**CHAPTER 12**

**Technology and Human Destiny**

Humanity once held a privileged position on this Earth. From the late Neolithic through the early agricultural period into the era of the first true civilizations, we deployed benign technology: simple, natural, nontoxic tools and various organizational techniques. Access to just three or four metals and a handful of other minerals allowed us to build pyramids and the Parthenon, Hanging Gardens and the Colosseum. A global population of perhaps 200 million was widely dispersed, and even the largest cities numbered less than one million. Local environments may have been depleted, but the vast majority of the planet was a vibrant, diverse, clear-running wilderness. At its best, human civilization supplied everything needed to live a good life. It was *our* time, the Era of Humanity.

Certainly there were low points—wars, disease, cruelty, injustice. These things have always been with us, and they are with us still, even in our advanced technological age. Some have suffered terribly in the past—as they suffer today. If such ills are worse now than ever, this can only be due to our increased technical power. And if we take into account the exploding population in recent centuries, it is unquestionable: *total* human suffering is vastly greater today than that in the past.

There is no reason to believe that the average pre-modern person, no matter where on Earth they lived, had a less satisfying existence than their modern-day equivalent. Quite the contrary: we have good reason to think that human life was, in many ways, more satisfying in the past. The life of the forager, farmer, or small-scale urbanite was closely aligned with two million years of human evolutionary history. We were well-suited for such modes of living, and simple tools and social techniques took the hard edge off daily existence. For those in the cities, culture generally thrived; arts, philosophy, theater, literature, poetry all flourished, and in some cases achieved heights rarely attained since. Looking back, we can see how little it would have taken to make things better still. And this is the point: A rational, human-scale society in charge of its own destiny can achieve greatness, with even the simplest of tools.

Progressively, as humanity moved into the Middle Ages, the third wave of technological determinism began to take hold. Modern energetic devices emerged and spread. This set us on the road to cancerous growth, loss of control, reduced freedom, ecological destruction, and possibly self-annihilation. Modern technology, loosely defined as that which emerged during this time, allowed the creation of a level of social and technological existence that far outstripped human evolutionary capabilities, and carried us far beyond the era when human beings—*individual* human beings—largely determined their own living conditions.

Technological society is a new order of being, its *own* order of being, and it exists by and for its own sake. Modern technology advances of its own initiative; human concerns are incidental or irrelevant. This situation demands a metaphysical explanation. On my view, it is explicable only in a universe in which all creation is a manifestation of Technê-Logos, a natural process operating throughout the cosmos.

In a universe conceived as a Pantechnikon, then, modern technology works contrary to human interests. Having far exceeded the Era of Humanity, we are now well into the Technological Era, and every step forward in technical progress leaves us, and nature, farther behind. Every gain for the system is a loss for the planet.

If we understood this fact, we would not support the advancement of technology. We would not rush to buy its latest products, or lavish such praise upon it. In fact we might actively oppose it. But doing so would bring progress to a grinding halt. Therefore technology must present itself to us as precisely *the opposite of what it is.* It must be fundamentally deceptive. It must portray itself, everywhere, as promoting human interests, as improving health, as increasing happiness, wealth, and well-being. We willingly take the bait, convinced of the benefits to ourselves or our fellow man or nature, and then are puzzled when things turn out for the worse.

Examples are manifold. Many technologies promise to do things for us faster, and yet we have less time than ever. Technologies promise to make life more exciting, and yet we are constantly bored. They promise us health, and yet we are sicker than ever. They promise to humanize us, and yet we are as brutal and vice-ridden as ever. They promise us wealth, and yet, for the vast majority, we are poorer than ever. They promise *a good life*, and yet we are sadder, lonelier, and more exhausted than ever before. All this is explainable, as I said, in a pantechnical universe, one in which the surge of evolutionary development has passed us by, and we are now left in its wake—decaying, declining, and distraught.

**A Model of Reality**

It is fitting that the Great Pyramids are the decisive ancient monument to human ingenuity. Surely this is no accident. In their ancient structures, the Egyptians created a model of reality. This is my claim: Nature itself is constructed rather like a pyramid. A base material layer is laid down, and in the presence of abundant energy, successive layers of complexity and organization are built upon it. A natural hierarchy is created, out of the Technê-Logos, and it continues to develop as long and wherever conditions allow.

In the case of our solar system, the base layer consisted of clouds of hydrogen and helium, and countless tons of heavy matter dust that were discharged into space when older stars exploded. Through gravitational attraction and perhaps other forces that we do not yet understand, the gas cloud condensed, and the dust particles agglomerated. At some point around 5 billion years ago, the atomic nuclei in the gas cloud suddenly fused together, initiating the nuclear reaction that became our sun. The previously ‘free’ atomic particles were now bound into an ordered system.

As it continues to burn, the sun produces increasing amounts of heavier elements—notably including the key components of life: carbon, oxygen, nitrogen, silicon. Layers of these heavier elements build up in the core, adding to the sun’s order and complexity. In the process of fusion, simpler elements are destroyed, energy is radiated away into space, and atomic particles are reconstructed as higher-order, heavy elements. A pyramidal-like hierarchy is being constructed in the sun.

An analogous process is occurring on the Earth. When the sun ignited, the force of the blast stripped away any lingering dust particles, leaving a solid material core. After about 1 billion years, liquid water began to collect on the surface, a likely product of both out-gassing from the Earth’s core and from a steady rain of water-bearing meteorites. The solid matter, liquid water, and thin pre-oxygenated atmosphere thus form the base of our terrestrial pyramid.

With these basic conditions in place, and with the steady energy flow from the sun, the production of further order was inevitable. The first single-celled life forms fed off the ambient heat, light, and abundant ocean minerals; they constituted the second layer of the pyramid. In time they grew in complexity, becoming multi-cellular organisms. At the same time, other organisms—animals—evolved to eat the simpler plants; animal life was a third layer. Then a fourth layer appeared, one of animal-eating animals, or carnivores.

We see what is happening: Each new layer of the pyramid imposes constraints on the lower orders, lives off them, and in some cases destroys (“eats”) them. At a minimum, the higher layers exact a toll—freedom and autonomy are reduced, order is imposed, pressure increases. The lower orders must bear the increasing load of those above it. Just as a pyramid under construction places a progressively heavier weight on the lower levels as each new layer is added, so too in the cosmos: over time, the lower orders come to exist primarily to support the upper. They sustain the growing structure, and carry an ever-greater weight. But they do not benefit thereby. At each point in time, it is the uppermost layer that basks in the full sun, enjoying its time as the peak of existence. The upper layer is the king of creation; it sees itself as god-like, almost divine, as the endpoint of universal evolution. And for awhile, it is. Soon enough though, the great builder, the Demiurge, comes around again. Technê-Logos adds yet one more layer to the ontological pyramid, and a new king is crowned.

During the Human Era, as I have called it, we ourselves were that upper-most layer of existence. From roughly 10,000 BC to 1200 AD, humanity basked in the glory of the evolutionary sun. This was our Eden. It was not perfect, it was not trouble-free—no existence ever is—but it was our time at the top. We were constructed in the image of God/Logos himself, and constantly in touch with the divine. God/Logos gave everything into our hand. The world was ours to do as we liked.

Since then, progressive layers of social and technical complexity have been laid upon us—by our own efforts. Each layer is translucent; each one blocks a bit more of the Big Light. With each succeeding development we live in a bit more darkness, even as our burden grows. Our daily lives thus become ever dimmer, as we increasingly function simply as support structures, weight-bearers, for the emerging layers of complexity above us.

This is no one’s fault. There is no one to blame. *Technology is not evil*. It acts not out of malevolence, but necessity. It is an inevitable consequence of life on a planet of superabundant energy. Technology is the most recent layer on the terrestrial pyramid, and it is now enjoying its time in the sun—to the detriment of the rest of us. If events continue to unfold as they have in the past, technology’s day will also come to an end. It too will be usurped, perhaps by ‘technology-made technology,’ perhaps by some technological-biological fusion, perhaps by something as yet inconceivable. The process will continue to advance until there is no more free energy available, in which case growth will come to a halt.

There is an alternate future. Instabilities in the pyramidal structure may cause it to collapse of its own weight. Based on our study of nature and of the growing stresses on humanity, this seems an increasingly likely outcome. It will be a catastrophic event, particularly for those creatures—ourselves—at the top. Being at the highest level, we have the farthest to fall. If this happens soon, a fair remnant of humanity will likely survive. If it happens some decades hence, it may be our end. In any case, if it occurs, nature will dust herself off, clear away the rubble, and begin again.

I emphasize, too, that this pyramid-building is a naturalistic process of ontological continuity. The higher layers are marked by a reordering of mass and energy, and an increased dynamism vis-à-vis the lower orders—all in an ontologically continuous manner. There is no break in the metaphysical order, no brute emergence of radically new features of reality. The intrinsic qualities of all levels are *the same*—the universe is a monism, after all. Fundamental qualities that we find at one level are of necessity present in all.

Thus, for example, intrinsic qualities in matter—spin, charge, mass, quantum state—exist at all levels. This is why material laws of nature operate with consistency throughout the universe. More strikingly, intrinsic qualities that we find *in* *ourselves* are likewise present at all levels. The chief of these is consciousness, which I take to be a relatively sophisticated manifestation of something more basic, namely, subjectivity or experientiality. Every layer of existence possesses increasingly sophisticated modes of subjectivity; it is lacking in none. Hence panpsychism obtains, as I argued in chapter 3. This is no accident; it is the inevitable consequence of an intelligent Logos realizing itself at each phase of universal evolution. Order, complexity, and transcendence are built into the structure of the cosmos. These constitute the *being* of intelligence, of mind. As such, they reside in all layers of existence.

We may press further and note that, in addition to the experiential, our mental lives include a volitional or intentional component. (To the best of our present knowledge, these two aspects—the experiential and the intentional—seem to comprise the two irreducible components of mentality.) Thus we can infer, as Spinoza, Leibniz, Schopenhauer, Nietzsche and others have done, that all levels of material reality also possess an intentional aspect—again, one that ultimately derives from the Logos, which can be its only source.

This helps to explain why technology acts with such drive and force: there is an intrinsic intentionality to it. It imposes itself ever more powerfully; it seeks to expand and evolve; and it presses forward relentlessly. This is no mere anthropomorphic metaphor. When we speak of technology’s wants and desires, we express a metaphysical truth. Technological society is not alive; it is a supra-life, a new higher order of being that embodies the intrinsic qualities of life without the limitations of life. It eats but energy. It reproduces by expansion. It evolves by the material realization of progressively more sophisticated technical devices. It never sleeps, ever.

**The Decline and Fall of Humanity**

A pyramid is a monument to creativity, but it is also a tomb. We are becoming entombed by technology. Each new layer that is laid upon us becomes like one more coat of golden varnish on a fine oak coffin. Inside, still alive, we gasp for air. And not only us—all of nature is progressively being buried alive. At best we can hope to bear the growing weight with a modicum of dignity; at worse, we and all the planet become consumed by this expanding autonomous power.

It takes only the barest of insight to realize that signs of decay are all around. Declining health, environmental destruction, exploding populations…and quality of life always on the wane. Consider human culture—the highest expression of our humanity. During the 10,000-year Era of Humanity, in different ways and at different times, it attained a high degree of realization. Notable peaks occurred in Egypt, Mesopotamia, Athens, Rome, India, and China. In Europe, a kind of cultural momentum carried over into the Renaissance, yielding the brilliant accomplishments of Leonardo da Vinci and Michelangelo in art, Shakespeare in literature, Tallis and Praetorius in music. But even then, the decline had set in. By the 13th century, Western civilization had peaked; it then entered a period of gradually accelerating decay. Certainly by the onset of the Industrial Revolution—say, 1750—human culture definitively began a marked and steady decline, worldwide, in all areas of endeavor.

Obviously, this is not to say that there were no cultural achievements since that time. Decay, like ascension, is never monotonic; individual peaks continue to break through. Even into the industrial age, humanity was still able to produce the likes of Voltaire and Rousseau, Kant and Hegel, Bach, Mozart, and Beethoven. But these, of course, were the brilliant exceptions; the overall trend, for hundreds if not thousands of years, has been downward.

Through time, as each field became increasingly technologized, decay accelerated. The advent of motion pictures and television caused theater to coarsen and falter. Radio, record players, tape machines, CDs, and iPods in turn had a comparable effect on music. In literature, the move from handwriting to typewriters to word processors led to a similar outcome. Even painting and sculpture, minimally affected by advancing technology, have long been in decline; such is the culturally corrosive effect of modern technological society.

Culture today has become the glory of *technology*, not humanity. Social media is technological media; architecture has become a paean to technical brilliance rather than artistic or organic vision; motion pictures rely to an ever-greater degree, and often completely, on computer-generated effects, while subtleties of plot or character development languish. And consider what has become of modern music. It is fully electrified and digitized, complete with Auto-Tune’s “mechanical modulations,” and synthesized versions of every instrument. Rap music is little more than crude and mechanically-repetitive chanting; it competes with such genres as “techno,” “heavy metal,” “industrial,” and “electronica” for the lucrative youth market. Even musicians themselves are coming to realize the extent of the problem; in late 2013, alternative music icon David Byrne stated that “the Internet will suck the creative content out of the whole world.”

Protests to the contrary are fruitless. “What about the cruelties of ancient Rome?” some may say. “Certainly gladiator fights and throwing people to the lions were brutal forms of culture, were they not?” “Ritual sacrifice was a cultural fixture in several ancient civilizations; surely we have progressed since then?” But it is not at all clear that watching a few actual people die is more harmful to one’s individual or social well-being than watching the thousands of fake deaths and dismemberments that occur on television, the cinema, video games, and the Internet. A real death is at least reality, and it impresses upon the observer the vicissitudes of organic existence. Fake death is depersonalized and abstract death. It desensitizes the viewer to the pain and suffering of others. It supports such virtuous activities as the killing of ‘enemies’ in far-away nations via high-tech military drones.

What about women and minority rights? Don’t these show signs of progress over the centuries? Yes and no. It is obvious that previously disenfranchised groups now have a variety of formal rights, and that this removes them from certain past abuses. But this process has a downside: it allows more people to become drawn into the technological system, and thus subject to new indignities. Women and minorities are now free to work 60-hour weeks, to submit to the humiliations of the corporate world, to become ‘competitive,’ and to abandon their children to endless daycare. “Only if they want it,” comes the reply. Yes, but to an ever-greater degree, it is no longer a truly free choice; two fulltime jobs are often needed just to make ends meet, healthcare and education costs are rising, and social pressure is increasing to be a success. The alleged progress of women and minorities can best be accounted for, I claim, as evidence that the technological system is increasingly able to pull in all available talent. A century ago, the system eliminated child labor and sent them to school; now the bill comes due.

The situation is comparable to the American military accepting homosexuals and (soon) women into combat ranks. They do this not because they suddenly became enlightened, or as a sign of moral progress, but rather for strictly technical reasons: the military needs all available bodies. Gays and women may feel ‘empowered’ by this, but it does them little good. Yes, they now have equal rights—to kill, and to die. Hardly a sign of progress.

And even if we grant that, in a handful of isolated ways, culture has become less cruel, this does not invalidate my general conclusion. By nearly any measure, and according to nearly any objective criterion, culture has been digressing for several centuries. And this fact, I claim, can only be explained by the advance of technology, and its broadly dehumanizing effects.

Even the most superficial analysis shows that, cultural and sociologically, things are getting worse. In talking to my students, we like to contrast the quality of their lives today with that of earlier generations—such as my own. On the surface, little has changed. They have friends, and we had friends. They keep up on the news, we kept up on the news. They go to parties, we went to parties. They enjoy sports, we enjoyed sports. They have personal dramas, we had personal dramas. They struggle with coming of age, we struggled with coming of age. As the discussion plays out, we realize that *in no sense* is the quality of their lives any higher, or any better, than that of my generation or earlier ones.

But there is one large difference: their technological burden has greatly increased. To do the same things that previous generations did, they are now ‘required’ to carry a cell phone day and night, to create and maintain Facebook pages, to service Twitter accounts, to send and comment on countless pointless photos, to send and reply to dozens or hundreds of text messages daily. The average undergrad spends something like two and a half hours per day on mobile technology devices alone. The time burden is huge. And the financial burden is not inconsiderable: a typical smart phone costs $200 or $300, and the user incurs monthly fees of $100 or more—all to achieve the same ends that earlier generations did with minimal time commitment and no cost. On top of this, the psychological burden increases as well, as social pressure mounts to respond immediately, stay current, and be on-line.

What are young people getting for their large and growing investment of time, money, and stress? Are their friends better now than before? Are their lives richer? Are they morally stronger? Are they deeper thinkers? No. Even if we accept that quality of life is roughly comparable, that today’s rap music is no different than yesterday’s rock, that friends are always friends, that the young have always tended toward shallow thinking, superficial pleasures, and short-term rewards—even then, *they have lost ground*. They have taken on an undeniably greater burden for no gain in benefits. People today pay a higher price for, at best, the same quality of goods—which yields an absolute decline. Burdens are increasing on all fronts, and this could be justified only if the gains were also increasing on all fronts; but they are not. *If things are not unquestionably getting better, they are undeniably getting worse*.

One thing, however, does get better. One thing increases, day by day: technology—and the wealth and power of those who serve it.

**Creative Reconstruction**

We presently live under a condition of technological determinism, but one in its first phase of existence—that of *dependency without control*. As explained previously, it is obvious that human technê, at the moment, is fully dependent on humanity for its existence and operation. Were we all to die tomorrow, the technological system would disintegrate soon thereafter. Our products, residue, and wastes would persist for thousands of years, but for all practical purposes, if we die, our technology dies with us. But despite this obvious fact of dependency, humanity cannot meaningfully control technology’s progress or future development. It is autonomous but functionally dependent.

This condition will not last long. Soon—perhaps in a few decades—we will enter a second phase of determinism. Here, technology will become self-making and self-evolving. It will not need us, and in all likelihood it will not want us. It will achieve a radical autonomy, at both the operational and existential levels. Needless to say, this situation, should we allow it to occur, will be one of extreme danger. The biosphere has no evolutionary experience with such ultra-technology, and will lie defenseless before it. Science fiction could become a horrific reality, with the worst outcomes being realized. Any sane person, and any sane society, would do everything possible to avoid such a future scenario.

Earlier I explained that the terrestrial pyramid could evolve down two possible paths: growing order and complexity until all free energy is exhausted, or collapse due to intrinsic instabilities. There is, however, a third possibility. Though we cannot control its progress, we may control its regress. This involves humanity taking advantage of its innate creativity and will to preservation that derives from the Logos itself, and redirecting the process of hierarchical evolution. This act I call *creative reconstruction*. Its goal would be to recreate, deliberately, the conditions of the Human Era. Not out of selfishness or some anthropocentric mania to rule the world, but simply out of a desire for self-preservation, for sanity, and to avoid a self-inflicted enslavement—and perhaps destruction. Call it a true nostalgia: a longing to return home (*nostos*, coming home).

Let me be specific. Creative reconstruction will involve, at a minimum, three things: a partial dismantling of the technological layer, a substantial global population reduction, and the restoration of a majority of the Earth’s land area to true wilderness. These three would be brought back in line with conditions that existed during the Human Era. In parallel with these primary goals, other related objectives would follow, including reducing energy consumption, and taking all necessary actions to forestall the second phase of technological determinism. A detailed discussion is beyond the scope of this work, but I offer here a few thoughts on the process.

The call to deconstruct “the machine” is an old one, reaching back at least to Butler’s striking essay of 1863. In the 1960s, Lewis Mumford insisted upon “a deliberate large-scale dismantling of the Megamachine.” Similar pleas have been issued by Marcuse, Illich, Sale, Kaczynski, and a host of environmentalists, eco-activists, and neo-Luddites. As expected, the meaning of the concept, and means by which this is to occur, vary widely. In all cases, details are sorely lacking. Even so, I think we can provide a few specifics.

For one, deconstruction clearly does *not* mean the attempted elimination of all technology—which, as I have emphasized throughout, is not only undesirable but impossible. But it does mean a dramatic retrenchment of the contemporary techno-sphere. This brings us back to the old debate about so-called modern technology as a kind of turning point. The pantechnical analysis I presented above suggests that our peak time in history ended around 1200 AD, and that therefore this ought to be the standard by which a manageable technology could be maintained. A case could be made for Renaissance-era technology, but certainly it would call for pre-industrial techniques.

Second, the focus is simply on *the* *technology*, and not the many various and often irrational social practices of the past. This point should be obvious, but based on experience, it is not. An endorsement of, say, medieval technology does not imply, in the least, an endorsement of witch-burning, blood-letting, Inquisitions, dogmatic theocracies, and so on. The inability of people, even educated ones, to separate such things is disturbing. Clearly it is possible to achieve an enlightened, rational, civilized, even *advanced* society, using only the most basic of tools and techniques. The Athenians did far better with much less, and we could do better still. This would be our only aim.

Third, deconstruction can, in principle, be as gradual and carefully-managed as we wish. Nothing entails a sudden, chaotic, or violent process. If we have any pretense to being a rational animal, we have many options at our disposal. We have rationally built up the technological system over hundreds of years, and we may, if desired, rationally deconstruct it over hundreds of years.

Then we have the question of over-population. This issue has been perennially cited as a problem without solution. This is misleading. The solutions are known; it is the means of implementation that are the challenges. The global figure is currently 7.1 billion, and growing by some 200,000 daily. It will almost certainly reach 9 or 10 billion by mid-century. Stringent, coordinated, global action would be required simply to flatten out the growth curve. Toward this end, there are many rational, compassionate, and non-coercive options available. Some measures are obvious: better education on family planning, freer discussion of birth control options, and government funding of contraceptives, for a start. Taxation laws could be changed to penalize those with more than two children, rather than encouraging them, as at present. Beyond these basic steps, governments could provide free sterilization for childless adults—or even more, offer financial incentives for such a procedure. Alternatively, a system of birth quotas or licenses could be implemented—tradable and negotiable rights to have children.[[1]](#footnote-1) Collectively such options would undoubtedly have an impact.

The vital point, again, is that none of this has to be implemented rapidly or harshly. It needs to be *initiated* soon, but the process itself can be reasonably gradual. As with a technology drawdown, if the rate of population decrease matched the past rate of increase, it should be acceptable to society. We took four centuries to grow from 500 million to present levels, and we might well need the same to return to that state. All well and good—if we have four centuries to spare.

On the wilderness issue, the challenges are equally severe. Many developed nations have virtually none left. Others have extensive undeveloped land, but this may only superficially count as wilderness. For example, the U.S. has, by all appearances, vast untouched land in the west. Much of this, though, is ‘managed’ land with extensive lumbering, mineral extraction, hunting, and cattle grazing. Of the roughly two billion acres of land in the continental U.S., less than one percent is true wilderness—defined as large areas with unpaved roads, free-burning fires, no permanent human settlements, no hunting, no direct pollution, and no resource extraction. Two centuries ago, more than 75% of the U.S. was in such a state. Today, we have the means to recover it. Large areas of land are under governmental control, and these could, over time, be restored to true wilderness. As before, given a century or two, we could surely convert much of the land to a near-original condition.

I add here that I make no claim about the actual feasibility of the above actions. In fact, by any conventional accounting, they are utterly impossible. I include them simply as part of an ideal and rational approach that would follow from taking the above analysis seriously. And furthermore, in light of the current situation, we have few alternatives. All the so-called reasonable and practical solutions that have been proposed fail to match the unprecedented severity of the problem. Not only will they not work, in many cases they are actually counter-productive; they ameliorate some local condition while allowing the underlying technological causes to grow worse. Creative reconstruction follows as a logical consequence of a pantechnical reading of the universe. Protests about its unreasonableness are irrelevant. I make no claim that it is reasonable—only that it is necessary.

At present I see no acceptable alternative. A radically smaller, de-technified human species is the planet’s future, if we are to *have* a future. We can get there through a slow, careful, and rational process. If we do not, nature will likely drive us there herself—and she will be neither slow, nor careful, nor rational. When nature acts against errant life forms, she is ruthless.

I am not optimistic that we will act as we must. The collective being is too crude and too short-sighted to rationally execute its own reduction, and to restrict the technological system that is its sole source of existence. Movement toward reconstruction will happen only through the actions of individuals or small groups. Whether this will be sufficient to have an impact remains to be seen.

**Whence the Future?**

Metaphysics has consequences. It explains why things happened in the past, why they are happening at present, and how they are likely to proceed in the future. The pantechnical thesis offers an explanation of past evolution, including the appearance of life on Earth, of complex life, of human beings, and of the technical sphere. As such, it functions as an immutable law of nature. But this does not mean that it cannot be circumvented, at least in certain aspects and for limited spans of time. Gravity is also an immutable law, ubiquitous and eternal. And yet things defy gravity all the time. Every animal that climbs or flies defies it. Every time we take an airplane trip, go up in an elevator, or merely stand up, we defy it. But we know the old saying: What goes up must come down. Our defiance can only last for a limited time.

In an analogous fashion, we can likewise defy pantechnical evolution—at least for a time, and in limited ways. Creative reconstruction is one proposal to defer, for an extended time, the more pernicious effects of technological advance on this planet. For how long, and to what degree of success, we cannot be sure. But it seems to be a viable option, and I doubt that we have better alternatives. To continue on the present path is suicidal. It means to yield totally and completely to the evolutionary forces that portend our demise. It would be like a child who wishes to be old; we laugh at such immaturity, knowing full well that age will come soon enough, and that youth is a blessing. But we as a species are in the same condition. We wish for technological maturity, which brings certain powers but also carries us that much closer to old age and death.

To recall an old metaphor: If time is a river leading to a tumultuous waterfall, and we are mid-stream in a boat, what ought we to do, rationally? The river carries us forward to the inevitable end—but should we also paddle forward, hastening that day? At present we are paddling forward, furiously, like madmen. Is this rational? Is it sane? Shouldn’t we rather, at least, stop paddling? Or better: paddle in reverse? We cannot stop the river, but we might at least maximize our time on it.

A truly normative metaphysics has an obligation to offer some commentary on human prospects for the future. As I have said, there is very little chance that large-scale societies—nation-states or the global community—will act in time. Such social beings are too new, evolutionarily-speaking, and have no ability to anticipate subtle dangers, to act morally (in a human sense), or to exercise preemptive self-restraint. They act only under the crudest of self-survival motives, or via a brute will to power. But the dangers posed by technology, including large-scale environmental crises and over-population, will only be acted upon when the danger is unmistakable—at which time, of course, it will be far too late.

Those who might claim that large-scale organizations *do* have such anticipatory capabilities must of necessity believe that the dangers are low or non-existent. This would be the only explanation for the fact that we are doing almost nothing about them. Society is constantly monitoring world events for such perilous threats, and has evidently decided that serious technological dangers are limited to one or two categories: military threat or terrorist attack. And in the face of such dangers, society has concluded that it must *relentlessly advance its technical capabilities*, to track and keep ahead of the enemy. By such logic, technology is not the enemy; it is our protector and savior. Technology must advance. We have no choice.

A similar thought process relates to the dangers of environmental destruction and over-population. Yes, they say, global climate change is a problem, but this can be solved only by newer and better technologies: wind farms, fuel cells, solar panels, nuclear fusion, and the like. Yes, the world is becoming overcrowded; therefore we need newer and better food production technologies, new energy technologies, new communication and organizational technologies. *Technology is not the problem, it is the solution*—or so we are told. Again, an utterly opposing conclusion to that based on a pantechnical metaphysics. The competing views are clear.

Here, then, is a prediction. Advancing technology will expose humanity and the entire planet to increasing peril. Because the large-scale organizations of the world are incapable of understanding this, little or no action will be taken to preempt the technological system. In fact, precisely the opposite: as the global situation degrades, the rush to develop technology will only accelerate, which will in turn exacerbate the problem. A deadly feedback loop will be established, one that will be nearly impossible to forestall. We will soon enter a downward spiral of rapidly advancing technology combined with rapidly declining quality of life. Technology will accelerate toward true autonomy—phase two determinism, and perhaps a singularity—as humanity and nature plunge toward a breaking point.

Thus we will find ourselves in a race. The question then will be this: Will technology reach the point of autonomy *before* humanity and the global ecosystem collapse? If it does, we can scarcely imagine the outcome; but nearly any conceivable future will be disastrous. If it does not, if humanity collapses and takes down technology with it, what then? Some of us will survive, surely, but perhaps only a few percent of current numbers. The survivors will be forced to live on a depleted and chemically-altered planet, and with none of the previous technological aids. They will be like hunter-gatherers in a desert, scrapping for food under the most difficult of conditions. But at least humanity will survive, and the planet will begin to heal. This, sadly, is the best alternative that we have—short of creative reconstruction.

But the Pollyanna technophiles will have none of this. Technology will stay under our control, they say, and will progressively solve all problems. Any difficulties, including climate change and over-population, are only of a temporary nature, and will rapidly be overcome as new technologies emerge. Under this scenario, life for all people, as well as the health of the global ecosystem, should *very* quickly get better—*much* better. We should very soon see rapid and undeniable increases in human physical and mental well-being. Climate change should very soon be solved by some combination of carbon-capture devices and by new, emission-free energy and transportation technologies. Extinct species will be restored by advanced bio-technologies, and depleted oceans restocked with their native fish. This is what we *must* expect—given that technology is exponentially increasing in power and scope, and assuming that its purpose is to improve the human condition.

This is not an idle dispute. And it is not merely theoretical. We need wait only a few years, perhaps two decades at most; and things will become quite clear. We will know which road we are heading down. And then the value or disvalue of pantechnical metaphysics will be obvious to all.

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We live in an age of deceptive normality. So much of life continues on as it has for generations: children are born, people get married, we go to school, we pursue our careers, we attend birthdays and funerals. Seasons come and go, the sun rises and sets each day, the sky is the same eternal blue that buoyed the spirits of our distant ancestors. The world falls asleep during the long winter months, and reawakens, anew, each spring. Nature carries on, seemingly unperturbed.

But at a deeper level, we know that all is not well. The planet is straining under the growing mass of humanity. Our toxic byproducts pervade every corner of the globe. Man-made radiation saturates the biosphere. The fish are disappearing from the seas. Virgin land is vanishing before our eyes. The chemistry of the atmosphere is being radically altered. Species are dying out every day, never to be seen again. The human psyche is at the breaking point. We are hurried, always hurried, running ever faster, day by day, to win an ever smaller prize.

And technology proceeds apace.

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1. Also called ‘birth credits.’ This system has long been promoted by Kenneth Boulding and Herman Daly. [↑](#footnote-ref-1)