

Technology and Our Relationship with God

ANSELM RAMELOW, O.P.
Dominican School of Philosophy and Theology
Berkeley, CA

God's Original Plan and the Fall

Technology may appear to be a very secular thing, but to assume that technology can be understood without God would be a mistake. Technology is deeply involved in our relationship with God. This involvement is, moreover, profoundly ambivalent.¹

To begin with the positive side of this ambivalence: the growing awareness of the dangers of technology should not lead Christians to think that technology is necessarily a bad thing. It is, in fact, not even merely a “necessary evil.” Rather, we can find in the use of technology an unfolding of our God-given rational nature. If we believe that God “made us in his image and likeness,” then this quite directly implies two things: (1) God is a *maker* (he made us), and (2) since he made us in his image and likeness, *we are makers as well*. The making of technology thus reflects our dignity as made in the image and likeness of God.² Accordingly, the Church has been more positive towards the development of technology than one might expect, and some of our technologies (e.g., agricultural, architectural, and time-keeping technologies) have their roots in medieval monasteries.³

¹ I would like to thank (in no particular order) Ted Peters, Jordan Wales, Albert Borgmann, Edward Feser, Noreen Herzfeld, Wolfgang Koch, Brian Green, Eric Salobir and Marius Dorobantu for comments on an earlier version of this paper. Remaining weakness are my own.

² Noreen Herzfeld, *Technology of Religion* (West Conshohocken, PA: Templeton, 2009), 10–17.

³ For some examples, see Brian Patrick Green, “The Catholic Church and Technological

We should therefore expect that Adam and Eve, had they not fallen, nevertheless would have become makers of technology in some form or other. They would have exhibited inventiveness and tool use, though perhaps not a tool use focused on warding off evil (which did not exist in Eden), but concerned with promoting positive forms of life, such as tools of art and communication. Art and communication technologies are, like all tools, means to an end; but these in particular contain their ends in themselves. In Aristotelian terms, their making (*poiesis*) concerns a *praxis* (such as “making conversation”). That is why we sometimes forget to list such technologies among our typical examples of technologies. We forget, for example, that, among the technologies of communication, *language* as a physical tool (sounds or written marks) is an obvious example. And it is a prelapsarian feature: the book of Genesis has Adam naming things *before* the Fall. In doing so, Adam echoes God’s own creative “technique” of speaking or calling things into being.⁴ Even in its oral form, language is a matter of human making and a technology of communication. In paradise, communication would not have been merely instrumental, not merely a means, but an intrinsic good, embodying knowledge and intersubjective communion.

Other forms of prelapsarian technology, however, are a matter of speculation. And whether or not one agrees with Jacques Ellul’s thesis that there was no such prelapsarian technology,⁵ the ambivalence of technology is clear from the very beginning as well. This is at least what we see in the book of Genesis. For, as a matter of biblical record, it was Cain and his descendants who founded cities and developed technology (e.g., Tubal-Cain as the “forger of all instruments of bronze and iron” in Gen 4:22). And the history

Progress: Past, Present, and Future,” *Religions* 8 (2017): 106. He relates here that the contemporary (and earlier) ecclesial condemnations concern rather technologies of warfare and human reproduction, or else the “technocratic paradigm” (in *Laudato Si’*), but not technology as such. An exception may be Gregory XVI forbidding railways and gas lamps in papal states. Even Yuval Noah Harari acknowledges the innovative role of the Church in the Middle Ages: the Church ran monasteries like companies and there pioneered archives, timetables, catalogues, etc.—in short, it developed data processing just as the companies in Silicon Valley do now (*Homo Deus—A Brief History of Tomorrow* [New York: HarperCollins, 2017], 276–77).

⁴ Jacques Ellul, “Technique and the Opening Chapters of Genesis,” in *Theology and Technology: Essays in Christian Analysis and Exegesis*, ed. Carl Mitcham and Jim Grotes (Lanham, MD: University Press of America, 1984), 123–37, at 131.

⁵ According to Ellul, this would have arrogated to man the honor God, whose perfect and complete work (“he saw that it was good”) would have been contradicted by a claim of progressive unfolding through human co-creation. For Ellul, there were no (technological) means or mediations in paradise because everything was *im-mediate* (“Technique,” 127–29).

of these urban civilizations does not display the best part of human behavior. But if, as we have said, technology is not necessarily a bad thing, then this must be a *corruption* of technology. What might this corruption consist in?

I want to suggest that it consists precisely in the corruption of our relationship with God, from which technology can never abstract and in which it is, for better or for worse, embedded. Unsurprisingly, therefore, as technology progresses, this relationship becomes more and more explicit, and it does so in a paradoxical way: initially, it is an attempt to put humanity in charge and control, to replace our need for reliance on God by allowing us to play God ourselves. But in our current situation, particularly with the emergence of artificial intelligence (AI) and machine learning, the roles appear reversed: rather than putting humanity in charge, technology in turn is increasingly in control—to the point of becoming itself a god or idol that rules human life. As a result, we only end up having replaced one God with another. This will be explained in what follows.

Early Modern Motivations and their Consequences

Beginning in the seventeenth century especially, philosophers such as René Descartes and Francis Bacon expressed a desire to undo the consequences of the Fall. But they did not aim at repairing our ruptured relationship with God. Rather, they only hoped to eliminate the consequences of that rupture, and to do so, not with the help of God, but by means of technology. The goal was—in Descartes' words—to become “masters and possessors of nature” again, just as we were in Eden.⁶ Illness, famine, mortality, and labor⁷ as consequences of the Fall were to be overcome, not by God, but by the new machines that a new science was to make possible. Not by accident therefore do these machines themselves gain religious overtones. As Nikolai Berdyaev observes: “Modern man believes in the might of technology, of the machine, and sometimes it would seem, that this is the one thing, in which he still believes.”⁸

⁶ René Descartes, *Discourse on Method*, part VI.

⁷ Labor as laborious, that is. For, according to Thomas Aquinas, “in paradise [work] would have been pleasant on account of man's practical knowledge of the powers of nature” (*Summa theologiae* [ST] I, q. 102, a. 3).

⁸ Nikolai Berdyaev, “The Spiritual Condition of the Contemporary World,” *Journal Put'* 25 (1932): 56–68. We should also note that technology in this form developed only on the background of Christianity. Romano Guardini explains this through the Christian experience of world-transcendence (*Die Technik und der Mensch* [Mainz: Matthias Grünewald, 1981], 74–75). Friedrich Schiller and G. W. F. Hegel also took Christianity to be at the root of the disenchantment of the world, while others like Lynne White

The modern mathematical science that is at the service of this development is itself, as Martin Heidegger noticed, the result of a technological interest.⁹ As a form of knowledge invested in controlling the contingencies of life, this new science is in direct contrast with a reliance on God's grace and providence. Albert Borgmann has pointed out that it is a science of control which seeks out only the necessary and deterministic features of nature, those that make things predictable so as to be used and commodified. Grace, history, and providence, on the other hand, are the realm of the contingent. They cannot be controlled and are therefore left outside of this new science. They typically become relevant, manifest, and thematic only where technological control fails.¹⁰

If this is true, then modern science and technology by their very nature lead to the occlusion of God's intervention in our lives. It illustrates that technology is never spiritually neutral, but always involves our relationship with God. This was always true, but it becomes even more obvious in the modern age, even though—or precisely because—it attempts to replace this relationship by technological control. In the words of Berdyaev:

For a long time they regarded technology as a most neutral sphere, something religiously indifferent, something furthestmost removed from spiritual questions and therefore something innocent. But this period has past, though not all have noticed it so. Technology has ceased to be neutral. The question about technology has become for us a spiritual question, a question about the fate of man, about his relationship to God.¹¹

Problematic as this development may be, we should hasten to add that there is nothing intrinsically wrong with using technological means to alleviate the consequences of the Fall. There is, for example, nothing illegitimate about using medicine against illness, and agricultural technologies against famine; the Church has always found this praiseworthy.¹² Such burdens *ought* to

took it as the root of the world's exploitation (on White, see Herzfeld, *Technology of Religion*, 92). Humanity arrogates to itself the transcendence that Christianity had taught to be a feature of the Creator. For a possible reintegration see our last part of this article.

⁹ Echoed, e.g., in *Laudato Si'* on "the scientific and experimental method, which in itself is already a technique of possession, mastery and transformation" (§106).

¹⁰ Albert Borgmann, *Power Failure: Christianity in the Culture of Technology* (Grand Rapids, MI: Brazos, 2003), 65–80. What may be lost here is also a sense of *gratitude*.

¹¹ Berdyaev, "The Spiritual Condition."

¹² See, again Green, "The Catholic Church and Technological Progress."

be made lighter by technology. Some burdens, however, are *good* burdens that we should carry rather than eliminate by technology:¹³ caring for one's neighbor, for example, or learning to live with those who are annoying or boring, or the hard training for good skills and tasks, and building virtue—all of these we could not or should not outsource to technology. Eliminating these efforts or avoiding them by technological means would make us lose something about ourselves. Nor would we want to use technology to medicate grief or the dark night of the soul. These burdens are essential to our relationship with God and neighbor—that is, to the relationships destroyed by the Fall; they can be repaired only by *taking up* these burdens.

Moreover, among those burdens that we may legitimately hope to alleviate by technology, some may prove to be beyond our efforts because of a lack of available technology—and this lack in turn may in some cases be beyond remedy in principle, as is most likely in the case of death. As Robert Spaemann noticed, all medical doctors are familiar with the unavoidable entropy of life and with the fact that ultimately all their efforts always end in failure.¹⁴ This failure and its acceptance may be more important than we think, yet modern technology seems to struggle with the acceptance and acknowledgement of its own limits and finitude. It is precisely at these limits that God comes into view again, the God who alone can save us. God, however, cannot be used like yet another machine. For he does not dispense his help in any controllable way. Praying for a miracle is not like pushing a button on a machine; it is rather like a conversation with a person. And this conversation itself may be more important than anything we can hope to attain by it in this world. For it rebuilds the very relationship that at bottom is the real issue.

Thus while technology wants to turn everything into a controllable “standing reserve” (Heidegger), it is good for us to accept our limitations as—to use technological language—“features, not bugs.” Even if we were able to construct a technological paradise for ourselves, this alone would not reestablish our relationship with God. We may think that it would give us at least the leisure to think more about God. But technological entertainment will likely preempt this by filling our leisure time with diversions. And all the ease of life that technology produces may rather subvert the

¹³ Here I take some inspiration from a personal communication from Albert Borgmann.

¹⁴ Robert Spaemann, “Genetic Manipulation of Human Nature in the Context of Human Personality,” in *Human Genome, Human Person and Society of the Future*, ed. J. Vial Correa and E. Sgreccia (Vatican City: Vatican Library, 1999), 340–50, at 350. Doctors who cannot accept this often end up promoting what they cannot prevent: euthanasia is the result of feeling the need always to *do* something, one way or the other.

divine pedagogy that we see displayed in salvation history, which is in so many ways an education in the awareness of our dependency on God. For the learning of patience and trust in divine providence is at issue, and that can be more important than any (otherwise desirable) improvement of our physical condition.

Technology just on its own may be a testimony merely to our cleverness, but not necessarily to our moral goodness. Jean-Jacques Rousseau may be right in thinking that it in fact makes us worse, morally speaking. Technology itself may not have the moral neutrality that we assume. It may be not only that the user determines the morally good or bad use, but that the technology all by itself implies certain uses of a particular moral quality.¹⁵ Usually, we would think here of technology that is intrinsically evil in all its possible uses, but we could also imagine the opposite: could technology not be used to make us morally *better*? Perhaps there are technologies that have an exclusively good use built into their structure (e.g., into their algorithms)? Technologies of self-surveillance and of the “quantified self” come to mind, controlling not only external nature but also our own human nature.¹⁶ Yet, while such technologies may make us better on a number of levels, we should not expect them to help us build virtue or become morally better.¹⁷ They would be at best neutral or indifferent with regard to our *redemption*. In fact, it may even be detrimental to our redemption, if it distracts us from God and from the right kind of efforts we need to make in our lives—for example, by relegating our moral choices to “morality apps.” In other words, original sin is not a technological problem. It is not a computer virus, nor a genetic defect that could be fixed by technology. Only love can save us, as Ted Peters notes: “Increased intelligence would be quite capable of increasing the destructive force of evil. Increased love, regardless of its accompanying level of intelligence, increases compassion, peace, and harmony. Love is redemptive.”¹⁸ Peters elsewhere quotes John Polkinghorne: “An ultimate hope will have to rest in an ultimate reality, that is to say, in the eternal God himself, and not in his creation.”¹⁹ This hope, as Pope Benedict XVI noted

¹⁵ This is a point that is currently emphasized by various authors; a well-known example is Langdon Winner, “Do Artifacts Have Politics?,” in *The Whale and the Reactor* (Chicago: University of Chicago Press, 1986), 19–39, as well as the work of Bruno Latour as a whole.

¹⁶ Shannon Vallor, *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting* (Oxford: Oxford University Press, 2016), 188–207.

¹⁷ Vallor, *Technology and the Virtues*, 188–207.

¹⁸ Ted Peters, “The Ebullient Transhumanist and the Sober Theologian,” *Scientia et Fides* 7 (2019): 97–117, at 104.

¹⁹ Ted Peters, “Artificial Intelligence, Transhumanism, and Frankenfear,” in *AI and*

in *Spe Salvi*, is not to be found in technology: Karl Marx's classless society, even though it provides for all of our needs by means of the technology taken over from the capitalists, is not automatically going to make us into better people (§§16–23). Human freedom is capable of evil in that utopian state just as much as Adam and Eve were in the garden of Eden, which, after all, was a perfect state as well. In the end it is a matter neither of the body nor of the mind, but of the *will*; and the will cannot save itself, with or without technology.²⁰

The Divinization of Technology

While these questions have been with humanity for a while, more recently, matters have taken a paradoxical turn: initially we see how modern technology is used to reduce our dependency on God by eliminating contingencies and threats. But the result seems, paradoxically, to create a new dependency on the very technology that promised to put us in control.²¹ At the same time, technology takes on features of the divine, confirming Ellul's thesis that the technological desacralization of traditional religion makes technology itself (as a "universal mediator") into the sacred. Lewis Mumford similarly notes how, in the early modern age, mechanics becomes the new religion and the machine its "new Messiah": in the early modern utopias the machine replaces Plato's virtues as well as Christian grace and redemption.²² Yuval Noah Harari even suggests that currently religion prospers more in Silicon

LA: Utopia or Extinction?, ed. Ted Peters (Adelaide, South Australia: ATP, 2018), 15–42, at 42.

²⁰ Suggestions of "moral enhancement" by gene technology (see Ingmar Persson and Julian Savulescu, "The Perils of Cognitive Enhancement and the Urgent Imperative to Enhance the Moral Character of Humanity," *Journal of Applied Philosophy* 25 [2008]: 162–77) misunderstand the very nature of moral action and its evaluation (even while they do understand that cleverer is not morally better). This is not a topic that can be addressed here.

²¹ We may become so dependent on machines that turning them off would amount to suicide (see Peters, "Artificial Intelligence, Transhumanism, and Frankenfer," 16, quoting Bill Joy). Already earlier, industrial machines were operating autonomously (Hegel's *selbständige Werkzeuge*, the early paradigm being the mechanical clock). They too dominated the life and labor of the factory workers (processes of deskilling can be found then as they are experienced now). For a while now, technology has also "colonized the Lifeworld" (Jürgen Habermas's term) and become "autonomous" and emancipated itself from human decision-making; see Jacques Ellul, *The Technological Society* (New York: Vintage, 1964), 133–34.

²² Lewis Mumford, *Technics and Civilization* (1934) (Chicago: University of Chicago Press, 2010), 45, 58.

Valley than in Islam and Fundamentalism, with technology promising peace, happiness, prosperity, and even eternal life.²³ The technological utopia of this-worldly control thus has its own eschatology, as it replaces the heavenly Jerusalem of Christianity with its own idea of such an ultimate culmination point of technological progress.

Theologians themselves have at times embraced this vision, as even secular authors will now invoke Jesuit Teilhard de Chardin's anticipation of a global "noosphere." Teilhard seems to have considered this noosphere to be at least in part the result of human technology.²⁴ While unknown in Teilhard's time, the internet has now indeed spun its web into a worldwide sphere of connectivity that enlarges human consciousness to the point that the planet itself seems to develop a global self-awareness.²⁵ Marshall McLuhan expected such a universal self-consciousness from information technology as well, particularly in combination with space travel: after the moon landing, TV cameras captured a view of earth from the moon for a global human audience, and this was, as it were, a reflection of the planet back onto itself, a suggestion of planetary self-consciousness.²⁶ The heavenly

²³ Harari, *Homo Deus*, 356–37.

²⁴ Even earlier, the late-nineteenth-century Russian Orthodox ascetic Nikolai Fedorov argued—inspired by Darwinism—that humans could direct their own evolution to bring about the resurrection. For a suggestive account, see Meghan O’Gieblyn, “God in the Machine: My Strange Journey into Transhumanism,” *The Guardian*, April 18, 2017. Another early example is E. M. Forster’s 1909 short story “The Machine Stops” (originally published in *The Oxford and Cambridge Review*, and later in the 1928 Forster collection *The Eternal Moment and Other Stories*), which eerily anticipates so much of the contemporary scenario (including social media), but which also anticipates a reemergence of religion in which “The Machine” takes on divine features, after it initially had destroyed religion: “Those who had long worshipped silently, now began to talk. They described the strange feeling of peace that came over them when they handled the Book of the Machine, the pleasure that it was to repeat certain numerals out of it, however little meaning those numerals conveyed to the outward ear, the ecstasy of touching a button, however unimportant, or of ringing an electric bell, however superfluously. ‘The Machine,’ they exclaimed, ‘feeds us and clothes us and houses us; through it we speak to one another, through it we see one another, in it we have our being. The Machine is the friend of ideas and the enemy of superstition: the Machine is omnipotent, eternal; blessed is the Machine.’ . . . The word ‘religion’ was sedulously avoided, and in theory the Machine was still the creation and the implement of man.”

²⁵ Brett T. Robinson found an early anticipation in R. W. Emerson: “Our civilization and these ideas are reducing the earth to a brain. See how by telegraph and steam the Earth is anthropologized” (Brett T. Robinson, *Appletopia: Media Technology and the Religious Imagination of Steve Jobs* [Waco: Baylor University Press, 2013], 7).

²⁶ Stanley Kubrick’s *Space Odyssey 2001*, in its final shots, seems to envision a new birth

realm, the “starry sky above” that Immanuel Kant could still invoke, ceased to be the transcendent realm of gods or angels; it became the sphere of human technology. The orbit of heavenly bodies moved by angels was now replaced by the orbits of artificial satellites; they now govern our fate and observe us with increasingly all-seeing eyes, mimicking divine omniscience.²⁷ Meanwhile, on earth, Facebook and other applications display similar aspirations to quasi-divine omniscience and algorithmic governance of our fate and choices (not without the use of facial recognition software). And yet, in the end, we need to remind ourselves that it is still we who are looking at ourselves, playing God with the help of our technology.²⁸

Our eschatological moment also features an electronic Pentecost. In the biblical Pentecost, the Holy Spirit overcame the linguistic separation of humanity—a separation that had resulted from technological ambitions described in the story of the tower of Babel in Genesis 11, where humanity yet again grasped for heaven on its own terms. In contrast with the biblical Pentecost, the modern technological Pentecost hopes to heal the wound caused by these technological ambitions with the help of the same technological means that inflicted it in the first place.²⁹ Global connectivity and

of the planet in this kind of return to and reflexivity on itself. The photo “Earthrise” from the astronauts of the moon landing turned the gaze from earlier outward looking space exploration in the 1960s back to the fragility of earth; see Catherine R. Osborne, “From Sputnik to Spaceship Earth: American Catholics and the Space Age,” *Religion and American Culture: A Journal of Interpretation* 25 (2015): 218–63.

²⁷ In popular culture, Isaac Asimov’s *Foundation* series experiences a renaissance. Asimov envisions an all-knowing “psychohistory” predicting future events. All-knowing technologies are also anticipated in Jeremy Bentham’s panopticon, of whose paradigmatic role Michel Foucault has made us aware in *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan, (New York: Vintage, 1995), 195–230. This, too, mimics God’s-eye view, but now as an aspiration for humanity.

²⁸ Marshall McLuhan, “At the Moment of Sputnik the Planet Became a Global Theater in Which There Are No Spectators but Only Actors,” *Journal of Communication* 24 (1974): 48–58; McLuhan, *Understanding Media: The Extension of Man* (New York: Signet, 1966), 258; McLuhan and Wilfred Watson, *From Cliché to Archetype* (New York: Viking, 1970), 9 (see also some of his lectures). As an externalization of our nervous system, electronic media give us an “instant, total field awareness”: “in the electric age, we wear all mankind as our skin” (*Understanding Media*, 56). McLuhan was influenced by Teilhard (see Osborne, “From Sputnik to Spaceship Earth,” 260). The global net suggests a view from nowhere, because we perceive from everywhere at once, implying a quasi-divine objectivity, an *intellectus archetypus* (Kant) which is constitutive of reality, suggesting that here reality and appearance (virtual reality) coincide. Only the real God can call that technologically simulated perspective into question. It is potentially a showdown between two competing ultimate perspectives.

²⁹ Even in inner-worldly terms, this may not be promising. Hans Jonas notices that

AI translation programs promise to overcome the linguistic and cultural separation and alienation even without God's Holy Spirit. But just as the biblical Holy Spirit is also the life-giving soul of a community—the Church as the Mystical Body of Christ—so here, too, some quasi-mystical body is to be constituted when all of humanity will connect in cyberspace as a global “hive mind.” In the words of Peters: “One’s cybermind would be in community with all other cyberminds, a variant on Teilhard’s noosphere. One might even celebrate a new higher level of community.”³⁰ And so, in a quasi-Joachimite eschatology, we may witness ourselves participating in the outpouring of an electronic substitute for the Holy Spirit.

But this substitute has a rather different character. For, of course, the Holy Spirit is indeed spirit, not matter. God is not a “force” or electricity, but a personal being, a *creator spiritus* who transcends his creation. A material and technological substitute, on the other hand, would not transcend the physical universe. In theological terms, the implied religious aspirations would be pantheist and of one piece with the physical world. Hence, this outlook would not have a place for a relationship with a transcendent God. And, as we will see, excluding this relationship may even be the very point.

Moreover, the “divinity” that is to replace the transcendent God would be an *evolving* god, similar to the god of G. W. F. Hegel or of process theology. And just as Hegel’s god needs our finite consciousnesses to become self-conscious, so here, too, the growing god of this quasi-pantheist religion is expected to gain some kind of self-consciousness: according to some, the global connectivity promises that this computer network will become self-aware and transcend its human makers.³¹

AI will eventually supersede the power of its creators. It will be so much more intelligent than us that it will, effectively, become a god. With the Internet as its nervous system, the world’s connected cell-phones and sensors as its sense organs, and data centers as its brain,

technology is less likely to fulfill our eschatological aspirations and more likely to lead instead to the destruction of the planet and the human race. Hence, even for secular minds, the biblical mandate to be good stewards of creation is now obvious, according to Jonas (“Technology as a Subject for Ethics,” *Social Research* 49 [1982]: 891–98, at 895).

³⁰ Peters, “Ebullient Transhumanist,” 108.

³¹ I have argued elsewhere that only God can make true makers; true creativity can be found in human artists, but not in computers, or else we need to give them copyright and baptize them. Like God, however, we can *pro*-create other makers. All creation is preceded by pro-creation (“Can Computers Create?,” *Evangelization and Culture* 1 [2019]: 39–46).

this new deity will be as omniscient and omnipotent as any previous vision of God.³²

The growing technology of neural networks fosters the expectation that machine learning will become autonomous and self-upgrading, outpacing even human innovation and resulting in a “Singularity.” Now, “self-upgrading” as a form of reflexivity suggests something like “strong AI” and that self-consciousness could be the property of material entities like machines.³³ While this assumption can and needs to be challenged philosophically, what concerns us here is the religious imagination that drives the development of such expectations and that affects our relationship with God. The Singularity is, once more, a secular and technological eschaton, now replacing earlier utopias. Such a global internet, having become self-conscious, would be the true providential agent of future history, and many, including perhaps Teilhardians and other theologians, seem to welcome this coming god.³⁴

Nor do the religious overtones even depend on the assumption of machine consciousness of the kind we have just discussed. According to Harari, the religion of “dataism” supersedes human beings precisely because it supersedes consciousness and self-consciousness as something that is merely a clumsier kind of data processing mechanism. In dataism, the ultimate entities are not human persons, but data, and data flow is the ultimate value. “Life” as a value just consists in the flow of information, to which everything else is subordinate. Hence the imperative (or quasi-divine commandment) to share one’s own data with everyone else. Even now, humans are merging with that

³² Galen Beebe and Zachery Davis, “When Silicon Valley Gets Religion,” quoted in Peters, “Artificial intelligence, Transhumanism, and Frankenfear,” 38.

³³ For a philosophical discussion, see David J. Chalmers, “The Singularity: A Philosophical Analysis,” *Journal of Consciousness Studies* 17 (2010): 7–65. Chalmers takes, for the most part, a positive view of the possibility.

³⁴ Jaron Lanier implies that the Protestant variant of this theology is something like an electronic rapture into the Singularity (*Who Owns the Future* [New York: Simon & Schuster, 2013], 125). Steve Jobs, on the other hand, sought his religion in India, and indeed, new-age and eastern religions had a home in Palo Alto since the 1980s (213). There are also Mormon and Buddhist versions of transhumanism (Peters, “Ebullient Transhumanist,” 110–11). Nick Bostrom’s “Simulation Argument” envisions something like a “naturalistic cosmogony” with nested simulated realities, each having its own gods or people running the simulation, rewarding and punishing behavior therein. Since inhabitants of each simulation try to create simulations of their own, this notion may potentially appeal to Mormons (who tend to be interested in transhumanism as well); see Bostrom, “Are We Living in a Computer Simulation?,” *The Philosophical Quarterly* 53 (2003): 243–55, at 253–54.

flow and feeling elevated states of consciousness by being participants in something greater—a quasi-religious experience in which one’s own existence is confirmed (“I share, therefore I am”). Not that human experience matters. It is as outdated as humanistic politics and democracy (which even now is incapable of keeping up with technological developments). The flow of data merely *uses* human beings and their politics; it may eventually also discard them as outdated forms of data processing. Already in our own time, human conscious decision-making is increasingly bypassed by automated algorithmic mechanisms, which know us and our desires better than we know ourselves. In the past, humanism declared God to be a figment of our imagination; now dataism declares human imagination itself to be merely the product of our biologically based algorithms. As our biology becomes outdated as a data processing system, so the flow of data becomes independent from human consciousness and affectivity.³⁵

Harari lays this out in rather cynical formulations—which helps to highlight what is at stake for humanity.³⁶ Even if the “internet of all things” did not eliminate human consciousness altogether, it would certainly not bring human consciousness in contact with the reality of a transcendent Other. It would isolate our consciousness from reality altogether and keep our conscious life entrapped in the parallel world of the internet. Our consciousness would live and move and have its being not in God, but in cyberspace, in a metaverse, in virtual reality.

Something about our relationship with *reality* is askew in this picture. And this is not as new as one might think. It is the apex of a long historical development that began with the seventeenth-century attempt to control reality technologically and scientifically, as we saw earlier. Modern science began by reinterpreting reality as something susceptible to our mechanical manipulation, by taking reality itself to be a mechanism (initially with God as the increasingly remote clockmaker in the background). Accordingly, we assume that we have understood what reality is once we are able to make a machine or robot that perfectly *simulates* this reality.³⁷ Reality and simulation become indistinguishable, even conceptually. Reinterpreting

³⁵ Harari, *Homo Deus*, 372–98.

³⁶ Only in the very last few pages of the book does Harari indicate that he may not necessarily support this development (*Homo Deus*, 399–402).

³⁷ This includes our own reality. According to Mumford, the machine is created in our own image and likeness, but devoid of our humanity’s flesh and blood. It is really only an image of our own *power*, i.e., of the thing that interests us most and that equates our life with work—and what other life do machines know? (*Technics and Civilization*, 51–53).

reality in this way means to understand it relative to our needs (for control), as an object existing only relative to our own subjectivity. And indeed, in Descartes, unless there is a God who is not a deceiver, reality may as well be our dream, a mere appearance or virtual reality. Again, appearance and reality become indistinguishable.

The resulting unreality of reality³⁸ can be witnessed early on in a growing epistemological skepticism which turns everything into appearances and leaves reality inaccessible: Descartes' dream problem, George Berkeley's idealism, Kant's noumena. Today this skepticism is recast in technological terms as Nick Bostrom claims that perhaps we are really living in a virtual reality simulation. God the Creator, then, is replaced by the mad scientist who orchestrates this simulation—foreshadowed already in Descartes' *genius malignus*. For Berkeley; it was still God who orchestrated the appearances; now, as God is dropped entirely, we or our technology are responsible even for that part. We supposedly live in our own or another human being's technological creation, not in reality.

Reinterpreting reality as relative to our needs, to our technology, or to our consciousness, has thus already been around for a few centuries and only now ends in an attempt to *replace reality altogether*. And this, too, has a prehistory. Harari seems to suggest that already with the beginning of agriculture, a more direct, animistic contact with nature disappeared, and that the gods of the new cities were understood to mediate between humans and nature. Animals, plants, and nature were silenced and became a mere backdrop of life or are even cruelly exploited with the help of the gods.³⁹ What is specific to the modern development is that the *scientist* now takes the place of the gods as the mediator between us and nature. *They* know what nature really is and how it can be made to serve our needs by means of technology.⁴⁰ On the level of material culture, and particularly since the industrial revolution, technology has begun to seal us off from nature as well. Ortega y Gasset and others have noticed this as early as the late 1920s.⁴¹ While, as Mumford notes, the

³⁸ "Robert Spaemann's Entwicklung der Wirklichkeit" ("Wirklichkeit als Anthropomorphismus," in *Grundvollzüge der Person: Dimensionen des Menschseins bei Robert Spaemann*, ed. Hanns-Gregor Nissing [Munich: Institut zur Förderung der Glaubenslehre, 2008], 13–35, at 29). Spaemann liked to quote (critically) Hume's claim that "we never take a step beyond ourselves."

³⁹ Harari, *Homo Deus*, 90–94.

⁴⁰ Harari also points out that the modern version features its own variant of the Fall story: Newton's apple falling from another tree of knowledge. Here, even snake and God are silenced, only Newton remains; and he is not punished but enlightened by knowledge and praised (*Homo Deus*, 77 and 98).

⁴¹ José Ortega y Gasset, "Meditación de la técnica" [1939], trans. Helene Weyl as "Man

earliest completely artificial environments may have been the mines of the early modern age,⁴² it was only in the later nineteenth century that chemistry produced plastics and other artificial substances that constitute much of the modern environment.⁴³ In our day, this culminates in the fabrication even of biological life, namely in artificial organisms constructed by genetic manipulation.⁴⁴ Moreover, it now promises us a completely artificial reality by means of a nanotechnology that is subject to our every wish and whim (the so-called “utility fog”⁴⁵). Or else, we can live in Facebook’s Metaverse, a virtual reality according to our own image and liking—though controlled by its own “Lords of the Cloud.”⁴⁶

In all of this, technology affects our relationship with God. While for Descartes God had to guarantee our access to reality and the natural world, the opposite is true as well: it is this natural world that normally also gives us access to God. Nature as a product of its maker can be regarded as God’s manifestation. But as we are sealing ourselves off from nature, we become isolated and alienated from nature’s God as well.⁴⁷ The more we make and live exclusively with substances not found in nature (by means of chemistry and nanotechnology), the less we find access to God in his creation. Instead, we will soon be facing only ourselves in the realm of our own productions, which, as we have said, are defined by *our* purposes, and therefore fit comfortably within a frame of reference defined only by ourselves.

And here is where we may entertain a certain hermeneutics of suspicion:

the Technician,” in *History as a System and Other Essays towards a Philosophy of History* (New York: Norton, 1941), 87–161. See also Berdyaev’s transferal from the “organism” to “organization,” which begets a “tendency towards suicide” (“Spiritual Condition”) Between about 1928 and 1932 (published sometimes a few years later), quite a number of prominent authors suddenly produced treatments of technology, e.g., Karl Jaspers, Oswald Spengler, Ortega y Gasset, Mumford, Guardini, and Berdyaev.

⁴² Mumford, *Technics and Civilization*, 69–70.

⁴³ Mumford, *Technics and Civilization*, 229–35. Earlier, the production of clear glass helped create the artificial environment of the hothouse, now encompassing the natural, organic world (124–25, and 258). Science itself takes place in the artificial environments of the laboratory.

⁴⁴ Hans Jonas, “Ethics and Biogenetic Art,” *Social Research* 71 (2004): 569–82.

⁴⁵ Ray Kurzweil, *The Age of Spiritual Machines* (New York, Penguin, 1999), 145.

⁴⁶ Jaron Lanier, *You Are Not a Gadget* (New York: Vintage Books, 2011), 85, 94–99.

⁴⁷ Thus perhaps making earth into an isolated “silent planet” under the rule of Lucifer, as in C. S. Lewis’s *Out of the Silent Planet*, the first book of his celebrated Space Trilogy. Ironically, as Mumford explains, the separation from nature’s cosmic and sacred time occurred due to the invention of mechanical clocks used by monks for their prayer time (*Technics and Civilization*, 12–22). Clockmakers were the first *machinists*, as clocks, unlike tools, operate on their own (134).

if God is Being Itself, and therefore the most real being of all, are we then perhaps, by replacing “real reality” with virtual realities of our own making, not actually trying to avoid God himself? Are we afraid of *real* and true *otherness*—most especially that of God, but also that of our neighbor? And was it perhaps *this* motivation that drove the whole development from the beginning? It will still have to be seen whether alternate realities like the Metaverse will allow for places where God and his revelation can be spoken of. In principle, it is hard to imagine this metaverse as a place in which God could become present by an incarnation. God’s Incarnation is, after all, something like Alfred Hitchcock making a cameo appearance in his own movies: it would *break* the illusion and let otherness, the reality of the author, back in. Yet are we not rather seeking distraction and isolation from this otherness in a metaverse or other forms of virtual reality?

While God’s Incarnation is hard to imagine in virtual reality, religious experiences may appear more promising, because they are more subjective to begin with. And they have indeed become the subject of the quest for technological surrogates. This quest, however, may amount to a performative self-contradiction: can anything not caused *by* God be an experience *of* God? Much as Ray Kurzweil can fantasize about technologically induced “religious experiences” (by brain stimulation), these are not forms of a personal encounter with an Other, nor true forms of self-transcendence.⁴⁸ Any manipulation does *as such* preclude a personal encounter, if such encounters by their nature must happen in a free gift of the self. This gratuitous freedom is most especially required if the other person in question is God, because God by his very nature transcends any grasp of ours and can be encountered only in his own gift of grace. How indeed could grace become subject to our technological manipulation if it is always freely given? Thus, a real encounter cannot be our production. All we can make are only appearances and simulations. Attempting to produce religious experiences on our own will only keep God and an encounter with him further away. In this way, technology once more does not heal, but rather cements the rift between God and us. The “fault line” between us and God only gets larger, perpetuating the distrust that led Adam and Eve to grasp the fruit in the first place and subsequently made them hide from their Creator. This is still our situation—only that, instead of hiding behind fig leaves, we now hide in virtual reality.⁴⁹

⁴⁸ In fact, Kurzweil’s own experiments only feed us back our own “musical” brain wave signals (*Age of Spiritual Machines*, 151–53).

⁴⁹ Cyberspace aims at creating a heavenly Jerusalem without God: “Software engineer Michael Benedikt envisions cyberspace as a place where ‘we would enjoy triumphs without risks and eat of the tree and not be punished, consort daily with angels, enter

But there is, again, a paradoxical twist that we can observe in our own days: what was then simulation or virtual reality now becomes itself the one true reality on which we depend—namely, once we live under the rule of the “Singularity” which we have discussed earlier. This Singularity promises to take on a life of its own and to subject us to its own designs, in short: to become a new god or first cause in our life.

Parallel with this development we, can currently observe an odd turn among philosophers, a turn which also reverses the early modern philosophical beginnings. In the seventeenth century, Descartes and Bacon and others eliminated formal and final causes from their ontology, which they considered to be a form of anthropomorphism. Only human beings were taken to have ends and purposes, not nature. Interpreting all reality mechanistically eviscerated nature of its claim to contain animated and spontaneous entities of its own. Animals and other beings were considered mere machines without a subjective life of their own, and therefore of much lesser reality than the human beings who therefore could turn them into mere tools.

Yet now, in an odd turn, we suddenly invest even what really *are* mere machines with subjective states and consciousness, thinking of robots as having a subjective mental life of their own. Accordingly, some philosophers are now even wondering whether robots should receive rights and protections.⁵⁰ But how is this not even worse than the allegedly animistic projections that philosophers had been mocking earlier, when it came to nature?⁵¹ And at the same time, the very beings that engage in this kind of projection (namely, we ourselves) are subjected to reinterpretations through

heaven now and not die; . . . [it is] the Heavenly City, the New Jerusalem of the Book of Revelation. Like a bejeweled, weightless palace it comes out of heaven itself, . . . a place where we might re-enter God's graces, . . . laid out like a beautiful equation.' Eternity as a never ending video game" (Herzfeld, *Technology and Religion*, 75). Yet the video games of cyberspace (played preferably in invincible "God-mode") are typically games of destruction. At the same time, their almost instantaneous feedback loop suggests that appearance and reality, subject and object, become one, a "fusional loop of subject and object," a man-made representation taking on features of the real presence of something made by God (Thomas Zengotita, *Mediated* [New York: Bloomsbury, 2005], 197–98).

⁵⁰ Nick Bostrom and Eliezer Yudkowsky, "The Ethics of Artificial Intelligence," in *Cambridge Handbook of Artificial Intelligence*, ed. William Ramsey and Keith Frankish (Cambridge: Cambridge University Press, 2014), 316–34; David Gunkel, "The Other Question: Can and Should Robots Have Rights?," *Ethics and Information Technology* 20 [2018]: 87–99. Kurzweil even envisions computers as going to their own kind of worship (*Age of Spiritual Machines*, 153).

⁵¹ This is still a biblical theme as well: "Ah! you who say to wood, 'Awake!' to silent stone, 'Arise! Can any such thing give oracles?'" (Hab 2:19).

the mechanistic reductionism used earlier on nature—thus reducing the human mind to a “carbon-based computer.” Subject and object of the early modern age are reversed: machines are elevated to a status beyond nature, while we are reduced to mere mechanisms. This will certainly help to set the stage not only for a *personalization* of machines, but for their *divinization*. For, we increasingly depend on them as an object of their machinations and relate to them more and more as mere docile and subservient subordinates. Who, after all, still understands all the algorithms that run our lives?⁵²

Yet, in this our new subordination, can we really *trust* this new “god”? After all, it is not clear that this new godhead will be benevolent.⁵³ Unlike the God of the theological and metaphysical tradition, we are not dealing with the pure act of a spiritual being, a being that *must* be good by its very nature. The computer servers that run the algorithms of this new “god” are still material mechanisms. They originated as our tools, and most tools by their nature can be used for good or ill. And so, even if this particular tool were to gain some kind of autonomy, its moral indeterminacy would remain.⁵⁴

Unsurprisingly, therefore, some futurists anticipate that the Singularity may turn against us. It may, for example, eliminate us as harmful parasites from earth. Some environmentalists may even welcome this for ecological reasons. Others like Harari anticipate that we will be discarded as an outdated mode of data processing. All that may be left to us at that point may be to choose to surrender our will-to-life—that same will by which we originally developed our machines, and to which we now submit for our own elimination. It would be an elimination by our own creations, the original subject of technology now being overcome by its object. Or, in the words of David Tracy: “The object cannot think. The subject will not. We began as technical agents of our willful destiny; we seem to end as technicized spectators at our own execution.”⁵⁵ Dystopian fantasies of this sort do abound,

⁵² Even in the teams which develop the algorithms at Google, nobody understands the whole of it (Harari, *Homo Deus*, 398).

⁵³ This ambivalence in the Singularity religion is noted also in Lanier, *Who Owns the Future?* 193.

⁵⁴ We prescind here from the discussion of whether technology is neutral or intrinsically value-laden, as many authors have claimed (from Ellul to Langdon Winner and many others). The non-neutrality may always imply a social or political context. On the ultimate level, this context will disappear, including even the very user and designer (according to the idea of a Singularity). It may, however, still be driven by what this entity is programmed to optimize (and it is not clear what could or would change *that* ultimate setting, or how it could change that setting *by itself*).

⁵⁵ Quoted in Ted Peters, “Progress and Provolution, Will Transhumanism Leave Sin Behind?,” in *Transhumanism and Transcendence: Christian Hope in an Age of*

and they are, of course, not entirely new; they begin with then golem, with Frankenstein's monster, and the sorcerer's apprentice.

Others, however, will not surrender, and rather try to forestall such developments. This may, for example, be achieved by upgrading humanity itself, in a kind of arms race with artificial intelligence (this seems to be the idea of Elon Musk⁵⁶). Yet, for all this, they only repeat another version of the story of the Fall: grasping at the fruits and powers of a god who appears to be untrustworthy (and in this case actually is). For transhumanists,⁵⁷ this grasp aims not only at undoing the consequences of original sin (e.g., overcoming death by uploading ourselves into a computer⁵⁸), but even at introducing the qualities of the resurrected bodies into our life on earth by remaking ourselves with "superpowers."⁵⁹ Such an approach can sometimes

Technological Enhancement, ed. by Ronald Cole-Turner (Washington, DC: Georgetown University Press, 2011), 63–86, at 78. For David Bentley Hart, however, the god of transhumanism turns out to be a god of human sacrifice ("The Anti-Theology of the Body," *The New Atlantis* 9 [2005]: 65–73).

⁵⁶ But it is also Harari's idea (see Peters "Ebullient Transhumanist," 103).

⁵⁷ Transhumanists are the inverse of the "inhumanists" (the term of Robinson Jeffers). The latter see humanity only as a destructive parasite on planet earth (hence perhaps welcoming such a Singularity). Thus, nature either becomes an "untouchable taboo" or an object of abuse (Pope Benedict XVI, *Caritas in Veritate* [2009], §48). In neither case is there a God-given meaning to life: we either have to create it ourselves, or else there is none at all and we must be nihilists.

⁵⁸ Kurzweil is a typical example; see also Herzfeld, *Technology and Religion*, 64–69. Entrance into eternal life would be open not to the saints, but to the rich. Or else the rich prefer to prolong their real biological life and leave virtual reality as a cheap option for the poor (Lanier, *Who Owns the Future?*, 330). Some have speculated that avoiding death may be to avoid God's "particular judgment" (related clashes can be found in Zoltan Istvan's novel *Transhumanist Wager*). If so, then this attempt is, of course, illusory, because even this prolonged life ends at the latest with the heat death of the universe as a whole (or, theologically, with the Last Judgment). Avoiding death is not a new desire: Mumford suggests that even the earlier invention of recording devices promised a new form of immortality (*Technics and Civilization*, 244–55.), and we may wonder whether the current promises are really different in kind or only in degree. An upgrading of our nature was first envisioned by Pico della Mirandola in 1486—as a mandate from God himself.

⁵⁹ For John Locke, we own what we make or work on, and since God makes us, we are his property. Now, however, we begin to make or remake even ourselves (in *our own* image and likeness). This is a further appropriation of a divine prerogative that pushes God further out of the picture. Zengotita points out how this vision of self-made man continues through Comte, Marx and Nietzsche; it is celebrated by Donna Haraway, but abhorred by Heidegger as nihilistic (*Mediated*, 272–75). Disturbingly, if we make and therefore *own* human beings, then we also may claim the right to *unmake* what we have made.

take on strangely Manichean forms. After all, replacing reality with virtual reality is also a verdict on the materiality of the body: the claim is that our body can be replaced, as our true identity consists of nothing but patterns of information processing that are not bound to any particular computer or material substratum into which they are uploaded. In order to illustrate this, Nick Bostrom oddly appeals to the Catholic notion of purgatory, which he misunderstands as a way of purifying the separated soul from its *body* (rather than from its *sins*).⁶⁰ Yet others suggest, curiously, that this transhumanism could be a form of self-transcendence.⁶¹ But Christian self-transcendence has to do with self-sacrifice, with moral self-transcendence, and with surrender to God. Christian self-transcendence is, in other words, the very opposite of technological self-elevation. Surrender to God in fact seems to be replaced with the aim of becoming identical with God.⁶²

Another, quite contrary way of dealing with the untrustworthy god of the Singularity is again a kind of submission. But in this case, it is not a surrender to our own extinction and mistreatment.⁶³ Left with the task of making sure that this Singularity will be benevolent, Anthony Levandowski—an engineer of self-driving cars—suggested that we *worship* this entity so as to placate it. His (recently disbanded) church of AI, the “Way of the Future” was to anticipate the “Transition” to this Singularity in worship so as to get it to be on our side.⁶⁴ This is a startling idea, yet not exactly new. In fact, since we are still dealing with a technology that human beings have made, this is literally

⁶⁰ Nick Bostrom, “Human Genetic Enhancements: A Transhumanist Perspective,” *The Journal of Value Inquiry* 37 (2003): 493–506, at 495–96; he is also trying to address the problem of personal identity with this analogy. On the body, see also Peters, “Ebullient Transhumanist,” 109. Bostrom’s nested proliferation of simulations within simulations (see note 33 above) may also remind us of the gnostic emanations of *aeons*.

⁶¹ Vallor, *Technology and the Virtues*, 233.

⁶² Vallor, *Technology and the Virtues*, 233.

⁶³ Submission here is not childlike, but calculating. At the same time, technology, with its deskilling, is indeed also infantilizing us (unlike true childlikeness, which aims at growing up). Lanier describes a growing attitude of guilty fearfulness, akin to superstition: people blame *themselves* rather than the computer, if something goes wrong, or if it is hard to use. They also work anxiously on the upkeep of their social media presence, “avoiding the ever-roaming evil eye of the hive mind” (and there is only one such hive mind, thus without any possibility of emigration); and like God (but unlike money), computers never forget (*You Are Not a Gadget*, 35; see also *Who Owns the Future*, 70, 29–31).

⁶⁴ “This new deity will be as omniscient and omnipotent as any previous vision of God. In the face of such power, Levandowski believes, humans will merely submit and pray to be spared” (Beebe and Davis, “When Silicon Valley Gets Religion,” quoted in Peters, “Artificial intelligence, Transhumanism, and Frankenfur,” 38).

a page out of the Old Testament: it is a case of people “worshipping the work of their own hands” (Isa 2:8), worshipping an entity that presumably is not even conscious or self-conscious, and hence literally “deaf and dumb.”⁶⁵ In other words, it is a form of idolatry, though in the case of a “Singularity,” it is a kind of *monotheist* idol.⁶⁶

Worshipping an idol will typically either reflect our own tone-deafness for God or make us deaf and dumb ourselves (Ps 115:9–8: “Those who worship them will become like them”). It is a deafness that results from making something that is essentially a *means* or tool into an *end* in itself, thus turning us back upon the ends that are definable within the scope of this technology and making us lose sight of the true end.⁶⁷

At the same time it is, again, the paradoxical inversion of the starting point in which our means for controlling nature now control us and take on features of animation and divinization that we had excluded from nature.⁶⁸

Technology in the Church

Coming down from these eschatological speculations to our own daily lives, we find them invaded by technology even now. This includes our religious life-world.⁶⁹ Pandemic restrictions have made us accustomed to worshipping

⁶⁵ Eric Salobir suggested in conversation that “Alexa” is not deaf and dumb anymore, but listens to our wishes and fulfills them (e.g., by ordering pizza). But Alexa does, of course, not literally hear, but only reflects *our* wishes and preferences and interests. Nevertheless, these devices may function like the Roman *penates* or household gods that are oracles, provide for household needs, and connect the family to the larger world. Such devices are just the way we like our gods.

⁶⁶ Like Moses descending out of the cloud on Sinai, we may even download the Singularity’s commandments and instructions from the “Cloud” onto our “tablets.” Short of a global mind, companies like Apple now aspire to be themselves such a larger whole with a “spirituality” of their own, and with algorithms creating the groups of the elect. “You are either saved or damned, #BlessedByTheAlgorithm or #Cursed by it” (Linda Kinstler, “Can Silicon Valley Find God?,” *New York Times*, July 16, 2021).

⁶⁷ See Francis, Encyclical Letter on Faith *Lumen Fidei* (June 29, 2013), §13. Typically, its place is then taken by opaque sensual desires that can be satisfied precisely by the commodities that technology provides. I find elements of this also expressed in Borgmann, *Power Failure*, 81–94. Grace becomes gratification (127).

⁶⁸ Some of this paradoxical inversion has been noticed earlier by Theodor W. Adorno and Max Horkheimer in their *Dialectics of the Enlightenment*, though they have no account of the theological dimensions of that problem.

⁶⁹ The colonization of the life-world by technology also implies, sort of in the reverse, that our private *sins*, committed in our life-world, also affect the rest of the world more than before, amplified and spread by technology. Can our vices in turn be technologically

on computers, through live-streaming and other means. The one true mediator has himself become mediated by technology, and nobody seems to think much of it. Quite to the contrary, there was, in the 1950s, a vigorous debate among theologians as to whether it could ever be permissible to show Mass on TV. Spaemann, for example, commented critically on the voyeuristic character of this technology (calling it, with Jean Cocteau, the “art of the keyhole”).⁷⁰ Ellul, too, notes the desacralizing character of this voyeurism:

Technique worships nothing, respects nothing. It has a single role: to strip off externals, to bring everything to light, and by rational use to transform everything into means. More than science, which limits itself to explaining the “how,” technique desacralizes because it demonstrates (by evidence and not by reason, through use and not through books) that mystery does not exist. Science brings to the light of day everything man had believed sacred.⁷¹

Long before the pandemic, this had been water under the bridge. Mass was even then shown on TV and technology has had its own way of invading our faith life. But with the recent increase in technical mediation, perhaps now the question may arise again.⁷² For, why would we *not* accept live-streamed

counteracted by drugs in the water, brain implants, or genetic engineering? See the article by Persson and Savulescu, and my comments above.

⁷⁰ See, for example, Robert Spaemann, “A Keyhole for Unbelievers? The Public Character of *Cultus* and the Broadcasting of the Mass on TV,” *Communio* 45 (2019): 629–36 [originally “Ein Schlüsselloch für die Ungläubigen? Die Öffentlichkeit des Kultes und die Fernsehübertragung der Messe,” *Wort und Wahrheit* 9 (1954): 165–68]. Perhaps relatedly, Zengotita notices that birth and death are the only events which cannot be technologically “mediated” (*Mediated*, 42–45, 289). The first and last moments of life confront *being* itself—before and after any possible technological mediation and reflection (and therefore they uniquely confront us with God). The same may be true for the sacramental real presence of the death of Christ. Filming the sacrifice of the Mass may be as perverse as filming someone’s death, Spaemann suggests. A critique of Protestant televangelists (not exempting the venerable Bishop Fulton Sheen) can be found in Neil Postman’s *Amusing Ourselves to Death* (New York: Penguin, 1984), 114–24; for Postman this is blasphemy and idolatry (as the medium becomes the message).

⁷¹ Ellul, *Technological Society*, 142–43.

⁷² The issue may perhaps also be witnessed by the need for guides of proper etiquette for watching mass on a computer. Questions arise as to what is implied in using the very same computer (as a “multistable” medium [Don Ihde’s term]) for looking at quite different kinds of things, religious as well as everyday features, and perhaps even obscene things. Cf. Wis 15:7–8: “[The potter] fashions out of the same clay both the vessels that serve for clean purposes and their opposites, all alike; . . . With misspent toil

liturgies as the “new normal”? Why indeed are computer-mediated, live-streamed Masses still correlated with a *suspension* of the Sunday obligation rather than with its alternate *fulfillment*? What is wrong with using technology in this context? After all, since *writing* is a communication technology, is not Sacred Scripture itself a technological mediation of revelation?⁷³

As an initial response, we may need to remind ourselves that language, as we had said earlier, is a *prelapsarian* technology. Moreover, it is only one of the ways in which the divine Word becomes present at Mass. The sacrament of the Eucharist makes the divine Word present not just in a linguistic technology, but literally “in person.” The readings of Scripture are a witness to this more primary form or “prime analogate” of God’s real presence. Accordingly, Scripture’s primary *biotope*, the context in which alone it can be understood, continues to be the Eucharist.⁷⁴ Echoing the Incarnation, Scripture has its most authentic place in its “in-person” proclamation (within which its status as Sacred Scripture was historically determined in the first place). The real presence of the Eucharist remains a point of reference for all the forms in which divine revelation arrives in our lives.

The Eucharistic presence itself has a telling structure. For example, while many things have artificial substitutes and near-perfect imitations in virtual reality, food is not one of them. Much as we technologically commodify eating into forms of fast food, we cannot escape the necessity of eating. There are no virtual substitutes for it. Even brains in the vat, which otherwise live in cyberspace, still have to receive nutrition. Noting this, we can ask: is it only by accident that God chose the medium of *food* to become present in person? Or was it because it was a congenial medium for his own real presence, precluding its virtualization? That eating is possible only in person is the most obvious obstacle to an electronic mediation of God’s Eucharistic presence; one cannot receive communion from a screen.⁷⁵ Here, as often, the

he molds a meaningless god from the selfsame clay.” A similar irony is in Isa 44:12–17, where idols are made of leftover firewood.

⁷³ In fact, Lanier suggests that Wikipedia emulates Sacred Scripture by putting together snippets from anonymous authors, all the while pretending to be the one true text of the world which incarnates God’s non-perspectival point of view (*You Are Not a Gadget*, 32).

⁷⁴ It, too, is perhaps a technology that finds its proper place only in a “focal practice,” such as a shared meal; Albert Borgmann, “Focal Things and Practices,” in *Technology and the Character of Contemporary Life* (Chicago: University of Chicago Press, 1986), 196–226.

⁷⁵ Mumford discusses the adulteration of food in the time of the industrial revolution (*Technics and Civilization*, 179). Today, we genetically alter our food—and we have yet

Catholic faith proves itself to be relevantly and helpfully countercultural. The Catholic belief in the *real presence* is not just about a technologically transmitted piece of information, or a mere memory, or a projection of our imagination. As Spaemann noted, early modern naturalistic forms of painting anticipated as a technique the virtual realities of later times, and they developed historically in a parallel with the Protestant virtualization of the sacramental real presence (i.e., as a mere memory or mere symbol).⁷⁶

The *ministers* of this sacrament, too, must be really present. Priests cannot administer the sacraments over the camera or other technological devices; they need to be present in person. And more generally, there must be a deeper reason for why the Church does not want Masses to be celebrated with technological replacements for live music, or with electric candles and recorded homilies, nor even with iPads instead of printed missals. God as Being Itself does not live in ephemeral virtual realities or mere appearances.⁷⁷ And that he is *sacramentally* present means that he is *really* present, rather than *virtually* or by technological mediation.

Short of the beatific vision, though, this real presence will retain a paradoxical structure. As such, it is in fact the exact inverse of virtual reality. Eucharistic adoration may be the clearest example of this inversion. It is an inversion of appearance and reality.⁷⁸ In virtual reality, nothing is real and all is appearance. Faced with God in the Blessed Sacrament, on the other hand, we can see the real presence only with “the eyes of faith”; it does not appear. Hence, in virtual reality, nothing is real and all is appearance; in Eucharistic adoration nothing appears, but it is All Reality. Nothing appears, yet God’s presence is already as real as it will be in heaven when he will also appear to our sight. In other words: The Eucharist is a direct antidote to the contemporary obsession with virtual reality.

to raise the question how much wheat may be altered until it ceases to be valid matter for the Eucharist.

⁷⁶ Robert Spaemann, “Was heißt: ‘Die Kunst ahmt die Natur nach?’,” *Philosophisches Jahrbuch* 114 (2007): 247–64. He sees modern art reversing this trend (e.g., Cristo, Walter de Maria).

⁷⁷ God also is personal, and as Spaemann argues, persons are either real or nothing; there are no possible or imagined persons (*Personen. Versuche über den Unterschied zwischen “etwas” und “jemand”*) [Stuttgart: Klett-Cotta, 1996], 77–78). Herzfeld makes a related point about the encounter with icons in *Technology and Religion*, 85–90.

⁷⁸ It is worth noting that, for Kant, the very distinction depends on God’s *intellectus archetypus*, which is why Richard Rorty, with Nietzsche, rejects this distinction, while others celebrate the unfettered opportunity of technologically mediated self-creating (Zengotita seems more positive about this in his oral statements than in his book *Mediated*).

Can Technology Be Redeemed?

We cannot hope that technology would redeem us; this would indeed make technology into an idol. Instead, technology is itself in need of redemption. And what the redeeming of technology means is for technology to take its proper place in the plan of God. But for that, God's own place needs to be reasserted first. What these proper places are, respectively, can be made visible through the paradoxical development that we have described earlier:

The original sequence, as found in paradise, is this one:

God → man → human work/product.⁷⁹

The next step is that God drops out of the picture:

[God →] man → human work/product.

This seems to begin as early as Cain and his offspring. But it is only with Bacon and Descartes that the focus on secondary causes and the creation of a "secular space" as separate from God becomes an organized program.⁸⁰

The final step, which we witness today, is the resurrection of religion within technology, and it takes the form of a divinization of technology:

⁷⁹ A further differentiation could be introduced within human life if we consider the hierarchy of contemplation, action, and making. Before there is a turn towards prioritizing making, there is a problem in (moral) action, i.e. the Fall, which possibly results from an even earlier aberration in the act of contemplation—perhaps as a form of non-consideration or inattention to the rule (as Jacques Maritain suggests in *St. Thomas and the Problem of Evil* [Milwaukee: Marquette University Press, 1942], 23–43). This would suggest that (apart from grace) a recovery of the *contemplative* dimension of life would be a key for redeeming technology as well (see *Laudato Si'* §112).

⁸⁰ Abandoning God for the world may, however, be preceded by an abandonment of the world—not by God, but by the theologians that characterize him as a *deus absconditus*, beginning in the fourteenth century. Modern man then eventually becomes a maker on the model of *this* God, a God who is a maker of the nominalist, voluntarist kind, and whose wisdom is not revealed in his works, but only his arbitrary will. Hence, getting the image of God as maker right will likely also correct our own ways of making. It would also require us to overcome the nominalism of this fourteenth-century outlook (which is still with us): if there are no universal features in reality that make the world intelligible, then all of our conceptualizations of reality are "the workmanship of our mind," as John Locke has it—reality is, then, our construct. In other words: *every nominalist has lived in virtual reality, long before modern technology*.

Man → work/product → “God.”

Since there will always be a God, he now reappears, but at the other end of the spectrum. What becomes apparent in this trajectory is that, once we forget that we are God’s work, God becomes our product, an idol. But like any idol, it subjects us, even though it is our own product.⁸¹

And this is not new. It is, for example, what the Book of Wisdom seems to have in mind. In chapter 15, it describes how the potter makes from dead clay a figure of God, forgetting that he himself was made from clay by God in the beginning. And while God could breathe life into Adam, the potter cannot do this with the deaf and dumb idol he made. In making an idol, he forgets not only God, but also himself. He forgets not only God, but that he himself is more than his work. We need that reminder more than ever: idols cannot hear and see; nor can “artificial intelligence” be intelligent or conscious, let alone self-conscious. The Book of Wisdom also explains the reason: human products lack the breath of God because human beings themselves do not have their breath from themselves (but only as “borrowed” from God), and therefore cannot pass it on:

For it was a mere human being who made them,
 one living on borrowed breath who fashioned them.
 For no one is able to fashion a god like himself;
 he is mortal, and what he makes with lawless hands is dead.
 For he is better than the things he worships;
 he at least lives, but never his idols. (Wis 15:16–17)

Hence, our making must not be “lawless”; it must be subordinate to God’s making as giving it its ultimate goals and ends. In this way, the hope in *Laudato Si’* for another use of technology may be fulfilled, one where “the desire to create and contemplate beauty manages to overcome reductionism through a kind of salvation which occurs in beauty and in those who behold it” (§112). But it requires us to reverse the above sequence and remind ourselves that we are God’s creation first, and that we are makers only because God first has made *us*—namely, in his image and likeness. The telos is to become godly indeed, but not a self-determined

⁸¹ A similar thought in Thomas Merton, *Conjectures of a Guilty Bystander* (New York, London: Doubleday, 1966), 71: “If technology remained in the service of what is higher than itself—reason, man, God—it might indeed fulfill some of the functions that are now mythically attributed to it. But becoming autonomous, existing only for itself, it imposes upon man its own irrational demands, and threatens to destroy him.”

homo deus.⁸² It is true that technology must remain subordinate and at the service of man. But this will happen only when man himself is at the service of God, and when we realize that we are *made* makers.⁸³

Such a properly subordinated technology is not outside of the biblical vision. It is important to note this well, so as not to overreact to the modern world of technology. We have observed earlier that we have spun ourselves into a cocoon of technology, including into artificial materials. In isolating ourselves from nature, we have isolated ourselves from the God of nature. In reaction, we may now be tempted to go “back to nature,” back to the garden of Eden, by leading a “green” lifestyle. And this may be good as far as it goes—though in isolation from further considerations it tends to turn not only against technology, but against its maker as well, against God’s image and likeness. The real image of our redemption, however, can be found in the Book of Revelation, and it is not a garden, but a city, the heavenly Jerusalem. Here, our redemption even picks up the technology of Cain (e.g., Tubal-Cain’s metalwork of musical instruments: the seven trumpets). In fact, this heavenly Jerusalem appears to be nothing less than a purely artificial environment. No animals are mentioned, and the only plants are the trees of life (and even those may be understood symbolically). The rest is inorganic matter—and *artificial* inorganic matter at that. The conflagration of the cosmos and its elements described in the second letter of the apostle Peter creates a new heaven and a new earth even in its material substrate. The “technological” application of *fire* (important in hominization and in the industrial revolution) persists in its product: earth becomes like jewels and pearls; water becomes like glass. And the result of this transformation is a good thing, for it is an *elevation* of these materials, as St. Thomas Aquinas explains.⁸⁴ It corresponds to the elevated state of our own resurrected body, for which it creates an appropriate environment.⁸⁵ Like our modern sleepless cities, there will be no night. But here the light is not artificial, electric light; it is the light of God himself. And this, then, may give us a further clue for redeemed technology: it must be a gift from God. The new elements in

⁸² By contrast, see Harari, *Homo Deus*, 21: “Having raised humanity above the beastly level of survival struggles, we will now aim to upgrade humans into gods, and turn *Homo sapiens* into *Homo deus*.” Peters rightly compares this, yet again, to the tower of Babel (“Ebullient Transhumanist,” 98).

⁸³ Wolfgang Koch suggested in conversation that this is a participation in divinity, a mingling similar to that of wine (“work of human hands”!) and water at Mass (symbolic of humanity and divinity).

⁸⁴ See Aquinas, *ST III*, Supplement, q. 74, a. 5; q. 91.

⁸⁵ Aquinas, *ST III*, Supplement, qq. 82–85.

heaven are not made in human furnaces, but in God's own fire.⁸⁶ Only God can change elements; we can only use them. The heavenly Jerusalem was not built by Cain and Tubal-Cain, but by God, for it "*comes down out of heaven from God*, prepared as a bride adorned for her husband" (Rev 21:2).⁸⁷

This bride is, of course, the Church and this may supply our imagination with some additional orientation. Unlike Adam and Eve, we do not live in the Church naked, but clad with baptismal garments, i.e. in the technology of clothing (Rev 21:2)1.⁸⁸ But like the garments that God made for Adam and Eve (Gen 3:21), this is a gift, the gift of grace. Grace does not destroy nature, but presupposes it and lifts it up. This is also how a redeemed technology must operate. Our instrumental causality begins in God as the principal agent and it must elevate, not destroy, the nature that he has made.

The Book of Wisdom contrasts the dead idols made from wood with another kind of wood:

For blest is the wood through which righteousness comes about;
but the handmade idol is accursed, and its maker as well:
he for having produced it, and the corruptible thing,
because it was termed a god. (Wis 14:7–8)

The wood that is meant here is the wood of Noah's ark, and the ark surely is an image of a God-inspired technology.⁸⁹ God instructs Noah how to build it (as he does later with the Ark of the Covenant). But the ark is also a prefiguration of the Church. And the Church, too, has its maker: Jesus, the son of the carpenter Joseph, whose tool was a piece of dead wood which became the tree of life. For "the Father and I are still at work" (John 5:17). Jesus in collaboration with his Father (and analogously with his foster father, St. Joseph) is the model for our making and technology. We, too, need to collaborate with the Father, in Christ.

This applies also for the technology of language, of communication. If,

⁸⁶ According to Aquinas, the fire is qualitatively, but not numerically identical with earthly fire (for, the latter is also cleansed), and it acts as instrumental cause of God's action (*ST* III, Supplement, q. 74, a. 3, ad 1 and ad 2).

⁸⁷ When the Israelites conquer and settle the promised land, they do not build cities, but they take them over from others, somehow as a gift from God. This includes David's conquering of Jerusalem. Is there a way in which we can "conquer" modern technology in a similar mode? Perhaps. But it may still include the "woes" of the Book of Revelation, as it also may include destructions like that of Jericho.

⁸⁸ The Church is itself both a body (the mystical body of Christ) and clothing (namely, architecture as an analogue to clothing).

⁸⁹ Unlike the gods from whom Prometheus must steal the fire, God does not begrudge us our technology; he is even willing to *teach* it to us.

as we have said, Adam's naming of things continues the creative speaking of God, then Jesus, the second Adam and the Word of God itself, is the ultimate model for our use of language. If technological devices such as Twitter do not accommodate this use of language, then we ought to revise them.

The models for all of these kinds of "media" and technical mediations are the liturgical rites and sacraments of the Church. In them, the minister of the sacrament is appropriating the words of the Son (*in persona Christi*), who, with the Father, is still *at work*. Made on this model, our productions do not become idols, but icons of God's presence. However, here too we need to begin from the right end of things. The model does not suggest that we introduce secular technologies into the celebration of the sacraments,⁹⁰ but rather the opposite: allowing the reimagination of our technologies to be inspired by these celebrations, making them more liturgical as well.

When Jesus instituted the sacraments, he took into *his* hands the work of *human* hands—bread and wine—and elevated it supernaturally. Human beings cannot do the same except *in persona Christi*. Sacraments are an exception, but nevertheless also a model. There is no algorithm that will tell us how to follow this model in the rest of our lives. The following of Christ is not itself another technology that we could figure out. We must trust him, we must talk to him, and we must follow him. Then our technologies will follow him as well. N·V

⁹⁰ This was an unfortunate idea of the 1960s, when faith and science were brought together, e.g., by celebrating Ascension Thursday with rocket and telescope installations (Blase Schauer) or by designing chapels as laboratories for liturgical "experimentation" (the laboratory as another technological metaphor); see Osborne, "From Sputnik to Spaceship," 234–35. This has it precisely backwards.