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The Ellul Forum

About

Jacques Ellul (1912–94) was a French thinker and writer in many fields: communication, ethics, law and political science, sociology, technology, and biblical and theological studies, among others. The aim of the *Ellul Forum* is to promote awareness and understanding of Ellul's life and work and to encourage a community of dialogue on these subjects. The *Forum* publishes content by and about Jacques Ellul and about themes relevant to his work, from historical, contemporary, or creative perspectives. Content is published in English and French.

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Articles

Book Reviews

From Tech Critique to Ways of Living

Alan Jacobs

In the 1950s and 1960s, a series of thinkers, beginning with Jacques Ellul and Marshall McLuhan, began to describe the anatomy of our technological society. Then, starting in the 1970s, a generation emerged who articulated a detailed *critique* of that society. The critique produced by these figures I refer to in the singular because it shares core features, if not a common vocabulary. What Ivan Illich, Ursula Franklin, Albert Borgmann, and a few others have said about technology is powerful, incisive, and remarkably coherent. I am going to call the argument they share the Standard Critique of Technology, or SCT. The one problem with the SCT is that it has had no success in reversing, or even slowing, the momentum of our society's move toward what one of their number, Neil Postman, called *technopoly*.[1]

The basic argument of the SCT goes like this. We live in a *technopoly*, a society in which powerful technologies come to dominate the people they are supposed to serve, and reshape us in their image. These technologies, therefore, might be called *prescriptive* (to use Franklin's term[2]) or *manipulatory* (to use Illich's[3]). For example, social networks promise to forge connections—but they also encourage mob rule. Facial-recognition software helps to identify suspects—and to keep tabs on whole populations. Collectively, these technologies constitute the *device paradigm* (Borgmann[4]), which in turn produces a *culture of compliance* (Franklin).

The proper response to this situation is not to shun technology itself, for human beings are intrinsically and necessarily users of tools. Rather, it is to find and use technologies that, instead of manipulating us, serve sound human ends and the *focal practices* (Borgmann) that embody those ends. A

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table becomes a center for family life; a musical instrument skillfully played enlivens those around it. Those healthier technologies might be referred to as *holistic* (Franklin) or *convivial* (Illich), because they fit within the human lifeworld and enhance our relations with one another. Our task, then, is to discern these tendencies or *affordances* of our technologies and, on both social and personal levels, choose the holistic, convivial ones.

The Standard Critique of Technology as thus described is cogent and correct. I have referred to it many times and applied it to many different situations. For instance, I have used the logic of the SCT to make the case for rejecting the "walled gardens" of the massive social media companies, and for replacing them with a cultivation of the "digital commons" of the open web.[5]

But the number of people who are even *open* to following this logic is vanishingly small. For all its cogency, the SCT is utterly powerless to slow our technosocial momentum, much less to alter its direction. Since Postman and the rest made that critique, the social order has rushed ever faster toward a complete and uncritical embrace of the prescriptive, manipulatory technologies deceitfully presented to us as Liberation and Empowerment. So what next?

The Rise of Technopoly

One must begin, I think, by grasping why the SCT has been so powerless. First, it has been articulated primarily in books. Not many people read books at all, and a tiny fraction of those who do read books ever read ones that develop complex and countercultural ideas. Second, human beings are lazy herd animals. Or, to put it in less pejorative terms, the vast majority of people will always choose options for action that conserve mental energy without alienating them from their peers and aspirant peers. The SCT offers no answer to this tendency. Moreover, . . .

I'm sorry, am I depressing you? Perhaps so. A quick scan of my emotional faculties suggests that I am depressing myself. But my rational faculties tell me that useful thinking depends on an accurate assessment of the circumstances under which one thinks. And a rational assessment of the current

moment must begin with the recognition that the forces against which Illich, Franklin, Postman, and Borgmann contended—and against which Borgmann still contends—have progressed with dramatic speed in the past forty years.

This progression is the inevitable result of three trends, all occurring within the context of global capitalism:

- **Moore's Law**: In 1965, an electrical engineer named Gordon Moore—then the co-founder of Fairchild Semiconductor Laboratory, later the co-founder of Intel—wrote a paper claiming that the number of components on a given integrated circuit had for some time been doubling every year, and would continue to do so for the foreseeable future.[6] Others pegged the period of doubling at eighteen months,[7] but whatever the specifics, the *effect* has been not just a great increase in readily available computing power but also the placement of that computing power within smaller and smaller containers.
- **The mining of lithium**: Lithium can be mined directly—mines may be found in the United States (primarily Nevada), Canada (primarily Quebec), and China, among other places—but direct mining is prohibitively expensive in comparison to extraction from salars (salt flats) or briny lakes. Most of the world's lithium comes from salars in Bolivia, Argentina, and Chile. Lithium is the essential component of the batteries that power our increasingly small devices.
- **The spread of wireless telecommunications networks**: Wireless telecommunications networks are based on an astonishingly diverse set of technologies, involving multiple means of safely transmitting multiple kinds of signals from one location to another.

These three developments are of course built upon an infrastructure subject to many other developments. And all are able to work in smoothly harmonious concert only because of the spread of a global economic order that allows the relatively free passage of raw materials and finished products alike around the world. The result is the global dominance of what Shoshana Zuboff calls "surveillance capitalism,"[8] a dominance that is limited only by the following factors:

- A potential slowing of miniaturization, which is to say, the possible falsification of Moore's Law (though quantum computing may eventually provide a practical solution to such slowing);
- Limits to the world's supply of lithium, potentially accelerated by the use of lithium batteries in automobiles (though a potentially significant new supply has just been discovered in Cornwall, England)[9];
- Spottiness in fast wireless coverage in parts of the world (which will likely be addressed by various initiatives, such as the introduction of Internet satellites by Amazon, SpaceX, and other companies);
- The possible intensification of global political conflicts, especially between China and the West.

Any of these, or any combination thereof, could slow the spread of surveillance capitalism; but none of them promises imminent danger to it, and there are potential workarounds for them all.

We are therefore moving ever closer to an environment in which prescriptive, manipulatory technologies are ubiquitous and totalizing—not to say totalitarian, necessarily, although perhaps we do want to say that. A Uighur from western China, faced with an open, full-scale deployment of the most powerful surveillance technologies in the world, would probably want to say that. And it seems increasingly likely that the Chinese government's treatment of the Uighurs—who, as Muslims who are ethnically Turkic rather than Han Chinese, make exceptionally convenient guinea pigs—is but a trial run for a system that will ultimately be deployed in the whole of China, and exported to other autocracies.[10] It also seems very likely that the Xinjiang re-education camps prefigure the future of China.

"Life versus the Machine" in the West

Technopoly in the West, by contrast, has tended to deploy carrots rather than sticks, largely through advertising. It is of course possible to resist those carrots, to practice what Paul Kingsnorth calls "life versus the machine," though only at significant cost. It has been Kingsnorth's writerly mission in recent years to articulate what such resistance to the siren-song of technopoly might look like—and why this resistance is necessary:

> Any action which hinders the advance of the human industrial economy is an ethical action, provided it does not harm life.
>
> Any action which knowingly and needlessly advances the human industrial economy is an unethical action.[11]

The "human industrial economy" is Kingsnorth's term for technopoly conceived in relation to the whole of the natural order. While the proponents of the SCT tend to focus their arguments on what technopoly is doing to *us*, to human beings, they are not unaware of the consequences of prescriptive, manipulatory technologies for the rest of the world. By adding Kingsnorth's insights—and those of other thinkers of similar character, especially Wendell Berry—to those of the SCT, we can see more clearly that every depredation of the human is also a depredation of the natural order, and vice versa.

We might think of the shifting relationship of human beings to the natural world in the terms offered by German sociologist Gerd-Günter Voß, who has traced our movement through three different models of the "conduct of life." The first, and for much of human history the only conduct of life, is what he calls the *traditional*. Your actions within the traditional conduct of life proceed from social and familial circumstances, from what is thus handed down to you. In such a world it is reasonable for family names to be associated with trades, trades that will be passed down from father to son: Smith, Carpenter, Miller. But the rise of the various forces that we call "modernity" led to the emergence of the *strategic* conduct of life: a life with a plan, with certain goals—to get into law school, to become a cosmetologist, to get a corner office.

Quite recently, thanks largely to totalizing technology's formation of a world in which, to borrow a phrase from Marx and Engels, "all that is solid melts into air,"[12] the strategic model of conduct is replaced by the *situational*. Instead of being systematic planners, we become agile improvisers: If the job market is bad for your college major, you turn a side hustle into a business. But because you know that your business may get disrupted by the tech industry, you don't bother thinking long-term; your current gig might disappear at any time, but another will surely present itself, which you will assess upon its arrival.

The movement through these three forms of conduct, whatever benefits it might have, makes our relations with nature increasingly instrumental. We can see this shift more clearly when looking at our changing experience of time, and our understanding of the values inscribed in the passage of time. Within the traditional conduct of life, it is necessary to take stewardly care of the resources required for the exercise of a craft or a profession, as these get passed on from generation to generation. For an excellent example of how this works, see *The Wheelwright's Shop* by George Sturt, a 1923 book for which Albert Borgmann has expressed great regard.[13] The wheelwright must know a great deal about timber. Knowing that good timber for wheels is not easily found, he must also practice care for the forests in which such timber is found. The practice of wheelwrighting requires knowledge of and attention to an entire woodland ecosystem.

But in the progression from the traditional to the strategic to the situational conduct of life, *continuity of preservation* becomes less valuable than *immediacy of appropriation*: We need more lithium today, and merely hope to find greater reserves—or a suitable replacement—tomorrow. This revaluation has the effect of shifting the place of the natural order from something intrinsic to our practices to something extrinsic. The whole of nature becomes what economists tellingly call an *externality*.

It might seem useful to understand a little more clearly how the arguments of the SCT intertwine with the arguments of environmentalists, post-environmentalists (like the ecomodernists), and naturalists (as they were once called) or "nature-lovers," if we can possibly reclaim that now frivolous term. But to pursue this understanding would only be to expand the population of a rudderless and leaky boat, soon to be swamped by the wake of the mighty ocean-liner of technopoly. We still don't have a way to shift the course of that Leviathan, much less to slow its progress. The question, as we think about moving beyond the Standard Critique, is whether there can be such a way. And at least one answer comes from a surprising source: Daoism. But we can't go there by a direct route.

The Danger of "Human Resources"

The philosophical ancestor of the Standard Critique is Martin Heidegger. This is not to say that all the proponents of the SCT have read Heidegger, though some of them (such as Borgmann) have drunk deep from that peculiar well. I mean only that Heidegger, especially in his famous essay "The Question Concerning Technology," provides a specifically philosophical account of the issues that the SCT attempts to address.

Much could be said about Heidegger's strangely compelling exposition—which asks what the essence of technology is—but a few points require our attention here. First, because "technology itself is a contrivance," an "*instrumentum*," we are led to *think* instrumentally about it. It is a contrivance for mastery, and we therefore naturally think in terms of how *we* can master *it*.

But when we look more carefully at how technology is a means that we try to master for specific ends, says Heidegger, we realize that we too, as much as the Great Externality called nature, become raw material in the process. Consider—to re-enter via Heidegger the lifeworld of George Sturt's wheelwright—a modern forester:

> The forester who, in the wood, measures the felled timber and to all appearances walks the same forest path in the same way as did his grandfather is today commanded by profit-making in the lumber industry, whether he knows it or not. He is made subordinate to the orderability of cellulose, which for its part is challenged forth by the need for paper, which is then delivered to newspapers and illustrated magazines.

There is a whole economic system here of which the forester has willy-nilly become a part. Trees make timber, which makes cellulose, which makes paper, which makes newspapers—and because the process is repeated and ongoing, all that material has to be held in "standing-reserve," that is, regarded as a resource waiting to be used. And so too the forester. Now, as a human being he is not mere standing-reserve; but as a forester he is. Sturt's account of the transformation of the craft of the wheelwright provides an equally vivid account of this situation.

As Mark Blitz has written—in one of the clearest expositions I know of Heidegger's engagement with technology—within the governing logic of our current moment

> all things increasingly present themselves to us as technological: we see them and treat them as what Heidegger calls a "standing reserve," supplies in a storeroom, as it were, pieces of inventory to be ordered and conscripted, assembled and disassembled, set up and set aside. Everything approaches us merely as a source of energy or as something we must organize. We treat even human capabilities as though they were only means for technological procedures, as when a worker becomes nothing but an instrument for production. Leaders and planners, along with the rest of us, are mere human resources to be arranged, rearranged, and disposed of. Each and every thing that presents itself technologically thereby loses its distinctive independence and form. We push aside, obscure, or simply cannot see, other possibilities.[14]

This is what Heidegger means when he speaks of the technological "enframing" or "positionality"—the German word is *Gestell*—of human life. It gradually turns us all into "standing-reserve," as when we speak with equal facility of "natural resources" and "human resources."

This technological enframing of human life, says Heidegger, first "endanger[s] man in his relationship to himself and to everything that is" and then, beyond that, "banishes" us from our home. And that is a great, great peril.

The Way Beyond Heidegger

The philosopher Yuk Hui, a native of Hong Kong who now teaches in Germany, thinks that Heidegger is the most profound of recent Western thinkers on technology—but also that it is necessary to "go beyond Heidegger's discourse on technology."[15] In his exceptionally ambitious book *The Question Concerning Technology in China*[16] and in a series of related essays and interviews, Hui argues, as the title of his book suggests, that we go wrong when we assume that there is *one* question concerning technology, *the* question, that is universal in scope and uniform in shape. Perhaps the questions are different in Hong Kong than in the Black Forest. Similarly, the distinction Heidegger draws between ancient and modern technolo-

gy—where with modern technology everything becomes a mere resource—may not universally hold.

Hui explores, for instance, Kant's notion of the *cosmopolitan*, and the related role of print technology. A central concept in Enlightenment models of rationality, the cosmopolitan is the ideal citizen of the world engaged in public reasoning, and Kant believed that a "universal cosmopolitan condition" would one day be the natural outcome of history.[17] But Kant's understanding of what that means is thoroughly entangled with the rise and expansion of print culture. It is directly *through* print culture that the "Republic of Letters," the very epitome of cosmopolitanism as Kant knew it, is formed. But, then, what might a cosmopolitan be within a society whose print culture is either nonexistent or radically other than the one Enlightenment thinkers knew?

Hui's novel approach to the question(s) concerning technology thus begins with a pair of seemingly contradictory ideas about whether technology should be seen as universal:

> Thesis: Technology is an anthropological universal, understood as an exteriorization of memory and the liberation of organs, as some anthropologists and philosophers of technology have formulated it;
>
> Antithesis: Technology is not anthropologically universal; it is enabled and constrained by particular cosmologies, which go beyond mere functionality or utility. Therefore, there is no one single technology, but rather multiple cosmotechnics.

As I read Yuk Hui's enormously complex argument, he claims that we are now in a position where we can see what is of value in the Thesis only after we fully dwell within the Antithesis. This leads us to the generative idea of "multiple cosmotechnics." First, what does Hui mean by the peculiar word "cosmotechnics"? "It is the unification of the cosmos and the moral through technical activities, whether craft-making or art-making." That is, a cosmotechnics is the point at which *a way of life is realized through making*.

The point may be illustrated with reference to an ancient tale Hui offers, about an excellent butcher who explains to a duke what he calls the Dao, or "way," of butchering.[18] The reason he is a good butcher, he says, it not his mastery of a skill, or his reliance on superior tools. He is a good butcher

because he understands the Dao: Through experience he has come to rely on his intuition to thrust the knife precisely where it does not cut through tendons or bones, and so his knife always stays sharp. The duke replies: "Now I know how to *live*." Hui explains that "it is thus the question of 'living,' rather than that of technics, that is at the center of the story."

This unification—of making and living—might be said to be the whole point of Daoism. Though the same theme is woven through certain Confucian texts and the *I Ching*, it is particularly notable as the incessant refrain of the *Daodejing*, or, as it is more commonly called in the English-speaking world, the *Tao Te Ching*. The title means something like "The Classic of the Virtue of the Way" or "The Classic of the Way and of Virtue." In both cases "virtue" (*Te*) should be understood as something close to the Latin *virtus* or the Greek *aretē*, meaning a kind of excellence, an excellence that has power.

Hui says, in an interview with *Noema* magazine about his book, that he has

> attempted to understand Chinese cosmotechnics through the dynamic relationship between two major categories of traditional Chinese thought: "dao," or the ethereal life force that circulates all things (commonly referred to as the way), and "qi," which means tool or utensil. Together, dao and qi—the soul and the machine, so to speak—constitute an inseparable unity.[19]

Hui further comments that if the fundamental concern of Western philosophy is with *being* and *substance*, the fundamental concern of Classical Chinese thought is *relation*. So it makes sense, then, that his approach to cosmotechnics would center on the inquiry into a certain relation, that between *dao* (the way) and *qi* (tools).[20]

"They Will Sit Collecting Dust"

One could use many different passages in the *Tao Te Ching* to illustrate Yuk Hui's views, but the obviously central passage is verse 80, which presents us with a vision of a wholly *local* life.[21]

> Neighboring villages are within sight of each other
> Roosters and dogs can be heard in the distance
> Should a man grow old and die

without ever leaving his village
let him feel as though there was nothing he missed

But what is especially interesting about this village is the presence of technological sophistication:

Let every state be simple
like a small village with few people
There may be tools to speed things up
ten or a hundred times
yet no one will care to use them
There may be boats and carriages
yet they will remain without riders
There may be armor and weaponry
yet they will sit collecting dust

Powerful technologies are present—but unused. They are not destroyed, as the Luddites destroyed industrial machinery. They are simply ignored. Neither novelty nor power are attractive to the residents of this village—or rather, this *state* that bears the character of a village.

Let them return
to the knotting of cord
Let them enjoy their food
and care for their clothing
Let them be content in their homes
and joyful in the way they live

This is a vision of a well-lived life, in relation to others, that may be *described* generally—what the people in one village do will resemble what the people do in neighboring villages—but *instantiated* only locally and specifically. For those who live this life, their relation to their tools will be determined by their commitment to the Way. Tools that do not contribute to the Way will neither be worshipped nor despised. They will simply be left to gather dust as the people choose the tools that will guide them in the path of contentment and joy: utensils to cook food, devices to make clothes.

Of course, the food of one village will differ from that of another, as will the clothing. Those who follow the Way will dwell among the "ten thousand things" of this world—what we call nature—in a certain manner that cannot be specified legally: Verse 18 of the *Tao* says that when virtue arises only

from rules, that is a sure sign that the Way is not present and active. A cosmotechnics is a living thing, always local in the specifics of its emergence in ways that cannot be specified in advance. Nevertheless, those animated by the Way will bear certain common traits, as described in verse 15:

> Deliberate, as if treading over the stones of a winter brook
> Watchful, as if meeting danger on all sides
> Reverent, as if receiving an honored guest
> Selfless, like a melting block of ice
> Pure, like an uncarved block of wood
> Accepting, like an open valley

It is *from* the ten thousand things that we learn how to live among the ten thousand things; and our choice of tools will be guided by what we have learned from that prior and foundational set of relations. This is cosmotechnics.

The variability of this way of life has already been hinted at. Multiplicity avoids the universalizing, totalizing character of technopoly. The adherents of technopoly, Hui writes, "wishfully believ[e] that the world process will stamp out differences and diversities" and thereby achieve a kind of techno-secular "theodicy," a justification of the ways of technopoly to its human subjects.[22] But the idea of multiple cosmotechnics is also necessary, Hui believes, in order to avoid the simply delusional attempt to find "a way out of modernity" by focusing on the indigenous or biological "Other." An aggressive hostility to modernity and a fetishizing of pre-modernity is not the Daoist way.

Hui doesn't believe we can simply return to traditional ways—but this doesn't mean we cannot resist technopoly. "I believe that to overcome modernity without falling back into war and fascism, it is necessary to reappropriate modern technology through the renewed framework of a cosmotechnics." His project "doesn't refuse modern technology, but rather looks into the possibility of different technological futures."

This project is necessary because "we are confronting the crisis of the Anthropocene"—the term widely used to designate the current geological age, in which human activity is largely responsible for the transformation of the Earth. Hui describes this shift as "the planetarization of standing reserves."

That is, what makes this era the Anthropocene is our transformation of Earth's ecosystem into resources waiting to be exploited. (An illustration: Paul Kingsnorth notes that "Ninety-six percent of Earth's mammals, by biomass, are humans and livestock. The remaining 4 percent are wild creatures."[23]) And when we make our world into standing reserve, we do the same to ourselves. We divide the cosmos into "natural resources" and "human resources."

Therefore, writes Hui, "Heidegger's critique of technology is more significant today than ever before"—though not adequate to resist "the competition of technological acceleration and the allures of war, technological singularity, and transhumanist (pipe) dreams." All those forces are pushing in the same direction—the wrong direction. "To reopen the question of technology is to refuse this homogeneous technological future that is presented to us as the only option."

Further, "Thinking rooted in the earthy virtue of place is the motor of cosmotechnics. However, for me, this discourse on locality doesn't mean a refusal of change and of progress, or any kind of homecoming or return to traditionalism; rather, it aims at a re-appropriation of technology from the perspective of the local and a new understanding of history." What is required, then, is not a cosmopolitanism that unifies and regulates but rather a *cosmopolitanism of difference*.

I would like to suggest how this cosmopolitanism of difference can be accomplished by invoking certain concepts that are essential to Daoism, in addition to *dao* and *qi*. The key concepts are *wuwei* ("inaction," or "acting without action") and *ziran* ("spontaneously so," "self-deriving," or "natural"). In verse 2 of the *Tao Te Ching* we are told,

> The sage acts without action [wuwei]
> and teaches without talking
> All things flourish around him
> and he does not refuse any one of them

This choice not to refuse is a choice not to control, not to dictate; that is the form this inaction takes. (Not all inaction takes the same form: the character of inaction is determined relationally.) Note how this point is illustrated in the villagers, or citizens, of verse 80 who simply ignore massive, powerful

technologies. Their response to the invitation to dramatically increase their power is simply inaction. Thus also verse 25:

> Mankind depends on the laws of Earth
> Earth depends on the laws of Heaven
> Heaven depends on the laws of Tao
> But Tao depends on itself alone
> Supremely free, self-so, it rests in its own nature [ziran]

So to follow the Way sometimes means to let things be, to do nothing—not to destroy or even resist, but to be silent and still. Perhaps to knot a cord, attending all the while to the ten thousand things surrounding us that flourish by resting in their own nature. In so doing we may be able to discern our own nature and dwell spontaneously in it.

Unhoarding

In *Always Coming Home* (1985)—a strange, unclassifiable book, part novel, part ethnography of an invented people of the future, the Kesh—Ursula K. Le Guin imagines a society governed by verse 80 of the *Tao Te Ching*. We first learn a great deal about the people of the valley of the Na—their songs and dances, their pottery, their social organization into Houses, their rites of maturation and of marriage. Then we discover that in one of the villages there is a computer terminal connected via Internet to a vast AI called the City of Mind, which also knows the very different life of a great metropolis not so far away. (Plural ways of life indeed.) People in the villages know that the terminal exists, but most of them aren't interested in it. Occasionally someone becomes interested, which is fine. The terminal is there when needed.

But social flourishing doesn't require the terminal. I say "social" flourishing because the Kesh do not live very long. Their lifespan has been diminished by a great plague that once ravaged the world. Such plagues we cannot do very much about, nor the resulting compromise of our collective health. But to live virtuously, in accordance with Dao, and to be content—these we can do. We can only hope that it will not take a truly deadly pandemic—something far worse than the one we've had—to remind us of the contentment that can be found in the acceptance of limits.

Always Coming Home illustrates cosmotechnics in a hundred ways. Consider, for instance, information storage and retrieval. At one point we meet the archivist of the Library of the Madrone Lodge in the village of Wakwaha-na. A visitor from our world is horrified to learn that while the library gives certain texts and recordings to the City of Mind, some of their documents they simply destroy. "But that's the point of information storage and retrieval systems! The material is kept for anyone who wants or needs it. Information is passed on—the central act of human culture." But that is not how the librarian thinks about it. "Tangible or intangible, either you keep a thing or you give it. We find it safer to give it"—to practice "unhoarding." She continues,

> Giving involves a good deal of discrimination; as a business it requires a more disciplined intelligence than keeping, perhaps. Disciplined people come here [...] historians, learned people, scribes and reciters and writers, they're always here, like those four, you see, going through the books, copying out what they want, annotating. Books no one reads go; books people read go after a while. But they all go. Books are mortal. They die. A book is an act; it takes place in time, not just in space. It is not information, but relation.

It is not information, but relation. This too is cosmotechnics.

Mocking the Proud Spirit

How does a Dao-inspired view of our future with technology square with the totalizing tech-dystopian agenda of present-day China?

It is, I think, significant that Yuk Hui is not from the People's Republic of China but rather Hong Kong, and was educated partly in England before moving to Germany. This seems relevant to his interest in and reliance on Daoism as opposed to Confucianism, which he treats in his work but does not emphasize to the same degree. Though Daoism is one of the traditional Three Ways of Chinese culture, along with Confucianism and Buddhism, it is not easily made compatible with the interests of the Chinese Communist Party, or CCP. There is something intrinsically *dissenting* about Daoism, whereas Confucianism has for many centuries been associated with governance and statecraft. After all, the famous imperial examination system

that for almost fifteen hundred years produced Chinese scholar-bureaucrats was based primarily on Confucian texts and principles.

The relationship between Confucianism and bureaucracy has led one Chinese scholar, Tongdong Bai, in his new book *Against Political Equality: The Confucian Case*, to make a provocative argument about the world's political future.[24] The growing discontent within liberal democracies might find an answer, he says, in Confucianism. Early Confucians "more or less embraced the ideas of equality, upward mobility, and accountability." But "they had reservations about the democratic idea of 'by the people,' or self-governance. Their political ideal was a hybrid between popular participation and intervention by the elites or, more properly, by the meritocrats." The rational, meritocratic, hierarchical social structures promoted by Confucianism, he argues, are well-suited to Chinese culture under the CCP, and are equally well-suited to resolving the political problems of the West.

A similar argument is made by Daniel A. Bell and Wang Pei in their new book *Just Hierarchy: Why Social Hierarchies Matter in China and the Rest of the World*.[25] Both books contend that Confucianism is uniquely positioned to consolidate and rationalize the order of modernity by drawing strength from traditional insights that modernity in the West has lost sight of, especially the rejection of a crude universal notion of equality and its replacement by a socially embodied just hierarchy. This would not mark the end of technopoly but its reshaping by the classic Confucian commitment to "benevolence." Bell and Pei write that for Confucians, public officials should "grasp the moral Way [...], implement benevolent policies that benefit the people, and protect civilians from cruel policies." The authors even claim that "Confucianism can help us to think of how to meet the challenge of artificial intelligence so that machines continue to serve human purposes."

How does Daoism fit in? Though Tongdong Bai explores it elsewhere, in *Against Political Equality* he does not treat it at all. Bell and Pei see a very limited, negative role for Daoism: For those "left out of the political hierarchies," a "Daoist-style skepticism about the desirability of the whole meritocratic system can help to legitimize alternative avenues for socially valued ways of life." Or, to put this the other way around, "Daoist ideas can help to legitimize the system among those left out."

The skeptical character of Daoism is indeed the key here. As Yuk Hui writes, in response to a scholar who argues that both Confucianism and Daoism advocate a "return to the self in order to seek moral principles," the likeness is false because "the nature proposed by Daoism is not a scientific and moral principle, but rather a *Dao* that cannot be named and explained." (It is for good reason that Daoism features in every reputable history of anarchism, and that people who are interested in anarchism, like Ursula K. Le Guin, are also interested in Daoism.) The Daoist sage, like Michel de Montaigne—the Western thinker who most closely resembles that central figure in the *Tao Te Ching*—asks, "What do I know?" (*Que sçay-je?*) It is not a recipe for rule. The Daoist sage does not seek to govern, though the *Tao Te Ching* makes it clear that any community that happens to have a sage lying around should plead with him to lead them.

The particular tone of the sage's skepticism is *ironic*, and the sage is in some essential sense an ironist, but his irony is always directed primarily toward himself. Indeed, this is precisely why people should seek him out to govern them: His primary qualification for office is the gently humorous attitude he takes toward himself, which then extends outward toward our technological "enframing" of the world. As I noted earlier, a community of Daoist sages, such as the one envisioned in verse 80 of the *Tao Te Ching*, wouldn't smash machines as the Luddites did, but rather smile at them and if possible ignore them.

Heidegger is not known for his humor; there aren't a lot of laughs in Hui's work either. But I think this ironic humor I have been sketching out is essential to the character of the sage and, more important for my purposes here, essential to the sage's role in leading us anarchically out of the technological "enframing" of the world. Sir Thomas More said that Satan is a "proud spirit" who "cannot endure to be mocked"[26]; this is equally true of the slightly lesser Power we call technopoly.

I think Hui's cosmotechnics, generously leavened with the ironic humor intrinsic to Daoism, provides a genuine Way—pun intended—beyond the limitations of the Standard Critique of Technology. I say this even though I am not a Daoist; I am, rather, a Christian. But it should be noted that Daoism is both *daojiao*, an organized religion, and *daojia*, a philosophical

tradition. It is *daojia* that Hui advocates, which makes the wisdom of Daoism accessible and attractive to a Christian like me. Indeed, I believe that elements of *daojia* are profoundly consonant with Christianity, and yet underdeveloped in the Christian tradition, except in certain modes of Franciscan spirituality, for reasons too complex to get into here. (Franciscans are in a way the Daoists of Christianity, and Saint Francis himself, if you observe him from certain angles, a kind of Daoist sage.)

More generally, this cosmotechnics, this technological Daoism as an embodiment of *daojia*, is accessible to people of any religious tradition or none. It provides a *comprehensive and positive* account of the world and one's place in it that makes a different approach to technology more plausible and compelling. The SCT tends only to gesture in the direction of a model of human flourishing, evokes it mainly by implication, whereas Yuk Hui's Daoist model gives an explicit and quite beautiful account. And the fact that cosmotechnics, as I noted earlier, can be *generally described* but only *locally instantiated* makes room for a great deal of creative adaptation.

Moreover, cosmotechnics provides guidance for ordinary people and technologists alike. The application of Daoist principles is most obvious, as the above exposition suggests, for "users" who would like to graduate to the status of "non-users": those who quietly turn their attention to more holistic and convivial technologies, or who simply sit or walk contemplatively. But in the interview I quoted from earlier, Hui says, "Some have quipped that what I am speaking about is Daoist robots or organic AI"—and this needs to be more than a quip. Peter Thiel's longstanding attempt to make everyone a disciple of René Girard is a dead end. What we need is a Daoist culture of coders, and people devoted to "action without acting" making decisions about lithium mining.

One reason to hope that this is possible arises from the genealogy of what Richard Barbrook and Andy Cameron have called the "Californian ideology"[27]: that peculiar combination of capitalist drive and countercultural social preference that has done so much to make Silicon Valley what it is. The anarchic Sixties counterculture that provides half the impetus of this ideology is of course saturated with thought from the East; and now the whole of Silicon Valley is intricately entangled with China[28]—where for

some years now there has been a renewal of Daoism,[29] one not challenged, though also not endorsed, by the Chinese Communist Party. A synergy could emerge—if only we can find the sages necessary to make this cosmotechnics compelling. The question of how such sages might be formed, and formed more in a Daoist mode than a Confucian one, is a matter for further reflection.

Notes

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16. Yuk Hui, *The Question Concerning Technology in China: An Essay in Cosmotechnics* (Falmouth, UK: Urbanomic, 2016).
17. Immanuel Kant, "Idea for a Universal History from a Cosmopolitan Point of View" [1784]. https://ghdi.ghi-dc.org/sub_document.cfm?document_id=3590.
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19. Yuk Hui, "Singularity vs. Daoist Robots." *Noema* (June 19, 2020). https://www.noemamag.com/singularity-vs-daoist-robots/.
20. An earlier version of this essay, in a footnote on Yuk Hui's rendering of *qi*, implied incorrectly that the widely known *qi* meaning "energy" or "spirit" is the same word as Hui's *qi*, which he translates as "tool." They are distinct Chinese characters, and Hui in his book romanizes "energy" *qi* as *ch'i*. https://blog.ayjay.org/qi/.
21. I quote from the translation by Jonathan Star (Tarcher, 2001). Knowing no Chinese, I have also found it prudent to consult other translations, especially the one by Edmund Ryden (Oxford, 2008) and the one by Roger T. Ames and David L. Hall (Ballantine, 2003). Star's translation is an especially elegant one, and while his readings differ from some of the more scholarly ones, the scholarly ones also differ from one another. Ursula K. Le Guin's version, *Lao Tzu: Tao Te Ching: A Book about the Way and the Power of the Way* (Shambhala, 1997), is rather free but accompanied by thoughtful commentary, especially interesting for readers of her fiction—about which more later.
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The Question Concerning China

Carl Mitcham

Illustrating what the Chinese call 缘分 *yuanfen* (fortuitous relationship), the year 1954 witnessed the publication of three works that have had profound influences on the thinking of technology. One was, of course, Jacques Ellul's *La Technique, ou l'enjeu du siècle*, a text that had been gestating for some ten years. Another was Martin Heidegger's *Die Frage nach der Technik*, distilled from talks the recently de-Nazified philosopher had been giving to German engineers. The third was a first volume of British biochemist and self-taught sinologue Joseph Needham's *Science and Civilization in China*. Those seeking to reflect critically on modern technology are only now beginning to appreciate the implications of Needham's work (since extended to more than twenty volumes) for themes raised by the other two writers. The one scholar who has most led this socio-ontological engagement is Yuk Hui, a young professor now at the City University of Hong Kong.

The Needham Project

Needham's project can be traced back to the late 1930s (as can Ellul's and Heidegger's), with a serendipitous exposure, through his affair with a postdoc from Nanjing, to the richness of a civilization longer and more continuous than that of the Mediterranean West. As an ardent disciple of Western science—and with a belief in its essential universality—Needham set out to identify hidden continuities between Chinese and European discoveries and inventions. He ultimately argued that for roughly two thousand years, from 500 BCE to 1500 CE, China was the most advanced scientific and technical civilization in the world. During this period, the Chinese

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tradition knew more about nature and was more technically creative than any other in world history.[1] In its coverage of science, engineering, and technology in multiple forms across thousands of years, biographer Simon Winchester's *The Man Who Loved China*[2] describes *Science and Civilization in China* as a *magnum opus* comparable with the *Corpus Aristotelicum*. The Needham Research Institute at Cambridge is today the leading center for continuing work on the history of science broadly construed (i.e., including technology and medicine) in Asia.

The intellectual engine of Needham's research was what has come to be called the "Needham question." As he put it in a 1947 lecture, it is "the great problem of why modern science and technology developed in Europe and not in Asia. [… T]he more you know about Chinese civilization, the more odd it seems that modern science and technology did not develop there."[3] Or as he reiterated in 1953,

> Before the fourteenth century A.D., Europe was almost wholly receiving from Asia rather than giving, especially in the field of technology. What can be said about the social milieu which produced that accomplishment and that failure?[4]

A decade later, in the same year that Ellul's *La Technique* appeared in English as *The Technological Society*, Needham complemented his original question with another: "[W]hy, between the first century B.C. and the fifteenth century A.D., [was] Chinese civilization [...] much *more* efficient than occidental in applying human natural knowledge to practical human needs?"[5]

Both questions—why post-1500 China failed to give rise to a technoscientific society (as in Europe) and why for hundreds of years ante-1500 Chinese society was the most scientific and technologically advanced in the world—obviously complement Ellul's concern for the emergence of a Western social order dominated by scientific technology. At the very least, Needham's claim that China was host to highly developed science and technology prior to 1500, without for that matter becoming what Ellul calls a "technological society," offers both counterpoint and challenge to some of Ellul's ideas.

In China, traditional advances in discovery and invention took place without major disruptions in culture and civilization. The continuous subordina-

tion of technics to culture in Chinese civilization from the Qin to the Qing dynasties (221 BCE to 1912) offers a positive response to Ellul's question of whether there can be a civilization "inclusive of technique."[6] The break in Chinese culture came not from within but from without, as a result of Western aggressive imperialism and the arrival of a new kind of technology. Ellul's questioning of the compatibility of modern technology and civilization is, of course, one that Needham largely ignores, or addresses with what Ellul would likely reject as shallow Christian optimism and naïve Marxism.

Admittedly, Needham practiced a wildly eccentric, anarchistic Christianity as well as a heterodox British Marxism (in the company of J.B.S. Haldane, J.D. Bernal, and others). But this should not be allowed to detract from the seriousness of his technoscientific, philosophical, and historical work, any more than Ellul's dogmatic Protestant Christianity should be a basis for summarily rejecting his critical, reflective sociology. Appreciation of the work of both must be critical but nuanced; sometimes both have been treated with too much homage. One lacuna in Needham's extensive reach—and despite a late-in-career engagement with the newly emerging interdisciplinary field of science, technology, and society (STS) studies—he never attended either to Heidegger's phenomenological questioning of the truth of the modern technologically infused scientific world picture or to Ellul's dialectical Christian-sociological analyses of techno-deformations in contemporary society. Needham was taken in by Maoist China in ways that Ellul would have criticized as intellectually disgraceful, to put it mildly.

Still, Needham's positivist cataloging of discoveries in Chinese civilization and celebration of its achievements were simultaneously pursued from a perspective that challenged any mechanistic interpretation of natural science. What universal science ultimately disclosed, for Needham, was not mechanism but organicism. At some level, Needham's philosophy was vitalism. Although Needham was an ardent defender of science, he argued for a reinterpretation from within that would in effect extend its hegemony.

Heidegger's Destabilization

It was the work of Heidegger perhaps more than any other twentieth-century philosopher who destabilized the historiographic and epistemological

convictions that animated Needham's commitment to the universal truth claims of the modern sciences. In *Being and Time* (1927), Heidegger presents truth as something other than the traditional correspondence between conceptual representation and reality. In an etymological analysis of the Greek word ἀλήθεια, commonly translated as "truth," he interprets *aletheia* as a compound of *a-* (negation) + *letheia* (from Lethe, one of the five rivers of the underworld, which caused those who drank it to forget their past lives). For Heidegger, truth is an uncovering or disclosure of what was forgotten, hidden. But any revelation or truth in turn hides other aspects of what is. The history of science in its modernist, Enlightenment expansion across the cognitive landscape brings into focus a new vision of the real but necessarily obscures others. There is no simple accumulation of ever more encompassing truth.

Over the course of history, different disclosures or revelations have differentially structured our access to reality, each constitutive of a world and bringing with it (to put things crudely, in terms of the present technological disclosure) distinctive benefits and costs. For Plato, Aristotle, and the other Greeks, the world-creating disclosure or truth was of Being as presence and a corresponding ontology of form. In the Christian period it was of Being as transcendent. In the modern period the new disclosure is of world as *Bestand* or resource, the immanent enacting ground of which Heidegger names *Gestell*. Modern science takes up with the world through *Gestell*, picture knowing it as matter and laws over against human subjectivity. In contrast to the premodern craft-making of technics tied to local place and culture, modern scientific engineering exploits previously unknown resources such as coal and electricity in the aggressive design of universal transport and communication systems entwined with capitalist economics. In his failure to appreciate the historical (but not relativist) character of modern natural science and its technological corollaries, Needham's effort to valorize Chinese science becomes on occasion a patronizing translation of pre-modern Chinese ideas into modern concepts.

Chinese medical anthropologist Judith Farquhar in a recent set of Terry Lectures at Yale (2017) put it this way:

> I cannot share Needham's deep commitment to the epistemological superiority of modern science and his vision of the evolution of world knowledge toward better and better accounts of only one world.[7]

Indeed, she also recalls a discussion in which Needham's collaborator Lu Gwei-Djen expressed her own doubts about how efforts to protect Chinese medical knowledge from looking like magic, religion, or superstition could betray the language and practices of classical medical practices and texts. The situation is ironic insofar as biochemist Needham, prior to his engagement with China, in his own Terry Lectures (of 1934, published 1936) had sought to destabilize modern scientific positivism from within by challenging mechanistic interpretations of biology as an "almost religious believer in 'organicism.'"[8]

Needham thus attempted to introduce his destabilization from within, but in a manner that retained the essential unity of science and even eventually expanded it so as to encompass Chinese science and civilization. Indeed, there is a sense in which Heidegger too sought to destabilize from within, but in a more radical (and dangerous) way, by secularizing Søren Kierkegaard's revolt against establishment Christianity and appealing to Friedrich Nietzsche's radical criticism of European civilization and culture (especially bourgeois culture). Like his precursors, in his foundational arguments Heidegger makes no use of Chinese history or civilization—although in the 1930s he did express some interest in Daoism[9] and later engaged Asian thinking through some students from Japan, Germany's Nazi ally.

In China, post–Reform and Opening (1978), Chinese interest in and translations of Heidegger have been extensive. This includes interest in Heidegger's philosophical criticisms of science and technology. *Being and Time* was translated into Chinese in 1987.

Misprisioned China

There is a similar failure to pay any substantial attention to China in Ellul. (As an aside, note that despite mutual resonances between Heidegger's *Gestell* and Ellul's *Technique*, neither makes any significant references to the other, either.) But Ellul's failure here is different than Heidegger's.

Ellul did write repeatedly about China, for example in his three books on revolution—*Autopsie de la révolution* (1969), *De la révolution aux révoltes* (1972), and *Changer de révolution: L'inéluctable prolétariat* (1982)—and some studies of propaganda. But his concern there is only with twentieth-century Communist China; all references to deep China are quite superficial. Ellul was primarily concerned to expose a shameful French intellectual idolization of Maoist China, as present in the 1968 student-worker protests[10] and further exemplified by the 1974 visit of *Tel Quel* contributors to China.[11] The two great themes of Ellul's life and thought—Christianity and technology—are nevertheless not significantly informed by any engagement with Chinese civilization, culture, or philosophy. He simply uses his own thinking to criticize contemporary French intellectual infatuation with China and contemporary China itself.

In what ways might serious engagement with classical Chinese civilization inform or deepen Ellul's research into and criticisms of technological society? This is not an easy question to answer; only brief suggestions are possible here. Let me simply give two.

First, as already noted, premodern Chinese technical culture may offer some insight into what a civilization "inclusive of technique" might look like, beyond the theologically thick but sociologically thin indications present in Ellul. This is, of course, true to some extent for all premodern cultures. But the longest and most continuous literate civilization, which was so uniquely inventive, surely offers unique possibilities for exploration. One might, for instance, compare the dialectics of material and spiritual culture implicit in the French *Encyclopédie* (1751–72) and the ancient Chinese compilation of arts and crafts in the *Kaogong ji* (fifth century BCE), which was preserved as an element in the Confucian canon for more than two thousand years.[12]

Post-Needham, the distinctive lifeworlds in Chinese material and intellectual culture, especially during the transition to modernity that began c. 1700, have been topics of an increasing number of scholarly studies in the West that could complement Ellul's somewhat narrow if not provincial focus on the European. For a useful overview of the transition, see at least Benjamin Elman's *On Their Own Terms: Science in China, 1550–1900*, supplemented with Jing Tsu and Elman's edited volume, *Science and Technology*

in Modern China, 1880s–1940s.[13] As samples of thicker cultural studies focusing on material life and practice, see at least Francesca Bray's *Technology and Gender: Fabrics of Power in Late Imperial China* and *Technology, Gender and History in Imperial China: Great Transformations Reconsidered*, along with Dagmar Schäfer's *The Crafting of the 10,000 Things: Knowledge and Technology in Seventeenth-Century China*.[14]

For me, even more suggestive for cultural practices that relativize modern technology is the already mentioned work of Farquhar. Here I would add references to *Appetites: Food and Sex in Post-Socialist China*, *Ten Thousand Things: Nurturing Life in Contemporary Beijing*, and *Gathering Medicines: Nation and Knowledge in China's Mountain South*.[15] These provide especially calming counterpoint to Ellul's sometimes angry if not petulant diatribes against contemporary culture (Chinese and Western) under the influence of technology.

Second, a serious engagement with China offers the possibility for a deeper and more nuanced insight into the distinctiveness of the West, which Ellul is at pains at once to explicate, defend, and criticize. In *Betrayal of the West*, he wrote,

> I, who have attacked the technical society and its scientific rationality, feel obliged to show that there is also a very different side to the West. The West represents values for which there is no substitute. The end of the West today would mean the end of any possible civilization. […] To have given priority to rationality or the future or "having" is to have set out on a completely different road from that followed by other human groups.[16]

Yet as he also admits, "The French, the English, the Spaniards have committed countless atrocities through the world over the centuries" that are "a source of constant remorse for me, an unbearable burden" (7):

> I accept responsibility for the evil that has been done, but I deny that only evil has been done. I know our civilization is built on bloodshed and robbery, but I also know that every civilization is build on bloodshed and robbery. (9)
>
> Tell me, what is the greatest colonial power of our time? China, of course, which has occupied such non-Chinese territories as Manchuria, Mongolia, Sinkiang, and Tibet. […] The Chinese and the Africans are not free of the sin we acknowledge in ourselves; they

> have been colonialist no less than we, and they (in the case of the Chinese) are imperialists no less than we. (11)

Surely this *cri de cœur* is a simplification. On a scale of population, wasn't the British Imperial conquest and corruption of India greater than China's much smaller alleged colonies? Doesn't Ellul overlook how the invasions of Manchuria and Mongolia were preceded by Manchurian and Mongolian invasions of China as well as CIA involvement in Tibet? But more broadly, I'd hypothesize that a more nuanced engagement with China might contribute to deeper understandings of what makes Western "bloodshed and robbery" distinctive, including the justifications it has offered by appeals to revelation. Chinese imperialists never claimed justification by a supernatural God. Although as a theologian Ellul categorically rejects justification by revelation as theologically illegitimate, as a sociologist he is obliged to acknowledge its historically unique and powerful influence under the conditions of the Abrahamic religions.

Greatness and Decline in the West

The theme of *Betrayal*, Ellul says, is "the greatness and decline of western civilization" in the tradition of Oswald Spengler, Werner Sombart, José Ortega y Gasset, and others at a "critical time when our civilization is being challenged, rejected without due consideration, and condemned with arguments that are not all bad, but with no one to plead in its defense except a few fascists" (vii).

Ellul recognizes that his ideas are sometimes appropriated by the Right but fundamentally rejects any sympathy with it. Chapter two is an overwrought jeremiad against the Left, for not being Left enough—for hypocritically siding with the poor only to abuse the truly poor. To this end, Ellul develops a somewhat strained distinction between three types of poverty: economic, political, and fame or reputation. Deprivation of any attention is the deepest poverty, as represented by, among others, post–World War II displaced peoples, Israelis, Kurds, and Tibetans. Leftist protests against the treatment of North Vietnam and black Africa are simply tactics for criticizing the West. "Do not let yourself be fooled by the outcries of the

people who defend the Palestinians, the Chileans [against Pinochet?], the American blacks. […] They do not realize it, but they are liars" (123).

They lie insofar as their criticism of the unjust actions of the West valorize other civilizations at the expense of the West, thus undermining the basis of their own commitments. The West is unique and has introduced a uniquely valuable dynamic into world history. "I am not criticizing or rejecting other civilizations and societies," writes Ellul; "I have deep admiration for the institutions of the Bantu and other peoples (the Chinese among them)." But "ask yourself this question: If the Chinese have done away with binding of the feet of women, […] whence did the impulse to these moves come from? From the West, and nowhere else!" (16). "The whole of the modern world, for better or for worse, is following a western model; no one imposed it on others, they have adopted it themselves, and enthusiastically" (17).

At its core, Ellul's historical vision is Hegelian.

> The essential, central, undeniable fact is that the West was the first civilization in history to focus attention on the individual and on freedom. […W]e have committed crimes, but we have also caused the whole of mankind to take a gigantic step forward and to leave its childhood behind. […] The West and the West alone, is responsible for the movement that has led to the desire for freedom and to the accusations now turned back upon the West. (17)

Ellul's conceptualization of freedom is not exactly the same as Hegel's, and Ellul makes only one indirect reference to him. But for Ellul just as for Hegel, freedom provides "a line of development common to all societies throughout history" (18).

> [I]t was precisely the meaning of the whole process that the West discovered (not through sociological research, but in the form of a [Christian] proclamation). The West turned the whole human project into a conscious, deliberate business. It set the goal and called it freedom, or, at a later date, individual freedom. It gave direction to all the forces that were working in obscure ways, and brought to light the value that gave history its meaning. Thereby, man became man. (19)

The process began with the Jews, worked its way through the Greeks and Romans and into Christian Europe (first Catholic, then Protestant), leaving out of the grand narrative (as Hegel did) not just the Chinese but all

non-Western civilizations—until, that is, they came under the influence of the West.

> Today the whole world has become the heir of the West, and we Westerners now have a twofold heritage: we are heirs to the evil the West has done to the rest of the world, but at the same time we are heirs to our forefathers' consciousness of freedom. […] Other peoples, too, are heirs to the evil that has been inflicted on them, but now they have also inherited the consciousness of and desire for freedom. Everything they do today and everything they seek is an expression of what the western world has taught them. (21)

There is something breathtaking in the arrogance of the double "everything" in this last sentence: a hyperbole often repeated with assertions about "everyone" and "all" in multiple contexts that would seem to call for at least some minimal qualification.

Take the case of revolution: "Nowhere in the world—and I speak as one with a knowledge of history—has there ever been a revolution, not even in China, until the western message penetrated that part of the world" (24). Ellul evidently assumes here a distinction between revolt and revolution as developed in *Autopsie de la révolution* (1969) that nevertheless belittles the arguably revolutionary character of the civilizing creations of Chinese dynasties from the Qin and Han through the Tang, Song, Ming, and Qing.

"Please," Ellul responds,

> don't deafen us with talk about the greatness of Chinese or Japanese civilization. These civilizations existed indeed, but in a larval or embryonic state; they were approximations, essays. They always related to only one sector of the human or social totality and tended to be static and immobile. Because the West was motivated by the ideal of freedom and had discovered the individual, it alone launched society in its entirety on its present course. (29)

Ellul acknowledges however a dark side to the grand narrative:

> The freedom being everywhere sought and being expressed at all levels has led the peoples along strange ways and produced unexpected consequences. Thus the systematic, effective application of rationality (*technique*) is evidently an effect of freedom. At the same time […] it has proved to be the great force that negates and destroys freedom. (21)

Still, although "freedom may perhaps turn the world into a chaotic hell, but once the possibility of freedom is glimpsed, nothing else can satisfy man. [… H]e is a maker of history, history understood as the expression of freedom and of man's mastery of events, nature, and his own social life" (32).

There is something chaotic as well in Ellul's whole book (a text that can also be read as marking a shift away from his earlier efforts to separate historical, sociological, and theological work, toward synthesis): not just in its rhetoric—which is by turns often dismissive of nuance, disconsolate, boastful, and petulant—but in the simplicity of its conceptual apparatus. While making use of diverse distinctions developed by others—e.g., Eros and Agape (Anders Nygren) and Dionysian vs. Apollonian mentalities—his key distinctions remain disappointingly vague, i.e., between reason (characterized as good), rationality (bad), rationalism (really bad), and rational method (technique?). Comparison with and reflection on reason as it appears in classical Chinese, as limned by Needham, could reasonably assist in clarifying such notions, as exemplified in French philosopher and sinologist François Jullien's method of "detour and access."[17] Indeed, if China were to be treated as something more than a kind of historico–whipping boy, the exercise might promote new insight into that distinctiveness of the West, which Ellul is at pains to both explicate and defend.

Additionally, the calmness infused throughout the Chinese tradition (which Jullien praises as "blandness" 淡 *dan*[18]) might temper Ellul's emotional turmoil. Repeatedly he castigates "technicians" but never clarifies membership in this class of bad guys. Much of the text is bloviated, repetitive, and lazy: at one point (chapter 2, note 7) he actually admits that an argument is dated but says he includes it anyway. Evidently composed in haste, out of spleen, and with little revision, the text is disrespectful of the reader, about whom Ellul nevertheless complains: "Writing this book has given me once again the feeling that I have done something absolutely useless, because no one will be able to accept it" (193). "All the behavior (and I mean literally all of it) of the technicians, the bureaucrats, the politicians, and, at bottom (despite appearances), the philosophers, the film-makers, and the scientists is suicidal" (194).

In the end, despite many genuine critical insights into the dialectical fragilities of the European heritage, Ellul's self-indulgence tends to undermine therapeutic efforts and verges on incoherence. The prologue states unequivocally that "the end of the West today would mean the end of any possible civilization" (vii), while the last sentence of the epilogue reads, "The West is at its end—but that does not necessarily mean the end of the world" (200).

As an aside, before turning to Yuk Hui, we can note that, unlike with Heidegger, little by Ellul has been translated into or discussed in Chinese. The only book translated is *La raison d'être: Méditation sur l'Ecclésiaste* (1987), published in Taiwan in traditional characters. His article "The Technological Order" is included in a simplified-characters translation in Wu Guosheng's *Classical Readings in the Philosophy of Technology*.[19] He is, however, often mentioned in publications on philosophy and technology. His name appears in the titles of twenty-five articles in the 中国知网 CNKI (China National Knowledge Infrastructure) database. Writers have reviewed his ideas (four articles), his concept of the autonomy of technology (seven articles), theories of propaganda and media (two articles), and ethics of freedom (three articles). There is no monograph devoted to his thought.[20]

The Question Concerning Technology in China

Against this background, Chinese philosopher Yuk Hui's *The Question Concerning Technology in China* is unique.[21] It is the first effort to bring the three thought-revolutionaries of 1954 into dialogue. Hui can be read as advancing a bold reassessment and extension of themes found first in Heidegger and Needham but reaching out also to include minor cords from Ellul. Indeed, four years earlier, Hui analyzed and elaborated on the special insight of Ellul's concept of the technological system.[22]

The present book is an effort to rethink technology, resting in and developing the idea that nature is not some one thing, that it is co-constructed and therefore variable—and that this variability is reflected in diverse technologies. While scientists posit something that is the same behind their theoretical and experimental discoveries, the discoveries themselves present an ever-shifting view of natural reality. Even Needham admits that Chinese culture has involved different practice-embedded cosmologies than

what is typically present in the modern West. Against this background, Hui concretely formulates his own question as: "If one admits that there are multiple natures, is it possible to think of multiple technics, which are different from each other not simply functionally and aesthetically, but also ontologically and cosmologically?"[23]

One way to begin engaging this question is to note the quite different mythological accounts of the origin of technics. In the West, there are such stories as those of Prometheus and the Tower of Babel. In both the Greek and the Hebrew traditions, technics is culturally conceived as a kind of opposition to the gods or God. Such a view is in the background of Heidegger's effort to radically question what he sees as the metaphysical challenge of life in our technoscientific milieu. As Hui argues, however, the Chinese mythopoeic account of technics is markedly different. In the Chinese cultural tradition there is no Promethean theft from the gods, nor human rebellion against God. Instead, there were three mythological leaders of ancient tribes: the half-human, half-snake female Nüwa; her half-dragon, half-human brother-husband Fuxi; and the divine farmer and later kitchen god Shennong. All three collaborated to create humans and to provide them with such tools as fire. Humans are seen as situated between and natural combinations of heaven and earth. There is no rebellion of humans against heaven; there is only working with earth and heaven to cultivate and take aesthetic common pleasure in the world in which we live. Hui coins the term "cosmotechnics" to describe "the unification between the cosmic order and the moral order through technical activities"[24] that is entailed by such mythologies; importantly, this concept connects cosmologies (whether vernacular or mathematic-scientific) with practically sedimented beliefs about the good.

When asking his eponymous question, Needham fails to draw philosophical conclusions from the mythological differences. Instead, he attributes the difference of China to a set of historically contingent conditions: geographical, political, economic, and religious. Additionally, Heidegger never considers the implications of the simple difference in Western engineering, which emerged out of the military, in contrast to the way that Chinese 器 *qi* (technics) and 工程 *gong cheng* (engineering), even to some extent 机

ji (machines), are more closely associated with farming and a stabilized, sedentary life.

Following an extended (fifty-four page) introduction to his thought project, Yuk Hui divides his reflection into two parts. Part one, "In Search of Technological Thought in China" (136 pages), explores the relationship between *qi* and 道 *dao* (cosmic order) in the long, three-thousand-year history of Chinese culture. This extended dialogue brings a deep appreciation of Chinese philosophy in its many permutations across thousands of years—in Daoism, in Confucianism, and in Buddhism—into conversation with the major philosophical traditions and thinkers of the West—from Plato and Aristotle to Hegel and Heidegger. It is an achievement that any future effort to think technology in a global context will be called on to take into account. Part two, "Modernity and Technological Consciousness" (111 pages), draws on his presentation of traditional Chinese philosophy to reconsider both the philosophy of technology in the West and to offer alternatives to the contemporary tendency in China too quickly to want to follow the West. Hui's challenge is not just to the West; it is also to China.

Repeatedly, Yuk Hui calls attention to mirror-image issues: In the West, the philosophical acidity of technoscience tends to reduce any public consensus about the good to the pursuit of modern science itself (particularly among the scientific elite) or individualist and faith-based freedoms (among the non-scientific many). In China, a rich traditional culture that became unable to defend itself against a European imperialism weaponized by technoscience has struggled since the Ming Dynasty to discover an alternative cosmotechnics. The Chinese effort deserves more consideration than it currently receives, Hui suggests, in either China or the West. Hui clearly wants to engage readers who are trying to think about these issues at the most general level, including philosophers of science and technology.

As ambitious as it is, Yuk Hui's *Question Concerning Technology in China* is but one contribution to an even larger project that can only be superficially limned here. It was initiated in *On the Existence of Digital Objects*, an effort to describe the distinctive reality possessed by things that "take shape on a screen or hide in the back end of a computer program, composed of data and metadata regulated by structures or schemas."[25] Examples are emails,

Facebook posts, even the digital text that I am composing right now on my laptop.

Post *Question*, *Recursivity and Contingency*[26] is a complementary engagement with technology as mechanical artifact versus organism in European philosophy, working out from the philosophy of Immanuel Kant, G.W.F. Hegel, and F.W.J. Schelling and drawing on the thought of Edmund Husserl, Henri Bergson, Martin Heidegger, Norbert Wiener, Georges Canguilhem, Gilbert Simondon, and Bernard Stiegler. Here is a crudely simplified summary of the argument as I understand it: Modern philosophy from Descartes to Kant operated under the dominance of mechanism. Kant achieved a kind of apotheosis of philosophy within the mechanistic framework, but in the third *Critique* opened the door to a new kind of thinking of teleology and the organism, what Hui along with others calls an organology. This thinking has struggled to develop in Schelling et al. and especially in cybernetics. Whereas *On the Existence of Digital Objects* can be described as analytic phenomenology and *The Question Concerning Technology in China* as historico-philosophical analysis, *Recursivity and Contingency* combines both approaches to map out the ontological contours of a new philosophical synthesis of technology and organism in world.

Most recently, *Art and Cosmotechnics* is a continuation of *Recursivity* that re-introduces and enlarges its central concept and the "history of recursive thinking in Western philosophy"[27] by taking up the question of aesthetics as manifested in Daoism. As he concludes, this "*exercise* on art and cosmotechnics is fundamentally an invitation to reflection on the possibilities of technology and philosophy."[28]

Conclusion

In one of those fortuitous contingencies that occasionally denote a more than philosophical shift in socio-cultural discourse, in the early 1950s, in the aftermath of World War II and its violent globalizing force, Joseph Needham in England, Martin Heidegger in Germany, and Jacques Ellul in France each placed new questions about the Western commitment to technology on the European intellectual docket. *Quo vadis? Unde venisti? techno-homo occidentalis*. The divides among these three responses created

fecund potentials that nevertheless remained largely untended: ignored by Needham, only superficially touched on by Heidegger, and explicitly rejected by Ellul. The special achievement of Yuk Hui, in what might well be described as a second order *yuanfen*, is that graced with unique linguistic facilities and philosophical itinerary emerging from an ontological engagement with techno-digital existence, under historical conditions that have also raised questions concerning technology to a new level of historico-global intensity, is to have begun to bring the divides face to face over a new question concerning China. The implications for Needham, Heidegger, and especially for Ellul's diagnosis of the modern technological pathology remain to be more fully explored. But no one has put the questions more insightfully on the table.

Notes

1. See Joseph Needham, *Science and Civilization in China*, vol. 7, part II: *General Conclusions and Reflections* (Cambridge: Cambridge University Press, 2004), 217–24, for his list of pre-modern Chinese discoveries and inventions.
2. Simon Winchester, *The Man Who Loved China* (New York: Harper Collins, 2008).
3. Joseph Needham, *The Grand Titration: Science and Society in East and West* (Toronto: University of Toronto Press, 1969), 154.
4. Needham, *The Grand Titration*, 177.
5. Needham, *The Grand Titration*, 190.
6. See Jacques Ellul, "The Technological Order." In Carl F. Stover, ed., *The Technological Order* (Detroit: Wayne State University Press, 1963).
7. Judith Farquhar, *A Way of Life: Things, Thought, and Action in Chinese Medicine* (New Haven: Yale University Press, 2021), 8.
8. Joseph Needham, *Order and Life* (New Haven: Yale University Press, 1936), 3.
9. See Paul Shih-yi Hsaio, "Heidegger and Our Translation of the *Tao Te Ching*." In Graham Parkes, *Heidegger and Asian Thought* (Honolulu: University of Hawaii Press, 1987), 93–105; Lin Ma, "Deciphering Heidegger's Connection with the Daodejing." *Asian Philosophy* 16, no. 3 (2006): 149–71.

10. See Michèle Manceaux, *Les Maos en France* (Paris: Gallimard, 1972); François Hourmant, *Les Années Mao en France: Avant, pendant et après mai 68 (1966–1976)* (Paris: Odile Jacob, 2018).
11. See Ieme Van der Poel, "*Tel Quel* et la Chine: L'Orient comme mythe de l'intellectuel occidental." *History of European Ideas* 16, no. 4–6 (1993): 431–39.
12. For an English text, see Wenren Jun, *Ancient Chinese Encyclopedia of Technology: Translation and Annotation of the Kaogong ji (the Artificers' Record)* (London: Routledge, 2013).
13. Benjamin A. Elman, *On Their Own Terms: Science in China, 1550–1900* (Cambridge, MA: Harvard University Press, 2005); Jing Tsu and Benjamin A. Elman, eds., *Science and Technology in Modern China, 1880s–1940s* (Leiden: Brill, 2014).
14. Francesca Bray, *Technology and Gender: Fabrics of Power in Late Imperial China* (Berkeley: University of California Press, 1997); Francesca Bray, *Technology, Gender and History in Imperial China: Great Transformations Reconsidered* (London: Routledge, 2013); Dagmar Schäfer, *The Crafting of the 10,000 Things: Knowledge and Technology in Seventeenth-Century China* (Chicago: University of Chicago Press, 2011).
15. Judith Farquhar, *Appetites: Food and Sex in Post-Socialist China* (Durham, NC: Duke University Press, 2002); Judith and Qicheng Zhang, *Ten Thousand Things: Nurturing Life in Contemporary Beijing* (New York: Zone Books, 2012); Judith Farquhar and Lili Lai, *Gathering Medicines: Nation and Knowledge in China's Mountain South* (Chicago: University of Chicago Press, 2021).
16. Jacques Ellul, *The Betrayal of the West*, trans. Matthew J. O'Connell (New York: Seabury, 1978), vii and ix.
17. François Jullien, *Detour and Access: Strategies of Meaning in China and Greece*, trans. Sophie Hawkes (New York: Zone Books, 2004); see also François Jullien, *From Being to Living: A Euro-Chinese Lexicon of Thought*, trans. Michael Richardson and Krzysztof Fijalkowski (Los Angeles: Sage, 2020).
18. François Jullien, *In Praise of Blandness: Proceeding from Chinese Thought and Aesthetics*, trans. Paula M. Varsano (New York: Zone Books, 2008).
19. Ellul, "The Technological Order," 10–37.
20. Thanks to my research assistant Li Weibo at Renmin University of China for this information.
21. Yuk Hui, *The Question Concerning Technology in China: An Essay in Cosmotechnics* (Falmouth, UK: Urbanomic Media, 2016).

22. Yuk Hui, "Technological System and the Problem of Desymbolization." In Helena Jerónimo, José Luís Garcia, and Carl Mitcham, eds., *Jacques Ellul and the Technological Society in the 21st Century* (Dordrecht: Springer, 2013), 73–82.
23. Hui, *The Question Concerning Technology in China*, xiii.
24. Hui, *The Question Concerning Technology in China*, 19.
25. Yuk Hui, *On the Existence of Digital Objects* (Minneapolis: University of Minnesota Press, 2016), 1.
26. Yuk Hui, *Recursivity and Contingency* (London: Rowman & Littlefield International, 2019).
27. Yuk Hui, *Art and Cosmotechnics* (Minneapolis: University of Minnesota Press, 2021), xix.
28. Hui, *Art and Cosmotechnics*, 287. Italics in the original.

For a Technodiversity in the Anthropocene

Yuk Hui

What really is technics? We use an unusual word, *technics*, to render the French word *technique* and the German word *Technik*, in order to underline the difficulty of translating this word that could mean either technique (skill) or technology. We can understand the ambiguity and complexity of this word by looking into Martin Heidegger's famous 1953 essay "Die Frage nach der Technik," translated into English as "The Question Concerning Technology"[1] and into French as "La question de la technique."[2] In this text, Heidegger uses the term *moderne Technik* to characterize those which emerged in the nineteenth century, called in everyday French *technologie*. We have three terms, *technics*, *technique*, *technology*, all from the Greek root *technē*, which comes from *tek*, namely, constructing with wood. These terms are interrelated, but in different European languages they have nuanced meanings that are either historically contextualized or conventionally adopted. I use *technics* as an all-inclusive term, while *technē* refers to the Greek technics and *technology* to the modern technics. What is meant by *technics*, however, remains hidden in the everyday use of the terms *technology* or *technique*.

On the Concept of Technics

Jacques Ellul's work contributes to the elucidation of the concept of technics through his historical, sociological, and theological studies, especially the "unexpected" evolution of technology since the eighteenth century in Europe and its realization as a system capable of auto-augmentation and totalization, in both *The Technological Society* (original title: *La technique ou l'enjeu du siècle*, 1954) and *The Technological System* (original title: *Le système*

Hui, Yuk. "For a Technodiversity in the Anthropocene." *Ellul Forum* 68 (Fall 2021): 43–61.

technicien, 1977)—a question that I have closely engaged with in the past decade and that is central to my *On the Existence of Digital Objects* (2016) and *Recursivity and Contingency* (2019). Ellul's critique of the technological system was almost *contre-courant* during the peak of systems theory advocated by Niklas Luhmann in Germany and Edgar Morin in France.[3] We will touch upon the notion of technological system later; for now, I would like to focus on the concept of technics. Ellul begins *The Technological Society* with a critique of the conventional understanding of technics, which for him is far away from being able to understand the complexity and the dynamic of technics; namely, technics has been considered as equivalent to machines:

> What is called the history of technique usually amounts to no more than a history of the machine; this very formulation is an example of the habit of intellectuals of regarding forms of the present as identical with those of the past.[4]

Ellul shows how this equivalence has been implicitly and explicitly maintained among his contemporaries, including the respected historian of technology Lewis Mumford.[5] The mis-identification of technics and machine led to a very narrow notion of technics. However, if technics is irreducible to machines, then what does it include, and how do we describe it? In Ellul's writing, we can sometimes perceive a spirituality of technology, such as we can find in the Idealists such as Hegel: a historical force that develops itself throughout time, since the emergence of the human species. I have two concerns regarding Ellul's definition of technics in *The Technological Society*, however. This serves as the departure from which I would like to unfold my own agenda.

First, Ellul's approach is not entirely anthropological and paleontological as one finds in the work of André Leroi-Gourhan. Ellul's approach is more sociological, and therefore on occasion it seems to me that his sociological explanation is at odds with the definition of technics that he borrowed from others. If we follow the paleontologist, we might say that the process of hominization consists in the invention and use of technical tools—flints, for example. The technical inventions took millions of years to arrive, since these gestures demanded a gradual evolution of the central nervous system and sensory motor system. André Leroi-Gourhan therefore understands

technics in the process of hominization as the externalization of memory and the liberation of bodily organs. Engels also pronounced this view in the *Dialectics of Nature*, especially in the chapter on the transformation of ape to man through labor. However, Ellul claims at some points that the primitive society "was *free of technics*."[6] It is difficult if not impossible to think of a society free of technics, and here we may also confuse the relation between magic and technics, namely, that there is only magic but not technics in the primitive society:

> In so-called primitive societies, the whole of life was indeed enclosed in a network of *magical techniques*. It is their multiplicity that lends them the qualities of rigidity and mechanization. Magic, as we have seen, may even be the origin of techniques; but the primary characteristic of these societies was not a technical but a religious preoccupation.[7]

Ellul's seemingly odd view resonated with Gilbert Simondon, who became a key figure in Ellul's *The Technological System* and in which Ellul takes Simondon further, from the latter's analysis of technical objects in terms of technical element, technical individual, and technical ensemble, to an autonomous technological system. This distinction between magic and technics may not come directly from Simondon, but they were writing in the same era (*The Technological Society* in 1954 and *On the Mode of Existence of Technical Objects* in 1958). In *On the Mode of Existence of Technical Objects*[8] Simondon proposes a speculative history of technology, which he calls the genesis of technicity. At the beginning is the magic phase, in which there is no distinction between subject and object, while ground and figure (terms taken from Gestalt psychology) are already separated. The convergence between ground and figure is maintained by key points, namely, the sacred geographical points and special dates such as festivals. For Simondon, the term *genesis* is what he calls individuation, which he elaborated in *L'individuation à la lumière des notions de forme et d'information*.[9] According to this theory, individuation is triggered when a system is oversaturated, when the tensions or incompatibility within the system have reached a threshold and consequently a restructuration takes place. When the magic phase is saturated, its restructuration is presented as a bifurcation into technics (practice) and religion (theory), and each part in the second stage further

bifurcates into a theoretical part and a practical part. For example, religion bifurcates into ethics (theory) and dogma (practice). This does not mean that Ellul agreed completely with Simondon's theory of the genesis of technicity, as he contested the nature of the key points in *Théologie et Technique*.[10] His description of magic as pre-technics seems to have implicitly reserved the term *technics* for a post-magic rationality, or *techno-logos*.

The post-magical rationality, which is technics, according to Ellul, seems to have started in the East and traveled from the Near East to Greece and then continued in the Roman era. For Ellul, in Greece and Rome technics remained Oriental; it was not until the decline of the Christian West in the fourteenth century that the anti-technological tendency was reversed, and then modern science and technology emerged. After the eighteenth century, technology ceased to be the application of scientific discoveries; instead, technology gained an autonomy that was far beyond machines and beyond the sheer application of sciences. Ellul reminds his readers that Western scholars have mistaken the East as inclining toward mysticism and regression (one can find this, for example, in Pierre Teilhard de Chardin). Instead, Ellul shows that "technics is essentially Oriental":

> This predominance of technique in the East points up an error which is found throughout Western thought: that the Oriental mind is turned toward the mystical and has no interest in concrete action, whereas the Western mind is oriented toward "know-how" and action, and hence toward technique.[11]

Ellul's criticism against the stereotype of the Orient and his historical analysis of the evolution of technics in the West is plausible—not least in that he implicitly reproached the Prometheanism that attributed to the Greeks the meaning of technics. Interestingly, this account of technics is similar to Hegel's theorization of the *Weltgeist*. That is to say, like the *Weltgeist*, technics travelled from the East to the West, and it is realized as an autonomous and self-conscious form in the State. However, since technics' departure to the West from the East, what happened in the East became insignificant. It will be significant again only after it is modernized and synchronized by the West. Retrospectively, perhaps the *Weltgeist* is like salmon,[12] which go back to the stream where they were born, to spawn and die there. So technics, like the *Weltgeist*, travelled back to the East and flourished there after

colonization and modernization; and now in Western medias, China is no longer blamed only for being a world factory but is reproached also for its rapid development of artificial intelligence that is putting Western democracy and values in danger. It is true that Ellul touched upon non-Western cultures in his *The Betrayal of the West*,[13] but the question of technology in non-Western cultures was not sufficiently addressed. These two issues concerning the history of technology have yet to be clarified. For if Ellul's contribution is to elucidate the concept of technics, then this question concerning the beginning of technics and the non-European concept of technics—if we agree with him that technics always exceeds machines—has yet to be clarified.

But what does it mean exactly that technics exceeds machines? We may refer to what Simondon says in the third part of *On the Mode of Existence of Technical Objects*, where he argues that the genesis of technicity should not be reduced to the evolution of technical objects. Instead, it should be understood as a genetic process in which technical thinking interacts dynamically with aesthetic, religious, and philosophical thinking. That is to say, technological thinking is not an independent thinking but rather one that is motivated and at the same time conditioned by other thinking. What Simondon does in *On the Mode of Existence of Technical Objects* is very significant, even though one can reproach him by saying that he leaves the impression that the primitive society is pre-technics—something that might be inspired by Sir James Frazer's *The Golden Bough*.[14] But this does not mean that the magic phase is devoid of technics—it means only that in the magic phase the ground and figure are not separated. That is to say, technics still has a dominant function in the mediation between the internality of the subject and the externality of the environment. Thus it was preoccupied with religious meaning, rather than with rationality. This might be how we can understand those seemingly odd passages in *The Technological Society* mentioned above. Simondon's thesis on the genesis of technicity is fundamental for us to understand the diversity of technology, since he states that a technological thought is dependent on its relation to other thoughts, namely, on its *locality*. The notion of locality is important but also delicate, since in our time locality, negatively defined in opposition to globality, can

also mean conservativism, traditionalism, and even proto-fascism, such as found in the discourse of the National Rally in France and the AfD in Germany. Without approaching the question of locality, however, perhaps we will not be able to fully understand the question of technology. Locality does not mean a logical operator—that which is opposed to the non-local—but rather cosmology. I suggest that technics is cosmologically situated in locality, and precisely because of this we can account for the different trajectories of technological development.

This way of understanding technics appears unfamiliar, however, because we have been told that science and technology are universal. In the current technological and philosophical education, there is not even space to have such a doubt. According to the conventional understanding, one admits that other civilizations also developed their technologies; however, these technologies differ only in terms of functional aesthetics (for example, the particular length and decoration of spoon handles) and levels of technicality, and despite these differences, they could be understood in principle as the same kind of technology. Non-European thoughts, therefore, have been considered solely as ethics or religions that regulate the use of these technologies. Therefore today we find everywhere discussions on Daoist ethics of technology, Confucian ethics of technology, Indigenous ethics of technology, etc. To what extent is technology universal? If we can find different technologies in different cultures, shouldn't this imply that there have been multiple technological thoughts? Here, when we follow up our previous discussion with Ellul, we want to ask, What happened to the East after technology travelled to the West?

On the Antinomy of the Universality of Technology

It seems that one has more courage to challenge the universality of the concept of nature than the concept of technics. For example, in the so-called "ontological turn" in anthropology, associated with anthropologists like Philippe Descola and Eduardo Viveiros de Castro, the anthropologists questioned that the concept of nature that we are using now is mainly a product of European modernity. There are different natures, as one can find in ethnographies. Nature as it is understood today in the globalized world

refers to the non-manmade environment surrounding us. It is a modern construction based on the opposition between nature and culture, which Descola calls "naturalism." Nature is here considered to be the opposite of culture and at the same time an object to be mastered by culture or the "spirit." However, this naturalism is not a default but rather a fault. In *Beyond Nature and Culture*, Descola cites the diary of Henri Michaux, written when the writer returned to Paris in 1928 after visiting a friend in Ecuador.[15] The trip had required them to canoe alone for a month along the Amazon River. Upon their arrival at Belém do Pará, Michaux describes an amazing scene that problematizes the modern concept of nature:

> A young woman who was on our boat, coming from Manaus, went into town with us this morning. When she came upon the Grand Park (which is undeniably nicely planted) she emitted an easy sigh. "Ah, at last, nature," she said, but she was coming from the jungle.[16]

The role that the non-humans—the jungle, leopards, plants—played for the Amazonians is not that of nature understood today. Indeed, in these Indigenous groups, one finds forms of knowledge irreducible to those based on the division between nature and culture.

If the anthropologists are able to argue for multiple natures, or multiple ontologies as response to the anthropocentrism of the Anthropocene, is it possible to argue for multiple technologies, namely, to relativize the concept of technics from the conventional understanding as a universal *techno-logos*? *The Question Concerning Technology in China: An Essay in Cosmotechnics* (2016) consists in this effort. The answer is deemed to be a difficult one, but even raising such a question is not easy at all. Perhaps we can try to articulate the difficulties by looking into how a discourse on the universality of technology is already uncritically assumed in some schools of thought, for example, in the philosophy, anthropology, and history of technology.

Let us start with philosophy of technology. Readers of Heidegger know that in his 1949 Bremen lecture titled *Gestell*, later published as *Die Frage nach der Technik* in 1953, Heidegger makes a distinction between what the Greeks called *technē*, and *moderne Technik*. If *technē*, understood as *poiesis*, bringing forth [*Hervorbringen*], bears a mode of unconcealment of Being [*Sein*], then one finds in modern technology no longer *poiesis*. Rather, it has

its essence as *Gestell*, namely an *enframing* of all beings as standing reserve [*Bestand*], resources to be exploited. Modern technology, for Heidegger, arrived after modern science, taking on its significance after the Industrial Revolution. Heidegger's analysis is well recognized in Continental philosophy, and the distinction he made between the Greek *technē* and modern technology also resonates with the Romantics, whose thought persisted among conservative thinkers in Germany. Heidegger's analysis travelled far beyond Germany; it is also well endorsed in the East. The experience based on the opposition between *technē* and modern technology is identified as the conflict between tradition and the modern, and resonates in cultures that are experiencing great transformation due to modernization. If we follow Heidegger's analysis, however, we might want to ask, how can we situate technics in the East? It is definitely not modern technology, but is it Greek *technē*? Or if, as Ellul said, the Greek technics is Oriental, is there no substantial difference between them?

On the other hand, Heidegger's interpretation of *technē* as the unconcealment of Being already points to an understanding of technics beyond its utilitarian and anthropological definition. That is to say, Heidegger's concept of technics, like Ellul's, far exceeds machines and tools. Did the Chinese and the Japanese, for example, also have such an understanding of their technics, namely, in relation to the unconcealment of Being? Kitaro Nishida, the founder of the Kyoto School, once made a rather straightforward but profound observation that for the West, Being occupies the central question in philosophy, while for the East, it is the question of Nothing. It is doubtful that this distinction could be applied to the East at large; at least we can say that in Chinese thought it is not Being but Dao that is the highest inquiry of philosophy. What then is *dao*? We are told at the beginning of the *Dao de jing* that *dao* cannot be explained by language,[17] while it is also not mysterious since it exists everywhere, in feces and in gold.[18] Dao, like Being, is beyond the objective description of language, and for this reason it is spiritual and irreducible to materiality but also conditions all pursuits of knowledge.[19]

If technology, as well as the concept of technology, must be understood historically, not only factually and chronologically but also spiritually—in the

sense of what Hans Blumenberg calls a *Geistesgeschichte der Technik*—then it is immediately evident that there are many histories of technologies in different cultures and civilizations.[20] In India, China, and Japan, as well as in the Amazon, one finds different technologies, but do they have to do with the Greek Being? It would be total dis-*orientation* to conceive the Greek technics and the Promethean myth as the origin of all technics, though it is unfortunately the case today.

In the anthropology of technology, the invention and use of tools (often covered by the terms *labor* or *praxis*) has been understood as the determining process behind hominization, notably in the work of Leroi-Gourhan. We saw earlier that he interpreted technics as an extension of organs and an externalization of memory. In this interpretation, technology is anthropologically universal. This is not wrong insofar as such externalization and extension are considered as proceeding from what Leroi-Gourhan called a "technical tendency." But we still have to explain what he called "technical facts,"[21] which are different from region to region and from culture to culture. While a technical tendency is necessary, technical facts are accidental: as Leroi-Gourhan writes, they result from the "encounter of the tendency and thousands of coincidences of the milieu."[22] While the invention of the wheel is a technical tendency, whether wheels will have spokes is a matter of technical fact.

But is a technical fact merely accidental, caused by the material condition? We would like to ask, what is embedded in these technical facts apart from a casual reduction to cultural difference, or even sometimes to contingency? In the history of technology, the biochemist and sinologist Joseph Needham raised a haunting question, by asking why modern science and technology wasn't developed in China and India. At the same time, in his multiple volumes of *Science and Civilization in China* Needham shows the large amount of rather advanced scientific and technological development in China *before* the sixteenth century. Echoing Needham's inquiry, there have been significant inquiries on comparing technological development in different regions of the world in order to show that, for example, one particular region is more advanced in papermaking or metallurgy than another. However, this is a distortion of Needham's question, which in fact

suggests that one cannot compare Chinese science and technology directly with that of the West since they are based on different forms of thinking.[23] In this sense, how can one re-articulate these differences? It is through discussions and negotiations with the philosophy of technology, anthropology of technology, and history of technology that I believe we can arrive at an even richer concept of technology, which I call *cosmotechnics*. The prefix *cosmo-* suggests that technology is motivated and conditioned by cosmology, and technology mediates between the cosmic and the moral of the human world. I took China as an example of such an investigation. Instead of simply rejecting technology as being universal, I suggest that we understand what is at stake with the following antinomy:

> Thesis: Technology is an anthropological universal, understood as an exteriorization of memory and the liberation of organs, as some anthropologists and philosophers of technology have formulated it;
>
> Antithesis: Technology is not anthropologically universal; it is enabled and constrained by particular cosmologies, which go beyond mere functionality or utility. Therefore, there is no one single technology, but rather multiple cosmotechnics.

We know that for an antinomy, when the thesis and antithesis are examined separately, each of them stands on its own; but when they are brought together, then one sees immediately a contradiction. Kant resolves his antinomies in the *Critique of Pure Reason* by separating the thing in itself and the phenomenon: namely, one thesis is correct within the realm of phenomenon, and the other is correct in the realm of noumenon (especially in the third and fourth antinomy). Technics is universal insofar as it is a material support, like what Leroi-Gourhan called externalization, Jacques Derrida called supplement, and Bernard Stiegler called tertiary retention; but beyond that there are tremendous differences in different technics that are not merely contingent.[24] I gave a preliminary definition of *cosmotechnics* as unification between the cosmic order and the moral order through technical activities. The meaning of the cosmos and the moral have to be understood according to its locality. This also means that technology should be *resituated* in a broader reality, which enables it and also constrains it, like what Simondon said regarding the genesis of technicity. In *The Question Concerning Technology in China: An Essay in Cosmotechnics*, against easy oppositions

between the West and the East, for example, one being mechanical and polemical, the other organic and harmonious, I suggest formulating a technological thought in China according to the historical dynamics and relations between two major philosophical categories, *dao* and *qi* (literally, utensils, to be distinguished from the word of the same pronunciation that is familiar to western readers, meaning breath, vital energy). These two categories, I argue, are fundamental to the reconstruction of a technological thought in China. It is not only because, as stated earlier, it is not the question of Being but of Dao that occupies the central role in Chinese thought (Chinese thought is also called *dao xue*, the studies of *dao*), but also because there has been an ongoing discourse about the unification between *dao* and *qi* in the history of Chinese thought. The discourses about the relation between the two are dynamic throughout history, meaning that there have been countless reflections and theorizations on their relations, from Confucius and Lao Tzu to the early twentieth century. Finally, we see how the discourse is rendered ineffective during the process of modernization, that is to say, since China's defeat by Britain in the Opium Wars, which forced China to open to modernization and global capitalism.[25] The discourse on *dao* and *qi* was replaced by the dialectics of nature, an orthodox Marxist philosophy of science. Today, for many scientists but also for most Chinese, *dao* becomes laws of nature, and *qi* is replaced by Western technology. Calculation comes to the front, and the rest recedes to the background and becomes powerless. If we can take Simondon's figure-ground theory further, we might say that the figure, which is technology, is detached from such a reality, which is its ground; by detaching from the ground, it desires to universalize and to become the ground of everything.

Let us take a step back. If Heidegger, the thinker of Being, was able to see the great secret [*Geheimnis*] in modern technology, namely, the possibility of the unconcealment of Being in the form of challenging [*Herausforderung*], it is because Being still has its role in the modern world, as a possibility and task of philosophy. However, Being is not *dao*, and Heidegger's interpretation of technology grounded in the history of Western philosophy might not provide the right path for thinking beyond the evening land. This awareness may come to us only as *après coup*, just as philosophy

is always a latecomer. In the second half of the nineteenth century, the Chinese were very eager to take the Western technology as Chinese *qi* and hoped to integrate it into the *qi-dao* discourse, but they failed, because the relation of *qi-dao* at that time became a dualism. The British historian Arnold Toynbee—someone Ellul often referred to, critically—once raised an interesting point in his 1952 Reith Lectures for the BBC: why did the Chinese and Japanese refuse the Europeans in the sixteenth century but allow them to enter the countries in the nineteenth century? His answer was that in the sixteenth century the Europeans wanted to export both religion and technology to Asia, while in the nineteenth century they understood that it is more effective to just export technology without Christianity. The Asian countries easily accepted that technology was something inessential and instrumental; they were the "users" who could decide how to use it. Toynbee continued by saying,

> Technology operates on the surface of life, and therefore it seems practicable to adopt a foreign technology without putting oneself in danger of ceasing to be able to call one's soul one's own. This notion that, in adopting a foreign technology, one is incurring only a limited liability may, of course, be a miscalculation.[26]

We can interpret what Toynbee said in two ways. First, that the opposition of Asian thought and Western instrument, and the belief that the former can master the latter, are proved to be mistakes, since it is dualist in nature; second, that technology in itself is nothing neutral, but it carries particular forms of knowledge and practice that its users are obliged to comply with. Without taking into consideration this understanding of technology (which Max Weber might call rationalization), one takes a rather dualist approach, by undermining technology as something merely instrumental. This miscalculation, a fault, has become a necessity in the twentieth century.

Technodiversity in the Anthropocene

What could be the value of introducing the concept of cosmotechnics in the time when we have entered into the so-called Anthropocene, in which technical activities dominate the earth? We live in an epoch of cybernetic systems, which become more and more organic, as Ellul rightly described in

his *The Technological System*. In *Recursivity and Contingency*, I attempted to reconstruct a philosophical history of cybernetics by outlining the historical relation between mechanism and organism, from Kant to cybernetics, in order to show that we have entered a new condition of philosophizing after Kant.[27] The earth in the time of F.W.J. Schelling and later James Hutton was described as a superorganism, and since the late twentieth century it has been regarded as a gigantic cybernetic system capable of homeostasis, under the name of Gaia. If we take up Ellul's inquiry of the future of technology, we might ask how to think technology beyond cybernetics—which, according to Heidegger, indicates the end of Western philosophy and metaphysics. The concept of cosmotechnics also has the aim of addressing the future of technology. I proposed an agenda on technodiversity (or a multiplicity of cosmotechnics) in *Recursivity and Contingency* as a way to think beyond a cybernetic reductionism.

In the past century, modern technologies have covered the surface of the earth, constituting a converging noosphere in Pierre Teilhard de Chardin's sense. In fact, Teilhard's noosphere might provide us with a conceptual tool to understand the Anthropocene, especially when we think that it is based on the discussion with Vladimir Vernadsky's biosphere. Since the nineteenth century, the formation of the noosphere has been largely accelerated by technological competition, which in turn also defines geopolitics. Japan's defeat of Russia in the Russo-Japanese War (1904–05) led to the lament of the German reactionary thinker Oswald Spengler that white people's biggest mistake at the turn of the century was to have exported technology to the East; Japan, once the student, now became the teacher.[28] This "technological consciousness" persisted throughout the twentieth century and was marked by the atomic bomb, space exploration, and now artificial intelligence. Recently, some commentators have declared that we have entered a *new axial age* opened up by a more balanced technological development,[29] namely, that the technological achievements of the East seem to have reversed the unilateral movement from the West to the East. This is also the source of the neo-reactionary sentiment that we see today in the West,[30] since it continues Spengler's curse of the "Decline of the West," now affirmed by ideological slogans such as "Decline of the West and Rise of the East."

Taking a step further, we may want to reposition this discourse of the Anthropocene and the new axial age as a critical moment to reflect on the future of technology and geopolitics. This critical assessment demands the *reopening* of the question of technology. Reopening means, first, enlarging the concept of technology by pluralizing it, and second, by doing so we open new imaginations, new methodologies, and new possibilities for thinking the future. We can suspect that there has been misunderstanding and ignorance of technology in the past centuries, since technology has been regarded as merely instrumental and inessential, but more significantly, as homogenous and universal. This universality of technology prioritizes a particular history of technology, which is fundamentally modern. I attempt to show that the way that technology has been perceived in the philosophy, anthropology, and history of technology is debatable, and it is *imperative* now for us to gain a different understanding of technology and to reflect on its other futures.

Perhaps I can sum up my aim to develop the concept of cosmotechnics in two positions. First, it is an attempt to enlarge the concept of technology that we have inherited today—for example, the widely accepted distinction that Heidegger made between *technē* and modern technology. I suggest considering a multiple cosmotechnics instead of a technology that begins with Prometheus and continues to the current digital technology. If this concept of technology remains so narrow, then we will also limit our imagination of the possible futures of technology to one very definite future—apocalypse. Second, I want to propose a particular way of doing philosophy as response to this epoch: I hope to give non-European thought new roles, in this case Chinese thought, by considering it from the perspective of technology. Again, China serves as *an* example. A philosophy of technology in China has never been thematic in traditional thought. This is also the reason that I did not introduce an already elaborated Chinese thought of technology but rather the re-construction of such thought and interrogation of such possibility. I do not pretend to provide a complete discourse; instead, what I offered in *The Question Concerning Technology in China* is only episodes that aim to open windows to such thought. I do not believe that we will be able to make non-Western philosophy relevant today

without thinking it through technology, since otherwise such thought will remain only part of cultural tourism. And maybe not only non-Western philosophy but also Christian theology (!), just as Ellul claims that without engaging with technology it will only be rendered powerless.[31]

Those who work on intercultural or transcultural philosophy might tendentially reproach this project as being culturalist, since for them a transcultural exchange is more productive. To think that I want to regress to an essentialist discourse, be that returning to the archaic cosmology or abandoning modern technology, would be to misunderstand. What is at stake is ways of knowing and sensing, which are crucial to the production of diversities of knowledge. The problem that we have to confront is that in the modern era, these kinds of knowledge are considered useful only for historical studies and cultural tourism (just as today one pays thousands of euros to go to the Amazon for shaman tourism). The initiative of rediscovering a technodiversity and the attempt to reflect on the future of such a diversity is not a nationalist or culturalist project. Instead, it is an investigation into different modes of co-existence as well as epistemological and ontological diversities. In reply, one might want to ask, isn't colonization the most significant form of cultural exchange in human history? And how could the once-colonized look at their own history and their non-modern knowledge? The uneasiness of engaging with a culturalist discourse is understandable, but ignoring different forms of knowledge and life is simply anti-intellectual.

We could also say that this attempt to reopen the question of technology is fundamentally a project of decolonization; however, it is not a project left to non-Europeans. Indeed, it is a project that is essential and imperative for Europeans also. Modernization brought forward two temporal dimensions: on the one hand, a simultaneity, characterized by the synchronization and homogenization of knowledge through technological means; on the other hand, consequently, the development of knowledge according to an internal necessity, namely, progress. Modernization *qua* globalization is a process of synchronization that converges different historical times to a single global axis of time and prioritizes specific kinds of knowledge as a major productive force. It is also in this sense that we understand why Heidegger claims in "The End of Philosophy and the Task of Thinking" (1964) that

> the end of philosophy proves to be the triumph of the manipulable arrangement of a scientific-technological world and of the social order proper to this world. The end of philosophy means: the beginning of the world-civilization based upon Western European thinking.[32]

The end of philosophy is marked by cybernetics. Moreover, it implies that the world civilization and geopolitics are dominated by Western European thinking. If there is a future for philosophy again, it will have to become a "post-European philosophy."[33]

This re-opening cannot avoid confronting the concept of technology that we have today, such as what the anthropologists of the "ontological turn" want to do with the concept of nature. Cosmotechnics implies not only the varieties of technologies in different geographical regions in human history, but also different forms of thinking and a different complex set of relations between the human and non-humans. Departing from these anthropological and philosophical investigations, we have to further interrogate what this technodiversity could mean for us today. Will they be able to inspire us to *reframe* the *enframing* of modern technology, apart from simply preserving them as obsolete pre-modern and non-modern knowledge? In order to do so, we must reopen the question of technology and challenge the ontological and epistemological assumptions in modern technologies, be it social networks or artificial intelligence.

Without a direct confrontation with the concept of technology itself, we can hardly maintain alterities and diversities (which I formulate as biodiversity, noodiversity, and technodiversity[34]). This is perhaps also the condition under which we can think about a post-European philosophy (and perhaps a political theology). If Heidegger can claim that the end of philosophy means "the beginning of the world-civilization based upon Western European thinking," and such end is marked by cybernetics, then an ignorance of technology and a blind acceleration only worsen the symptoms while pretending to heal them. What we hear today, however, is the fantasy toward a technological singularity, constant human enhancement, and large-scale geoengineering. Interestingly and confusingly, acceleration is embraced by both Marxists and capitalists, for the former believe that when full automation is reached it will be possible to free all labor, while

the latter see that with full automation they can make more profit. One has reason (and it might be an imperative to do so) to be sceptical of a tragist Promethean impulse claiming to end capitalism with full automation, because it is based on a false personification of capitalism as an aged person who will be rendered obsolete by technology. The fact is that capitalism deterritorizes and reterritorizes itself through technology. However, we are not simply rejecting the idea of acceleration, either. Rather, it makes more sense to ask, what kind of acceleration is faster than taking a radical turn, to deviate from the global axis of time and liberate our imagination of technological futures from the transhumanist fantasies? In order to respond, we need a technological thinking that is capable of first rendering the gigantic technological force contingent and making it necessary again for searching out a path beyond the Anthropocene.

Notes

1. Martin Heidegger, *The Question Concerning Technology and Other Essays*, trans. William Lovitt (New York: Garland, 1977).
2. Martin Heidegger, "La question de la technique [1953]." In *Essais et conférences*, trans. André Préau (Paris: Gallimard, 1958), 9–48.
3. See Ellul's critique of Morin in Jacques Ellul, *The Technological System*, trans. Joachim Neugroschel (London: Continuum, 1984), 201.
4. Jacques Ellul, *The Technological Society*, trans. John Wilkinson (New York: Vintage, 1964), 42.
5. Ellul, *The Technological Society*, 79.
6. "Society was free of technique. And even on the level of the individual, technique occupied a place much more circumscribed than we generally believe." Ellul, *The Technological Society*, 65.
7. Ellul, *The Technological Society*, 64. Italics are mine.
8. Gilbert Simondon, *On the Mode of Existence of Technical Objects*, trans. Cecile Malaspina and John Rogove (Minneapolis: University of Minnesota Press, 2017).
9. See Gilbert Simondon, *L'individuation à la lumière des notions de forme de d'information* (Grenoble: Éditions Jérôme Millon, 2005).

10. See Jacques Ellul, *Théologie et Technique* (Geneva: Labor et Fides, 2014), 183–85. Ellul claimed that these sacred points are posteriori, namely, its sacredness is given by the human.
11. Ellul, *The Technological Society*, 27–28.
12. See Moritz Rudolph, *Der Weltgeist als Lachs* (Berlin: Matthes & Seitz, 2021), in which the author makes the witty claim that if Hegel was right that the *Weltgeist* travelled from the despotic Orient to Greece, then to Rome, and lastly to Germany, now it travels back to the East like a salmon.
13. Jacques Ellul, *The Betrayal of the West*, trans. Matthew J. O'Connell (New York: Seabury, 1974).
14. See Yuk Hui, *Recursivity and Contingency* (London: Rowman and Littlefield, 2019), 233 fn71.
15. Philippe Descola, *Beyond Nature and Culture*, trans. Janet Lloyd (Chicago: University of Chicago Press, 2013).
16. Descola, *Beyond Nature and Culture*, 32.
17. Lao Tzu, *Tao Te Ching*, trans. D.C. Lau (Hong Kong: Chinese University of Hong Kong, 2001). The text starts with, "The dao that can be said is not the eternal dao."
18. Zhuangzi, *The Complete Works of Zhuangzi*, trans. B. Watson (New York: Columbia University Press, 2012), 182. For a closer discussion, see Yuk Hui, *The Question Concerning Technology in China: An Essay in Cosmotechnics* (Falmouth: Urbanomic, 2016/2019), 67–68.
19. I have tried to elaborate on the relation between Being and *dao* in my latest book; see Yuk Hui, *Art and Cosmotechnics* (Minneapolis: University of Minnesota Press, 2021).
20. Hans Blumenberg, *Geistesgeschichte der Technik* (Frankfurt: Suhrkamp, 2009).
21. André Leroi-Gourhan, *Milieu et technique* (Paris: Albin Michel, 1973), 336–40; André Leroi-Gourhan, *L'homme et la matière* (Paris: Albin Michel, 1973), 27–35.
22. Leroi-Gourhan, *L'homme et la matière*, 27.
23. See Joseph Needham, *Science and Civilization in China. Vol. 2, History of Scientific Thought* (Cambridge: Cambridge University Press, 1991).
24. In relation to this, one may even find an affirmation in Derrida's *De la grammatologie* (1967), in which Derrida compared Western alphabetic writing and Chinese pictorial writing, claiming that the former is based on the concept of substance

and the latter on relation. For a detailed analysis, see Yuk Hui, "Writing and Cosmotechnics." *Derrida Today* 13, no. 1 (2020): 17–32.

25. For a detailed analysis, see Hui, *The Question Concerning Technology in China*, part one.
26. Arnold Toynbee, *The World and the West* (Oxford: Oxford University Press, 1953), 67.
27. I argued that Kant's 1790 *Critique of Judgment* imposed an organic condition of philosophizing; see Yuk Hui, *Recursivity and Contingency* (London: Rowman and Littlefield International, 2019). For a more concise explanation of Kant's relation to cybernetics, see Yuk Hui, "Philosophy after Automation?" *Philosophy Today* 65, no. 2 (2021): 217–33.
28. Oswald Spengler, *Man and Technics: A Contribution to a Philosophy of Life* (Westport, CT: Greenwood Press, 1967), 100–01.
29. See Nathan Gardels, "New Axial Age." *Noema Magazine* (17 June 2020), https://www.noemamag.com/the-new-axial-age/.
30. Yuk Hui, "On the Unhappy Consciousness of Neoreactionaries." *E-flux*, no. 81 (2017), https://www.e-flux.com/journal/81/125815/on-the-unhappy-consciousness-of-neoreactionaries/.
31. See Ellul, *Théologie et Technique*, 107–13.
32. Martin Heidegger, "The End of Philosophy and the Task of Thinking." In *On Time and Being*, trans. Joan Stambaugh (Harper & Row, 1972), 59.
33. See Hui, *Art and Cosmotechnics*.
34. For the analysis of these three diversities, please see Yuk Hui, "For a Planetary Thinking," in *E-flux*, no. 114, ed. Bruno Latour and Martin Guinard, https://www.e-flux.com/journal/114/366703/for-a-planetary-thinking/.

Avons-nous vraiment besoin d'une cosmotechnique ?

Remarques sur *La question de la technique en Chine*

Daniel Cérézuelle

Je suis très ambivalent au sujet de ce livre. D'une part j'y trouve des informations très intéressantes et des idées avec lesquelles je suis tout à fait d'accord ; mais d'autre part je ne suis pas vraiment convaincu par sa thèse principale concernant la notion de cosmotechnique.

Des informations utiles : Je connaissais les recherches historiques de Joseph Needham sur l'histoire des techniques en Chine, mais je n'avais jamais rien lu sur la philosophie de la technique en Asie, et plus particulièrement en Chine. Ce livre est le premier à m'apporter des informations sur la manière dont la technique était appréhendée dans la philosophie chinoise traditionnelle, puis par des philosophes chinois et japonais modernes. N'y connaissant rigoureusement rien, ce fut pour moi une première initiation que j'ai trouvée très intéressante. Mais je ne suis pas en mesure de déterminer si la présentation est fidèle et perspicace et encore moins d'en discuter le contenu.

De nombreux points d'accord quant à certains problèmes de notre civilisation technicienne : Je ne citerai que quelques points de convergence avec Yuk Hui pour identifier certains effets désastreux de la technicisation contemporaine du monde sur la culture.

Ainsi concernant la thèse (ellulienne) de l'universalisation technique :

> Les systèmes techniques qui sont en train de se former aujourd'hui, alimentés par les technologies numériques (par exemple les smart

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> cities, l'internet des objets, les réseaux sociaux et les systèmes d'automatisation à grande échelle), tendent à homogénéiser la relation entre l'humanité et la technique (p. 66)[1].

Un peu plus loin : « La force de la technologie démantèle, en Chine, l'unité métaphysique de la pratique et de la théorie » (p. 69). Ce qui d'ailleurs fut le cas dans toutes les civilisations dont la vision du monde spécifique est détruite par la technique.

> (Les) cultures qui, au cours du siècle dernier, ont dû se soulever contre la colonisation européenne, ont déjà subi de puissants changements et de profondes transformations, au point que la condition technologique mondiale est devenue leur propre destinée (p. 86).

Yuk Hui à juste titre évoque les remarques de l'anthropologue Leroi-Gourhan qui constatait en 1964 que « au point actuel, les individus sont imprégnés, conditionnés, par une rythmicité qui a atteint le stade d'une machinisation (plus que d'une humanisation) pratiquement totale » (p. 293). Et il ajoute qu'il faut repenser « …les rythmes qui sont en train de se synchroniser et de devenir homogènes, suite au triomphe des systèmes technologiques mondiaux qui envahissent tous les domaines de notre vie quotidienne et traversent tous les territoires : télécommunications, logistique, finance, etc. »

Pour conclure, je ne peux qu'être d'accord avec l'auteur lorsqu'il écrit « Ce devenir technologique du monde doit être remis en question si l'on veut interrompre le règne de la synchronisation et produire d'autres manières de coexister » (p. 311).

Je suis d'accord aussi avec plusieurs propositions de Yuk Hui pour résister à ce devenir technologique du monde et encourager un autre rapport au monde. Que ce soit dans ce livre ou dans un entretien publié par la revue *Ballast*[2], pour résister à la tendance à l'universalisation uniformisante, inhérente au développement des technosciences, il nous incite à promouvoir une diversification des techniques en revalorisant le local et le sensible. Il faut dit-il chercher « la localité » de la technique pour la réinsérer dans une réalité plus vaste qu'elle. Cela veut dire permettre à la technique de se différencier selon les lieux, les sociétés, leurs morales, leur conception de la nature, etc. Bref, pour paraphraser les recommandations de Polanyi au sujet de l'économie, il faut réencastrer la technique dans la culture en l'adaptant

aux spécificités des contextes sociaux autant que naturels. Ainsi, il nous dit que la question de la préservation de la biodiversité n'est pas séparable de celle de la « technodiversité ». Moi qui ai étudié la question des pêches artisanales dans l'estuaire de la Gironde près de Bordeaux, j'ai pu constater que l'abandon des techniques de pêche traditionnelles qui étaient adaptées aux spécificités du milieu estuarien, et le recours à des techniques de plus en plus puissantes et surdimensionnées, ont en effet fortement contribué à la disparition des espèces puis, finalement, à celle des pêcheurs professionnels et de leur mode de vie. Je suis donc tout à fait d'accord avec la thèse de Yuk Hui que la seule solution viable est de « développer des technologies locales permettant des programmes de coexistence ». Je suis aussi en accord avec lui quand il explique que cette orientation générale de réintroduire une forme de vie et réactiver le local requiert une réhabilitation de la sensorialité et du rapport sensible que nous entretenons avec le monde. Il plaide ainsi pour une « écologie sensible » et explique que « …réinvestir la question des sens permet de se réapproprier cette écologie sensible qui est absolument laissée de côté par le développement technologique moderne. » (p. 61).

Je réserve pour la fin un point important de convergence, point qui caractériserait—si j'ai bien compris—la conception chinoise traditionnelle de l'action technique, à savoir qu'il faut toujours se préoccuper des effets des techniques sur ceux qui la mettent en œuvre, et pas seulement—comme nous faisons trop souvent—des effets qu'elles ont sur les objets auxquels elles s'appliquent. Ainsi Yuk Hui nous invite à ne pas séparer le moyen (l'homme) de la fin et des formes de vie qui résultent de sa mise en œuvre. Pour être bon, il faut que le moyen améliore l'acteur autant que son objet. Il me semble qu'il y a là un point d'ancrage fort, tant pour une critique des techniques que pour la recherche d'alternatives.

Je souscris sans réserve aux orientations précédentes proposées par Yuk Hui. Mais pour les appliquer, avons-nous réellement besoin de ce qu'il appelle une *cosmotechnique* ?

Qu'est-ce que la cosmotechnique ?

Dans la conclusion de son ouvrage, il explique « on ne peut résister à l'essor de cette raison technologique qu'en faisant émerger d'autres manières de raisonner en vue de constituer une nouvelle dynamique et un nouvel ordre » (p. 216). Cette nouvelle manière de raisonner, qu'il appelle « cosmotechnique » est précisée à plusieurs reprises dans son livre.

> Car la tâche la plus fondamentale aujourd'hui consiste à élaborer une nouvelle conception de l'histoire mondiale et une pensée cosmotechnique capables de renouveler notre manière d'être avec les objets et les systèmes techniques (p. 77).

Pour cela Yuk Hui suggère un projet apparemment très ambitieux et totalisant. « Au cœur de la proposition de ce livre (…) il y a l'idée de réfléchir de manière systématique à l'unité entre la technique et l'ordre cosmique et moral, afin de penser à nouveaux frais la production et l'usage des technologies » (p. 319).

> Deux étapes sont nécessaires pour se réapproprier la technique moderne d'un point de vue cosmotechnique : premièrement, il faut reconfigurer un fondement à partir des catégories métaphysiques fondamentales, comme on a tenté de le faire ici avec le qi-dao ; deuxièmement il faut reconstruire sur ce fondement une *épistémé* qui conditionnera à son tour l'innovation technique, le développement, l'innovation… (p. 318).
>
> Cette *épistémé* devrait à son tour conditionner la vie (ou forme de vie) dans ses dimensions politique, esthétique, sociale et spirituelle, et servir de force de création comme de contrainte pour la connaissance (p. 318).

Si j'ai bien compris il s'agit pour Yuk Hui de promouvoir une nouvelle conception du monde et de la place de l'homme dans le monde. Reprenant la terminologie structuraliste foucaldienne, il nous affirme qu'il faudrait construire ou « inventer » —une nouvelle *épistémé* qui conditionnerait nos manières de penser et d'agir dans un sens nouveau. Il s'agit donc bien de *conditionnement*, des esprits et des actions par un nouveau cadre mental qui nous obligerait à être « sages » dans notre usage des techniques.

Changeons d'isme !

Votre véhicule ne marche pas bien ? C'est que vous n'avez pas un bon moteur. Changez donc de moteur ! Si le progrès tourne mal, si nous sommes sur des rails qui risquent de nous conduire tôt ou tard vers une catastrophe, il faut qu'il y ait eu un principe vicié à la source de ce mouvement. Pour des intellectuels il est tout naturel de penser que c'est la faute à une façon théorique de penser, à un cadre cognitif et conceptuel particulier. Reprenant le vocabulaire structuraliste de Foucault, Yuk Hui parle d'une « *épistémé* ». Si je m'en tiens à mon expérience personnelle, depuis les années soixante, au fur et à mesure que les problèmes d'environnement s'aggravent, on n'a pas manqué d'intellectuels qui dénoncent des *ismes* pour en proposer un autre. Selon les auteurs on nous explique que si nous nous retrouvons aujourd'hui dans une impasse, c'est la faute à la tradition judéo-chrétienne, c'est la faute à la perversion du christianisme par l'Islam, c'est la faute aux traditions gnostiques, c'est la faute au dualisme cartésien, au positivisme, au réductionnisme darwinien, à la pensée bourgeoise, à la science, aux philosophies du sujet, au logocentrisme occidental, aux métaphysiques de la représentation, à l'ontothéologie, etc.

Après la dénonciation, la proposition : on voit donc les mêmes auteurs mettre chacun sur le marché son nouvel isme, un prêt-à-penser de rechange, sensé nous tirer d'affaire en réinsérant l'activité technique dans un cadre global. Ce sera (au choix) le Structuralisme, la Théorie Générale des Systèmes, le Macroscope, l'Ecosophie, la Nouvelle Alliance, la pensée de la Complexité, La Méthode (version E. Morin), etc. A chacun de compléter l'inventaire. Toutes ces propositions ont en commun une même conception de la manière dont il conviendrait d'améliorer notre condition en réformant les esprits. Cette conception c'est la substitution. « Empêchons donc cette mauvaise manière de penser de vicier les esprits, de les aveugler et de les entraîner dans une mauvaise direction. Dénonçons-la, extirpons-la, purifions, reformons les esprits, implantons-y une autre *épistémé* ; ainsi, *conditionnées* par une autre manière de pensée, les actions des hommes iront désormais dans le bon sens. »

La construction d'une cosmotechnique est-elle nécessaire pour réguler l'usage de la raison technicienne ?

Selon Yuk Hui, « Pour comprendre les défis posés par la technologie aux cultures non européennes, il nous faudrait donc passer par Heidegger et son concept de la technique comme achèvement de la métaphysique » (p. 246). Pour faire face à l'emballement technique contemporain et à ses diverses conséquences sociales, environnementales, politiques et culturelles, est-il vraiment nécessaire de construire une ontologie ou une nouvelle métaphysique ? L'idée fréquemment énoncée que nous aurions besoin d'une « pensée nouvelle » que l'on va substituer à l'ancienne suppose que jusqu'à maintenant les hommes n'étaient pas suffisamment équipés pour résister aux tendances productivistes, scientiste et techniciste de notre civilisation ; or, je suis persuadé du contraire. Il ne faut tout de même pas oublier que l'on peut critiquer—et que l'on a effectivement critiqué—de manière clairvoyante la société technoscientifique et productiviste en s'appuyant sur la raison commune. Il faut rappeler que toutes les orientations proposées par Yuk Hui et avec lesquelles j'ai signalé mon accord peuvent être argumentées au nom de la raison et du bon sens. Elles ont déjà été proposées par des penseurs technocritiques qui s'appuyaient sur de tels fondements.

N'en déplaise aux mânes de Heidegger, c'est la raison commune, attentive à l'intégralité de l'expérience personnelle vécue et en particulier à ses dimensions charnelles qui a été suffisante pour permettra à Berdiaeff, Guardini, Anders, Ellul, Charbonneau, Illich, Postman, et tant d'autres, pour identifier les problèmes résultant de la technicisation du monde. Ce n'est pas l'adhésion à une métaphysique particulière qui les a poussés à s'insurger puis à analyser. Ils ont d'abord fait l'expérience douloureuse d'une contradiction entre, d'un côté, leurs valeurs et leur sensibilité et, de l'autre, certaines dimensions du monde dans lequel ils se trouvaient. Ils se sont sentis privés de nature, privés de beauté, privés de liberté dans leur vie quotidienne ou professionnelle, ils étouffaient dans un monde sur-organisé, ils ont senti que les relations qu'ils entretenaient avec autrui étaient dépersonnalisées et dépersonnalisantes, etc. Ils ont eu aussi le sentiment que c'est quelque chose qui ne va pas s'arranger, qui va être aggravé par l'évolution sociale en cours. Ils ont eu aussi la conviction que ce que leur sensibilité perçoit, c'est une

contradiction qui concerne tout le monde et que pour y apporter quelque remède il faut analyser cette contradiction afin de déterminer ce contre quoi il faut agir. Ce n'est pas en répudiant une ontologie ou une métaphysique particulière qu'ils ont pu penser la technique de manière éclairante pour nous. Ce ne sont pas des idées théoriques, c'est d'abord le sentiment d'une contradiction vécue qui suscite pour l'un un malaise, pour l'autre une révolte. Ils sont persuadés que cette *expérience sensible* d'un désaccord avec le monde qui se met en place est importante, et ils n'ont pas cherché à refouler le sentiment intime de cette contradiction comme quelque chose de secondaire. Au contraire, ils ont plutôt mobilisé leur *raison* pour en identifier les causes. Pourquoi cette même raison commune ne suffirait-elle pas pour chercher et mettre en œuvre des alternatives ? Ainsi, dans *La trahison de l'occident*, contre un rationalisme aveugle, fasciné par la puissance et la passion de l'unité, Ellul plaide pour une raison conçue comme recherche de la mesure et comme art dialectique de patiemment tenir ensemble les contraires. De même, ce n'est pas l'adhésion à une nouvelle métaphysique qui a conduit Ellul, Charbonneau, Illich et bien d'autres à penser—comme certains des penseurs chinois anciens présentés par Yuk Hui—qu'une technique doit être évaluée non seulement d'après le degré d'efficacité de l'action sur son objet mais aussi d'après la manière dont son usage retentit sur celui qui la met en œuvre. (Qu'il ne faut pas séparer le moyen de la fin c'est une des thèses fondamentales de *Présence au monde moderne* de Jacques Ellul).

Les risques de la recherche de l'unité et d'un ordre global

Alors que le confucianisme affirmait « l'unité du cosmos et de la morale » (p. 114) selon un principe de résonnance entre l'humain et le Ciel, le règne de la technique a rompu en Chine « l'unité métaphysique de la pratique et de la théorie », Yuk Hui cherche une « nouvelle union » (p. 69). Et pour cela il veut « réconcilier technique et nature comme le propose Simondon » (p. 87).

« Dès que nous acceptons le concept de cosmotechnique, nous cessons de maintenir l'opposition entre magie/mythe et science, ainsi que l'idée d'un progrès de l'une à l'autre » (p. 58). Il s'agit donc de réduire le privilège de

la pensée rationnelle. Contre sa prétention à l'universalité, il faudrait promouvoir des modes de pensée privilégiant l'analogie, la résonnance entre les divers ordres de réalité. Notons que l'on retrouve ainsi les grandes orientations de la pensée ésotérique de la Renaissance (comme celle de Paracelse) qui passionnait Simondon. On peut y voir aussi une réactualisation du rêve romantique animé par un lancinant désir de fusion-réconciliation avec le monde, manifestation du « sentiment océanique », que Freud décrit comme sentiment « d'un lien indissoluble, d'une appartenance à la totalité du monde extérieur » ? Mais ne risque-t-on pas dès lors une régression vers un nouveau paganisme, une nouvelle pensée mythique qui resacralise l'ordre cosmique tel que le groupe social se le représente ?

Par ailleurs le projet de promouvoir la diversité des cosmotechniques et de conformer nos actions non plus à une raison commune mais, selon les groupes sociaux à tel ou tel modèle unifié de l'ordre du monde ne risque-t-il pas de favoriser des unifications autoritaires à l'intérieur de chaque groupe culturel, la sacralisation du tout justifiant le sacrifice des parties individuelles ? Et comme les diverses communautés peuvent indéfiniment se fragmenter en sous-communautés qui se rejettent mutuellement, ne risque-t-on pas aussi de renforcer la vieille tendance des humains aux « guerres culturelles » et aux politiques identitaires ?

Par ailleurs, je suis assez sceptique sur la possibilité de fonder durablement l'éthique sur la considération d'un ordre cosmique préétabli, indépendant de nous, car il n'est pas évident que le cosmos soit aussi ordonné que cela, ou plutôt que son ordre soit en harmonie complète avec nos valeurs éthiques. Certes l'homme appartient à la nature dont il dépend, mais il a aussi une dimension non-naturelle qui le pousse à s'opposer à l'ordre du cosmos qu'il vit souvent comme un désordre. Certes, le monde non-humain nous donne à certains égards l'impression d'un ordre régulier et hiérarchisé. Mais c'est aussi celui des tsunamis imprévisibles, des éruptions volcaniques, des météores qui peut-être un jour désintègreront la planète Terre, des virus qui peuvent la dépeupler ; c'est aussi celui dans lequel l'« ordre » consiste en ce que le plus fort vit en dévorant le plus faible. Comme le rappelle Charbonneau, l'homme est nature et fait partie de ce cosmos qui lui donne la vie, mais il est aussi liberté. Lorsqu'il ne sacralise pas les forces cosmiques

et naturelles qui peuvent à tout instant le détruire, c'est *contre* ce potentiel destructeur du soi-disant ordre du monde dont la science nous dit qu'il n'est régi que par le hasard et la nécessité, que l'homme rêve de pouvoir créer un autre monde de justice, d'amour, de fraternité et de paix, un monde conforme aux exigences de l'esprit : l'exact opposé de ce qu'il peut observer tous les jours. Mais l'expérience montre qu'en prétendant mettre de l'ordre dans ce désordre on risque d'aggraver ce dernier. Ce que montre l'histoire de l'Occident c'est que la désacralisation du monde et la liberté vont de pair. Or avec le Christianisme la désacralisation du monde est complète et l'exigence de liberté est devenue irrépressible. Plus qu'au triomphe de l'ontothéologie, c'est à cette désacralisation chrétienne du monde qu'on peut attribuer la montée en puissance technicienne de l'occident. Apparemment cette liberté chrétienne, accompagnée de la technique, contamine aujourd'hui la plupart des sociétés de la planète. D'où les risques de désordres tels que la liberté pourrait être la victime du processus qu'elle a mis en mouvement. Il y a là une contradiction difficile à résoudre : comment maîtriser les forces mises en mouvement par la liberté sans sacrifier cette liberté ?

Or en fondant une éthique technicienne et une politique sur la considération d'un ordre cosmique, on risque de laisser de côté la question de la liberté au profit de l'unité. Ellul s'était montré très critique à l'égard de la tentative d'Edgar Morin de construire une science de l'homme unifiée ; il nous avertit que « la traduction dans cette société de cette science, c'est l'élaboration d'une organisation socio-politique totalitaire ». Un peu plus loin, il précise

> il en est ainsi lorsque la créature propose une théorie non seulement totale, mais aussi fermée, c'est-à-dire prétendant rendre compte de tout ce qui est intellectuellement saisi, expliqué, mais aussi saisissable et explicable—lorsque cette théorie est non seulement le reflet du réel mais la solution de ce réel[3].

Je remarque d'ailleurs que la question de la liberté est absente du livre de Yuk Hui. Le mot n'y apparaît que très rarement. Sa préoccupation est plutôt celle de l'unité ; or il ne peut y avoir de liberté que là où il y a contradiction et tension.

Changer d'orientation : une question de métaphysique ou de caractère ?

Faut-il inventer une vision *du monde* pour remplacer celle qui est défectueuse ? Oui, répond toute une tradition philosophique. Mais n'est-ce pas une naïveté de philosophe que de vouloir sauver les hommes en opposant une doctrine à une doctrine, un paradigme à un autre paradigme, une *épistémé* à une autre, remplacer un programme par un autre (Yuk Hui a étudié l'informatique) ? Certes, les hommes agissent selon ce qu'ils pensent, mais leur pensée est plus souvent orientée par leurs désirs et des mythes irrationnels que par des idées métaphysiques. Est-il réaliste d'imaginer que c'est l'adoption d'une « nouvelle pensée », en fin de compte un nouvel *isme*, qui va nous sortir d'affaire ? J'en doute. Je me demande si ce sont vraiment de mauvais *ismes* qui nous rendent aveugles aux impasses où nous sommes engagés. Ne serait-ce pas plutôt parce que nous n'avons pas la force d'ouvrir les yeux et de voir par nous-mêmes que nous nous précipitons dans des *ismes* toujours renouvelés, errements dont il me parait important de souligner deux causes (il y en a peut-être d'autres). La première cause serait que la technique n'est pas existentiellement neutre, ce qui lui confère un pouvoir mythogène. Quels que soient les cadres ontologiques et la métaphysique qui structurent les cultures humaines, la technique fascine ; elle nous fait rêver d'une transmutation de l'existence, enfin délivrée de ses cadres spatio-temporels et de ses liens charnels à la terre. Ce faisant la technique nourrit une mystique du progrès qui nous fait désirer toute augmentation de la puissance et nous rend aveugles aux coûts et au risques sociaux et environnementaux de la montée trop rapide du pouvoir des hommes. La deuxième cause serait notre difficulté à enregistrer les contradictions dans lesquelles nous vivons et à les penser personnellement. C'est pourquoi la substitution aux anciens *ismes* d'un nouvel *isme* impersonnel risque de continuer à nous exonérer du devoir de penser personnellement, ce qui ne ferait qu'aggraver notre condition.

Je ne suis donc pas sûr que pour résoudre les problèmes posés par l'accélération démente de la technicisation du monde il serait nécessaire d'inventer une « nouvelle rationalité ». A mon avis il faut surtout devenir « raisonnables » et faire un effort pour sortir de la fascination techniciste. Plutôt

qu'une cosmotechnique, je crois que ce qu'il nous faut surtout, ce sont des *penseurs libres*, de solides gaillard(e)s, capables de supporter la contradiction, de résister à la pression sociale et aux entraînements collectifs, quel que soit l'*isme* dominant du moment. Ce qui suppose l'attention de chacun à son expérience personnelle et la confiance en son jugement personnel et en la raison commune. Ce n'est pas une affaire de métaphysique ou d'*épistémé*, mais de caractère. Bien entendu la méfiance à l'égard du rôle social de tout *isme* globalisant, quel qu'il soit, n'empêche pas de faire un travail théorique, à la fois critique pour démystifier et démythologiser la technique et constructif pour chercher des alternatives et cela dans de nombreux domaines. Tous les *ismes* ne se valent pas ; j'en suis persuadé, sinon je ne serais pas un intellectuel. Mais rien ne prouve qu'il soit nécessaire, pour réorienter nos pratiques techniciennes, de disposer d'une « nouvelle pensée » et de « nouveaux savoirs » susceptibles de fonder une « nouvelle alliance » entre l'homme, la technique et le monde. Je crois plutôt qu'entre les nécessités du monde et la liberté de l'homme il y a inévitablement une tension dont les termes devront être constamment renégociés grâce à une veille de la conscience et de la raison qui ne connaîtra jamais de terme.

Notes

1. Yuk Hui, *La question de la technique en Chine*, trad. Alex Taillard, Paris, Éditions divergences, 2021.
2. Yuk Hui: "produire des technologies alternatives". Revue *Ballast*, juillet 2020.
3. Jacques Ellul, *Le Système technicien*, Paris, Calmann-Lévy, 1977, p. 222–23.

Compte rendu de *Ce Dieu injuste … ? Théologie chrétienne pour le peuple d'Israël*

Patrick Chastenet et
Sylvain Dujancourt

Ellul, Jacques. *Ce Dieu injuste… ? Théologie chrétienne pour le peuple d'Israël*, Paris, Arléa, 1991, 201 p.

« Car Dieu a renfermé tous les hommes dans l'infidélité afin de faire miséricorde à tous. » (Rom. XI, 32). Si Dieu décide de tout, pourquoi punirait-Il ceux qu'Il a fait d'avance pour témoigner de sa colère ? Si Dieu—absolument libre dans sa souveraineté— « sauve » les uns et « rejette » les autres, comment accepter que de tels irresponsables soient damnés ? Si Dieu est bon, Il ne peut pas faire le mal. S'Il laisse faire le mal, c'est qu'Il n'est pas bon. Dans l'un de ses tous derniers livres, publié en 1991 soit trois ans avant sa mort, Jacques Ellul tente de sortir de cette série de contradictions logiques par une pensée dialectique déjà solidement éprouvée.[1]

L'homme est-il en mesure de juger de la bonté ou de la justice de Dieu ? En vérité, l'arbitraire de Dieu c'est que nous ne comprenons pas, c'est ce que nous n'acceptons pas, en tant qu'hommes. Dieu est « arbitraire » exactement comme l'amour est arbitraire. Prétendre que Dieu est « injuste » signifierait qu'il existe des valeurs au-dessus de celui que Kierkegaard nomme précisément « l'Inconditionné »[2]. Cela reviendrait à dire que Dieu n'est pas Dieu ! Pour l'auteur de la *Maladie à la mort* comme pour celui de *La Raison d'être*, Dieu est absolument libre, c'est-à-dire que ni son être ni ses

Chastenet, Patrick, et Sylvain Dujancourt. Compte rendu de *Ce Dieu injuste … ? Théologie chrétienne pour le peuple d'Israël*. *Ellul Forum* 68 (Fall 2021): 75–78.

décisions ne dépendent de qui ou de quoi que ce soit. En vérité, la Bible nous dit que le Bien c'est uniquement ce que Dieu fait et que seul Dieu décide de ce qui est juste ou non.

L'auteur de *Ce Dieu injuste ?* est bien conscient de s'attaquer là à l'un des passages les plus difficiles de la Bible. Car les trois chapitres (IX, X, XI) de l'Épître de l'apôtre Paul aux Romains comptent généralement parmi les plus ignorés ou les plus mal compris. Dans son commentaire, le théologien protestant n'oublie pas qu'il est aussi historien et sociologue. Son exégèse a donc fort peu à voir avec un simple panorama récapitulatif des diverses interprétations de ces trois chapitres. Car en définitive, il s'agit ni plus ni moins que d'établir une théologie chrétienne du peuple juif et de combattre les racines théologiques de l'antisémitisme et de l'antisionisme de l'Église. Son projet tombait d'ailleurs à pic à l'heure où certains secteurs (très minoritaires) de l'Eglise catholique renouaient avec leurs vieux démons antijuifs. En effet, peu de temps après la parution de son ouvrage, le quotidien *La Croix* révéla que des moines bénédictins avaient remis en vigueur de vielles prières antisémites abolies par le pape Jean XXIII en 1959. L'année précédente, des catholiques traditionnalistes avaient même profité du pèlerinage de la Pentecôte pour défiler dans les rues de Chartres et inviter « les juifs perfides » à se convertir.

La question posée par Ellul dans ce livre peut se résumer ainsi : que devient le peuple juif depuis l'avènement du Messie ? Est-il rejeté ? Pour Ellul, loin d'être le « peuple déicide », Israël est le peuple porteur de Dieu en Jésus-Christ. Le peuple élu reste le peuple « élu ». Ce qui ne veut pas dire « sauvé » mais « mis à part pour témoigner ». La mission du peuple juif est d'attester que le Dieu biblique est unique, que ce Dieu est maître de l'Histoire et que son Amour constitue la seule vérité. Ainsi, la vocation d'Israël est de vivre, selon la Loi, une aventure historique caractérisée par le désir de changer le monde, mais toujours dans l'attente du Messie. Cette réponse claire d'Ellul ne surprend pas de la part d'un auteur qui a pris le parti d'Israël « en tant que chrétien[3] » et qui ne prétend pas à l'objectivité scientifique.

Pourtant, selon Ellul, trois erreurs ont été commises : 1) les juifs ont confondu la Torah avec la justice et la volonté de Dieu, or Dieu ne se laisse pas enfermer dans un texte. Sa Justice n'est pas l'exacte rétribution des « œuvres »

et Sa Volonté est impossible à connaître dans son entier ; 2) chargés de la proclamation du Dieu libérateur pour tous, les juifs ont oublié l'universalité de leur message ; 3) les juifs se sont appropriés la Révélation, l'Alliance et l'Election. D'où le rejet « temporaire et partiel » d'Israël qui a déçu le projet divin de transmettre Sa volonté libératrice à tous, et son remplacement par Jésus-Christ, en sus de l'ultime reste d'Israël. Alors que la Torah est réservée au seul peuple juif, rappelle Ellul, Jésus-Christ est un don offert à tous les hommes, autrement dit la Torah accomplie. Malgré cela, les juifs refusent toujours de considérer le Seigneur comme « l'Éternel ». Choisi par Dieu pour ses faiblesses et non pour ses vertus, Israël n'est pas coupable selon Ellul.

Ce en quoi son point de vue diffère de celui défendu par le jésuite Jean-Noël Aletti qui propose—dans un livre publié le même mois—une lecture radicalement différente de l'épître aux Romains[4]. Sur l'interprétation de ce texte, divisant les chrétiens depuis Luther car renvoyant à la question de savoir si nous sommes sauvés par la foi ou par les œuvres, ces divergences n'ont rien de très surprenant. L'objet du livre de l'exégète catholique est de préciser la notion de justice divine chez l'apôtre Paul alors que nous avons vu que pour Ellul il s'agissait d'établir une théologie chrétienne du peuple juif et de combattre l'antisémitisme de l'Église. Alors qu'Aletti pratique une exégèse dite « scientifique » de type synchronique, Ellul se livre à une étude exégétique, théologique et éthique. Partant du même texte mais avec des intentions et des méthodes différentes, les conclusions divergent. Selon Aletti, Israël aurait commis une faute en rejetant Jésus-Christ, les juifs devraient renoncer à la Torah comme voie de justice et de salut, la promesse faite à Israël n'aurait plus de raison d'être—résumé de la doctrine de l'Église catholique—alors que selon Ellul, les juifs ne sont pas coupables, la Torah révèle le Christ et que la promesse demeure.

Ellul souligne que le refus des juifs de reconnaître la messianité de Jésus a en effet permis le « salut » des païens. « Là où le péché a abondé, la grâce a surabondé. » Isaac et Ismaël, Moïse et Pharaon, le « oui » et le « non », vont de pair. Israël est toujours et en même temps le peuple élu et rejeté. On peut alors parler de « positivité de la négativité » dans la mesure où cette désobéissance même sert le dessein ultime. Si la majorité des juifs n'a pas

reconnu le Messie en Christ, c'est pour permettre à tous les hommes de connaître la grâce et l'élection. Il revient donc à l'Église, aujourd'hui, de susciter la jalousie d'Israël par une éthique d'homme libéré. Or, comme l'avait montré Jacques Ellul dans l'un de ses livres majeurs[5], tant que les chrétiens prêcheront une morale, une dogmatique, une contrainte, une austérité en lieu et place du salut, de la joie, de la liberté et de l'amour, les juifs pourront légitimement refuser de reconnaître le Fils de Dieu en Jésus.

La Shoa doit nous conduire à penser autrement toute la théologie chrétienne, théologie à jamais bancale sans Israël. Et l'auteur de conclure en établissant un lien entre le judaïsme et la fin de l'Histoire : qu'il le veuille ou non, le peuple juif « est le coin enfoncé dans le cœur de pierre du monde et il y restera jusqu'à ce que le cœur de pierre soit changé en cœur de chair ».

Notes

1. Cf. Jacques Ellul, *La Raison d'être. Méditation sur l'Ecclésiaste*, Paris, Seuil, 1987.
2. Frédéric Rognon, *Jacques Ellul, une pensée en dialogue*, Genève, Labor et Fides, 2007 ; Vernard Eller, « Ellul and Kierkegaard: closer than brothers » in C. Christians et J. Van Hook (dir.), *Jacques Ellul: Interpretive Essays*, Urbana-Chicago-London, University of Illinois Press, 1981 ; Nelly Viallaneix, *Écoute Kierkegaard. Essai sur la communication de la Parole*, Paris, Le Cerf, 1979.
3. Jacques Ellul, *Un chrétien pour Israël*, Monaco, Editions du Rocher, 1986, 243 p.
4. Jean-Noël Aletti, *Comment Dieu est-il juste ? Clefs pour interpréter l'épître aux Romains*, Paris, Seuil, 1991, 288 p.
5. Jacques Ellul, *La subversion du christianisme*, Paris, Seuil, 1984.

Review of *An Unjust God? A Christian Theology of Israel in Light of Romans 9–11*

Patrick Chastenet and
Sylvain Dujancourt

Ellul, Jacques. *An Unjust God? A Christian Theology of Israel in Light of Romans 9–11*, trans. Anne Marie Andreasson-Hogg (Eugene, OR: Cascade, 2012).

"For God has consigned all men to disobedience, that he may have mercy upon all" (Rom 11:32). If God determines everything, why would he punish those he made in advance to testify to his wrath? If God—absolutely free in his sovereignty—"saves" some and "rejects" others, how are we to accept that those not responsible are damned? If God is good, he cannot do evil. If he lets evil be done, he cannot be good. In one of his very last books, published in 1991 three years before his death, Jacques Ellul attempted to break out of this series of logical contradictions by an already well-tested dialectical thinking.[1]

Is man able to judge the goodness or justice of God? In truth, what is arbitrary in God is that which we as human beings do not understand, do not accept. God is "arbitrary" just like love is arbitrary. To claim that God is "unjust" would mean that there are values that exist above the one whom Kierkegaard specifically called "the Unconditioned."[2] This would be like saying that God is not God! For the author of *Sickness unto Death* as for the author of *Reason for Being*, God is absolutely free, that is, neither his being nor his decisions depend on anyone or anything. In truth, the Bible tells

Chastenet, Patrick, and Sylvain Dujancourt. Review of *An Unjust God? A Christian Theology of Israel in Light of Romans 9–11*. *Ellul Forum* 68 (Fall 2021): 79–82.

us that the Good is only that which God does and that God alone decides what is and is not just.

The author of *An Unjust God?* is well aware that he is taking on here one of the most difficult passages in the Bible. The three chapters 9, 10, and 11 of Paul's Epistle to the Romans generally count among the most unheeded or most misunderstood. In his commentary, the Protestant theologian does not forget that he is also a historian and sociologist. His exegesis therefore has very little in common with a simple overview summarizing the various interpretations of these three chapters. Ultimately, his exegesis is concerned squarely with establishing a Christian theology of the Jewish people and striking at the theological roots of antisemitism and anti-Zionism in the Church. His project was also timely, when certain (very small) parts of the Catholic Church were taking up again with their old anti-Jewish demons. Indeed, shortly after his book's appearing, the daily *La Croix* revealed that Benedictine monks had restored old antisemitic prayers that had been abolished by Pope John XXIII in 1959. The previous year, some traditionalist Catholics had even taken advantage of the pilgrimage of Pentecost to parade in the streets of Chartres and invite "the perfidious Jews" to be converted.

The question that Ellul poses in this book can be summarized as follows: What does the Jewish people become after the coming of the Messiah? Are they rejected? For Ellul, far from being "the Christ killers," Israel is the people who bear God in Jesus Christ. The chosen people remain the "chosen" people. Which is not to say "saved," but "set apart as witnesses." The mission of the Jewish people is to testify that the biblical God is one, that this God is the master of History, and his Love constitutes the only truth. Thus, the calling of Israel is to live, according to the Law, a historical adventure characterized by the desire to change the world, but always in the expectation of the Messiah. Ellul's clear answer does not come as a surprise, from an author who took Israel's side "as a Christian"[3] and did not claim scientific objectivity.

Yet, according to Ellul, three errors have been committed: 1) The Jews confused the Torah with the righteousness and will of God, although God does not constrain himself within a text. His righteousness is not the exact retri-

bution for "works," and his will is impossible to know entirely; 2) Charged with proclaiming the liberating God for all, the Jews forgot the universality of their message; 3) The Jews took to themselves Revelation, Covenant, and Election. Whence the "temporary and partial" rejection of Israel that disappointed the divine plan to transmit his liberating will to all, and its replacement by Jesus Christ, in addition to the ultimate remnant of Israel. Whereas the Torah is reserved to the Jewish people alone, Ellul recalls, Jesus Christ is a gift offered to all men, in other words, the Torah fulfilled. Despite this, the Jews refuse still to consider the Lord as "the Lord." Chosen by God for their weaknesses and not their virtues, Israel is not guilty according to Ellul.

This is how his point of view differs from that championed by the Jesuit Jean-Noël Aletti, who proposed—in a book published in the same month—a radically different reading of the Epistle to the Romans.[4] On the interpretation of this text, which has divided Christians since Luther because it concerns the question of whether we are saved by faith or by works, these differences of opinion are not surprising. The purpose of the Catholic exegete's book is to clarify the notion of divine justice in Paul's thought, whereas we have seen that for Ellul it is about providing a Christian theology of the Jewish people and combatting the Church's antisemitism. Whereas Aletti practiced a so-called "scientific" and synchronic exegesis, Ellul undertakes an exegetical, theological, and ethical study. Starting from the same text but with different intentions and methods, the conclusions diverge. For Aletti, Israel did wrong in rejecting Jesus Christ, the Jews should renounce the Torah as the way of righteousness and salvation, the promise made to Israel no longer has reason to exist—a summary of the Catholic Church's teaching—whereas for Ellul, the Jews are not guilty, the Torah reveals Christ, and the promise endures.

Ellul emphasizes that the Jews' refusal to recognize that Jesus is the Messiah actually permitted the pagans' "salvation." "There where sin abounded, grace abounded more." Isaac and Ishmael, Moses and Pharaoh, the "yes" and the "no" go hand in hand. Israel is always and at the same time the chosen and the rejected people. We can therefore speak of the "positivity of negativity" to the extent that this very disobedience serves the ultimate pur-

pose. If the majority of Jews have not recognized the Messiah in Christ, it is so that all men may know grace and election. It is thus up to the Church, today, to arouse Israel's jealousy by an ethics of man set free. For as Ellul had shown in one of his major books,[5] as long as Christians preach morality, dogmatics, constraint, and austerity instead of salvation, joy, freedom, and love, the Jews will have legitimate reason to refuse to recognize the Son of God in Jesus.

The Shoah must lead us to think the whole of Christian theology in another way, a theology that is forever unsound without Israel. And the author concludes by establishing a link between Judaism and the end of History: whether they like it or not, the Jewish people "are the wedge that is sunk into the world's heart of stone and will remain there until the heart of stone is changed into a heart of flesh."

Translated by Lisa Richmond.

Notes

1. Cf. Jacques Ellul, *Reason for Being: A Meditation on Ecclesiastes*, trans. Joyce Main Hanks (Grand Rapids, MI: Eerdmans, 1990).
2. Frédéric Rognon, *Jacques Ellul, une pensée en dialogue* (Geneva: Labor et Fides, 2007); Vernard Eller, "Ellul and Kierkegaard: Closer than Brothers." In C. Christians and J. Van Hook, eds, *Jacques Ellul: Interpretive Essays* (Urbana, IL: University of Illinois Press, 1981); Nelly Viallaneix, *Écoute Kierkegaard. Essai sur la communication de la Parole* (Paris: Le Cerf, 1979).
3. Jacques Ellul, *Un chrétien pour Israël* (Monaco: Éditions du Rocher, 1986).
4. Jean-Noël Aletti, *Comment Dieu est-il juste ? Clefs pour interpréter l'épître aux Romains* (Paris: Seuil, 1991).
5. Jacques Ellul, *The Subversion of Christianity*, trans. Geoffrey W. Bromiley (Eugene, OR: Wipf & Stock, 2011).

Review of *Wisdom from Babylon: Leadership for the Church in a Secular Age*

Peter Anderson

Smith, Gordon T. *Wisdom from Babylon: Leadership for the Church in a Secular Age*. Downers Grove, IL: IVP Academic, 2020, 189 pp.

The particular challenges of Church leadership in this cultural moment set the scene for Gordon Smith's contributions in *Wisdom from Babylon: Leadership for the Church in a Secular Age*. More specifically, Smith attempts to evaluate and address the pressing need for qualified, capable, and mature leadership for the Church in the midst of complex social and cultural circumstances (2). As president and professor of systematic and spiritual theology at Ambrose University and Seminary in Calgary, Alberta, Smith speaks from a career invested in leadership development and ministerial training. He is also ordained within the Christian and Missionary Alliance and serves as a teaching fellow at Regent College, Vancouver. Having already published works on spiritual theology, vocation, leadership, and ecclesial identity, *Wisdom from Babylon* offers a synthesis of many of these themes in an effort to stimulate vocational maturity among Church leadership.

Smith divides *Wisdom* into two sections, the first focusing on reading and understanding the times and the second articulating the alternative community, competencies, and dispositions necessary for faithful Church leadership in a secular age. In setting the scene, he uses the term *secular* to identify the consciousness of the present age that emphasizes a lost sense of transcendence. He follows a line of thought as developed by the work of philosophers Louis Dupré, Charles Taylor, and James K.A. Smith (15–21). As Smith rightly identifies, the rise of secularity is less an indication of the

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decline of religion, spiritual, or faith in the Western social setting and more an indication that religion, specifically Christianity, has lost a privileged position within the larger culture (15). Significantly, Smith points to the rise of secularity not only in culture at large but in the Church in particular.

Channeling the spirit of H. Richard Niebuhr's *Christ and Culture*, Smith suggests four distinct responses to secularity ("Go Along to Get Along," Monastic, Culture Wars, and Faithful Presence) as an evolution of Niebuhr's original categories. The "Go Along to Get Along" response involves individuals living a divided life, separating existence along the private/public or spiritual/secular binary. The Monastic response disengages from society, creating a protective barrier and isolated society not on a binary as in the "Go Along to Get Along" but as an entirely distinct existence hermetically sealed from the corrupted broader culture. The Culture Wars response proposes a restorationist vision for Western society, misremembering and exaggerating a once-Christian culture in need of reclamation via legislation, education, and various other public advocacy. The final position, the Faithful Presence response, embraces the Church's cultural marginalization as an opportunity for humble, charitable social renewal through authentically Christian practices and witness within the fabric of social order.

After introducing the four categories, Smith spends several chapters pulling in various voices across Church history in an attempt to evaluate the four responses and offer the positive and negative possibilities of each. In the traumatic, minority presence of the post-exilic prophets in the Old Testament, the Church is reminded of the significance of God's glory, distinctive ecclesial identity, and biblical hope even in the face of troubling, fearful times. From the wisdom of the early Church, Augustine and Ambrose call out the power of seeking the common good, the essentiality of the catechumenate to a rightly formed social identity, and the significance of Trinitarian spirituality to the life of the Church. The historic minority churches clarify the distinction between secularity and the secular, the importance of a contextualized faith, and the place of justice and advocacy in the midst of genuine suffering. Finally, Christian voices from secular Europe (Dietrich Bonhoeffer, Jacques Ellul, and Lesslie Newbigin) recast a vision for reclaiming the Church's prophetic, subversive, redemptive identity.

The concluding portion of section one revisits the four responses proposed by Smith, analyzing the benefits and drawbacks of each. The "Go Along to Get Along" response accepts the secular world but creates a troublesome (and false) sacred/secular divide. The Monastic response crafts an alternative Christian vision for life but fails to follow the preservational and redemptive calling of the Church, surrendering to cynicism. The Culture Wars response speaks counterculturally but with an adversarial, power-hungry, fear-mongering voice. The Faithful Presence response fulfills the biblical vision for Christian witness from the margins.

A point of diversion is noteworthy at this point. Smith's engagement with Ellul in his review of Christian voices in secular Europe does a great job of drawing popular-level attention to some of Ellul's most prescient analysis. Specifically, Smith calls out Ellul's attentiveness to the duality of the Christian life lived in constant tension within the world, emphasizing the discontinuity of the world and the kingdom of God through leveraging insights on urbanization (from Ellul's *Meaning of the City*) and *technique* (e.g., efficiency, means as ends, and technology's dehumanizing tendencies). Additionally, Ellul's use of "salt and light" imagery as well as the call for a more hopeful Christian experience round out a solid recognition of Ellul's contribution to cultural exegesis and analysis. Smith represents Ellul fairly and offers introductory, framing concepts that would benefit a reader drawn to the works referenced in this section for further Ellul resources.

The second half of *Wisdom* turns a corner from offering broader analysis and historical review in order to describe the competencies and dispositions essential for leading the Church to be a faithful witness in the cultural situation analyzed in part one. To this end, Smith identifies three concepts critical to future leaders: liturgical leadership, catechetical leadership, and missional leadership. Each of these concepts frames not only the quality of leader necessary for Church leadership but also the kind of community aimed at Faithful Presence. By liturgical, Smith draws attention to the formative, devotional qualities essential to Church life. By catechetical, Smith calls for the Church to reclaim the teaching-learning identity in which Christians are initiated into the faith in order to pursue a shared life seeking wisdom and spiritual maturity. By missional, Smith calls the leader and

community to actively bear witness to the reign of Christ in word and deed, drawing on the priestly, pedagogical, and empowering role of good leaders.

Smith's sections on liturgical and catechetical community present a condensed adaptation of his larger work on the subject, *Called to Be Saints*. Nevertheless, restating topics such as the need for theological integrity, formative and informative practices, encounters with the ascended Christ, and hope in the midst of lament all offer important reminders of God's primary call for his people to grow in wisdom and maturity. In fact, Smith's identification of political wisdom, peacemaking, and ecumenism all reinforce the need for a new kind of creative, imaginative leadership rooted in the traditions, biblical foundations, and formative rhythms of the Church. After a final revisiting of interiority in the life of the leader, Smith concludes with a word on hospitality, generosity, and justice in the witness of the Church.

Overall, Smith's work represents a timely contribution to Church leadership conversations dominated by a seemingly endless list of moral failures, spiritual abuses, and mismanaged scandals. Smith's hopeful, worshipful alternative renews the spirit of those longing for Church leaders and communities identified by virtue rather than vice. In addition, *Wisdom* presents helpful insights for leaders and Christian communities hopefully working toward a better future. The strengths of *Wisdom* rest on Smith's ability to offer a beautiful portrait of the body of Christ as it ought to be. His emphasis on liturgical, catechetical, and missional leadership offers a clear, compelling case for a healthier, wiser, mature leader.

Yet, there are moments where the initial recognition of secularity as a "loss of transcendence" becomes muddled and Smith's initial statements feel disconnected from both his analysis and recommendations. Smith's alternative model for leadership would benefit greatly from being positioned as the restored balance of transcendence and immanence over and against secularity's overemphasis on the immanent. At times, Smith's work sounds like yet another cultural analysis from a Christian leader proposing the best model for cultural engagement. For example, Smith avoids including any mention of potential struggles or challenges for Church leaders and Christian communities seeking to embrace the Faithful Presence response. Every other response offers a list of strengths and weaknesses. Smith's model may be

ideal, but the application of the model surely is not. It's not difficult to look around and acknowledge that too many churches fail to see the secularity Smith identifies as present within the Church. As a result, Smith's alternative model may never gain traction within many congregations without clear guidance for even sensing the need for changing approaches or tactics. To that end, acknowledging the hard work of changing responses would enhance Smith's already helpful contribution.

Minor criticisms aside, Smith has done the Church a great service by employing his wisdom and experience to offer guidance for charting the kind of leadership and community designed to flourish within the contemporary social moment. His insistence on wisdom and maturity offers critical counter-narratives to the modern tendency toward foolishness and vacuity. To that end, I hope many take the time to read Smith's careful contributions for the sake of God's glory and the good of the world.

Review of *Radical Technologies: The Design of Everyday Life*

Pierre Lindsay Chineegadoo

Greenfield, Adam. *Radical Technologies: The Design of Everyday Life*. New York: Verso, 2017, 368 pp.

In this book, Greenfield aims to provide the global digital citizen with a manual to navigate the thick forest of networked digital information technology:

> If we want to understand the radical technologies all around us and see just how they interact to produce the condition we recognize as everyday life, we'll need a manual. That is the project of this book. (7–8)

The author makes us aware of how the networking of digital devices in our everyday lives constantly mediates and modifies our daily living:

> Networked digital information has become the dominant mode through which we experience the everyday. In some important sense, this class of technology now mediates just about everything we do. (6)

He further adds:

> A series of complex technological systems shape our experiences of everyday life in a way that simply wasn't true in any previous era, and we barely understand anything about them: neither how they work, nor where they come from, nor why they take the forms they do. (6)

In *The Technological Bluff*, Ellul qualifies such incognizance as embarrassing:

> If Technique has such negative effects and raises such dangers and threats, why do we have so little awareness of it? Why do most people not sense it or see it? Why is there this headlong rush into technical progress? Why do only a few specialists know it?[1]

Chineegadoo, Pierre Lindsay. Review of *Radical Technologies: The Design of Everyday Life*. *Ellul Forum* 68 (Fall 2021): 89–94.

The book introduces a gripping, technological-fiction movie-like script titled "Paris Year Zero." It describes the City of Light, fully functioning and operated through innovative, networked information-technology devices ranging from the smartphone to machine learning, automation, and artificial intelligence. The book plunges us into a world of near-technological fantasy and unveils the face of what Greenfield dubs the "posthuman economy" made possible through the perfectibility of blockchain technique. Terms such as *posthuman*, *cyborg*, and *transhuman* fill each chapter of the book, signaling Greenfield's concern that networked digital devices may, if left unsupervised, push human beings out of the new social order shaped and driven by the digital economy. Herein lies the radicality of radical technologies.

Each of the following ten chapters addresses emerging technologies' other face: rationality, procedure, and efficiency. Like the two-faced Greek god Janus, the networked digital devices conditioning our society and restructuring the social order are double-faced.

Chapter 1 deals with the invasive smartphone versus the networking of the self. Readers will discover how smartphones are omnipresent in the global village. However, the efficient use of the smartphone jeopardizes the autonomous self as a free independent subject. The author peels sequentially the phone's fabrication layers to reveal how it is transforming our self-understanding and has become the new lens through which we are learning to mediate reality and manage our everyday life. The autonomous self

> is smeared out across a global mesh of nodes and links; all aspects of our personality we think of as constituting who we are—our tastes, preferences, capabilities, desires—we owe to the fact of our connection with that mesh and the selves and distant resources to which it binds us. (15–16)

Chapter 2 reflects on the Internet of Things as a "planetary mesh of perception and response." The smartphone is part and parcel of a more extensive mesh topology that forms a computer and digital electronic wi-fi device network. These, like the Fitbit, Apple Watch, digital pedometers, and smart home devices, are entangled together, sending and receiving electronic messages on a constant basis. This "mesh topology" is qualified as the Inter-

net of Things, but Greenfield prefers these "for what it is: 'the colonization of everyday life by information processing'" (32). For example, wearable technologies such as Fitbit and Apple Watch serve the double purpose of measuring the performance and efficiency of the human body. Greenfield critically comments that "a brutal regime of efficiency operates in the background" (35) of the wearable biometric community.

Chapter 3 describes augmented reality as "an interactive overlay on the world." Greenfield reflects on virtual and augmented reality from various angles. These immersive technologies "are interface techniques—modes of mediation, rather than anything more fundamental" (65). I find it quite poignant when he shares his hope that augmented reality could reduce his mild face-blindness, or prosopagnosia, enabling him to recognize others and sparing them from "the real insult implied by my failure to recognize them" (68). He highlights the relentless striving for the technological society to reach beyond the flaws of human beings and comments that "the discourse augmented reality shares with other contemporary trans- and posthuman narratives is a frustration with the limits of the flesh and a frank interest in transcending them through technical means" (80).

As described by Greenfield, radical technologies validate Ellul's statement that "We are conditioned by something new: technological civilization."[2] The ideology of Technique (as defined by Ellul[3]) can lead to a fatalist attitude or a strict determinism philosophy. Ellul would argue however that we "must seek ways of resisting and transcending technological determinants."[4] In Ellul's thinking, humans as free agents should transcend technology, and not vice versa.

Chapter 4, on "Digital Fabrication: Toward a Political Economy of Matter," should be of paramount interest to those who advocate for a fairer economic distribution of goods and services. Greenfield posits that the coming into existence of digital-fabrication machines marks "the final defeat of material scarcity" (89). Digital fabrication enables "end consumers to fulfill emergent demand more or less directly." Digital fabrication serves Technique and becomes a tool toward a rational form of an effective process of production that tends to be more decentralized and accessible to all. However, he acknowledges that the challenge is not necessarily the deployment of

fabrication technologies but the resistance to any "logics of accumulation and exploitation" (112).

In Chapter 5, "Cryptocurrency: The Computational Guarantee of Value," the significant novelty of cryptocurrency for our everyday life is defined, highlighted, and criticized. The digital currency system remains vulnerable because of issues of privacy and security. Its fragility arises because of "the power over the network now resting in the hands of a very small number of actors" (137).

Chapter 6, "Blockchain Beyond Bitcoin: A Trellis for Posthuman Institutions," indicates a passage to blockchain technology that engineered and validated Bitcoin. It attracted more interest than Bitcoin itself because it opens the possibility for a "universal, distributed data-storage infrastructure based on the blockchain" (146). Blockchain technology promises an alternative financial system that is efficient, verifiable, and incorruptible. But the recent cryptocurrency heist in August 2021 of Poly's blockchain site proves the inherent flaw in any blockchain system. Ellul guards us against thinking that Technical thinking can think about Technique.[5] Proponents of blockchain technology are interested only in the progress of such Technique and cannot foresee the unpredictable move of intelligent hackers.

Ultimately, Greenfield describes how this form of automated economy leads to a posthuman ordering of the world, "not because their designers imagine autonomous technologies working alongside human beings, […] but because they conceive of humanity as something to be transcended" (181).

Chapter 7, "Automation," looks inside and outside "the annihilation of work." Here Greenfield reinforces his thesis of the posthuman turn:

> Large-scale data analysis, algorithmic management, machine-learning techniques, automation, and robotics, constitute a coherent set of techniques for the production of an experience I call the posthuman everyday. (185)

For Ellul, it would represent technological instruments that advance the cause of Technique as a planned, rational system aiming at efficiency.

In Chapter 8, "Machine Learning: The Algorithmic Production of Knowledge," the author exposes the limitations of training machines' algorithms to acquire fully autonomous knowledge, mainly when it requires the faculties of perception and discrimination. For instance, the Google Images algorithm showed bias in confusing some images of Black people with that of gorillas, "apparently because the only training images labeled 'people' it had ever been provided had light skin" (218). Frances Haugen recently testified before the US Senate about the dangers inherent to the Facebook algorithm.

Chapter 9, "Artificial Intelligence," describes "the eclipse of human discretion." Greenfield forecasts that the training and retraining of automated algorithm to be as cognitively efficient as human beings will eventually lead to the "edge of the human" (259). Artificial intelligence makes human beings finally expendable.

Chapter 10, "Radical Technologies," reconnects us to the technologies as instruments of the design of everyday life. The automated systems driven by artificial intelligence are becoming "more prominent in shaping the circumstances of everyday life. […] They subtly alter the ways we see and engage in the world" (225).

Undoubtedly, this book can serve as an addition to Ellul's studies on technology and Technique. Greenfield has vividly described how a panoply of technological tools and devices supports, assists, and transforms our daily living. This book presents a significant amount of analytical discourse of the digital information network that is worth examining in the light of Ellul's core concepts of technology and Technique that he developed and discussed in *The Technological Bluff*, "The Technological Order," and *The Technological Society*. Perhaps Greenfield could have been more explicit in his definition of "radical technologies" and included a reflection on the role of drones and robots in the context of digital information and universal networking.

It is the human choice not to "surrender control of a situation to the judgment of algorithms" (226), despite their ambitious claim to sell themselves as an efficient means to a more super-productive society. In such a context, Ellul's interrogation resounds like a clarion call:

> What then is the real problem posed to men by the development of the technological society? It comprises two parts: 1. Is man able to remain master in a world of means? 2. Can a new civilization appear inclusive of Technique?[6]

Indeed, like Greenfield himself puts it, "This book is to be played at maximum volume" (226).

Notes

1. Jacques Ellul, *The Technological Bluff*, trans. Geoffrey W. Bromiley (Grand Rapids, MI: Eerdmans,1990), 73.
2. Jacques Ellul, *The Technological Society*, trans. John Wilkinson (New York: Vintage,1954), xxix.
3. "The term technique, as I use it, does not mean machines, technology, or this or that procedure for attaining an end. In our technological society, technique is the totality of methods rationally arrived at and having absolute efficiency […] in every field of human activity." Ellul, *The Technological Society*, xxv.
4. Ellul, *The Technological Society*, xxxii.
5. Ellul, *The Technological Bluff*, 93.
6. Jacques Ellul, "The Technological Order." In Carl F. Stover, ed., *The Technological Order* (Detroit: Wayne State University Press, 1963), 14.

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About the International Jacques Ellul Society

The International Jacques Ellul Society, founded in 2000 by former students of Ellul, links scholars, students, and others who share an interest in the legacy of Jacques Ellul (1912–94), longtime professor at the University of Bordeaux. Along with promoting new publications related to Ellul and producing the *Ellul Forum*, the Society sponsors a biennial conference. IJES is the anglophone sister society of the francophone Association internationale Jacques Ellul.

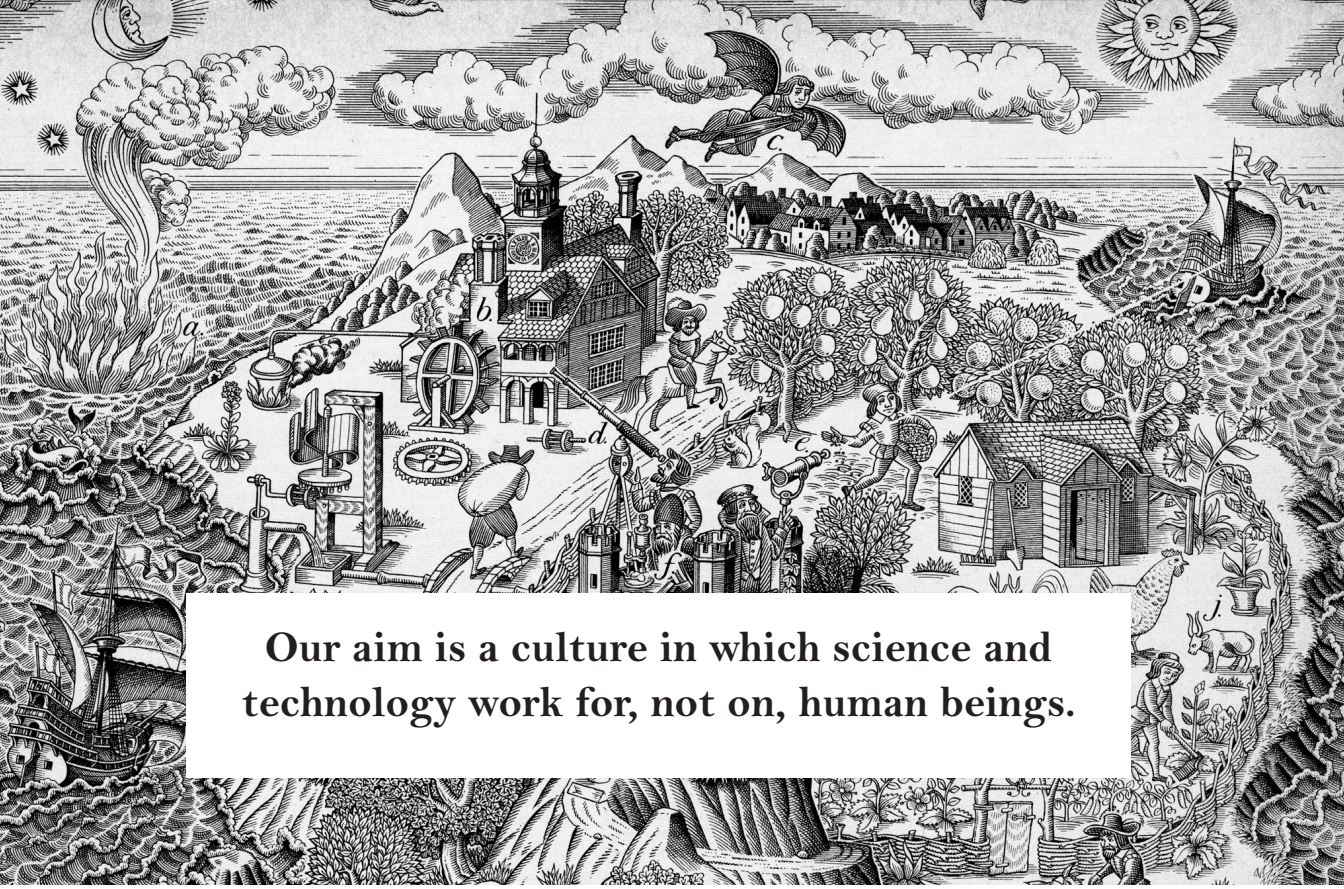
The objectives of IJES are threefold:

Preserving a Heritage. The Society seeks to preserve and disseminate Ellul's literary and intellectual heritage through republication, translation, and secondary writings.

Extending a Critique. Ellul is best known for his penetrating critique of *la technique*, of the character and impact of technology on our world. The Society seeks to extend his social critique particularly concerning technology.

Researching a Hope. Ellul was not only a social critic but also a theologian and activist in church and community. The Society seeks to extend his theological, biblical, and ethical research with its special emphases on hope and freedom.

IJES is a nonprofit organization, fully reliant on membership fees and donations from supporters worldwide. For more information or to become a member, please visit ellul.org.



Our aim is a culture in which science and technology work for, not on, human beings.

I can't think of another journal that does more to illuminate the moral and ethical dimensions of science and technology than does *The New Atlantis*. In an era in which science and technology promise—or rather, threaten—to change the very essence of what it means to be human, a magazine as intelligently written and edited as *The New Atlantis* is not only vital, but even prophetic.

—**Rod Dreher**, author of *The Benedict Option* and *Live Not by Lies*