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Technology and the Catholic Ethic of Use: Starting a New Conversation

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American Catholics, particularly well-churched American Catholics, are uniquely disadvantaged when trying to assess technology morally. As citizens of a thoroughly technocratic society, our national ethos habituates us to revel in the material prosperity made possible by our sophisticated technologies and the pleasure, freedom, and contentment they bring. This socialization is so thorough that it is almost impossible to think about technology in moral terms.[1] Sure, sometimes questions are posed about the affordability of a particular piece

[1] Richard E. Sclove, *Democracy and Technology* (New York: Guilford Press, 1995), 10-24.

of technology, or about whether it is the most suitable technology for its intended purpose, or whether it will really deliver the degree of satisfaction one thinks.[2] Yet these are mostly personal preference issues, and their connection to morality is tenuous at best. Indeed, in my experience straightforward moral questions are rarely posed about technology openly, with the dominant attitude being a robust *laissez faire* stance, which eschews making moral judgments about technologies that others might use frequently and enjoy immensely or about the ways in which technologies are shaping us as moral agents. As a result, sustained and serious discussions about the morality of technology tend to get derailed quickly, leaving us ill-equipped to reckon morally with the many technologies on which we depend.[3]

Yet beyond the technophilia pervasive in America today, one's Catholic moral training functions as an impediment to understanding the full moral import of technology in another, distinct way. Suffice it to say that the form of moral evaluation commonly called "Catholic act analysis," which is based on St. Thomas Aquinas's three criteria of object, intention, and circumstances, has been alive and well for quite some time. Especially after Pope Leo XIII's Thomistic revival in the late 1800s, which mandated the study of St. Thomas for all Catholic seminarians, coupled with the rise of the neo-Thomist manualists, who dominated Catholic moral theology until the eve of the Second Vatican Council,[4] Catholic act analysis has been a mainstay for evaluating a wide variety of moral issues. Even today, despite serious misgivings about

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[2] Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago: University of Chicago Press, 1986), 9.

[3] I owe a debt of gratitude to many of my undergraduate and graduate Catholic Ethics students who have been enthusiastic about studying the Catholic moral tradition on technology. They have offered a number of insights and personal anecdotes that have been very helpful in clarifying my thoughts on technology.

[4] For a perceptive historical study of the manualists, see John A. Gallagher, *Time Past, Time Future: An Historical Study of Catholic Moral Theology* (Mahwah, N.J.: Paulist Press, 1990), 5-47.

Catholic act analysis as an evaluative device,[5] it is still officially sanctioned in some of the magisterium's most authoritative documents.[6]

Given this historical context, it is not surprising that as "technology" became a legitimate object of moral analysis in the 20th century, especially during the post-World War II period when technological proliferation in western democracies occurred on a massive scale, that Catholic act analysis would figure prominently in the Catholic Church's response to this burgeoning field of ethical interest – and that is precisely what happened. What emerged during this period was an "ethic of use,"[7] as I call it, which is essentially Catholic act analysis being applied to actions that are mediated by technology.

The essential rudiments of the Catholic ethic of use are relatively easy to understand. Any particular technology can usually be used in many different ways, and the specific way in which it is actually used is subject to a moral judgment. So, for instance, personal computers can be used to email, write letters, surf the world wide web, or many other things. According to the Catholic ethic of use, none of these activities carries any inherent moral meaning, so that it would be possible to label them as either right or wrong; they only become subject to moral evaluation when contextual information about specific activities is supplied. Thus, if I use my personal computer to make a financial contribution to the Hemlock Society or to infect other people's computers with a nasty virus, then my use of this technology is morally wrong. If, on

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[5] Mark Graham, "Catholic Act Analysis and Unintended Side Effects: Time for a New Tradition," *Studies in Christian Ethics* 18.2 (2005): 67-88.

[6] Pope John Paul II, *The Splendor of Truth* (*Veritatis Splendor*) (Washington, D.C.: United States Catholic Conference, 1993), #71-83; and *Catechism of the Catholic Church* (Mahwah, N.J.: Paulist Press, 1994), #1750-1761.

[7] For illustrations of the ethic of use, see John Mallon, "We Preach Christ Crucified" (an interview with Archbishop Charles J. Chaput), *Inside the Vatican* 6 (May 1998): 25; Pontifical Council for Social Communications, "Ethics in Internet," *L'Osservatore Romano* 10 (March 6, 2002): 6; Pope John Paul II, "Address to Scholars at UN University in Hiroshima," *Acta Apostolicae Sedis* 73 (June 3, 1981): 422; National Council of Catholic Bishops, "To Teach as Jesus Did," *Origins* 2.22 (Nov. 23, 1972): 354; Pope Paul VI, "Message of Pope Paul VI for the Fourth World Communications Day," *The Pope Speaks* 20.1 (1975): 88-89; Pontifical Council for Social Communications, "Ethics in the Media of Social Communications," *The Pope Speaks* 45.6 (Nov./Dec. 2000): 342-47; Pope John XXIII, "Christian Influence on the Motion Picture," *The Pope Speaks* 7.3 (1961): 215; and Pontifical Council for Social Communications, *"Aetatis Novae*," *The Pope Speaks* 37 (July-Aug. 1992): 216.

the other hand, I use my computer to prepare notes for my Catholic Ethics course or to donate money to a Hurricane Katrina relief fund, then these uses are morally right.

As an evaluative tool, however, the Catholic ethic of use typically leads moral reflection down a road so narrow and restrictive that it barely scratches the surface of the manifold moral issues involved with technology. Furthermore, the presuppositions underlying the Catholic ethic of use often skew moral analyses of technology in such a way as to be not only unhelpful, but downright misleading. To make good on these claims, let us consider various elements of the Catholic ethic of use, starting with certain background beliefs and their implications.

The Catholic ethic of use presupposes a Thomistic anthropology, which considers the moral realm to be coextensive with situations involving moral agents (which are almost always humans) acting in such a way as to affect moral patients (which are principally understood as humans, although animals are usually accorded some standing as moral patients). In turn, moral agency is typically defined according to the presence of freedom, volition, and rational deliberation about means and ends, with less restrictive criteria such as the capacity to suffer being sufficient to establish an animal as a moral patient. What this means in practice is that situations lacking either a moral agent or a moral patient are typically classified as non-moral events that call for no moral evaluation. So, for instance, when a hurricane demolishes a large swath of Florida (no moral agent, but many moral patients), or when a boy pulls a leaf off a tree while meandering through a forest (a moral agent, but no moral patient), traditional categories such as moral rightness or wrongness, which are applied to actions, as well as moral goodness or badness, which are applied to agents apart from their actions, are inapplicable.[8] In other words, we are dealing here with events outside the moral sphere.

[8] For reasons why actions ought to be considered "right" or "wrong" rather than "good" or "bad," even though the latter pair is still used extensively in Catholic moral theology to describe actions, see Mark E. Graham, "Rethinking Morality's Relationship to Salvation: Josef Fuchs, S.J., on Moral Goodness," *Theological Studies* 64.4 (Dec. 2003): 750-72.

The problem with this Thomistic conception of the moral sphere is that it easily lends to an instrumentalism that regards technology as morally neutral.[9] Technologies do not make free choices, possess any meaningful type of volition, or engage in rational deliberation. They might be preprogrammed, designed, or intentionally directed to carry out the wishes of moral agents, but this does not mean that the technologies themselves are moral agents, since they lack any independent, internal self-direction. Nor are technologies moral patients since they are incapable of suffering. Given this Thomistic classification scheme, it seems natural to exempt technologies from the moral sphere and to consider them as mere things, which convey no moral meaning apart from the derivative and contingent meaning bestowed on them by being linked to the actions of a moral agent.

The common metaphor of "technology as a tool,"[10] which is frequently found in Catholic analyses of technology and is implicitly based on an extrinsicist view of technology, is also made intelligible, even very attractive, by a Thomistic version of moral agency, which puts a great deal of stock in the formative influence and soteriological import of internal states or conditions. For Thomists, the key issue in determining whether the moral quality of an action is transferable to the agent is the presence of sufficient freedom and knowledge, and the major impediments to these typically originate from within the agent, with ignorance, passion, concupiscence, fear, and a wide assortment of habitual vices or neuroses usually topping the list.[11] Needless to say, technology is not an internal state or condition, nor is there any apparent connection between them (hammers, for instance, typically do not breed ignorance or incite inordinate passions or psychological hang-ups). Instead, given this Thomistic anthropological framework, technology

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[99] For vigorous criticism of the "technology is neutral" thesis, see Russell Hittinger, *The First Grace: Rediscovering Natural Law in a Post-Christian World* (Wilmington, Del.: ISI Books, 2003), 255-64; and Ian Barbour, *Ethics in an Age of Technology* (San Francisco: Harper 1993), 15-20.

[10] The Pontifical Council for Social Communications, for instance, writes about "communications media": "The media do nothing by themselves; they are instruments, tools, used as people choose to use them" ("Ethics in the Media of Social Communications," *The Pope Speaks* 45.6 (Nov./Dec. 2000): 341); cf. Albert Borgmann, *Technology and the Character of Contemporary Life: A Philosophical Inquiry* (Chicago: University of Chicago Press, 1984), 9-12.

[11] See, for instance, Henry Davis, *Moral and Pastoral Theology*, 4 vols., 7th ed. (London: Sheed and Ward, 1958): 1: 16-33.

is best understood as a collection of things "out there," external to us, extended in space and enduring through time, that are picked up and used by us but never become part of the internal world where agents define themselves morally.

Another cluster of issues associated with the Catholic ethic of use is the immediacy, spatial and temporal circumscription, and micro analyses it either presupposes or engenders. The Catholic ethic of use, by making discrete, individual uses of specific technologies the foci of moral evaluation, tends to tether moral analyses to the here-and-now, to the immediate contextual circumstances surrounding the act that render it intelligible. So, for instance, if the technology in question is a car, the Catholic ethic of use directs moral attention to rather immediate concerns: Was I using the car to get groceries, to drive my children to school, or to enjoy an adulterous interlude at a motel? By focusing on individual uses of specific technologies, the ethic of use presupposes that moral judgments can be made about individual uses of technologies without averting to antecedent data about the technology, thereby creating a tidy conceptual disjunction between the story behind a technology and its particular uses. Thus it is not necessary to know about labor conditions, safety standards, workers' benefits, or employee-management relations at the plant where my car was manufactured, nor is it necessary to know about the environmental costs incurred in mining iron ore, synthesizing plastic, using fossil fuels, discharging toxins into the air or water, and disposing of the industrial wastes that were associated with my car being manufactured. These considerations, while obviously morally relevant at some place and time, have no bearing upon the question, Is this use of the car morally right?

The spatial and temporal circumscription characteristic of the ethic of use is largely a result of its Thomistic heritage. If one examines Thomas Aquinas' *Summa Theologiae*, which has become ground zero for many contemporary skirmishes over Catholic act analysis, it is clear that Thomas's brand of act analysis steers him toward a specific type of moral situation that is usually characterized by the following: face-to-face interactions; readily identifiable moral agents and patients; relatively unambiguous cause-effect relationships; a definite beginning and end to an

action; and an identifiable space in which actions and effects occur and are morally specified. So, in selecting practical issues to be analyzed, Thomas chooses those that fit most, if not all, of the aforementioned characteristics, including murder, theft, robbery, perjury, boasting, etc.[12]

Technology, however, creates moral situations that allow us to violate these boundaries consistently. Consider automobile use, for instance. Driving a car produces over 1000 different pollutants, which in sufficient concentration are toxic to plants, animals, and humans,[13] especially children,[14] in addition to contributing to the long-term problem of global warming. Here we are not dealing with face-to-face interactions, but with a type of action that affects many nameless and faceless people; nor are the moral patients readily identifiable, since we have no idea what specific people were affected by any one person's emissions; nor are cause-effect relationships clear due to the fact that nobody really knows how their automobile emissions will actually affect others; nor are the beginnings and endings of actions clear, due to the ability of pollutants to persist and/or accumulate in the atmosphere for long periods of time; nor is it possible to identify the space in which actions and their effects occur, because automobile emissions travel far and wide from their point of origin, depending on a number of natural vicissitudes.

The ethic of use also strongly, maybe even necessarily, encourages micro analyses of technology. This is a result of two considerations. First, the principal methodological constraint of the ethic of use, namely, its identification of the discrete, individual act as the locus of moral

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[12] Thomas Aquinas, *Summa Theologica*, trans. Fathers of the English Dominican Province (Westminster, Md.: Christian Classics, 1948), II-II.64, 66, 98, and 112.

[13] For a detailed list of the toxins emitted while driving an automobile, see Julia Meaton and David Morrice, "The Ethics and Politics of Private Automobile Use," *Environmental Ethics* 18 (1996): 42-44.

[14] Joel Schwartz, "Air Pollution and Children's Health," *Pediatrics* 113.4 (April 2004): 1037-44; Michael W. Shannon, Dana Best, Helen J. Binns, and Christine L. Johnson, "Ambient Air Pollution: Health Hazards to Children," *Pediatrics* 114.6 (Dec. 2004): 1699-1708; Bryan Langholz, Kristie L Ebi, Duncan C. Thomas, et al., "Traffic Density and the Risk of Childhood Leukemia in a Los Angeles Case-Control Study," *Annals of Epidemiology*, 12.7 (2002): 482-7. Recognizing the unique vulnerability of children to environmental toxins such as automobile pollution, the United States Catholic Conference recently founded the "Catholic Coalition for Children and a Safe Environment" (CASE), a network of national Catholic institutions focusing on education and legislative initiatives, which includes lobbying efforts to set safety thresholds for environmental toxins at levels that will not adversely children's bodies. For information on CASE, go to http://www.usccb.org/case.

evaluation, militates against macro considerations. In order to make practical moral judgments about using any particular tool, the ethic of use requires very limited data. It does not need information about the synergistic effects among multiple technologies; the political or economic implications of certain classes of technology; the ways in which complex technologies require worldwide networks to procure needed inputs; or the ways in which access to a greater number of technologies and greater technological mediation of formerly non-technological events or activities subtly change people over time. As interesting as these issues might be, they transcend the ethic of use's sphere of concern, insofar as they are superfluous to the objective of making moral judgments about specific uses of particular technologies.

Second, because technologies often differ widely in terms of their potential uses, the Catholic ethic of use implicitly eschews lumping different technologies into undifferentiated, broad conceptual categories, as well as unwittingly discourages meta-analyses of technology that make their living off generalizations, patterns, trends, and talk about the extremely expansive subject of "technology." After all, one might find Jacques Ellul's analysis of instrumental rationality and how it begins to infiltrate every aspect of our lives to be fascinating and true;[15] one might consider Langdon Winner's insights on complex technologies and the emergence of the modern transnational corporation to be right on target;[16] and one might consider Willem Vanderburg's discourse on technology's hostility toward cultural experience as the primary way of understanding the world to be highly revelatory.[17] Yet as I sit in a public library hammering out this paper, if I ask the appropriate question indicated by the Catholic ethic of use (Is the act of writing this paper a morally right use of my computer?), the contributions of these authors seem too abstract and disconnected from the question at hand to be helpful. This, of course, in no way

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[15] Jacques Ellul, *The Technological Bluff*, trans. Geoffrey W. Bromiley (Grand Rapids, Mich.: William B. Eerdmans, 1990).

[16] Langdon Winner, *Autonomous Technology: Technics-out-of-Control as a Theme in Political Thought* (Cambridge, Mass.: MIT Press, 1977).

[17] Willem H. Vanderburg, *Living in the Labyrinth of Technology* (Toronto: University of Toronto Press, 2005).

denigrates their contributions. It just indicates that the terms of the debate laid down by the Catholic ethic of use make their contributions less than germane.

Another facet of the Catholic ethic of use is its individualism. Since the relevant locus of moral evaluation is the act, and since most acts, as understood in the Thomistic moral tradition, are performed by individuals, the Catholic ethic of use will typically cast its moral gaze on the discrete actions of individuals as they are mediated by technology. Of course, in some cases this gaze is entirely legitimate. But many of the most relevant (and vexing) issues arise in a more communal context of patterns of behavior that emerge as a result of technological proliferation. So for instance, it is one thing to evaluate one act of driving a car, and quite another to evaluate the morality of every American owning a car and driving it an average of 12,000 miles per year. On an even larger scale, it is highly morally relevant to consider the effects of so-called "underdeveloped countries" pursuing policies that would give their citizens the economic wherewithal to purchase and use automobiles as much as we Americans do. Needless to say, these two latter and broader communal contexts raise a host of public policy issues that far transcend those usually considered by the Catholic ethic of use. Moreover, these broader issues are very morally relevant.

A Catholic Ethic of Technology: Starting a New Conversation

In my mind, the most fruitful avenue for Catholic moral theologians to pursue on the issue of technology is to counteract the truncating tendencies of the Catholic ethic of use by showing the broader moral relevance of technology. In this spirit, let me hazard a few comments about the anthropological implications of technology, which represent just a small sliver of the many issues relevant to the subject of technology.

First, technology is inaugurating a strange era in which fundamental anthropological questions will not only be unavoidable, but also vexing, and the cognitive dissonance that will become more apparent over the course of this century will be due to many causes. One reason is that technological development has taken a sharp turn in the objects it seeks to improve. For most of

human history, the primary goal of technological development was ameliorative, insofar as it was intended to control and master natural forces that allowed humans to escape drudgery, boredom, and other physical hardships.[18] Around the time of the industrial revolution, mass production raised the specter of a far greater range of technologies that could be produced, and technological development now began to focus on convenience, speed, mobility, and enhanced communications, which were really not intended to reduce hardship, but to make life more satisfying.[19] While these two different eras of technological development were obviously motivated by different agendas, they shared one unifying assumption: "nature," or the natural world, was the legitimate object of technological intervention.

Recently, however, a different trend has emerged. Now, we humans are on the chopping block, so to speak, and have become the objects of technological tinkering.[20] Of course, medicine has been trying to improve human bodies for millennia, but always under the sharply circumscribed rubric of curing disease. Such is not the case today. The transformation envisioned by the doyens of the high-tech world really knows no bounds, and recent technological developments in the fields of genetics, biochemistry, nanotechnology, robotics, and psychopharmacology, among many others,[21] have made our bodies, and by extension ourselves, far more negotiable and malleable. In the not too distant future, we might legitimately be considering questions that would have been unthinkable for the vast majority of human history: Should we take drugs that control aggressiveness, mental acuity, social gracefulness, the recall of painful memories, or affectivity?[22] Should we tinker with the genetic code of our progeny to

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[18] Brent Waters, *From Human To Posthuman: Christian Theology and Technology in a Postmodern World* (Burlington, Vt.: Ashgate Publishing Company, 2006), 47.

[19] For an interesting analysis of technology during this period, see David E. Nye, *American Technological Sublime* (Cambridge, Mass.: MIT Press, 1994).

[20] Gerald P. McKenny, "Technologies of Desire: Theology, Ethics, and the Enhancement of Human Traits," *Theology Today* 59.1 (April 2002): 100.

[21] For an informative overview of recent technological developments, see Bruce Mau, et. al., *Massive Change*, ed. Jennifer Leonard (New York: Phaidon Press, 2004).

[22] For an extended analysis of these questions, see Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York: Farrar, Straus, and Giroux, 2002).

improve their intelligence, athleticism, attractiveness, or metabolism? Should we replace our hearts with an army of microscopic nanobots that can deliver oxygen more efficiently to our major organs and eliminate the possibility of a heart attack? Or better yet, should we replace the bulk of our major organs with devices that can do the requisite job better without ever wearing out? Should we consider linking our minds directly to the worldwide web through neural implants, which would not only give us instantaneous, around the clock access to a staggering amount of information, but would also allow us to download our thoughts, emotions, and dreams for others to access, in addition to being able to upload the same from others.

These questions obviously push the settled, comfortable boundaries of embodiment, and I suspect that many will feel a considerable amount of vertigo when considering them.[23] While understandable, let me ask you to bracket your reaction for a moment in order to consider the possibility that influential elements of Catholic moral theology might actually lead to the conclusion that these technologies should be greeted with joy and thanks, rather than with fear and trepidation. Let me explain.

Catholic moral reflection on technology is almost always highly anthropocentric, with the bedrock non-negotiable value to be protected typically being cast in the language of "human dignity," "human welfare," or more specifically "integral human flourishing." At some point, these rather vague concepts need to get translated into something more specific in order to provide some normative moral bite, and the common method for doing this is to articulate a set of human goods. Once identified, technologies can be evaluated on the basis of whether they actually help realize these human goods. So, for instance, if health is a human good, then

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[23] Stephen R. Garner, "Hacking the Divine: A Possible Metaphor for Theology-Technology Engagement," *Colloquium* 37.2 (Feb. 2005): 2-4. Interestingly enough, while influential Catholic theologians are quite celebratory about the contingencies associated with embodiment, technophiles regard the same phenomena as degradations and temporary limitations to be overcome. Ray Kurzweil, for instance, writes, "Whereas some of my contemporaries may be satisfied to embrace aging gracefully as part of the cycle of life, that is not my view. It may be 'natural,' but I don't see anything positive in losing my mental agility, sensory acuity, physical limberness, sexual desire, or any other human ability. I view disease and death at any age as a calamity, as problems to be overcome" (Ray Kurzweil and Terry Grossman, *Fantastic Voyage: The Science Behind Radical Life Extension* (New York: Plume, 2005), 139-40. For recent Catholic theologies of embodiment, see Anthony J. Godzieba, "The Fear of Time and the Joys of Contingency," *Philosophy and Theology* 16.1 (2004): 77-88; and Anthony J. Godzieba, Lieven Boeve, and Michele Saracino, "Resurrection—Interruption—Transformation: Incarnation as Hermeneutical Strategy: A Symposium," *Theological Studies* 67 (2006): 777-815.

technologies that promote this end ought to be embraced, and furthermore, technologies that are more effective, less invasive, or less costly are seen to be improvements that are morally laudable.

On the other hand, any Catholic evaluation of technology will eventually get around to setting appropriate "limitations," those points at which technology starts to encroach on or undermine other human goods. Of course, the reasons for these limitations are very diverse; but for our purposes, the specific reasons are not that important. What is more germane is that this method of evaluating technology, which essentially baptizes technology up to a certain point, but then feels compelled to draw sharp lines in the sand, is an incredibly slippery business, especially given the Catholic proclivity for casuistry and the premium it places on argument by analogy.[24] What usually happens when this type of moral reasoning is employed is either that the difference between the prime analogue (the old technology that is on the verge of becoming obsolete) and the new technology is not substantial enough to warrant evaluating the two differently, or that the new technology is simply an intensification or expansion of another formerly widely accepted technology, the only difference being that it does its job of realizing a particular human good much better. In either case, putting the brakes on technology ends up seeming arbitrary, unreasonable, or counterproductive.

Consider "communications technologies," for instance, an area of keen interest for the Catholic hierarchy, given the mandate of Jesus to preach the Gospel to all nations (Matt. 28: 19-20). The internal logic behind a number of technological improvements in this area, from hieroglyphics to an alphabet, from handwritten manuscripts to the printing press, and from the manual typewriter to the personal computer, seem to be the following: each makes it easier for the communicator to express his or her ideas more quickly and more precisely; and, furthermore, each makes it possible to reach a wider audience. If this actually is the internal logic behind labeling the latter of each aforementioned pair as a technological "improvement" rather than a "regression," then one would expect that the internet, which is the easiest and quickest

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[24] For a helpful synopsis of casuistic analogical reasoning, see Albert R. Jonsen and Stephen Toulmin, *The Abuse of Casuistry: A History of Moral Reasoning* (Berkeley: Univ. of California Press, 1988), 250-65.

technology for bringing communicators and audiences together, would be greeted with enthusiasm in Catholic circles—and this is precisely the case. To give but one example, the Pontifical Council for Social Communications recently praised the internet's ability to give people "direct and immediate access to important religious and spiritual resources" and for the Church to evangelize and teach on a worldwide basis, "beyond all barriers and frontiers." "Such a wide audience," writes the Pontifical Council, "would have been beyond the wildest imaginings of those who preached the Gospel before us."[25] Thus, the internet should be regarded by Catholics as a remarkable gift from God that not only contributes to God's plan of salvation for us, but also to the spreading of God's kingdom. In fact, the Pontifical Council is so enthusiastic about "this remarkable technology" that they make it obligatory for Church leaders to use the internet's full potential as part of their ministerial work.[26]

Given all these accolades and giddy excitement about the internet, why not take the next step, which would be developing tiny, cheap neural implants that would link the brain of every person on planet Earth to the internet? Now what a boon this would be! You see, the dirty little secret about the so-called world wide web is that only about 8% of the world's population actually has access to it, largely because it requires a computer, and computers are too expensive for all but the world's economic elite to acquire.[27] Neural implants could do everything a computer does and much more, without the distasteful economic elitism.

Yet even for those privileged few computer owners, neural implants would offer clear comparative advantages. Consider the ways in which it would benefit me, for instance. Neural implants would be far easier to transport than my cumbersome laptop computer; they could not be stolen; I could ride my bike or garden in my backyard while I accessed the magisterium's documents in my head; I could instant message theologians in distant lands while riding the train

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[25] Pontifical Council for Social Communications, "The Church and Internet," *L'Osservatore Romano* 1733.3 (6 March 2002): no.5.

[26] Ibid., nos. 1-2.

[27] Quentin J. Schultze, *Habits of the High-Tech Heart: Living Virtuously in the Information Age* (Grand Rapids, Mich.: Baker Academic, 2002), 67.

home from work; I could send theological news and information to my students while watching my kids at the playground; and maybe I could even train my mind to do theological research and writing in my sleep, which could potentially double or triple my productivity. If the magisterium really is convinced that direct and immediate access to theological resources is a genuine good, that religious information ought to be able to breach "all barriers and frontiers," and that the Gospel ought to be preached in every nook and cranny of the globe, then the conclusion that Catholics ought to embrace seems rather unavoidable: We really need neural implants!

I suspect that the Catholic proclivity for drawing lines in the sand, however, will be fully engaged here. Yet I also suspect that the case for drawing the line in the sand between computers and neural implants will be rife with ambiguity – and in the end moot. Ambiguous because new technologies have always pushed boundaries, and when these technologies promise to help humans perform some type of important activity better, then the boundaries almost invariably get transgressed, people gradually adjust to the manifold consequences of the new technology, and that particular piece of technology fades from our moral radar screen and becomes an accepted, unquestioned fact of human life.[28] So, for instance, eyeglasses, the printing press, and streetlights were highly controversial during their time, yet for the past 200 years one would be hard pressed to find any academic or popular interest in these technologies as moral issues.

Yet let me return to anthropological considerations of interest to Catholic moral theologians. One area that I find very fruitful, especially given the recent resurgence of interest in virtue ethics in Catholic circles, is to consider the ways technology has changed us, especially the ways in which it has altered our ordinary and legitimate expectations, and whether these altered expectations promote or impede the cultivation of virtues such as gratitude to God, compassion, and love of neighbor.

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[28] Bill Joy, "Why the Future Doesn't Need Us," *Wired* 8.4 (April 2000): 4, accessed at http://www.wired.com/wired/archive/8.04/joy.html (June 1, 2012).

I think a strong case can be made that contemporary residents of the technopoly[29] we call the United States have a level of entitlement that, from a historical perspective, is unprecedented. Today, your average American expects to eat out-of-season food year round; he expects to be cool inside when it is hot outside, and warm during the middle of winter; she expects to have her immediate habitat illuminated long after the sun has set; he expects to be able to travel thousands of miles in days, if not hours, and feel comfortable in the process; she expects to be able to send a message halfway across the world in a fraction of a second; he expects to have oil obtained from the middle east or from miles below the ocean floor to be available in his neighborhood; she expects to have access to wide range of top-notch medical services and drugs; and he expects to be informed about worldwide events as they occur.[30] Quite clearly, neither a Paleolithic hunter-gatherer, nor a medieval monk, nor a manual laborer during the Industrial Revolution would expect such an expansive and diverse array of goods and services to be accessible at all, and much less so on a daily basis. Moreover, our moral identities and our sense of what we are legitimately entitled to have been forged in this atmosphere of abundance made possible through advanced technologies, which, in practice, means that if we are denied these goods or services, we might not only experience a panic attack, but we also commonly feel a keen sense of injustice, of having our human dignity undermined, or of having one of our many economic "rights" violated. In other words, our sense of entitlement eventually gets expressed in straightforward moral claims.

So how should this growing sense of entitlement be evaluated if gratitude to God, compassion, and love of neighbor are the virtues toward which we should be striving? Quite frankly, I am reluctant even to ask this question, because I think the answer is so complex that even posing it in an article of this length can stack the deck toward oversimplification. But, at the risk of sounding like an over-generalizing buffoon, let me at least offer some leads.

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[29] This term is borrowed from Neil Postman, *Technopoly: The Surrender of Culture to Technology* (New York: Vintage Books, 1992).

[30] Daniel J. Boorstin, *The Republic of Technology: Reflections on Our Future Community* (New York: Harper & Row, 1978), 44-45.

One of the best cases to be made is on the basis of compassion, or the alleviation of suffering. Historically speaking, compassion has been a potent force behind technological development, and some have even argued that the decisive wedding of science and technology, which was first envisioned by Francis Bacon and is simply taken for granted today in both industry and the academy, was motivated by deep-seated humanitarian impulses and the sincere conviction to make people's miserable lives a little better.[31] Without question, this compassionate Baconian vision has, in fact, been realized: more people today have access to safe drinking water, better sanitation services, better medical treatment, and more food, and much of the human toil and drudgery associated with securing necessities on a daily basis have been greatly reduced through modern technology.[32] To this extent, a sense of entitlement that corresponds to expecting access to a level of goods and services that reduce suffering seems to be a quite legitimate.

Of course, this is only half of the story that interests virtue ethicists. In its fullest sense, compassion concerns not only the alleviation of suffering, but also the habitual formation of the moral agent. So the question: How does our growing sense of entitlement affect our ability to become compassionate persons? In one way, the lifestyles to which we have become accustomed offer distinct possibilities for the cultivation of compassion. Thought-provoking literature can lift us out of our own sphere of interest, incite our imagination, and get us to feel the predicaments of other people. Television can give us glimpses of moral heroes, what makes them tick, and the sheer magnetism of their compassion can inspire us to move beyond our own comfort zone to attend to the suffering of others.[33] Cars and airplanes that allow us to encounter a greater variety of people from different backgrounds could lead to an internal renovation or change of perspective for the better.

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[31] Bronislaw Szerszynski, *Nature, Technology, and the Sacred* (Malden, Ma.: Blackwell, 2005), 55.

[32] Murray Jardine, *The Making and Unmaking of Technological Society: How Christianity Can Save Modernity From Itself* (Grand Rapids, Mich.: Brazos Press, 2004), 17.

[33] Pope John Paul II, "Message of Pope John Paul II for World Communications Day," *The Pope Speaks* 39.4 (July/Aug. 1994): 204-7.

These potential links to compassion, however, are not necessary, or even tight for that matter. We can simply close the book, change the channel, or travel to meet a group of like-minded individuals that will simply reinforce old habits. But let me suggest that focusing on specific technologies should be avoided, since what we are really considering here is a sense of entitlement that emerges from a broad constellation of technologies. In other words, we are after the moral importance of the whole, or life as it is shaped in an advanced technological society, not of the parts.[34]

The one major danger I perceive is that our growing sense of entitlement makes it easier to avoid becoming compassionate.[35] Cultural critics ranging from Friedrich Nietzsche, to Alexis de Tocqueville,[36] to Christopher Lasche[37] have noted a definite tendency among those whose enjoy the privilege of having a wider range of their desires satisfied – and there is little doubt that our current American technopoly is a potent desire satisfaction machine. Quite simply, the appetites of the privileged become more rapacious, their desires pettier, their demands on others more insistent, and their quest for self-enhancement more intense.[38] If this tendency is real, the pervasive temptation for us at the top of the technological food chain will be to avoid becoming sophisticated adult versions of spoiled little kids – and if anything epitomizes anti-compassion, it is a spoiled kid.

One final anthropological issue is worth mentioning. As much as I do not want to say it, technological development this century will almost assuredly force Catholic moral theologians to consider over and over again something similar to the central point of dispute in the birth control

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[34] George Grant, *Technology and Justice* (Notre Dame: University of Notre Dame Press, 1986), 32.

[35] Stephen L. Talbott, *The Future Does Not Compute: Transcending the Machines in Our Midst* (Sebastopol, Ca.: O'Reilly and Associates, 1995), 54.

[36] Alexis de Tocqueville, *Democracy in America*, trans. George Lawrence, ed. J. P. Mayer (New York: Doubleday, 1969).

[37] Christopher Lasch, *The Culture of Narcissism* (New York: W. W. Norton and Company, 1979), 72.

[38] Albert Borgmann, *Power Failure: Christianity in the Culture of Technology* (Grand Rapids, Mich.: Brazos Press, 2003), 78; Ellen T. Charry, "Editorial: The End of Satisfaction," *Theology Today* 59.1 (Apr. 2002): 3-5 (downloadable version).

controversy, namely, the moral normativity of biological givens, along with the related issue of God's relationship to the natural order and whether or how "nature" is a conduit for God's purposes and intentions.[39] Suffice it to say that the position championed by so-called revisionist Catholic moral theologians has won the day, which is roughly the following: nature is a material substratum that needs to be improved upon and perfected and bears, by itself, no moral normativity. So, the esteemed moral theologian Josef Fuchs writes,

> [T]he only thing that we can grasp from the givenness of nature . . . is what it is, how it functions, and what its natural goal is (perhaps a goal reached in a variety of ways). By itself, therefore, nature discloses only its being to us, not an ethical obligation. Thus, the question of how we 'should' make use of what is given in nature in a human and rational way is exclusively an ethical question that must be solved by human reason; it is a question of interpreting and evaluating . . . the relevance of nature for human reality as a whole.[40]

Although not a theologian, someone who shares Fuchs' belief about biological givens and the natural realm is Ray Kurzweil, who is quite famous in technology circles for his uncanny knack of predicting technological development accurately. Like Fuchs, Kurzweil believes that biological givens need to be improved upon, for the simple reason that they are major obstacles to highly desirable ends such as health, longevity, good sex, and learning. For Kurzweil, the basic problem is that our biological givens were forged through the process of evolution – and it was and is a very inefficient, messy, and slow process: its tools are restricted to one class of building materials, namely, proteins; it can only improve upon what is already there, namely, existing creatures, which sharply limits the possible improvements that can be made; and its trial-and-error method of improvement through random genetic mutations is exceedingly

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[39] For a fascinating treatment of the many ways in which God has been connected to technology in a very practical sense, see David F. Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (New York: Penguin Books, 1999).

[40] Josef Fuchs, *Moral Demands and Personal Obligations* (Washington, D.C.: Georgetown University Press, 1993), 33.

wasteful and time consuming.[41] The practical upshot, for Kurzweil, is that biological evolution has provided us with a givenness that begs to be perfected – and not simply perfected when "something goes wrong," by putting us back to a state of normalcy; for even in a state of normalcy, as Kurzweil writes, "There is already something wrong. Our bodies are governed by obsolete genetic programs that evolved in a bygone era, so we need to overcome this."[42]

Kurzweil's program for surmounting our biological limitations involves advanced technology, but not exactly by using technology to augment our natural capacities. No, Kurzweil actually recommends that we begin merging with technology by gradually replacing certain aspects of our bodies with machines – and Kurzweil is convinced that the exponential growth of the ability of computers to process information will, in the not-too-distant future, allow for spectacular technological leaps to become commonplace.[43] One area that especially excites Kurzweil is fusing machine intelligence (or "nonbiological intelligence", as he often calls it) with the human brain, with the former gradually coming to predominate as better machine intelligence is developed. In Kurzweil's opinion, this is a type of perfection that deserves every accolade we could throw its way because it offers virtually incomparable benefits over our current brains, or our "biological intelligence," as he calls it: our nonbiological intelligence would allow us "to remember billions of facts precisely and recall them instantly; once a skill is mastered, it could perform it "repeatedly at high speed, at optimal accuracy, and without tiring"; it could process information three million times quicker than our brains can; it could pool its "resources, intelligence, and memories" with other machines; and the list of comparative advantages goes on and on.[44] Eventually, as more people recognize the benefits of merging with nonbiological intelligence and willingly embrace it, and as the power of our nonbiological intelligence grows

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[41] Ray Kurzweil, *The Singularity is Near: When Humans Transcend Biology* (New York: Viking, 2005), 309.

[42] Ibid., 371. See also Ray Kurzweil and Terry Grossman, *Fantastic Voyage: The Science Behind Radical Life Extension* (New York: Plume, 2005), 7.

[43] Ray Kurzweil, *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (New York: Penguin Books, 1999), 9-39. Cf. Jaron Lanier, "One Half Of a Manifesto," *Edge* 74 (Sept. 25, 2000): 4-25, accessed at http://www.edge.org/3rd_culture/lanier/lanier_index.html (June 1, 2012).

[44] Kurzweil, *The Singularity is Near*, 26-28.

exponentially with new technological developments, the entire cosmos will undergo a transformation – a transformation, it should be noted, that bears a striking resemblance to the Jesuit Pierre Teilhard de Chardin's vision of the omega point, or the cosmic Christ. As Kurzweil writes, "Ultimately, the entire universe will become saturated with our intelligence. This is the destiny of the universe. . . . We will determine our own fate rather than have it determined by the current 'dumb,' simple, machinelike forces that rule celestial mechanics."[45]

Now I have to be careful here because I am drawing some inferences, but I think someone like Josef Fuchs, who sees a clear distinction between biological givens and the sphere of normative morality, and who also regards the moral import of the former as indeterminate, if not rather opaque, might be sympathetic intellectually to Kurzweil's program of gradually merging people with technology. One reason is that if our biological givens are simply material substrata that are just there, or just mere facts revealing their being to us, it is difficult to understand why, from a moral perspective, our biological facts should be considered sacred or immune from tampering or even replacement.[46] Moreover, since the arbiter of moral matters is human reason for Fuchs, it is entirely possible to envision human reason coming to the moral conclusion that a different human material substratum would be preferable. In addition, if we agree with someone like Daniel Maguire, who claims that the bane of ethics is insufficient empirical data upon which to make well-informed moral judgments,[47] then the biological fact that might stand in need of the greatest degree of improvement would be human reason itself, the fact gathering and recalling capabilities of which could be expanded at least a million-fold if it could be merged with nonbiological intelligence. In my opinion, while it is not certain that someone like Fuchs would embrace Kurzweil's program of humans gradually merging their biological intelligence with nonbiological intelligence, every indication in Fuchs's fundamental moral theology suggests that such a possibility is very tantalizing.

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[45] Ibid., 29.

[46] Pope John Paul II, *The Splendor of Truth*, #46.

[47] Daniel C. Maguire and A. Nicholas Fargnoli, *On Moral Grounds: The Art/Science of Ethics* (New York: Crossroad, 1991), 50.

Conclusion

I am convinced that technology ought to become a subject of considerable interest in Catholic circles – and if the gurus of technological development are correct in their predictions, advanced technologies will become so ubiquitous, desirable, and also so profoundly disturbing this century that it will become almost impossible to avoid giving technology sustained and systematic reflection. Yet I am equally convinced that the predominant tool used in Catholic circles to evaluate technology morally, namely, the ethic of use, is ill equipped to reckon with the manifold dimensions of contemporary technology. My hope is that by examining just a small sliver of the considerations relevant to the subject of technology, two things will become a little clearer: (1) the Catholic ethic of use is a very limited tool of moral analysis; and (2) the technological road upon which we are traveling with gusto is fraught with both promise and peril – and often it will be hard to tell which is which.