

1번

Our ideas can liberate or imprison us. In a literal sense we create the worlds in which we live; and there is always the possibility of re-creation. As psychologist George A. Kelly put it: “to make sense out of events we thread them through with ideas and to make sense of the ideas we must test them against events.” He describes this process as one of successive approximations. The great generative ideas in human history have transformed the world view of their times and helped to reshape their cultures. We make the world we live in and we can remake it. This process of cultural evolution is probably what the comedian George Carlin had in mind when he said, “Just when I found out the meaning of life, they changed it.” What is true of the long cycles of creative change in a social culture is also true of the shorter cycles of creative work by individuals and groups.

2번

Wood was such an essential component of everyday life that one might expect a limit to wood production was responsible for the lack of progress. Almost all the possessions of everyday folk were wooden, while those that were not actually made of wood needed large quantities of wood to produce. In the Middle Ages, around thirty pounds of wood were needed to smelt one pound of iron, for instance. People burned wood in even greater quantities to cook food and heat their houses, and wood was a vital energy source for the major industrial processes of the age: salt-making, brewing, tanning, and dyeing. In the language of chess, wood was an overworked piece. And as the human population grew, and land was cleared for agriculture, forests would have been destroyed, reducing the wood supply still further. You might well think that this would eventually have led to a shortage of wood, hindering further material progress. Popular histories, after all, are full of stories of how using wood led to deforestation and disaster.

3번

Beyond demographics, increased living standards had a significant consequence for economic growth, which worked through our choices about the kinds of products we purchase. In 1940 you might have spent your money installing plumbing for running water or a toilet, if you didn't already have those things. The same went for air-conditioning, a TV, or a computer at other points in time during the twentieth century. But once we had those goods, then what did we spend our money on? Did people install an extra toilet in their bathroom? Probably not. Instead, as goods became cheaper and we filled up our houses with them, our spending turned toward services. We took advantage of the falling prices and availability of basic goods to take longer and better vacations, to take classes, to see medical specialists, to get some physical therapy, or to put more data on our phone plans. We took advantage of our success in providing goods to buy more and more services.

4번

Technology allows research scientists to leverage tiny budgets in astonishing ways. And each of us can now easily contribute to science as an amateur, through the growing prevalence of citizen science, in which the general public helps — often in a small, incremental way — in such tasks as data collection. From categorizing galaxies or plankton to figuring out how proteins fold, everyone can now be a part of the scientific process. And although mathematics might still be the domain of the singular genius, it, too, has a place for the hobbyist or amateur: In the mid-1990s, two high school students discovered a novel additional solution to a problem that Euclid posed and solved thousands of years ago and for which no other method had been found since. There's even an entire domain known as recreational mathematics. What these examples demonstrate is that creative experiments and the right questions are as important as ample funding and infrastructure — and that technology is making this work easier than ever. Little science can still prosper.

5번

In a study of more than one thousand people in the Netherlands, vacationers exhibited a bigger happiness boost in the weeks before their trip, rather than in the weeks afterward. And people generate even more emotional images of Christmas and New Year's when they imagine these events in November than when they look back in January on their actual experiences. Researchers have suggested that we experience a “wrinkle in time.” This is worth keeping in mind if you're moving soon. People feel more negative emotion when thinking about helping friends move in the future compared to remembering helping in the past. And they demand nicer thank-you gifts. If you plan to “reward” your friends for helping you move with nothing more than cheap beer and pizza, they're more likely to be satisfied with the cheap gifts if you have them over the day after the move rather than the day before.

6번

The secrets of human curiosity have been explored by psychologists, perhaps most famously by Professor George Loewenstein. He writes of a test in which participants were confronted by a grid of squares on a computer screen. They were asked to click five of them. Some participants found that, with each click, another picture of an animal appeared. But a second group saw small component parts of a single animal. With each square they clicked, another part of a greater picture was revealed. This second group were much more likely to keep on clicking squares after the required five, and then keep going until enough of them had been turned that the mystery of the animal's identity had been solved. Brains, concluded the researchers, seem to become spontaneously curious when presented with an ‘information set’ that they realise is incomplete. ‘There is a natural inclination to resolve information gaps,’ wrote Loewenstein, ‘even for questions of no importance.’

7번

From a certain perspective, the political and ideological force of “social justice” may be seen — by critics as well as some calculating proponents — as useful in its functional vagueness. Sometimes a term is helpful in politics precisely because it is vague. For example, “maximum feasible participation” became an important part of the War on Poverty because it was unclear and no one could agree on what it actually meant. Social justice is a term that can be used as an all-purpose justification for any progressive-sounding government program or newly discovered or invented right. The term survives because it benefits its champions. It brands opponents as supporters of social injustice, and so as enemies of humankind, without the trouble of making an argument or considering their views. As an ideological marker, “social justice” works best when it is not too sharply defined.

8번

Nearly all of us live in a political community, usually a state, and abide by its rules. Whether our current nation is open or authoritarian, if we leave we are likely to find ourselves in another country with its own, possibly different rules. Even if we did find a corner of the world where states and laws did not exist, chances are it would not be a place worth living in. We come together for the sake of community and live under laws for good reason, and our lives are shaped by the politically organized unit in which we live. Aristotle believed that the state was a “creation of nature” that came before the individual. After all, people when isolated are not self-sufficient and will seek to become part of a larger whole. To him, individuals who decided to stay on their own would remain “either a beast or a god.” The state was in every sense greater than the individual, and being part of it was a privilege. Humans existed for the glory of the state, not vice versa.

9번

Compared to other scientists, Nobel laureates are at least twenty-two times more likely to partake as an amateur actor, dancer, magician, or other type of performer. Nationally recognized scientists are much more likely than other scientists to be musicians, sculptors, painters, printmakers, woodworkers, mechanics, poets, or writers, of both fiction and nonfiction. And Nobel laureates are far more likely still. The most successful experts also belong to the wider world. “To him who observes them from afar,” said Spanish Nobel laureate Santiago Ramón y Cajal, the father of modern neuroscience, “it appears as though they are scattering and dissipating their energies, while in reality they are channeling and strengthening them.” The main conclusion of work that took years of studying scientists and engineers, all of whom were regarded by peers as true technical experts, was that those who did not make a creative contribution to their field lacked aesthetic interests outside their narrow area.

The experience of conscious decisions preceding events may be an illusion. If I ask you to move your finger whenever you feel like it, you can sit there and then eventually decide to raise your digit. That's what conscious free will feels like. But we know from measuring your brain activity while you're sitting there waiting to decide that the point when you thought you had reached a decision to move your finger actually occurred after your brain had already begun to take action. In other words, the point in time when we think we have made a choice occurs after the event. It's like putting the action cart before the conscious horse. The mental experience of conscious free will may simply justify what our brains have already decided to implement. In describing this, Steven Pinker says, 'The conscious mind — the self or soul — is a spin doctor, not the commander-in-chief.'