

## Against the Clock: How Technology Has Changed Our Experience of Time by Heleo Editors

Alan Burdick is a staff writer and former senior editor at The New Yorker whose first book, *Out of Eden: An Odyssey of Ecological Invasion*, was a National Book Award finalist and won the Overseas Press Club award for environmental reporting. His most recent book, *Why Time Flies: A Mostly Scientific Investigation*, chronicles his quest to understand the nature of lived time. He recently joined Douglas Rushkoff, media theorist and author of *Present Shock: When Everything Happens Now*, for a conversation on what we miss about the nature of time when we only think about it as a number.

This conversation has been edited and condensed. To view the full conversation, click the video below.

Douglas: [Both our books are] about time, or about the now. For me, the *Present Shock* was that there are two kinds of time. The Greeks have two words for time: “chronos”, which is like time on the clock, and “chiros”, which is more like readiness, human time. You crash the car at 4:27, but when do you tell dad that you crashed the car? I always say, “After he’s had his drink, before he’s opened the bills.” That’s *chiros*, human time, the way we experience time, versus real time or number time.

For me, it became important in the digital age, as our style of clock time changed, what does that do to our understanding of real time? You looked at the same relationship in a different way.

Alan: I started out feeling like I understood what space-time is, but that doesn’t really have a lot to do with the time that we actually live in from moment to moment. Then there’s clock time. I came to understand what that is, and it turns out to be really strange. But I didn’t really understand what is this stuff in us that we call time? It turns out that we have all kinds of clocks in us—in our cells, in our mind—and I had begun with a notion that there is this tension between clock time and technological time. I didn’t even want to wear a watch for a long time.

Then I came to embrace it, as I began to understand that time isn’t just a thing that I put on my wrist, but it’s a thing that we create organically between us, almost like a language.

Douglas: Right, if you burrow deep into it, it becomes real again. [When] the clock went

up in the clock tower in the medieval village, people stopped trading value and started working for time. It was the invention of the employee and hourly wages, which led to five centuries of “time is money,” which is why in some ways the watch or the Google Calendar feels oppressive. Then you pushed through that and found something reassuring.

Alan: I think so. Even cavemen had to deal with time, to a certain degree. Even if their clock is just the sun, daylight and nighttime, you need time in order to coordinate your activities, even if it's hunting woolly mammoths. “Let's all meet at the cave entrance at sunrise.” Then we get it in our clock towers, and now we have it on our wrists, and it is this organizing force, for better or worse. But it does start to get oppressive when you've got it on your phone and you pull your phone out of your pocket, and there's the time, and you're always thinking about the time. It gets a little overwhelming.

“Indigenous cultures tended to use the moon as a way of organizing their sense of time, and when they used the moon, they were getting in sync with some stuff that we're only learning about now, the different neurotransmitters that tend to dominate during different weeks of a lunar cycle.”

Douglas: And that stream of time feels like it doesn't really take into account the way my organs and the body and the culture moves through temporal landscapes. There's the circadian rhythms or chrono-biology through which we experience the world. Indigenous cultures tended to use the moon as a way of organizing their sense of time, and when they used the moon, they were getting in sync with some stuff that we're only learning about now, the different neurotransmitters that tend to dominate during different weeks of a lunar cycle. It's like our obsession with that number makes us lose track of all these other cycles that are moving along with it.

Alan: All times become basically equivalent, even though they actually aren't.

Douglas: Right, generic, it's just a number. It's not just a number.

Alan: That was really interesting to me, this notion that there are different better times of the month to be doing things. Your own schedule takes that into account. Can you say more about that?

Douglas: I did take it into account until I surrendered back to the demands of the world. I got disciplined when I found out that the four weeks of the lunar cycle and the first week of a new moon tends to be dominated by acetylcholine, the next week is dominated by serotonin, then dopamine, then norepinephrine. I started looking up what happens to a body and a brain when it's bathing in acetylcholine versus dopamine. I realized, in the first week of a new moon, acetylcholine, I'm going to do lots of gathering of new ideas. The second week, the serotonin week, it's as if you've got a bunch of Prozac in you: I'm going to work, to barrel through and get my writing done.

Dopamine week is a party week, a week that I stop writing, force myself to not write, to engage with people. Then the norepinephrine week is the fight or flight week, which is when you pull back and get very analytic. That's where I would put all my notecards on the wall, make my crazy wall of ideas, and reorganize things, what goes in what chapter. When I worked that way, I actually wrote fewer days per month, but I got more done.

My productivity went up, and my sense of well-being went up too. It felt like a discipline at first, and then it almost felt like there was an internal compass I was getting in touch with.

It made sense—there's four seasons, there's four parts of the breath, there's four directions. Not being religious about it, but being aware of it.

Alan: But you let all that go?

Douglas: Well, it let me go. The problem is the demands of the modern life. You've got the inbox, and there's all these people and everybody wants something, or you're in book promotion mode. When a book comes out, your schedule is no longer your own, the publisher calls, there's NPR that wants to talk to you at four in the morning, you're up. You serve that, but you can't live like that all the time.

Alan: When I was working on this, I had a full time job, and so I always had to decide, "Am I going to get up super early, at four o'clock in the morning?" which is a time of the day not particularly conducive to doing anything except lying in bed. "Or am I going to stay up until two o'clock in the morning?" What I ended up doing was neither. I would go to bed early, and then wake up at midnight or one o'clock in the morning and work for two or three hours. It was like there was this whole other day packed away in the middle of the night. I actually learned there's a great book about the history of the night.

It turns out that before the advent of modern lighting, people did not sleep eight hours straight. They would go to bed, have what they called the "first sleep", and then they would wake up at midnight or one. Sometimes they'd stay in bed, but a lot of people got out and dealt with their cows or their fields, or they would even go into the village and do a little work in their shop.

Douglas: At night? With little candles?

Alan: Yeah, and then they would go back to bed at two or three in the morning.

Douglas: The opposite of siesta. That's so weird, but in a way that's perfect.

Alan: But it all went away with electric lights, because now—

Douglas: You stay up later.

Alan: Now we think you can colonize any part of the day.

Douglas: Right, the colonization of human time. I'm sure there's people from the captology labs of Stanford thinking, "How can we use what we've learned from [Why Time Flies] to make people spend more time on our website, but think that it's only been a minute?"

Alan: Science has half-figured out how. Mars has a 25-hour day, and our circadian cycles are 24 hours long, so if we do make it there and live there, it's like crossing three time zones every two days. They figured out a way to zap you with certain wavelengths of light at certain times of day that will actually give you a 25th hour of the day.

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Of course you're spending that hour of the day being exposed to peculiar wavelengths of light, so I'm not sure you're really gaining.

Douglas: The joy of your book is this sense of connection and disconnection from the clock, this sense of what does it take for a person to move into almost a god-like place. Time can go faster, or slower, depending on what drug [a person takes] or what they're doing—meditation, ecstatic experience, entertainment experiences—there's a joy in it. The disconnection from the clock itself is exhilarating, whichever way it happened.

Alan: I was in Alaska for a couple of weeks in the summer, where the sun never sets. It's freaky and disorienting. It's absolutely beautiful. But people divided themselves up into two groups. There were the people who just went with it and slept whenever they wanted and ate whenever they wanted. They were in their own temporal world. Then other people, including myself, felt like, in order to remain sane, "I am going to wear my watch and go to bed at 9:30, even if it's broad daylight, and I'm going to wake up at six a.m., even if it's broad daylight, and I'm going to live according to my watch."

Douglas: That's a little bit like *Lord of the Flies*—there's the ones who stay with civilization, maintain the codes to stay sane, and the others who are like, "We're free, let's go nuts." But you want both in your life. You want to have those moments where you're disengaged. Because our brain is working all the time to make sense of this stuff. You've got this great section where you say that one of the main things the mind does is it takes all these data points from reality, and desperately tries to string them together into something that makes sense.

You said it almost as if it's quite possible it makes no sense. We're just doing this in order to have a coherent experience of this chaos.

Alan: Part of time is understanding and grasping the order in which things happen in time—sequence. That actually turns out to be a lot more plastic than we give it credit for. You can fool the brain into thinking that B comes before A, in some cases.

I took part in an experiment in which you press a keypad and move your mouse on the screen, but effectively, it had the appearance of the cursor moving before I pressed the button, so effect came before cause. It was super freaky. Every time, I would see my cursor move and think, "I'm going to fool it now and not press the button," and then I couldn't stop myself from pressing the button.

How would you describe your relationship to time?

Douglas: It's gotten screwed up. I don't blame tech, but I blame the way we're applying tech, at least. It has to do with my ability—and I feel like this is a national problem—to have perspective on the past. I feel like the past used to be smaller, because it happened a long time ago, and now... The simplest way to say it is if a person I utterly forgot about from second grade now tries to friend me on Facebook, they come into my present without the scale of a person from far away.

They're at the same scale as any other friend on Facebook, and I feel like this whole nationalism thing, whether it's Britain doing Brexit, or Trump saying, "Make America Great Again," it abuses a false connection to the past. It's exploiting this inability to have proper proportion and perspective on the past. That feels so digital to me.

Alan: When Edison invented the phonograph, there was this scathing review in the *Spectator*, of this critic saying, "We're completely disregarding the virtues of oblivion, the benefit of being able to forget." Now that every voice can be stored forever, we're

going to be haunted by these voices that won't ever go away.

Douglas: That's true. Somewhere in Talmud there's this rule that Jews are not supposed to remind someone of something embarrassing from their past. You can't say, "I remember when you were 12, and you used to..." Because it doesn't give the person the liberty to move past that. You keep bringing them back to it.

This whole effort, whether it started with My Life Bits and Facebook timelines, that everyone's supposed to record their history as if Yale University Library Archives is waiting to store our entire history for future researches—most of us are not that interesting. But everyone is doing that. That's a strange thing, it pulls you out of the chiros, the present, it doesn't give you those when time flies moments. It keeps tying you back.

Alan: I have this vision of Facebook in 100 years in which even people who have died, their Facebook presence continues—not only remains, but expands. We'll not only be able to see pictures of them, but we'll hear their voices. Your great-grandmother will be calling you with advice about who you should or shouldn't date. It will all not only be available, but will start speaking.

Douglas: With AI, Ray Kurzweil-ian now-ness to it.

Alan: We're going to be nostalgic for futurism, because it's going to be all past-ism.

Douglas: The other thing that got me weirded out from your book was I thought that atomic clocks didn't really work right, which is why they moved them every once and awhile. But it's not.

Alan: No, Earth is the problem.

We're drifting away from the sun, but the sun is getting bigger. That could be a problem in five billion years. In the 1960's, seconds were defined from the top down: there's the day, rotation of the Earth, 24 hours, 60 minutes in an hour, 86,450 seconds in a day. It's just division, a theoretical thing.

Then physicists were like, "Well, if you get a cesium atom and it goes through nine billion plus phase transitions in the span of a second, as defined by this 86,000 metric, then we can do the same thing," and that's what we've been doing, except that we get farther and farther away from that 1960 definition of the top-down second, because that keeps slowing down.

Douglas: But as far as human bodies are concerned, that's the only one that matters. When we change time from the segments of the day from the portions of the cycles of life to these independent durations, a second is no longer a part of a minute. That's screwed up, too. Doesn't that turn time from this way of understanding our experience to this tyranny of numbers?

Alan: The way that national clocks create time is they have atomic clocks that tick seconds, and then you can add seconds up to figure out the time of day. But the phrasing they use is they "realize" seconds, and they "disseminate" the time. It's like propaganda.

Douglas: I love that, though. Time is the ultimate propaganda because death is the ultimate fear. Time is the best medium through which to trigger and exploit that Becker

denial of death stuff.

Alan: Do you have tricks for turning off the time?

“When we talk about this experience of time flying as we get older, the years seem to go by faster, what’s actually happening, studies show, is that we’re under more time pressure as we get older.”

Douglas: It’s hard when there’s a child going to school in the morning. This is a big project, but I’m wondering if there’s a way to be free of the Google Calendar, if I could do it for a month or two. I don’t like that I spend a large portion of my day answering emails which means putting more things into that calendar, most of which I don’t even really want to do. Then, if the Google Calendar is dictating my next month, and there’s only three hours in it left for me, that’s not good. I don’t want to keep doing things now that screw up the passage of time in the future. I’m bankrupting my own temporal landscape.

Alan: When we talk about this experience of time flying as we get older, the years seem to go by faster, what’s actually happening, studies show, is that we’re under more time pressure as we get older. It’s not that the years are actually going by faster, it’s that we are spending more of our later years scheduling. We’ve got more to do, you’re looking at your calendar more, you’re trying to get more done in the same amount of time than you were when you were five or 10 years old. Of course time went a lot slower when you were five or 10, because you didn’t have a schedule, you weren’t thinking about time.

Douglas: We didn’t have play dates. That infinite, open sky quality of childhood, which is [now] less and less wandering around the neighborhood and finding worms, good stuff. There was an expansiveness. After reading your book, I would say the expansiveness was expansiveness of time. I thought of it as space; it wasn’t, it was time.

Alan: It was the expansiveness of not thinking about time.

Douglas: That’s a liberty I think we deserve, and I’m going to make it come back, I am.