instead of considering how artifacts and systems have the power to change time, we should consider attending to the multiple ways in which people negotiate time in daily life, to the influence of social roles, rituals, and conventions, in defining time. Instead of regarding time as an individual concern, we might then learn from social ways of negotiating time.

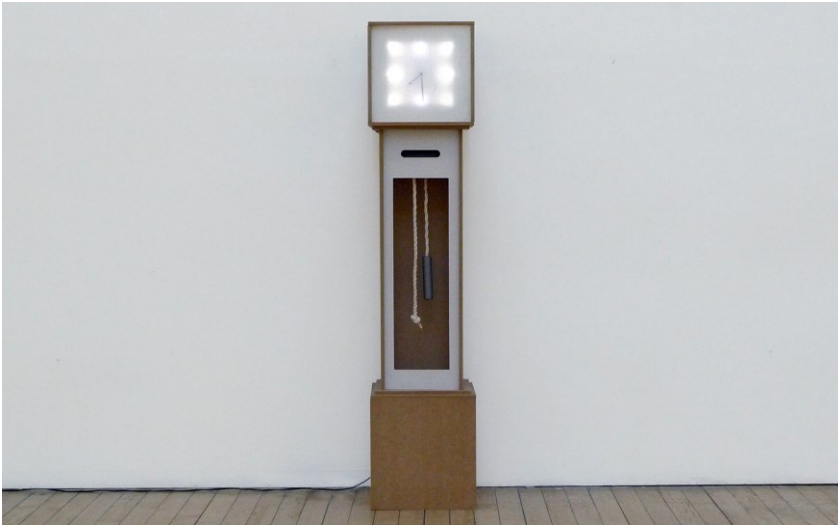
A focus on multiple temporalities, or a shift to what my colleagues and I call a *temporal design*, would contribute to expanding the way we think about acceleration. If we pay closer attention to day-to-day practices, we will notice that our lives are not constantly accelerated. We will also realize that people are not accelerated to the same extent: There are those who are regarded as fast, and those who are being made to wait, and more often than not these relationships reflect and reinforce social hierarchies. Many authors have argued that design has the power to change perceptions of the world, and thus reality. Shifting the focus from individual modes to diversity change the way designers perceive and approach time, and also change more broadly the way designed artifacts and systems come to affect temporal perceptions among the general public. Perhaps through design, we will all come to recognize that acceleration is not the rule, but rather is just one among many expressions of the rich temporal texture that constitutes time in the world.

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Insights

Dominant narratives of time:

- contribute to locate temporality within technological systems and discourage the exploration of more situated and nuanced expressions of time
- imply temporal homogeneity, which may compromise speculative projects that place issues in “the future”
- assume acceleration as universal, which helps to dismiss slow design and slow technology proposals.



1. Printer Clock artifact.