

“Time” To Do It Right

A Brief History of Time and Its Impact on Design

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Although my background has little professionally to do with design, I have always found myself responding to the user experience. For example, if a bag of chips is hard to open, I don't just moan and groan, I mutter something about what was the packager thinking – does freshness mean I can't get in the bag without a pair of scissors?

When it comes to homes, design matters even more. I am always looking at ways to enhance user experience such that our homes are working more for us than we are for them; that homes are working for all of us, not some of us. This is more possible than ever before and I'm sure technology and lifestyle choices will continue to reinforce this new approach.

Many elements come into play when we design. Design is everything from personal expression to machine-driven precision. Some people like gold, some people like linoleum: technology or simplicity; automated or manual; man-made or natural; efficient or beautiful; costly or cost effective. But one element in particular affects design perhaps beyond all others, time. Indulge me as I ponder the impact that the measurement of time has had on the way we design.

Long ago, really long ago, time was measured by the sun, the moon and the stars, day, month and year. Time was not so distinct or discreet. It was sinuous, elastic, syrupy and incredibly expansive. It was a flow like water in a stream running fast and slow simultaneously and you could be in its rush or in its calm. There was no, “Oh, gosh! Gotta go, it's almost spring!” Or, “You're late!” Instead with such softness of time, one can imagine that to be in the present moment must have been much easier. Time would have conveyed no sense of urgency and in its place would have been a deep connection to the purpose or activity at hand. It seems sensible that deities were considered to embody every tree, stone and gust of wind. The experience of being alive must have seemed quite overwhelming all by itself.

Today is quite different, time is money, and we have the gadgets to prove it. They interrupt us endlessly reminding us of what has to happen and when. Our paychecks are a clear measure of our effectiveness in time management. Time, it would seem, is running the show. Time feels extremely real. It appears to be as real as the chairs we sit on and the table before us. Time so occupies our thinking that the bulk of our conversation and concerns are either in the past or in the future. Hardly ever are we in the present; hardly ever are we just ... present.

How did this shift in time consciousness occur? How did the present moment so quickly shrink away and practically disappear? Why is being present so hard? Why do we struggle to connect to inner purpose? Why do we need Eckhart Tolle to give us the Now? What if we could ignore our clocks? What if we could throw off the yoke of measured time and step back into its uneven river? What if we could time shift? And what would be the impact on design without time as its master?

Humans seem to be hard wired to measure our surroundings. We measure distance, weight, volume, temperature, value and time. We seem to have done this for much of the 4 million years that we have been around. The earlier needs would have been simpler and when measuring time, it was suitable to planting, harvest, pray, hunting and travel. For much of those 4 million years, nature was the clock: day and night; summer and winter; full moon and new moon. That was it! I just wonder what it was like – who were we in consciousness and how did a brain operate when time was that indistinct? When we looked at each other, was the next thought already forming and blocking out spoken words, or, did we gaze and take the other person in, keyed to instinct and harmony? No urgency, just purpose.

5000 BC illustrates the first evidence of a device used to track the progression of time, a sundial. These shadow devices depended on direct sunlight. They also depended on a technician to calibrate them to their correct latitude and to make seasonal adjustments. They were useful indicators during mid-day and became increasingly inaccurate toward the beginning and end. They were best at indicating noon and the Romans were the first using sundials to distinguish AM and PM. They soon evolved early and late for morning and afternoon. The sundial had another shortcoming that wouldn't emerge as a problem until the days of trains and telegraphs: different longitude positions meant that your noon was different from mine, hard to run trains when every station had a different time.

The next advance in time measurement came a few millennia later around 16th century BC in Babylon, the water clock. This was an urn with a tiny hole in the bottom. It was filled with water and allowed to drain. The time it took to drain was a reasonably consistent measure of time. The big bonus was that it could track the passage of time without sunlight. The shortcoming? It could freeze and the measure was not consistent, it wasn't comparable. My urn, or its drip hole, was bigger or smaller than yours - my units of measurement were longer or shorter.

The water clock spread in use until it was in India, China, Greece and Rome. The Romans called it a clepsydra and gave it a fairly high degree of refinement. It was used for teaching, preaching and legal proceedings. The judge would grant a prosecutor a measure of water that was the time allotted for the presentation. A prosecutor keen on winning favor with the judge would sometimes drink some of his water indicating his intention to be brief. A similar concept, the incense clock,

was used in the East; a chunk or stick of incense would burn for approximately a fixed amount of time, much like the water clock.

As early as the 3rd century AD the sand or hour glass comes into use. It is much like the water clock but it is portable and it doesn't freeze. This portability hints at the breakthrough in maritime navigation that will come with the increasingly accurate measurement of time.

Although measuring time was gaining momentum through human evolution, it is still a very inaccurate process. The emergence of mechanized time appears with the beginning of the Renaissance. A device called an escapement allows a controlled release of power; it takes rotational energy and switches it to a back-and-forth movement, tick-tock. The clock as you know it, a collection of spinning gears, is born. Time, for the first time, is now measured with a mechanical device.

The first clocks are only capable of measuring hours and are inaccurate by several hours per day. Monks are the most excited about this technological advance. Their practices and devotions to God now happen with consistency. However, one feature was sorely missing, a bell. A few gears later and the clock had a ring. Up into the tower it went and by the mid 14th century, whole villages moved to the sounds of mechanized time.

One hundred years later, the advances in time measurement include a minute hand. The clock mechanics shrink until they fit into your living room and by the 17th century they have shrunk some more and are in your pocket. These watches are more of a novelty as the accuracy is still quite off – you and I still have a tough time meeting at 4:00PM. In 1656 Galileo invents the pendulum and with it time accuracy takes another step forward.

The leap that ushers in our present time consciousness comes in 1657 with the invention of the balance wheel. This device gives us accuracy within 10 seconds per day. Now, you and I can meet promptly at 4:00PM. For the first time, your watch says the same as mine. This marks the point in evolution when there is agreement among our clock towers, grandfather clocks and pocket watches. No surprise that the Renaissance has come to a close and we not far from the Age of Enlightenment. Human affairs begins to be guided rationally, not by faith or superstition; we move from an arbitrary world to one increasingly validated by reason.

Fast forward another 300 years to the mid 1950's and we have the first atomic clock. Accuracy is within a few seconds over 1,000 years. Jump forward to 2006, our last significant achievement in time measurement, attoseconds. An attosecond is one quintillionth of a second. I don't even know what that is – it's one billionth of one billionth of a second! From my biological perspective, an attosecond makes no sense. What an attosecond does tell me is that the present

moment has, over the course of only seven centuries shrunken down to something too tiny to even imagine. No wonder we have such a hard time being present. There's no more now, now. Mechanized time has disappeared the present. All that is left is the past and future; we no longer live in a place that supports being present.

It's no surprise that so much focus is required when we want to be present; there's no societal value placed on the present. It's hard to do even for the short duration of one breath, much less a whole hour. I haven't even done it right now and yet it is what I am writing about (I still have dinner to prep and then an LLC operating agreement to work on). Mechanized and atomized time squelches the experience of pure sensation. The present moment is sacrificed to precision. And, it's a small leap to connect punctuality with morality. Any questions? If so, look at your paycheck – it is a measure of your ability to manage time.

Do I sound a bit judgmental? I might. I might even sound like there is something wrong with us humans. There isn't. None of this is bad or wrong, it's the way it is. In fact, I would suggest that if we are measuring time in attoseconds (the time it takes light to travel 3 hydrogen atoms), we must be very close to the other side; we must be so very close to breaking through a time consciousness that has engulfed us for 700 years. That very thought is exciting beyond words.

I want to return to design after this indulgence in the history of time. When time is an imprecise target, it is difficult to lock in on it. For example, it's a moving target at night in the fog. Without time precision, the focus shifts. People choose bigger or more expensive. We make pyramids or we make cathedrals. We crave measures, it is what we humans do, we just choose different ones. When one measure is un-measurable, we go with another, one that can be measured. But with precise and universally agreed mechanized time, night turns to day, the fog lifts and the target ceases to move. It is now a clear measure and we can put the focus on getting the job done rather than doing it biggest, best or even doing it right.

Time is money. If it takes too long, it will cost too much. Time is as measurable as money. The job has to get done on budget and on time. That's our language. Those are our measures. They are evolved and precise measures. However, if we are to begin to have designs that make our world more livable, we need new systems of measurement. What does design look like when it is about getting it right? There is no measure for getting it right. There is a measure for popularity and sales but those are different measures.

Compare parenting with income. Income measurement is clear and precise – immediately you and I know where we stand in relationship to each other. But who's the better parent? That's not nearly as measurable. Much like the sundial, we have a rough idea of where we might be on the curve of parenting but it's imprecise. So, we don't measure it, it's harder to talk about, and, we don't really

know what we need to know in order to turn out better adults capable of parenting.

If we want our homes and products to provide a better user experience, we start by taking the clock out of the equation. We put in caring more about the result than the time it takes. We begin to evolve ways to measure our success in this endeavor. We would care about the experience. Taking time measures out of the equation and putting people first is one access to a world design that works for all.

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