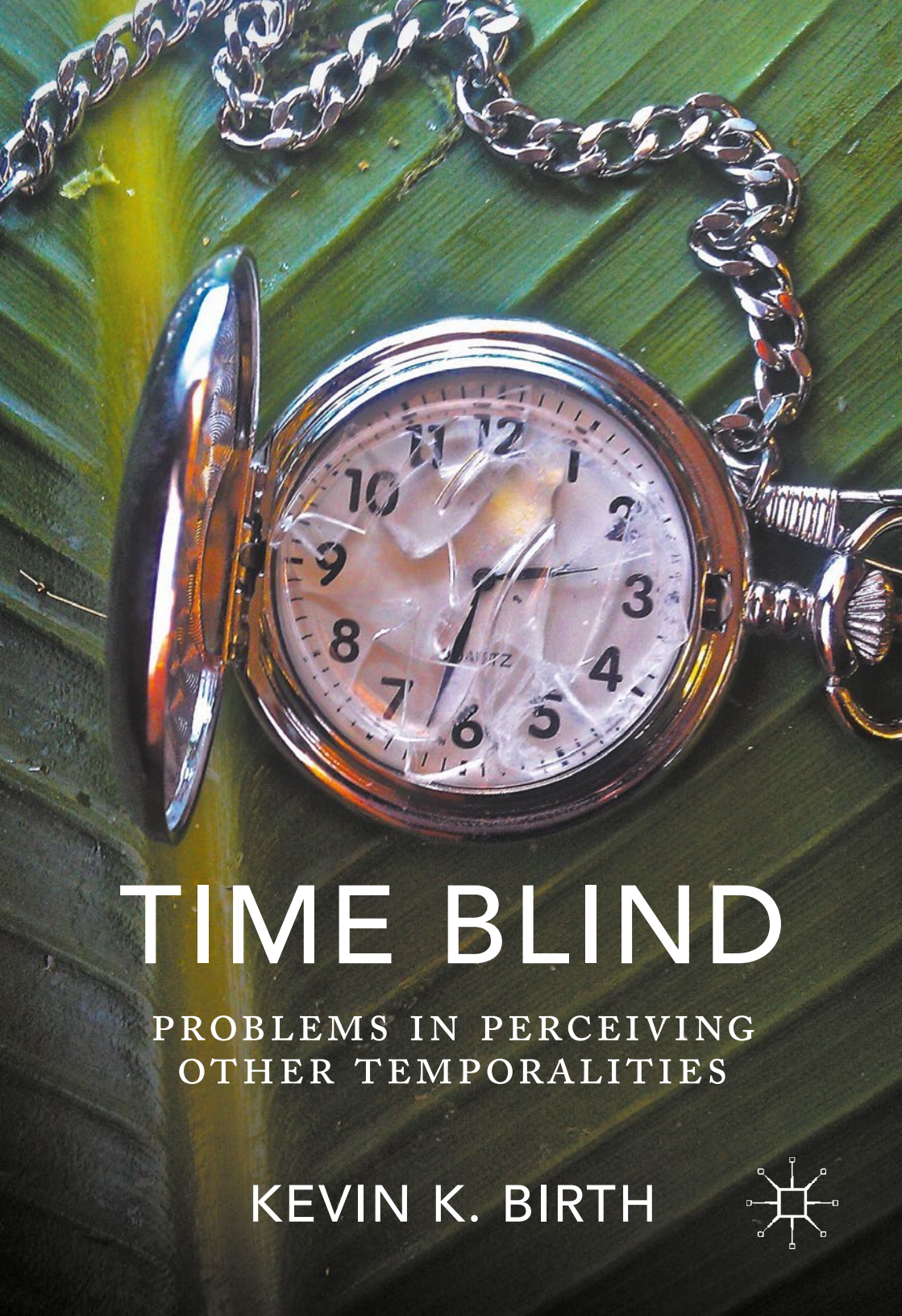

TIME BLIND

PROBLEMS IN PERCEIVING OTHER TEMPORALITIES

KEVIN K. BIRTH

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Preface

The title for this book is influenced by several works that use the metaphor of "blindness" to discuss limits on our scholarly perception. For instance, Bernard Stiegler describes "eidetic blinding" (1998, 3) as the consequence of how the technicization of science has led to a loss of perception, meaning, and memory. Ernst Bloch states, "We … are located in our own blind spot, in the darkness of the lived moment" (Bloch 2000, 200). Vincent Crapanzano argues that one of the purposes of ethnography is to overcome "cultural blindness" (2003, 4). Finally, in a recent book, my colleague, John Collins, has argued that the tendency of social scientists to grant ontological status to representations without due attention to how those representations are constructed leads to analytic blindness (2015, 362). Cultural ideas of time are crucial elements to the construction of representations—they provide what Hallowell would call a basic orientation provided by culture (1955, 92–100). Social scientists are not immune to the culture that shapes them, even as they seek to overcome the conceptual limitations that culture imposes. One could say that social science suffers from time blindness.

One could say that, but at some risk. Time blindness is a term often applied to one of the manifestations of attention deficit hyperactivity disorder (ADHD). In this use of the term "time blindness," clinicians are describing the difficulty in managing time that many people with ADHD experience. Because of this association, a reviewer of this book suggested that maybe I should rethink the title. I did, but in the end, the publisher and I agreed to keep the title *Time Blind*. I imagine the publisher did so because the title seemed more pithy than my proposed alternative, but

I did so because of the parallel between the disability of time blindness and what I seek to discuss in the book. Those who battle time blindness find it difficult to adhere to the very calendar-driven, clock-shaped sensibility of time that blinds many scholars. At the risk of sounding like R.D. Laing's view of psychosis, those who struggle with ADHD-related time blindness possibly have an insight into time that those mired in the cultural baggage of clock and calendar time do not. This is an interesting possibility, but not one that I am qualified to explore; it does, however, reveal a potential limit of not only understanding, but compassion, that can emerge from the extent to which Enlightenment European cultural ideas of time are unquestionably adopted and enforced.

McLuhan writes, "'Rational,' of course, has for the West long meant 'uniform and continuous and sequential'" (1994, 15). My book criticizes this idea of "rational." Such criticism is influenced by the work of many West Indian thinkers—that European-derived concepts are conceptually limiting. The resistance to clock time and uniform rhythms in order to assert Caribbean sensibilities in the work of C.L.R. James, Édouard Glissant, Antonio Benítez-Rojo, Wilson Harris, Sylvia Wynter, and others has long influenced my ethnographic work on Trinidad and my thinking on time. But I want to go beyond a simple resistance against European hegemony in order to demonstrate the artificiality and contingency of European-derived temporalities that, despite their relatively recent cultural origin, have come to be regarded as natural. So while most of this book is about Trinidad, the arguments are against uniform, homogeneous concepts of time. And these arguments are not merely that the Caribbean, or any other postcolonial context, has its own temporalities, but that homochronicity distorts knowledge in general. "Western" scholarship is built on cultural assumptions about time that are exotic. As Adolf Bastian pointed out, "Sollte, wie jede Frage, die der menschlichen Natur aus der Majorität entschieden werden, so würde Europa, den übrigen Continenten gegenüber, nur als Ausnahme erscheinen, um den Durchschnittsmenschen zu finden" (1860, 230) [Maybe the question about the nature of man is to be decided by the majority; in that case Europeans would be the eccentric ones when compared with average man] (translated in Koepping 1983, 54).

The unusual qualities of European temporalities have been naturalized, and, as Carol Greenhouse has argued, have come to distort ethnographic discussions of time (1996). The process of naturalization began early in our lives as learners. Teaching about "telling time" is a component of early childhood education. In most curricula, this is limited to children learning

to interpret representations of time that elide the cultural conventions and rich histories of those representations. For instance, the analog clock represents a Ptolemaic presentation of Egyptian divisions of the day, and Babylonian divisions of the hour shaped by a northern hemispheric bias (a Ptolemaic representation based on the southern hemisphere would have the hours arranged counterclockwise).

The simplicity with which many people approach time then results in difficulty in understanding other temporalities. It is well documented that perception shapes the unfamiliar into the familiar and expected. This is why it is likely that neither I nor the copy editors have caught every typographical error in this book. Yet, it also leads museumgoers to look at a French Revolutionary decimal clock with its ten-hour dial and still see nothing unusual, and it leads generations of ethnographers to convert observed rhythms into clock and Gregorian calendar time. It also leads some of my potential students to wonder if there really is enough material about time to justify an entire class on the topic.

It is not this lack of knowledge about time that concerns me, however. Instead, my concern is how cultural ideas enter into scholarship as unrecognized assumptions. We live on a rotating geoid orbiting the Sun. The cycles and rhythms of our planet have profound biological, economic, political, and cultural consequences. The heritage of European timekeeping distorts our ability to understand the consequences of the Earth's cycles. This is not to belittle the achievements of European horology—quite the contrary, for it demonstrates the far reach of that tradition. But there are other horologies and other ways of thinking about time, and the widespread distribution of Europe's ideas is attributable to European colonial hegemony and not to the superiority of its time-reckoning tradition.

As a discipline that spans biological, historical, and social scholarship, anthropology's holism is well positioned to draw connections between the multiple rhythms and cycles that influence human life. It is for this reason that, while this book ranges far and wide to touch on issues of chronobiology, economics, historiography, and planning, anthropology is always the starting point, and it is with an interrogation of anthropology's approach to time that I end. That said, these issues are bigger than anthropology and affect all scholarship of all living things.

An indication that such issues are not limited to anthropology is Jiří Wackermann's critique of metaphors of time in psychophysics (2011). Wackermann's familiarity with horological history (see 2008) allows him to point out the historical contingency of the metaphors used in the

study of the psychology of time perception, and to permit him to explore alternative metaphors, such as his advocacy in thinking about psychological timing in terms of clepsydrae rather than clocks (Wackermann 2011; Wackermann and Ehm 2006). The difference between these devices is that clepsydrae indicate time by a continuous accumulation of water that reaches a threshold which marks a time unit, whereas clocks mark time through the counting of pulses—whether these pulses are mechanical or atomic. The clepsydra metaphor is much closer to how neurons function than is the clock metaphor.

So this book is best viewed as a symptom of growing discontent with our current set of assumptions about time—a discontent that is manifest not only in Wackermann's work, but in debates about the leap second policy, as well as in discussions of time in theoretical physics. My personal concern is that anthropology has lagged in these discussions. Temporal relativism is a more common theoretical principle in time metrology and physics than it is in anthropology.

I probably should mention my view of the physical sciences, since so many in anthropology, particularly cultural anthropology, are critical of any attempts to bridge such disciplinary divides. I do not accept a reductionist position, so when I refer to biology, it is not to explain culture in biological terms, but to incorporate biology into an interpretive domain. I do not see any reason to do otherwise, particularly since there is so much evidence that culture influences biology. That said, knowledge generated by the physical sciences is not sacrosanct—it should and must be criticized. I have engaged in such criticism elsewhere (Birth 2014a), and Chapter 2 of this book is not as much an endorsement of chronobiology as a lament that chronobiology is shaped by the same assumptions that shape ethnography. Even with such limitations, I have found chronobiology useful in considering the physiological consequences of global processes (Birth 2007, 2012).

Some of the chapters in this book have appeared elsewhere. Chapter 4 was originally published in 2006 as "Past Times: Temporal Structure of History and Memory" in *Ethos* 34(2), pages 192–210. The final chapter is a revised version of "The Creation of Coevalness and the Danger of Homochronism," published in 2008 in the *Journal of the Royal Anthropological Institute* (N.S.) 14(1), pages 3–20. Those chapters benefited from the comments of the reviewers, which included Gelya Frank, Joanne Rappaport, and Johannes Fabian. The final chapter also benefited

from comments from Mandana Limbert, John Collins, and Alexander Bolyanatz.

There have been many conversations that have shaped this work. I've had influential exchanges about the topic of time with Axel Aubrun, Alex Bauer, Michelle Bastian, John Collins, Omri Elisha, Murphy Halliburton, Mandana Limbert, Jim Moore, Michael Northcott, Kate Pechenkina, Tim Pugh, Rob Seaman, Ken Seidelmann, Chris Sinha, Larissa Swedell, and Jiří Wackermann.

I also want to mention those venues and communities of scholars that have pushed me into new areas far beyond the study of concepts of time in Trinidad. These include the Frick Collection, the Subjective Duration colloquium, the Temporal Design workshop and the Ancestral Time project at the University of Edinburgh, the "Utopias, Futures and Temporalities" workshop in Bristol, the United States Naval Observatory, and the "Requirements for UTC and Civil Timekeeping on Earth" colloquium at the University of Virginia.

Finally, I thank my wife Margaret for her love and patience over these many years of my journey in studying time, and also for her willingness to work with me to improve this book.

PRELUDE

The Duplicity of Time

Henri Hubert, one of the founding figures in the anthropology of time, wrote, "The division of time entails the maximum of convention and the minimum of experience" (1999, 70). Barbara Adam, a leading current figure in the social scientific study of time, writes, "Time forms such an integral part of our lives that is rarely thought about" (1995, 5). The lack of thought about time can lead to unexamined assumptions, and these assumptions can mislead us when we study the ideas of time from other cultures and eras. Along these lines, A.J. Gurevich observed, "The present perception of time bears very little resemblance to that of other epochs" (1976, 230); Robert Levine notes, "Life on clock time is clearly out of line with virtually all of recorded history" (1997, 81–82); and Sacha Stern argues that assumptions about temporal regularity common today are unfounded in the study of ancient calendars and consequently lead to misunderstandings (2012). These observations suggest a problem for the study of cultural differences, namely, that a dimension of thought and experience about which we are unreflective might be shaped in ways that are culturally unusual. As I wrote in *Objects of Time*, "In thinking about the human understanding of time through the human past and across cultural differences, we have adopted a unique and artifactually mediated set of ideas as the ideal type against which all other ideas are understood and evaluated" (2012, 169). Could attempts at studying cultural differences be refracted through the unusual, even eccentric, assumptions about time derived from relatively recent developments in the European time-keeping tradition?

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This is not a question of how different disciplines think about time. Andrew Abbott began his book *Time Matters* with the question "Historians cared about sequence and order. Sociologists didn't. Why?" (2001, 4). He eventually arrived at a conclusion that emphasized disciplinary differences—historians emphasize change; sociologists emphasize fixed causes (2001, 295). In effect, different disciplines have different temporalities. What are the temporalities of anthropology, however? If one accepts Malinowski's dictum that anthropology studies the "native's point of view" (1961, 25), then one might conclude that anthropology merely relates the temporalities of the people it studies, but the crisis of representation in the 1980s (see Clifford 1983; Clifford and Marcus 1986; Marcus and Cushman 1982) revealed that claim to be dubious. Whereas Abbott is interested in what the dominant temporality should be for theory and method, the question raised here is a bit different: What temporalities get in the way of describing and understanding the diversity of human thought and behavior?

Anthropology is among those disciplines one might think are equipped to address cultural diversity and time, and to become aware of its own temporal assumptions. Yet, anthropology has struggled with this issue. In *Time and the Other*, Johannes Fabian raised the issue of "anthropology's problem with Time" (2002, 60). Unfortunately, while he pointed out the problem, anthropology has not really addressed it. Rather than wrestling with the time problem, much of anthropology instead offers a greater "historical perspective" than it did previous to Fabian's book. While this addresses the temporal warping caused by the rhetorical construction of the ethnographic present, it does not address the underlying cultural logics that shape Western scholarship's conceptualization of history. Indeed, history is as subject to these temporal logics as anthropology, so a substitution of history for the ethnographic present is simply a substitution of one manifestation of these logics for another. Indeed, the problem with time is not just within anthropology, but is a problem of all European-derived post-Enlightenment scholarship. Fabian was too modest in his project.

Carol Greenhouse's book *A Moment's Notice* is bolder than Fabian's in its trenchant criticism of anthropological temporal biases, because rather than limiting herself to the temporal framing of ethnographic representation, she tackles the biases that seep into all ethnographic practice. She notes numerous ways in which anthropology's naive approach to the topic of time distorts ethnographic representation: she points out the tendency of anthropologists to assume that without time-keeping

technology, ideas of time emerge from cultural interpretations of nature (1996, 40); she describes how anthropologists assume that a lack of cultural emphasis on duration indicates a lack of concern about time (1996, 41); and, finally, that "the indifference to time mentioned by some ethnographers is generally taken to indicate an absence of temporal constructions altogether" (1996, 46). According to Greenhouse, all of these are examples of how anthropology has deviated from Durkheim's emphasis on time as social in favor of an assumption about a "real" time against which different cultural notions can be evaluated (1996, 46–47). She then notes that anthropological discussions of social time "proceed from analogies to the mechanical clock, as if the clock were itself a materialization of some universal time sense" (1996, 47). The clock is a European cultural creation. As I have argued elsewhere, it is the clock and Gregorian calendar that are exotic and unusual ways of representing time—"the exceptions of human history that have become the rule" (2012, 170). Postill has chastised anthropologists for not studying the spread of calendar and clock time throughout the world (2002), but to his critique can be added the semiconscious absorption of clock and calendar time by anthropologists when describing temporalities. Anthropology has even been an agent in spreading clock and calendar time by means of its representational strategies.

Recently, John Collins (2015) has argued that there is a tendency among social scientists to fix the ontological status of cultural representations without giving due attention to how those representations are fluidly negotiated, created, and deployed. In the process of doing so, social scientists often insert their own cultural biases that then influence how the cultural representations are described. Based on Greenhouse's observations, this is particularly true with the study of cultural concepts of time where European-derived temporal concepts have filtered ethnographic representations in ways that are subtly distorting—whether it be in the form of time-allocation studies, or representing a daily round of activity as parallel to a clock, or treating how people chart annual cycles as if they used European calendrical logics. In effect, the biases that Gurevich, Levine, and Stern observe can distort ethnographic description and historical scholarship. Moreover, there is growing evidence that the spatial metaphors that European-derived scholarship often uses to discuss time are not pancultural—namely, that there are languages in which spatial metaphors are not used in this way (Sinha 2014a, b; Sinha et al. 2011).

It Can Be Noon at Two O'Clock

Even European timekeeping used to be different from our current naturalized assumptions about time. To demonstrate this, I shall discuss Derrida's analysis of the story "Counterfeit Money" by Charles Baudelaire. Derrida is regarded as a major figure in unsettling the connection between representations and their meaning. His concept of deconstruction has been applied widely to reveal hidden assumptions and contradictions in texts ranging from the literary to the scientific. Yet, Derrida was not immune to the influence of his cultural milieu. His discussion of "Counterfeit Money" reveals his assumptions about time, and the gulf between him and Baudelaire. In the book *Given Time: I* (1992), Derrida addresses the relationship of time to giving in this story of Baudelaire's. To focus on the problem of giving, Derrida cannot allow time to be a self-referential signifier with multiple, relevant meanings. So when discussing Baudelaire's use of a French idiom—"But into my miserable brain, always concerned with looking for noon at two o'clock (what an exhausting faculty is nature's gift to me!)" (Baudelaire quoted in Derrida 1992, 32)—Derrida writes:

> At no *given moment*, and no *desired moment* [moment voulu] can one reasonably hope to find, outside any relativity, noon at two o'clock. This contradiction is the logical and chronological form of the *impossible* simultaneity of two times, of two events separated in time and which therefore cannot be given *at the same time*. (1992, 34, emphasis in original)

It *seems* quite obvious that it cannot be noon at two o'clock, but it is only obvious *within* a twentieth-century post-Enlightenment understanding of time as a uniform commodified duration. Derrida does not recognize clock time for what it is: a self-referential representation (see Birth 2012). It cannot be noon at two o'clock only because that is what we were taught in grade school when we learned much of what we know about time. Then again, as Elias observes, "One of the difficulties in investigating time is that people are as yet little aware of the nature and functioning of the symbols they have themselves developed and constantly use. They are therefore always in danger of losing themselves in the undergrowth of their own symbols" (1992, 29).

I know from my French friends that the meaning of the colloquial phrase "looking for noon at two o'clock" is to create a problem where there is none, but I shall purposefully complicate that colloquial meaning in order to demonstrate something Derrida ignores in his discussion: that

Baudelaire wrote his story in a context with different attitudes and ideas about time than when Derrida generated his analysis. In a sense, by problematizing "looking for noon at two o'clock," I am "looking for noon at two o'clock" by looking for noon at two o'clock.

In looking for trouble, I ask: What if time is duplicitous? What if underneath the seemingly obvious fact that it cannot be noon at two o'clock is a set of multiple meanings that permit noon at two? In fact, duplicity in the measure of time is at the very core of modernity's timescales. Some might find the explanation of this tedious, but understanding the technical side of how time is produced sheds light on how self-referential, and potentially duplicitous, the representation of time can be.

The International System (SI) second, the global standard unit for measuring time, is defined by periods of cesium atoms. That said, while the second is defined in terms of periods of cesium, the best clocks today are not cesium clocks, so the cycles of cesium equivalent to a second are actually measured by the periods of rubidium or hydrogen. The standard definition of the second is different from most people's understanding of what a second is: The SI second is *not* defined as a fraction of a mean solar day, because Earth's rotation is too irregular to serve as a measurement standard. When the SI second was originally defined, it was in reference to a fraction of a tropical year (CNRS 1950, 129), because the duration of Earth's orbit around the Sun is far more stable than Earth's wobbly rotation.

This SI second is not a fraction of the current year as measured by atomic clocks, however. This fraction of a year that defines the second (as represented by cycles of atoms) is roughly equivalent to the average length of 1/86,400 of a solar day as calculated by Simon Newcomb in 1895 for January 1 of the year 1900. Newcomb used astronomical records from the eighteenth and nineteenth centuries to determine the average rotation of Earth and the duration of that rotation. He then projected his calculation forward to 1900. Modern metrologists think that Newcomb's data set is such that his calculation more accurately refers to a day sometime in 1820, however (Nelson et al. 2001, 509).

In sum, the unit of the second is not a simple matter to define. On the contrary, it is a polysemic sign that a global bureaucracy concerned with measurement attempts to constrain to a single meaning. Such attempts at constraint are undone by their own technological efforts to improve the definition of what a second is. The attempts by scientists to improve the definition result in the proliferation of new and old definitions used

by the general public and embedded in previous clocks, watches, and electronics. To date, these differing definitions have not been great enough for most people to notice, but as more and more technologies rely on greater and greater precision, legacy definitions will become a greater problem.

So if a second is precisely defined, then a minute, an hour, and a day are precisely defined, right? This is true of the minute and the hour, but not of the concept of the day. 86,400 SI seconds never vary; rotational days do. Since Earth is a rotating object moving through space, one rotation in relationship to the Sun usually does not equal 360 degrees. This rotational period varies further because Earth is tilted, and the orientation of the tilt to the Sun affects the duration of a day. These variations led to the calculation of the mean solar day—an average length of day throughout the year. Moreover, since Earth's surface is mostly water, and the water gets pulled by the Moon to form the tides, there is constantly a bulge moving around Earth as it rotates. This bulge of water generates a braking influence on its rotation that results in that rotation gradually slowing over time. Because of this effect, Nelson et al. point out that "the present length of the mean solar day is about 2.5 ms longer than a day of precisely 86,400 SI seconds" (2001, 75).

So is a day an 1820 mean solar day, 86,400 SI seconds, a mean solar day in the present, or an apparent solar day? Actually, the day has not been officially defined as a unit of measure (see Seaman 2014).

The duplicity of time does not end with the relationship between the second, the day, and Earth's rotation. The definition of the SI second is used to constitute Coordinated Universal Time (UTC). UTC is a weighted average of times indicated by over 300 atomic clocks. There is no master clock. Each month, the International Bureau of Weights and Measures (BIPM) calculates UTC and reports the value of UTC for the previous month in the publication *Circular T*. This periodical not only contains the previous month's values for UTC but it also records the deviations of the times of all the laboratories that contribute time data for UTC's calculation. This means that the UTC which the time services of these laboratories distribute is not authentic UTC, but an estimation of UTC (Arias et al. 2011, S148–150; Levine 2001, 54). It is this laboratory-specific estimation of UTC that goes out to most of our electronic devices. Thus, even UTC is duplicitous, although for most practical purposes, the difference between the BIPM calculation and the time that is distributed is too small to matter.