

# How the Clock Changed the World

When people reflect on how technology has changed our lives, they usually think about the car, the television, or the computer.

But according to historian and philosopher Lewis Mumford, it's really the invention of the mechanical clock that changed everything.

In his 1934 classic *Technics and Civilization*, Mumford laid out a fascinating argument why “the clock, not the steam-engine, is the key machine of the modern industrial age.”

The clock's increased influence began with the Christian monasteries in the Middle Ages, where monks attempted to create an environment of regularity and order to combat the disorder in the world outside following the fall of the Roman Empire. To maintain this regularity and order, they employed the ringing of the bell seven times a day to call the monks to prayer. As monasteries and the villages surrounding them increased in number, so did the influence of the bell-ringing on human actions.



The appreciated regularity of the monastery bells eventually led to the invention of mechanical clocks in the 13th century, bell towers, and clocks with “a dial and a hand that translated the movement of time into a movement through space.” The new clocks allowed for a synchronization of human activities never seen before in history:

*“The clouds that could paralyze the sundial, the freezing that could stop the water clock on a winter night, were no longer obstacles to time-keeping: summer or winter, day or*

*night, one was aware of the measured clank of the clock. The instrument presently spread outside the monastery; and the regular striking of the bells brought a new regularity into the life of the workman and the merchant. The bells of the clock tower almost defined urban existence. Time-keeping passed into time-serving and time-accounting and time-rationing. As this took place, Eternity ceased gradually to serve as the measure and focus of human actions."*

Mumford explains that the clock's influence on subsequent technology was immeasurable:

*"Here, at the very beginning of modern technics, appeared prophetically the accurate automatic machine which, only after centuries of further effort, was also to prove the final consummation of this technics in every department of industrial activity."*

The clock altered human life not only by synchronizing it, but also by increasingly dissociating it from the organic patterns of life:

*"[T]he effect of the mechanical clock is more pervasive and strict: it presides over the day from the hour of rising to the hour of rest. When one thinks of the day as an abstract span of time, one does not go to bed with the chickens on a winter's night: one invents wicks, chimneys, lamps, gaslights, electric lamps, so as to use all the hours belonging to the day...*

*Abstract time became the new medium of existence. Organic functions themselves were regulated by it: one ate, not upon feeling hungry, but when prompted by the clock: one slept, not when one was tired, but when the clock sanctioned it."*

If I reflect on a typical day, it is not too difficult to see how all-pervasive the clock and its rhythms are in our lives:

I wake up at a particular time programmed into my alarm. I show up at work by a particular time, and check the time frequently throughout the day to see how well I am progressing with my work. I eat around particular times mostly because my culture has determined that those are the time at which one eats. I use technology throughout the day that has been primarily developed to help me use time more efficiently (whether it has successfully accomplished this is another issue). And finally, I probably stay up later than I should—i.e., past when I've grown too tired to do anything worthwhile—because I've been taught that going to bed before a certain hour is considered “early.”

Is the clock a bad thing? I don't know about that. It's difficult to assign a negative value to something that has so shaped our modern world, and to something that I have never experienced life without.

But almost every gain comes with some loss, and at the very least, Mumford's analysis causes one to wonder about the world that was lost with the invention of the mechanical clock.

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