THEOLOGICAL ETHICS AND TECHNOLOGICAL CULTURE: A BIOCULTURAL APPROACH

by Michael S. Hogue

Abstract. This article examines an orientation for thinking theologically and ethically about the cultural pattern of technology and a vision for living responsibly within it. Building upon and joining select insights of philosophers Hans Jonas and Albert Borgmann, I recommend the analytic and evaluative leverage to be gained through development of an integrative biocultural theological anthropology.

Keywords: Albert Borgmann; ethics; Hans Jonas; technology; theology

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The motivation for this article stems in part from a teaching experience. At a given point in a recent ethics course, I deemed that it would be helpful to organize a discussion around Robert Nozick's famous thought experiment, "the experience machine." Nozick presents his experiment thus:

> Suppose there were an experience machine that would give you any experience that you desired. Superduper neuropsychologists could stimulate your brain so that you would think and feel you were writing a great novel, or making a friend, or reading an interesting book. All the time you would be floating in a tank, with electrodes attached to your brain. Should you plug into this machine for life, preprogramming your life's desires? Of course, while in the tank you won't know that you're there; you'll think it's all actually happening. . . . Would you plug in? What else can matter to us, other than how our lives feel from the inside? (Nozick 1977, 43)

I assumed that my students would immediately affirm the greater moral worth of embodied agency and creative commerce with actual things, others, and places over the simulated pleasure or virtual happiness of hyperreality. Teaching in a so-called "smart" online classroom to students cultured by the *Matrix* trilogy who needed to be reminded to turn off their cell

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phones and unplug their iPods upon entering class, it should come as no surprise that my assumption was challenged.

Two lines of argument were pursued. Some students argued that the actual moral life was a rather risky wager—happiness is hardly guaranteed, and the potential for suffering is great. In contrast, simulated pleasure can be controlled and counted upon, and the students reasoned that, insofar as this is the case, the virtual is preferable to the actual. Nozick's experiment intends to generate this kind of reflection, and a rich discussion ensued regarding the possible ways in which the good life might be considered good precisely because it is fragile.

But some students adopted another angle of response, arguing that the "experience machine" is really not a thought experiment anymore, that many if not most of us already "live, move, and have our being" (Acts 17:28) online. To the extent that we actually are plugged in, the experiment no longer has a control against which it can be tested; it is not falsifiable. Contemporary life is already technologically saturated, the students reasoned, and there is no position of philosophical or existential distance from which to judge the machine against alternatives. Even if we ourselves are not plugged in, our social world is certainly dominated by others who are, so it is not possible to reflect critically or objectively about the experience machine.

This illustration provides a suggestive point of entry into the general concern of this article: the challenges for theological ethical inquiry, and for the morally responsible life, in a technologically saturated contemporary ethos. Even if one rejects the discourse of technological determinism reflected by some of my students, it is fair to say that technological innovation and proliferation significantly shape contemporary human moral existence. This is because of both the obvious ubiquity of technology and the morally seductive, culturally embedded technological promise to manage the contingency and vulnerability of the good life.

In light of this, I contend that one of the primary theological ethical challenges of our time is to think critically through technology's cultural pattern rather than simply its particular applications. It is not technology as such that is problematic, for technology fosters many goods, from the creation of new spaces for learning and dialogue to less invasive medical procedures. It is important to appreciate technology's potential goods and crucial to think wisely about our use of biological, communication, and other kinds of technology. But the challenge posed by technology's cultural *pattern* is its influence over moral consciousness, our conceptions of the human good and of moral responsibility. We are no longer merely the subject-agents driving technology, technology is not merely the extension of human efficacy, and so we need to think not only about what we are doing with technology but also about how technology is fundamentally transforming human moral life.

Reflection on the moral nature, meaning, and purpose of humanness in a more-than-human world has a constructive role to play in this work. Theological moral anthropology brings into critical relief the question of what more may be required of aspiring toward a good, responsible, and faithful human life in a technological ethos that in many invisible ways already structures our moral possibilities and limitations. More specifically, in this article I point toward the methodological and normative possibilities of a biocultural theological anthropology. The biocultural inflection of this anthropology refers to a multidisciplinary approach to human moral nature that resists one of the pernicious effects of technology's cultural pattern—the hyperspecialization of knowledge and its resulting fragmentation of moral discourse. I also affirm that a faithful and responsible moral life needs to be nourished by communal relationships and practices that expand respect for the goods that transcend human efficacy. The biocultural aspect of this claim highlights the way in which these sustaining relationships and practices need to engage the interpenetration of our cultural lives and our biotic natures. The theological element within both the methodological and normative dimensions of this anthropology provides a way simultaneously to relativize and affirm human efficacy. Development of a biocultural theological anthropology, then, provides an orientation to human moral life that binds critical appreciation for the creative possibilities of technological power with vigilant preservation of the cultural and moral ecologies within which the creative goodness of loving God and others flourishes. This essay points the way toward this.

I advance the idea in several steps. First, I survey some general philosophical patterns of thinking about the character of our technological milieu. Second, I outline two major constructive responses to this milieu through critical exegeses of Hans Jonas, who approaches philosophy of technology from a distinctly bioexistentialist perspective, and Albert Borgmann, who attends to technology's material cultural manifestations. I interpret these thinkers in considerable detail on account of the shared fundamentally ethical orientation of their work and the constructive potential in merging their insights.

Trajectories in Philosophy of Technology

That our time is technologically saturated hardly needs reiteration. As consumers, citizens, and scholar-educators most of us live, move, and breathe in a technological whirlwind, and this profoundly affects our moral self-understanding, our interactions with others, and our cultural and natural habitations. Many theological thinkers have recently engaged this whirlwind through treatment of particular technological applications.[1]

And yet, while these and other approaches to technology offer helpful insights into specific technological spheres of contemporary life, they do

not critically engage the moral challenges of technology's cultural pattern as a whole. This is one epistemic effect of the culture of technology. As Borgmann suggests, "Technology is so deeply ingrained in our world and our ways that critical endeavors are typically deflected from technology *as such* to problems within technology" (2003, 82). Indeed, focusing on particular applications of technology can reinforce a narrow, instrumentalist tool-conception of technology that fails to adequately appreciate the moral character of technology as a mindset, way of life, or fundamental mode of interacting with the world. A broader view of technology is necessary, then, to think in a morally critical way about the degree to which technology affects not only aspects of culture and nature or our immediate private, interpersonal lives but also the whole texture of human moral existence, especially within contemporary Western culture.

In light of this, theological ethics is well poised to engage the moral questions of life in a technological world, for the theological ethical horizon of concern includes the whole fabric of moral and religious existence, the whole of what is entailed by the good and faithful life in relation to others, God, and all creation. This built-in holism is one of the great contributions that theological patterns of reflection can offer to thinking critically about the technological zeitgeist. This potential desperately needs to be pursued in consideration of the fact that an increase of individual and collective moral uncertainty seems to be developing in tandem with the expansion of human capacities to intervene in the world.

Of course, in addition to the numerous specifically theological treatments of technology, there are many secular philosophical, political, and sociological interpretations. The field of philosophy of technology has emerged and grown quite productive in the last few decades, prompted by the writings of an earlier generation of scholars including luminaries such as Martin Heidegger, Herbert Marcuse, Lewis Mumford, and Jacques Ellul. More recently, thinkers such as Frederick Ferré, Langdon Winner, Carl Mitcham, and others have taken on the tasks of thinking philosophically about technology. Among the various approaches in the philosophy of technology, it is possible, as Don Ihde has argued, to sketch several overlapping evaluative and analytic trajectories, each organized around a basic question (Ihde 1990, 1).

One of these trajectories is shaped by the question of how like or unlike the present technological scene is from earlier times. Is there a qualitative rupture between our time and earlier times, or is it more accurate to think in terms of incremental changes?[2] This question can also take on a less historical cast. Do those of us who live in industrial, high-tech societies in the global North inhabit a world that is fundamentally different from the world of those who live in the global South? or do the differences only seem fundamental on account of some culturally specific but globally undifferentiated paradigm of technology? Further, if there is a radical dis-

junction, whether historical or geocultural, what is its cause? Some link the qualitative difference of technological culture to developments in science, analyzing technological advance in linear conjunction with scientific enterprise. On this view, technology is applied Western science and is contrasted with the craft technologies of other places and earlier times.[3]

Another question that shapes a different analytic-evaluative trajectory asks whether technology is morally neutral or charged. There are basically two patterns of thought related to this question: social constructionist and techno-determinist. On the social constructionist view, technology is background to the foreground social issues of power relations. Power dynamics governed by the interests of knowledge and techno-elites line the field upon which the games of science and technology are played, which are refereed by the interests of the financial elite. Technology per se is interpreted as neutral, and its various applications become players only upon being coached by the various morally charged social interests. On the techno-determinist view, technology takes the foreground, the social the background. In this case, scientific and technological innovations line and referee the field of play, determining the arrangements of various social forces. The strong version of this view interprets contemporary technology as having achieved considerable autonomy from its social context and as therefore having outstripped significant sociopolitical, economic, and ethico-policy controls. Here technology is so profoundly charged morally that it has become exceedingly difficult normatively to govern it.[4]

A third trajectory pivots on questions about the spatiotemporal scale, scope, and magnitude of contemporary technology's effects.[5] The extension of technological effects far beyond their immediate temporal, geopolitical, and social contexts prompts inquiry into the impact of technology on the futures of human beings, other forms of life, and even the whole of the biosphere.[6] Concern with the extension of effects also provokes speculation about whether technology can eventually solve its own problems, whether it may eventually provide its own fix, and whether historical traditions of ethical thinking, typically anthropocentric and calibrated to the relatively shorter reach of previous eras of human efficacy, are adequate to the contemporary human capacity to manipulate radically the present and future of human and nonhuman life.

In addition to the distinct questions that frame these patterns of thinking, each pattern reflects a rough moral anthropological correlate. The anthropology discernible in the first pattern can be thought of as progressive. A descriptive account of the human species as progressively seeking and attaining greater knowledge and power, and a normative privileging of these ends, drives scientific and technological advance. The second pattern of thought pivots especially on the moral anthropological question of the degree and nature of human freedom. But instead of interpreting freedom in light of the conditions of nature, or the biological constitution of

the species, the crucial context is technology. For the determinists, technology conditions freedom; for the constructionists, freedom is the condition for technology. The third pattern, though provoked by the progressive increase of knowledge and power and their expanding effects, and concerned with the question of freedom, does not embed a particular moral anthropology as much as it raises the moral anthropological question—what humans are and should be in light of the character of contemporary technology.

With this brief survey in hand, I now turn to exegeses of the works of Jonas and Borgmann. Although aspects of their projects resonate with the trajectories just described, I consider how the distinctiveness of their approaches, when drawn together, may provide especially suggestive insights for theological ethics in a technological age. I begin with Jonas, who, in leveraging a biological existentialist conceptual framework, articulates the moral gravity of contemporary technology in a very helpful way, and then proceed to examine Borgmann's close analysis of material culture.

HANS JONAS

According to Jonas, one of the great ironies of the contemporary ethos is that lack of certainty about how morally to be in the world is in part a product of modern scientific advances in knowledge about the world. This moral ambiguity is made especially dangerous by its coincidence with the increasing efficacy of technological intervention in the world. The contemporary situation is one in which we have greater knowledge of and power over nature and yet are less confident about how morally to direct our power than ever before.

Jonas's account of the moral problem of technology reflects elements of the patterns of thinking just discussed. He relates the paucity of moral confidence to what he characterizes as the incommensurability of purposive human moral existence with the amoral modern scientific vision of nature as indifferent to itself and the forms of life it generates. On Jonas's reading of modern science, the human is adrift in nature and riddled with existential anxiety, and the moral ambiguity generated by this anxiety is especially problematic in light of the technological extension of human power. Thus, in keeping with the first trajectory traced, Jonas posits a moral rupture between the contemporary historical moment and previous times, and correlates this to scientific development.[7]

Ethical urgency is added to moral-existential anxiety because, on Jonas's view, the modern scientific picture of nature and the novel character of modern human power combine to introduce new objects and problems of moral concern, and these demand new ways of thinking ethically: "the qualitatively novel nature of certain of our actions has opened up a whole new dimension of ethical relevance for which there is no precedent in the standards and canons of traditional ethics" (Jonas 1974, 4). This new

dimension of ethical relevance concerns the whole future of life and requires the temporal and spatial expansion of ethical thinking. Traditionally, Jonas suggests, ethics has been concerned with a relatively compressed context of effects correlated to the "short arm of human power" (1974, 8; 1984, 6). An ethical vision for our time, in contrast, must face the lengthening arm of human power and its dilated orbit of consequences.

Giving rise to his account of the moral situation of technology are several distinctive formal characteristics of modern technology. Basically, Jonas describes modern technology as "an enterprise and process" in contrast to earlier understandings of technology as a "possession and a state" (1974, 34). Historically, the possession and state of technology as a limited inventory of tools and procedures was constrained within an "equilibrium of ends and means" (1974, 34). Technologies were developed and used with reference to given ends of human desire and need. Though this equilibrium was sometimes altered, technoscientific innovation was generally incremental, relatively inconspicuous, and linear. In contrast to this, modern technological development is totalizing, radical, and circular. He writes that as new technologies "suggest, create, even impose new ends, never before conceived," they radically transform "the very objectives of human desires" (1974, 35). Additionally, the pace of modern innovation is quickened, in part as a result of the ease and efficiency of knowledge transmission, itself a product of the technological enterprise, and in part as the effect of the competitive market pressures in which technology tends to flourish.

Added to these points, Jonas interprets modern technological processes as a "juggernaut." Innovation is not simply an option but is inevitable and guaranteed by the necessity of modern technology's cumulative-collective formal nature. This is of profound moral significance for Jonas, for in light of it he claims that the sphere of intrahuman neighbor-ethics "is overshadowed by a growing realm of collective action where doer, deed, and effect are no longer the same as they were in the proximate sphere" (1984, 6). In the technological ethos as he has described it, the actions of agents and the consequences of those actions spiral in their moral relevance well beyond traditionally intrahuman frameworks of historical ethical systems. He suggests that the "cumulative self-propagation of the technological change of the world constantly overtakes the conditions of its contributing acts and moves through none but unprecedented situations, for which the lessons of experience are powerless" (1984, 6).

In response to this diagnosis, Jonas sees his philosophical task as that of providing an ethical theory adequate to the new demands of human power: "The new kinds and dimensions of action require a commensurate ethic of foresight and responsibility which is as novel as the eventualities that arise out of . . . the era of technology" (1984, 18). This is an ambitious aim. Not only does Jonas claim with his call for novelty that we have nowhere

to turn in the history of ethics for contemporary guidance, but also the technological and scientific advances that have generated such enormous ethical demands have complicated the very notion of ethics. Technological power demands moral direction at the same time that, according to Jonas, its scientific underpinnings have eroded confidence in the foundations of moral norms: "We need moral wisdom most when we believe in it least," or, more graphically, "Now we shiver in the nakedness of a nihilism in which near-omnipotence is paired with near-emptiness, greatest capacity with knowing least for what ends to use it" (1984, 21, 23).

In light of this paradox, and by way of what he refers to as a methodological "biological existentialism," Jonas theorizes an ontological grounding of the good in the nature of things. Only such an ontological grounding, he argues, is adequate to the moral demands of a technological time. From the thesis of evolutionary biological continuity, he suggests that whatever purposiveness and goodness may be present in human existence must also be present, at least incipiently, in other forms of life. This leads him to the conclusion that goodness is intrinsic to the organic. He empirically grounds this conclusion in a moral interpretation of metabolism, whereby he posits that insofar as all living things metabolize, they purposively, even if unconsciously, affirm the goodness of being against nonbeing. When this unconscious affirmation is registered by the conscious will of human actors, preservation of life's intrinsic goodness becomes a moral duty. However, while he argues that all forms of life are good and that bios as such is good, he does not advance a biological egalitarianism but instead articulates what I construe as a chastened anthropocentrism. The primary ethical responsibility, in his vision, is to ensure the ongoing possibility of human responsibility. He comes to this anthropocentric imperative by way of the idea that human life is the greatest achievement of the natural processes that drive organic evolution. Human life is nature become aware of its goodness, and through this awareness, its custodian. Jonas's anthropocentric moral vision is chastened by the understanding that preserving the human future also entails preserving the natural conditions upon which it depends. In short, his anthropocentric imperative of responsibility is instrumental to the imperative to preserve the creative goodness of living nature.

Thus far, I have traced Jonas's description of the technological ethos and briefly interpreted the general contours of his moral theory. It remains to discuss the normative-prescriptive dimension of his project. Interpreting this requires understanding that Jonas is not an optimist. The practical demands of the imperative never to compromise the future conditions of human responsibility are radical, and he deems political triage to be requisite to its enactment. Concentrated, centralized, enlightened political power is necessary to guide the responsible exercise of power upon which the future of humanity and the whole of life depends. Jonas writes, "We are . . . confronted with a dialectic of power which can only be overcome by a

further degree of power itself, not by a quietist renunciation of power" (1984, 141). The threatening dialectic of power here referenced is the concatenation of the forces of exponential population growth, the demands that growth places on finite natural resources, and the always morally double-edged force of the technological juggernaut.

In Jonas's judgment, the political and economic successes of liberal democracy and free-market capitalism—in which efficiency and increase of production fuel the consumption patterns of an ever-expanding free global citizenry that claims as its natural right access to and acquisition of more and more goods—combine to increase "enormously [the] metabolism of the social body" (1984, 140). The Malthusian law of populations, according to which no individual species can grow indefinitely without ultimately undermining the conditions of its survival, has been "bullied to the extreme of [its] tolerance," and time is not on our side (1984, 141). The luxury of time required for the formation of an ecologically minded civic culture, for the "grass-roots" greening of democracy, is no longer available. Instead, "only a maximum of politically imposed social discipline can ensure the subordination of present advantages to the long-term exigencies of the future" (1984, 142). The urgency of a time of radical power and the rigorous demands of responsibility require, for Jonas, melioration through political centralization.[8]

With this overview of Jonas's project, I now move to Borgmann's very different but, I suggest, complementary philosophy of technology. As I indicated previously (and as I develop further in my conclusion), Borgmann's attention to the material dimensions of our technological ethos vividly demonstrate the moral significance of engaged communal life as prerequisite to Jonas's call for social transformation. In addition, Borgmann's material focus lends a culturally inflected supplement to Jonas's crucial insights into the endangered lifeworld.

Albert Borgmann

If one of the tasks of philosophers is to think and speak about things that matter, Borgmann is a great philosopher, and his lasting contribution as a philosopher of technology turns on what he means specifically by "things." Through his understanding of "focal things" and why they matter, and his account of the contemporary threats to them, Borgmann develops a highly detailed diagnosis of our entanglement within the patterns of contemporary technology that brings Jonas's work into a more finely grained focus.

Along with Jonas, Borgmann identifies a rupture between the contemporary technological ethos and previous historical periods. But, in contrast to Jonas's location of this rupture through an account of the history of science, Borgmann identifies it by way of his concept of the "device paradigm." Borgmann, along with Jonas, is highly concerned with the moral

effects of technological culture. Somewhat differently from Jonas, however, his concern is manifest in the attention he grants to the immediacy and materiality of ordinary life. To show how all of this comes together, I briefly trace his descriptive diagnosis of and prescriptions for the technological milieu, beginning with a distillation of his account of the moral problem of our time.

For Borgmann, the moral problem of contemporary technology is the way in which it disperses attention from things that matter—things that are not merely useful but that are sustained by and that center the goods of practices, traditions, and relationships. Technology per se is not the culprit. The moral problem of contemporary technology results not from its ubiquity and not from the power of its specific applications but from the dominance of a specific technological pattern, the device paradigm. This paradigm displaces the commanding presence of focal things and practices with the diversionary consumption of commodious devices.

Borgmann's primary ethical concern is with the ways in which this displacement, in spite of its seductive promises of liberation and enrichment, corrodes creative relationships between and among selves and between selves and their environments. His analytic objective is to raise to visibility the device paradigm fueling this corrosion, for one of the characteristics of this paradigm is transparency. If for Jonas the irony of our time is that we have greater knowledge of and power over the world and yet know less how normatively to direct it, for Borgmann it is that we are enmeshed within and morally impoverished by a pattern of technology that, due to its very nature, conceals itself from us.

Borgmann's contribution to the task of naming and gaining leverage over this paradigm is his analytic distinction between focal things and devices. Corresponding to this distinction is one between practices and consumption. Whereas engagement with things commands skill and deliberate, regular practice, devices "invite consumption" (2003, 31). Focal things, Borgmann writes, are things that "of themselves have engaged mind and body and centered our lives" (1992, 119–20). In doing this, they exhibit what he refers to as "commanding presence," and insofar as they exist inseparably from their contexts, they bind us within a textured, relational world. "The experience of a [focal] thing," he suggests, "is always and also a bodily and social engagement" (1984, 41). And, crucially, by way of this manifold engagement, a focal thing conduces to more than one good.

To illustrate the manifold practices surrounding and the multifarious goods provided by focal things, consider one of Borgmann's many examples, the wood-burning stove. An old-fashioned wood-burning stove provides much more than warmth. It provides (or used to provide) a center for a family's leisure and work. Families gathered around their wood stoves in their leisure to tell stories, sharing in the goods of entertainment and enriching relationality. The building, maintenance, and cooling of the fire

marked the patterns of the day and the rhythms of seasons and entailed the physical practices of chopping, gathering, stacking, and bringing in the wood, each of which conduced to connectedness with specific places and times and the refinement of skills. The commanding presence of a focal thing, the wood-burning stove, provided a centering or integrative focus for various practices and multiple relational goods of leisure and labor.

I interpret Borgmann's point here to be not that of romanticizing the pre-furnace era but of providing an illustrative background against which to articulate the different worlds of things and devices. Devices like furnaces come to replace things such as wood-burning stoves to disburden us of unpleasant, arduous work, supposedly enriching life by liberating us to pursue other good things. Yet, while recognizing this, Borgmann intends to fashion a lens through which to view some of the impoverishing effects of a device-dominated world. He argues that whereas with a focal thing such as a wood stove the means to the end of warmth is highly visible, requires engagement and skill, and carries along with it multiple other goods, with devices the end is a single commodity and the relation between means and ends is obscured. With focal things, means and ends are relatively integrated; with a device, defined as a compound of commodity (surface function of a device) and machinery (the concealed deep structure of a device), this relation is disintegrated.

Like a wood stove, a furnace provides the commodious end of warmth. But this is the only end it serves. Families do not tell stories around their furnaces! Furnaces do not provide a center for practices of leisure or labor. Further, the commodity of warmth is severed from the machinery of the furnace, in the sense that the machinery does not require practiced engagement with it in order to produce heat, at least for those of us who do not work as heating and cooling specialists. This severance of means-ends (in the case of devices, machinery-commodity) is especially apparent in the example of television. As television sets have been refined, their machinery has become less and less prominent. From the big clunky sets of the 1950s we now have flat screens that blend into our walls, even pocket-sized sets and sets built into car consoles so that we can watch our favorite sitcoms whenever and wherever we desire. More and more the machinery of the television becomes less and less constrained by parameters of place and time. The machinery-means shrinks while its commodiousness, the availability of the commodity, increases.

It is in the nature of devices like furnaces and televisions to reconfigure the usually integrated relation between means and ends. In contrast to the wood stove, which exemplifies the difficulty of separating very neatly between means and ends, the machinery of a device such as a furnace conceals the means to warmth and can be easily interchanged with another kind of machinery. For Borgmann, the interchangeability and transparency of machinery-means in relation to some generally stable end, and the

resulting occlusion between means and ends, is one of the defining characteristics of the device paradigm.

To raise the technological pattern of our time to visibility, Borgmann argues, thus entails learning "to see how the presence of things is replaced with the availability of commodities and how availability is procured through devices. . . . In a device, the relatedness of the world is replaced by a machinery, but the machinery is concealed, and the commodities, which are made available by a device, are enjoyed without the encumbrance of or the engagement with a context" (1984, 47). As a result, and in high contrast to the world of engaged relations and practices generated by a focal thing such as a wood stove, the world of devices such as furnaces and televisions is largely dissolved and generates relational disengagement.

I take this description of the device paradigm's cultural pattern, its intrinsically disengaging world-dissolving character, to be one of Borgmann's most significant analytical insights; it shapes his ethical focus on the goods of engaged relationality and provides the platform of his call for cultural reform.

According to Borgmann's analysis, then, the displacement of focal things by devices reflects a recurring pattern in the way contemporary humans take up with the natural and social worlds. He writes that this displacement "is the rule today in constituting the inconspicuous pattern by which we normally orient ourselves" (1984, 47). The paradox is that this way of taking up with the world is not really a way of being oriented in the world at all, because engaged relationship with the multidimensional world generated by the commanding presence of focal things is displaced by ephemeral commerce with commodities that, because they are themselves severed from contexts, generate a pattern of disengagement among those who, like us, are so dominated by the device paradigm. As a result, two characteristics of the contemporary technological ethos are the dissolution of context and relational-moral disorientation.

In addition to disoriented "taking up" with a contextless world, there is irony here. Technology's promises, as Borgmann understands them, include liberatory disburdenment from labor and an enriched life, but attainment of these is undermined by the cultural pattern of the device described above. The promises of liberation and enrichment are of course alluring, but the means to them, dominated by the device paradigm, are by nature disengaging and thus compromised from the outset. Disengagement from others and the world and dissatisfaction are built into the device pattern of contemporary technology and ironically fuel pursuit of technology's promises even while they inevitably frustrate their attainment. Borgmann puts this well: "To the dissolution of commanding reality corresponds on the human side a peculiar restlessness . . . human desire is at every point at once satiated, disappointed, and aroused to be once more gorged, left hungry, and spurred on" (2003, 78).

As an ethically oriented philosopher of technology, Borgmann's project does not end with analysis, though his analysis itself is an enormous accomplishment. To counter the relationally disintegrating, world-dissolving, disorienting restlessness of life in the device paradigm Borgmann advocates renewed individual and communal attention to focal things and practices. In advocating this renewal, he is not recommending a return to pretechnological times. He does not reject technology per se, knowing as we all do that technological advance has brought about many good and useful results. But he is profoundly concerned with the cultural hegemony of the device pattern and its corrosive moral effects. He proposes not elimination of technological devices but a reflective, critical reappropriation that moves them from the cultural foreground to background: "Focal things and practices [deliberate, sustained, and normally communal devotion to focal things] are the crucial counterforces to technology understood as a form of culture. They contrast with technology without denying it, and they provide a standpoint for a principled and fruitful reform of technology" (2003, 22).

In what follows I further pursue how Borgmann understands this countercultural work of focal things and practices through which the device paradigm of technology becomes subordinate to a human moral telos. I suggest where I see complementarity between Borgmann and Jonas and point toward the ways their insights may be advanced through a biocultural theological anthropology.

Conclusion

I indicated at the outset that the analytic and evaluative leverage to be gained by a biocultural theological anthropology turns on recognition of its overlapping methodological and normative valences. Methodologically, a biocultural theological anthropology invokes multiple disciplinary perspectives—in the case of this article, the bioexistentialist and material cultural perspectives of Jonas and Borgmann. Normatively, a biocultural theological anthropology intends to provide a moral orientation that both affirms and relativizes human efficacy.

Attention to method channels my normative suggestions here. Methodologically, there are at least two ways in which Jonas's and Borgmann's philosophies can mutually strengthen one another. Jonas's distinctly philosophical biological approach to the moral problem of technology has much to commend it, including the interpenetration of environmental and technological moral concerns to which it draws our attention. Jonas brings into vivid relief the idea that normatively unbridled technological power threatens the integrity of the natural world. Aside from being of environmental ethical significance, according to Jonas this threat is ultimately a threat to the future of human life. In a time increasingly perplexed not only by technology's dramatic environmental impacts but also by biotech

innovations such as computer-chip implants and artificial intelligence, the profound moral ambiguity of technology in relation to human life and the broader lifeworld becomes an even more urgent topic for critical thinking. The work of linking environmental and bioethics with philosophy of technology should be sustained, and Jonas's project stands as a constructive model for this.

At the same time, Borgmann's analytic of the device paradigm provides a crucial interpretive key to the everyday texture of our technological culture. Any moral analysis of technology that does not take into account its cultural pattern is inadequate. Joining Borgmann's close reading of the cultural-material environment with Jonas's prominent concern for the natural world is one suggestive way to carry forward the task of theorizing a more fully orbed contemporary philosophy of technology. The suggestiveness of such a synthesis is especially clear in reference to the biotech frontier. The cultural pattern made visible through Borgmann's device paradigm prompts concern for the corrosion not only of focal things and practices but also for the commodification of human individuals and capacities. While it is certain that, along with all other forms of technology, biotech can be used for moral good or ill, Borgmann's analysis alerts us to the potentially insidious consequences that would follow if the aforementioned interchangeability of machinery-means got traction, if it has not already gained such, in the biotech world. The horrifying impact of this paradigm would lead to the valuation and treatment of human individuals merely as interchangeable means.

Borgmann's analysis thus sheds light on the otherwise invisibly small and seemingly innocuous changes in our ways of being in the world that underlie both the biotech present and future and Jonas's more basic concern with how normatively to channel technological power. Without giving due attention to the incremental technological alteration of the material conditions of human moral existence, neither the context nor the depth of the moral questions of technology can be adequately treated, whether the questions concern biotech, the etiquette of electronic communication, or environmental policy. In this way, then, integrating Borgmann's material cultural method with Jonas's bioexistentialist approach can contribute to a more finely grained analysis of our ethos.

A further way to pursue a synthesis of Jonas and Borgmann moves this article to its normative recommendation and centers on the moral anthropologies implied within their distinctive proposals for reform. In the case of Jonas, the call is less for reform than for revolution. This revolutionary thrust is in some ways preshaped by his biological-existentialist methods, for at the core of this methodology is an agonistic account of the relation between organism and environment. Organisms depend on environments to survive, but their existence depends at the same time on individuation from the environment. When an organism ceases to appropriate its needs

from its surroundings—in other words, when it ceases to metabolize—it ceases to be. This agonistic account of the organism-environment relation runs through Jonas's project, culminating eventually in his prescription to balance irresponsible power with the ecologically enlightened counterpower of a political elite.

Coalescing in Jonas's bio-moral-political narrative is an anthropology that subtly emphasizes an atomistic rather than relational account of the human moral self. A result is that Jonas downplays the descriptive and normative significance of the sociocultural formation of moral life. Aside from leading to a political vision with a highly questionable historical precedent, this brings to light an internal conflict within his proposal. Paradoxically, Jonas's effort to articulate a philosophical and political ethics adequate to the magnitude of contemporary human efficacy can be critiqued for reinforcing the dilemma of power to which he is responding, because the effect of centralizing power within an ecologically enlightened elite would be to stall the formation of moral responsibility among the many human individuals and communities upon which, on his own terms, the good of the future depends.

Borgmann's proposal to retrieve focal things and practices, and its underlying moral anthropology, provides a helpful corrective here. For Borgmann, what is needed is reform rather than revolution. Indeed, revolution and political centralization, in Borgmann's vision, would only reinscribe the device-paradigm's problematic ethos of control. Instead, truly countercultural reform depends first of all on everyday consumer-citizen choices to resist the relationally disintegrative moral effects of the contemporary paradigm. Further, revitalizing morally formative community life, communities of engaged relationality, is a necessary step toward enculturating the habits of mind and heart that lead to such choices. These choices will affect everything from the way we entertain ourselves and others and the way we prepare food and share meals to the way we organize neighborhoods and imagine and rebuild communities that value the enriching, sometimes labor-intensive integration of selves with others within our common natural and cultural worlds.

Most of all, such habits of consciousness and action need to flow from a theological relativizing of human efficacy. Such is required in order to identify the self-sufficiency of the techno-self for the dangerous mirage that it is. Human efficacy has indeed been magnified in partnership with technological developments. And it is true that much good has and may continue to come from technological innovation. It is equally true, however, that the possible effects of culturally prioritizing the expansion of efficacy above all other things, without giving careful thought to the moral purposes of our projects, will be culturally and ecologically degrading.

The potential for simultaneously affirming and relativizing human technological power is embedded within Borgmann's thoroughly relational

moral anthropology, and it remains open to further theological development. Descriptively, the moral self for Borgmann is inescapably porous, shaped by and giving shape to community with other selves. Human health and flourishing, the goodness of moral and natural life, then, depend on healthy and flourishing communities. It follows that in order to resist the device paradigm's corrosion of cultural and natural goods selves and communities are morally responsible for working to sustain the common things and practices upon which a flourishing life with and for others depends.

Rather than control, and contrary to Jonas's moral anthropology, Borgmann's moral anthropology underlines the contingency and vulnerability of the moral life. Recognition of this vulnerability can be a source for the creative integration of selves and communities around the common purposes of preserving the goodness that is here and now and fostering the goodness that is hoped for. Appreciating rather than seeking the elimination of the vulnerability of moral existence can become a means for cultural reform to the extent that it reminds us of our ultimately limited capacities to control the world, chastising our proclivity toward pride and willful power. Such a chastising reminder is especially important in a technological ethos in which the truly remarkable increase of human efficacy can and does tempt us to an idolatrous self-assertion over and against other humans, other forms of natural life, even the whole of the natural world.

But what, more specifically, is the good of the contingency and vulnerability of moral existence? What is its theological significance? And what finally might it have to do with a biocultural anthropology? Borgmann answers the first two questions in his most recent and most theological work, *Power Failure: Christianity and the Culture of Technology*, where he argues that the lack of cultural receptivity to the messages of Christianity is a result of erosion of the conditions requisite to the experience of God's grace: "Grace is always undeserved and often unforethinkable . . . and a culture of transparency and control systematically reduces, if it does not occlude, the precinct of grace" (2003, 65).

Although Borgmann's concern with the reception of Christianity is not the burden of this essay, his insight into the technological reduction of contingency and the resulting occlusion of the conditions for the experience of grace is quite to the point of it. This insight leads him to recommend the countercultural work of practices organized around focal things as the means to reintegrating the habitat of grace apart from which love of God and others cannot flourish. On my reading of Borgmann, he is not pushing a theology of works. I do not take him to mean either that focal practices will "earn" grace or that grace cannot actually be present apart from them. To think such, indeed, would be radically to limit divine power. It also would reflect the instrumentalist consciousness shaped by the device paradigm, valuing focal practices merely for the end they serve—in effect, commodifying grace. Rather, Borgmann's point is that the experi-

ential conditions for the reception of grace are occluded by the device paradigm's collusion in the creation of a culture of control. It is not that the divine cannot penetrate the device paradigm; it is that the cultural pattern of this paradigm militates against a moral anthropology and moral consciousness cognizant of its biological and cultural vulnerability. Insofar as this is the case, I suggest, the device paradigm colludes with and further fuels the already stoked human embers of pride and self-sufficiency.

The contemporary technological milieu, as Borgmann understands it, has fractured the habitat of grace. A robust theo-ethical engagement with technology's cultural pattern will seek to integrate this concern with Jonas's rightful concern for the destruction of ecological habitats. Both kinds of habitat destruction are the result, on a deep theological critique, of the hegemony of human pride, manifest and reinforced in contemporary culture through the pattern of the device paradigm. The task of creatively restoring these intertwined habitats falls to moral selves and communities that, while not rejecting technology outright, resist the corrosive effects of a paradigm that displaces love for God, neighbor, and the natural world with the restless, disintegrative consumption of commodities. By relativizing human efficacy through reverence for the gracious good that transcends it, and through appreciation for the vulnerable biological and cultural goods upon which human life depends, further development of a biocultural theological anthropology will aim to provide a conceptual orientation for this countercultural work of constructive resistance.

NOTES

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1. See for example, Meilaender 1998; 2005. As a representative on the President's Council on Bioethics, Gilbert Meilaender has of course been very active in the bioethics discourse. For a rich theological perspective on communication technologies, see Schultz 2002.

2. Jürgen Habermas is one representative of the idea that our technological ethos is qualitatively distinct. Habermas identifies distinctiveness through analysis of biotechnologies and the concept of "dedifferentiation." By way of advances in biological science and innovations in biotechnology, he suggests that the historic human aim to control the external natural environment has turned inward: "more and more of what we are 'by nature' is coming within the reach of biotechnological intervention . . . [and this] is but another manifestation of our tendency to extend continuously the range of what we can control within our natural environment" (2003, 23). Accordingly, the extension of technology into areas such as human genetics dissolves the boundary between external and internal nature. The objective natural world and the nature of human subjectivity have been dedifferentiated; humans are now not only subjects driving the technological manipulation of nature but are also manipulable natures.

3. In many cases, however, it seems that technological innovation generates scientific work. One obvious example of this is the issue of global climate change. Rising CO_2 emissions, to which our transportation and manufacturing technologies have significantly contributed, traps warm air in the earth's atmosphere and is slowly increasing the average global temperature. This result has led to more scientific research in atmospheric and ecological sciences and indicates that the relation between technology and science is less one of linear causality than a dialectical matrix.

4. French sociologist and sometime theologian Ellul (1964) is famous for his judgment along these lines. On his account, modern technology has become a totalizing framework in which all social actors are embedded, the context that encompasses all others. As inclusive and powerful as it is, it is quite impossible to find the critical stance outside of it necessary to keeping it morally in check. Many have critiqued Ellul for being too dystopian and for expressing an overly deterministic account of technology. But, as some of his interpreters suggest, as does Christian thinker Marva Dawn (2003), Ellul intended for his dire social-scientific diagnoses of "technological society" to be read alongside his prescriptive theological-ethical works. According to Dawn, the apocalyptic rhetoric of Ellul's sociological writings was meant to rouse his readers to a more critical awareness of their bondage within technological society.

5. Sociologist Anthony Giddens works along the lines of this trajectory by distinguishing two types of risk, external and manufactured. "External risk," he writes, is "risk experienced as coming from the outside, from the fixities of tradition or nature." Until recently, we experienced risk in mainly this external sense. But in our time, we are manufacturing risk. Manufactured risk is "risk created by the very impact of our developing knowledge upon the world" (Giddens 2003, 26). Examples of such risk include many of our environmental concerns. There is an ironic link between the increase of manufactured risk and the attempt to decrease external risk. Our concern with external risk, the measures we have taken to control what nature can do to us, has led to a situation in which we are now predominantly concerned with manufactured risk, with what we can do to nature. But it is not only the case that we are generating new kinds of risk. For German sociologist Ulrich Beck, the significant issue in our time is not only that we are generating new kinds of risk but also that the risks we face now are riskier than ever before. He writes, "contemporary nuclear, chemical, ecological, and biological [risks] are . . . not limitable, either socially or temporally . . . not accountable according to the prevailing rules of causality, guilt, and liability; and . . . neither compensable nor insurable." For these reasons, he continues, "the regulating system for the 'rational' control of industrial devastation is about as effective as a bicycle brake on a jetliner" (Beck 1995, 2). Beck's and Giddens's analyses of risk exemplify the insights of the effects-focused evaluative-analytical trajectory of thinking about technology.

6. With reference to the geopolitical extension of these effects, one need only think of the drift of various industrial and manufacturing pollutants beyond their point of origin.

7. Though correlated, Jonas articulates a distinctive account of the relationship between science and technology, arguing against the idea that they develop in historical synchronicity. He suggests that the historical reality instead points to the fact that the modern theoretical breakthroughs in science occurred in the seventeenth century, while the evolution of modern technology's methods, practices, and objects occurred during the nineteenth century. In the intervening years, Jonas claims, technological innovation advanced *for* science rather than *from* science. In other words, the end of technology during this period was basically to serve the new insights of modern science. The full intermingling of science and technology and the beginning of the distinctiveness of modern technology grew out of the material social and economic shifts underlying the industrial revolution, and specifically the chemical industries. "In the chemical stage," writes Jonas, "man does more than construct machinery from natural materials and use natural forces as sources of power. In chemistry he changes the *substances* of nature and even comes to synthesize substances which nature never knew." This turn from using nature for manufacture to the manufacture of nature is radical, marking the advent of technology that is "goal-setting rather than merely goal-serving" (Jonas 1974, 76, 72).

8. Jonas's call for a new socialism, however, is emphatically dystopian. History has shown that the arguably theoretical advantages of political centralization have in practice significant liabilities. Virtuous governance from the top requires a political culture below to nourish the positive formation of political character. But this requirement is compromised by the historical evidence that centralization tends to result, among other things, in the atrophy of political will and moral initiative on the ground. Further, economically, the socialist embargo on market competition discourages thrift and efficiency in production. Nevertheless, Jonas argues, the need-economy of socialism is a better model for our time than the profit-economy of capitalism. Most important for Jonas, considering his view of the emergency state of the present situation, socialism includes the added benefit over democracy of possessing, at least theoretically, the power to impose the necessary but likely unpopular regulations that the imperative of responsibility entails. While democracy can only hope for the cultivation in the present of a

self-restraining populace, socialism can enforce this. So Jonas calls for a critical retrieval of socialism—critical to the extent that the power over power that makes the socialist paradigm at least temporarily attractive requires that it reinterpret "its role from bringer of consummation to preventer of disaster, that is, by renouncing its breath of life—Utopia" (Jonas 1984, 144).

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