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The Rise of the Machines

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The only sort of inner life allowed by the Technician would be a modest and moderate form of introspection, directed by the doctor and tending to produce an optimistic frame of mind by eliminating—by plucking out the very roots of—any desire that could not be fulfilled in this world. Fools! You don't care a tinker's curse for the inner life, yet it is nevertheless through the inner life and in it that certain real values have been transmitted to us without which liberty would be nothing but an empty word. You don't care a tinker's curse for the said values either? So be it.—Georges Bernanos [1]

When every landscape is bordered by roads or marched across by pylons, when every riverbed is strewn with plastic and metallic waste, when even the wildest environment is carefully managed by ecological experts for its own protection, we are sealed on every side by the artificial: by our own image projected onto nature. But the self turned in upon itself is living in a coffin, and a civilization that worships the self is what John Paul II termed a “culture of death.”

In such a culture, the real is what can be measured. Human life has no value but the going market rate, and if we animals have any purpose on earth it is to maximize our pleasure while prolonging our existence. We are here to consume—or to be entertained. As one pundit said, “We have moved from a world in which we define ourselves by work to one where we define ourselves—and, in many ways, discover our meaning—through consumption: leisure, expenditure on material goods and other things outside work.”[2]

That is as much as to say, we eat in McDonald's or Pizza Hut, we drink Coke or Pepsi, and we decorate our apartments with exquisite taste. Our range of choice among ice creams exceeds the wildest indulgent dreams of a Nero or Caligula. But apart from all that, we have no vocation, and no power to determine our destiny.

We have spawned this culture together. It comes from Europe, from divisions and hatreds created before America was a nation. The responsibility for it lies not with Americans but with Christians. In a sense you could say it was the fault of Christ. Faith in Jesus gave a radically new impetus to history. It disrupted the slow breathing, the cyclic rise and fall of civilizations that lived in an uneasy harmony with the forces of the cosmos, recognizing in nature a fixed and eternal wisdom. Christianity injected a brand new idea: that the Creator of all might have stepped through the magic mirror and into our world, becoming man. In so doing he gave to history a real center and a shape, a middle and an end.

It was Jesus who raised the stakes. We are now playing for eternal life. He brought a new freedom. In sacramental union—that is, in loving union—with him we can achieve a destiny higher than fate and change the course of nature. To quote Christopher Dawson again:

“Eternity had entered into time and henceforward the singular and the temporal had acquired an eternal significance. The closed circle of time had been broken and a ladder had been let down from heaven to earth, by which mankind can escape from the ‘sorrowful wheel’ which had cast its shadow over Greek and Indian thought, and go forward in newness of life to a new world.”[3]

The dynamism of the Christian faith created Western civilization, as historians like Dawson, Pierre Duhem, and Stanley Jaki have shown. But from the outset there was a flaw, a failure in the human response to the Incarnation. As the new civilization grew, that flaw was revealed ever more clearly. A jagged crack widened, engulfing both East and West, splitting nature from grace, so that Christendom was cut off from its very source of life. The worst, the old saying goes, is the corruption of the best. If that is so, then the culture of life corrupted is the culture of death. Cut off from the vine we can do less than nothing; severed from the One who alone can hold together the forces of grace and imagination released by the Incarnation we are in a worse state than ever the pagans were.

Let us trace it back, this jagged crack in the soul of Christendom, as near as we can to its earliest point. Three men are sleeping in a garden. Peter, James, and John could not keep awake, and so failed to pray with their Master. This much we know from the Gospel account. But what, exactly, would their prayers have achieved? Judas repented a little too late: perhaps he would have been saved if his brothers had reached out to him in prayer. Jesus died on the Cross; Jerusalem fell. Of course, individual Jews as well as Gentiles did convert, so that out of the wreckage of Israel and Rome a Christian Empire, a Christendom could arise. But already a deadly separation had opened up between the earthly and the heavenly city, which had been united on earth in the Body of Christ. If Jerusalem had become the center of the new faith, it might have drawn all nations and peoples to itself. Instead, the vengeful ghost of a monotheism never fully integrated with Christianity was able to emerge from the deserts of the South to become the scourge and the terror of Europe in the Middle Ages. The foundations of secular modernity were laid in the struggle with Islam, when the Christian crusaders, attempting to recapture the Holy City by force of arms, succeeded by their brutality, diverted towards Constantinople, only in sealing the division between Eastern and Western Christendom.

All through the subsequent fragmentation of Europe, the collapse of the economic and social framework of feudalism, the rise of the merchant classes and the nation state, “philosophic reason” advanced at the expense of the contemplative intellect. The Protestant Reformation destroyed the dream of a united Christendom in the West, and in the confusion the humanists

of the Renaissance were able to forge a new unifying culture across the Catholic-Protestant divide by opening the way to a new paganism and secularization of knowledge. Hilaire Belloc once wrote that if it had not been for the Reformation, the energies of the Renaissance would have fueled a Golden Age. The colossal nudes of Michelangelo are certainly impressive, but in them we see that it is man rather than God who has begun to take center stage.

We are living in an era of voluntarism; a period in which religion has been dying because it has been reduced to an act of the will, and thought has been subordinated to sentiment. The conversion of culture that is called for is a profound one, because part of the problem of our culture is that religious faith is assumed by both believers and non-believers to be a purely human act. Of course, faith is an “infused theological virtue”, a divinely inspired habit, and to that extent certainly also a matter of the will. But the created human will has been misunderstood in modernity as primarily *active and generative*. The deepest Christian tradition, by contrast, understands the will as primarily *receptive*—and that means turned towards the truth. A will turned in upon itself, upon the self, cannot give thanks, cannot receive grace. Such a will can believe only with *blind faith*. What we must affirm, against the false Gnosticism of atheistic reason, against even the rules of the club of professional philosophers and theologians, is the reality of a *seeing faith*.

The first volume of Hans Urs von Balthasar’s series *The Glory of the Lord* is precisely a defense of this concept of *seeing faith*, and even of what we might call “Christian Gnosis” (following the great Alexandrians, Clement and Origen, rather than the heretics dubbed “Gnostics” by Irenaeus and others).[4] I won’t try to summarize it here, but simply acknowledge it as part of the background to this concluding section. The healing of our souls and of our society will only come with an *opening of vision*. But the vision we are talking about—the blossoming of the spiritual senses—depends on *purity*, or rather purity of heart, as we saw at the beginning. What I mean by purity is openness to truth. It has to do with being like a mirror, and we recall that a mirror is only able to reflect when it is turned outward. Folded in on itself it can see only reflections of reflections, and ultimately, locked in darkness, it sees nothing at all. The struggle for purity is thus the struggle for light, the struggle to let nothing get in the way of the light except things that the light wishes to reveal.

The conversion of culture, then, implies a *conversion to purity* in order to be able to see the truth. Yet we know the remarkable degree to which our culture dedicates its creative energy to the corruption of innocence and the pollution of the imagination. This is a culture dead set against asceticism. “Not for nothing does Holy Scripture name ‘concupiscence of the eyes’ among the three powers which constitute the world that ‘lieth in the power of evil (1 Jn 2:16; 5:19),” writes the Thomist philosopher Josef Pieper:

It reaches the extremes of its destructive and eradicating power when it builds itself a world according to its own image and likeness: when it surrounds itself with the restlessness of a perpetual moving picture of meaningless shows, and with the literally deafening noise of impressions and sensations breathlessly rushing past the windows of the senses. Behind the flimsy pomp of its facade dwells absolute nothingness; it is a world of, at most, ephemeral creations, which often within less than a quarter hour become stale and discarded, like a newspaper or magazine swiftly scanned or merely perused; a world which, to the piercing eye of the healthy mind untouched by its contagion, appears like the amusement quarter of a big city in the hard brightness of a winter morning: desperately bare, disconsolate and ghostly. The destructiveness of this disorder which originates from, and grows upon, obsessive addiction, lies in the fact that it stifles man’s primitive power of perceiving reality; that it makes man

incapable not only of coming to himself but also of reaching reality and truth.[5]

The stage is set, if this is true, for a titanic struggle. The errors of modernity are spiritually based, and will not be rooted out easily. But should we be surprised at this? The “Battle of the Logos” was foreseen in the Book of Revelation. The Battle is described in the most graphic way in the Book of Revelation (19:11-21), where the Word of God, clad in robes dipped in blood, rides out to war, his eyes like a flame of fire. “From his mouth issues a sharp sword with which to smite the nations, and he will rule them with a rod of iron; he will tread the winepress of the fury of the wrath of God the Almighty.” The Founder of Christianity, after all, is on record as saying he came not to bring peace but a sword (Mt 10:34–6). The sword is an instrument of division, of opposition. Sword implies Battle.

According to the reading of Hans Urs von Balthasar in the fourth volume of *Theo-Drama*, the Battle is made necessary by the sin that God must expose and even, in a sense, *deliberately provoke*, in order finally to overcome. “Christ’s utter Yes to God and to the world,” he writes, “drives the utter No—the demonic, anti-Christian No—out of its hiding place. ‘If I had not come and spoken to them, they would not have sin; ... but now they have seen and hated both me and my Father.’”[6] In the very act of gathering us to himself through history, Christ scatters his flock. In the act of bringing peace, he provokes war.

In a period of rapidly evolving technology and the social changes that inevitably flow from this, the “globalization of solidarity” (Pope John Paul II) is becoming ever more urgent. But Christians are confused about the role of technological development in this process. While there are plenty of critics of capitalism, this is less true of technology—the advance of technology being more obviously responsible for the “successes” of capitalism than an economic system based on selfishness and greed. In the 1960s, the Second Vatican Council adopted, in *Gaudium et Spes*, a generally optimistic view that “mankind’s triumphs are signs of God’s greatness and the fruit of his sublime plan” (n. 34), and that worldly progress may lead to “the better ordering of human society” (n. 39). The hope has often been expressed in Church documents since that time that moral and scientific progress will proceed hand in hand. Yet the Council was also aware of the ambiguity of worldly progress (see *Gaudium et Spes* sections 54–7); and it is clear that in fact there is much cause for concern. What once looked like hope now appears to have been wishful thinking.[7]

The next phase in the development of Catholic social teaching—from Pope Francis onwards—will have to include some attempt to analyze the social and ethical issues raised by recent technological developments and their applications. That in turn will necessarily involve renewed attention not only to anthropology and ethics, but also to eschatology, and the theology of history.

Human Ecology

One of the key developments in the social teaching of John Paul II was to recognize the importance of human technological development on the environment, prompted by the huge secular “Green” movement that had been gathering popular momentum since the time of the Council. Whatever its faults, Rachel Carson’s book *Silent Spring* (1962) had drawn the world’s awareness to the often irreparable damage being done to the natural world by pesticides and other forms of pollution. The emerging science of ecology demonstrated the interconnectedness of all life on earth. Photographs of the earth from space sent back by the Apollo astronauts served as icons to raise awareness of the fragility of what came to be known as the earthly “ecosystem.” Just as the Church had belatedly acknowledged the new problems

raised by industrial society in the nineteenth century, so in the second half of the twentieth the environmental crisis became an important element in papal teaching.

It was mentioned (along with the threat of nuclear war) in sections 8 and 15 of John Paul II's first encyclical, *Redemptor Hominis* (1978), but its fullest statement came in the 1990 Message for the World Day of Peace, *Peace with God the Creator; Peace with All Creation*. On the basis of the "integrity of creation" the pope argues that "Simplicity, moderation, and discipline, as well as a spirit of sacrifice, must become part of everyday life" (n. 13). This amounts to "a genuine conversion in ways of thought and behavior."

The same teaching was then picked up in the Pope's social encyclicals—the main vehicle for his teaching on faith and morals—such as *Sollicitudo Rei Socialis* (1987), *Centesimus Annus* (1991), and *Evangelium Vitae* (1995)—and from there entered into the *Catechism of the Catholic Church* and the *Compendium of Social Doctrine*. In SRS he insisted that "one cannot use with impunity the different categories of beings, whether living or inanimate—animals, plants, the natural elements—simply as one wishes, according to one's own economic needs" (n. 34), while in CA (n. 38) and EV (n. 42) he introduced the term "human ecology" to refer to the intimate relationship between the welfare of humanity (which he linked to the well being of the family) and that of the environment, based on the interdependence of all life on earth.[8]

In a General Audience of 2001, near the end of his life, John Paul II expressed his disappointment with the response to these calls of responsible stewardship (our "ecological vocation," as he called it in a talk given at Castel Gondolfo on 25 August 2002), and the need for an "ecological conversion."

This close relationship between environmental ecology and the moral or "human ecology" of the family also became one of the hallmarks of Pope Benedict XVI's teaching. He even set a good example by installing solar panels in the Vatican and planting trees in Hungary, attempting to make the Vatican the first carbon-neutral state in the world. Like his predecessor he was at loggerheads with environmentalists who see human populations as a plague upon the planet.

Morality requires us to judge means as well as ends. There are many possible ways to reduce a population, ranging from genocide to migration, and to reduce the number of births per household, from natural family planning to abortion. The Church teaches "responsible parenthood," encouraging parents to judge carefully how many children they might reasonably seek to have in their particular circumstances, only using morally licit methods, such as abstaining from sexual relations at times when conception is likely, *not* methods that involve abortion, or forms of contraception that harm the healthy functioning of the body.

Man is called to be the wise steward of creation. The Church must defend earth, water and air as "gifts of creation that belong to everyone", and help to prevent mankind from destroying itself (n. 51).[9] These sentiments have established themselves as part of the common sense of our age, especially among the young. At the same time, we must respect and defend the diversity of human culture, not indiscriminately but prudently, and not assume that every human community on the face of the planet must necessarily be aspiring to exactly the same "Western" lifestyle, with its addiction to electronics and pharmaceuticals.

This means, among other things, that authentic human development is best served not merely by technology—we will look at that temptation below—but by *appropriate* technology (CV, n. 27). The term is associated with the Catholic social thinker and Green movement pioneer E.F. Schumacher. It refers to technology that does not require infidelity to the "human"—technology that can serve human development without destroying what is of value

in a culture. The impetus for the idea seems originally to have come from Gandhi's advocacy of sewing machines, spinning wheels, and bicycles—in other words, relatively simple technologies that nevertheless can make a huge difference to productivity at the local level, empowering the poor, and requiring fewer resources to produce and maintain.

The idea of appropriate technology could perhaps be given a wider application, but it tends to be referred to in connection with the needs of the developing world, where capital is scarce and self-sufficiency is the immediate goal. One example will suffice. In Africa, there has been a lot of talk about sand dams. The decentralized storage of water is an important strategy in semi-arid and arid regions outside the reach of perennial rivers, springs, deep groundwater, or other conventional water sources. Building small concrete dams backfilled with sand in seasonal rivers is an ancient method of storing water that is now being used extensively in Kenya and elsewhere to support local farming communities. As water becomes an increasingly scarce resource in many parts of the world, this relatively cheap solution is becoming more important. Similarly, the development of simple grazing plans for livestock in the world's vast endangered grasslands can help to prevent desertification. This is a field in which Catholic charities and missionary orders should be heavily involved.

A New World Order

If the Church were to throw herself behind sustainability and appropriate technology in the developing world it would be an excellent thing. But whether even such a shift would change the direction of human history is questionable. As technology, as we say, “advances” (towards what?), it creates a new situation—a new balance between the world we receive as gift, and the world we build to our own specifications. For the first time in human history, more people are living in urban than rural surroundings. And it is city-dwellers who create the greatest negative impact on the environment.

Human history is, of course, made up of transitions. It is dynamic, although until recently the changes tended to take place over great periods of time. Civilizations such as those of Egypt or China existed for millennia without changing beyond recognition. But in the last few centuries the pace has quickened. According to numerous surveys of cultural history,[10] the crucial “passage to modernity” took place in the late thirteenth or early fourteenth century through to the seventeenth, bringing an end to a civilization that was still in approximate continuity with every ancient and traditional civilization known to us. The transition was driven by thinkers such as Ockham, Bacon, and Descartes. The Reformation and Enlightenment are associated with many triumphs of the human spirit, many further achievements and discoveries (the Industrial Revolution, the Age of Discovery, the Atomic Age, etc.), but each of these contributed to the further acceleration of technological and social change on a planetary scale.

By the nineteenth century, a new myth began to dominate the European imagination, helping to cut us off from our own past: the Myth of Progress. All previous ages were seen as primitive and undeveloped; our own as superior and destined to inherit the earth. The myth was fuelled by the obvious advance of technology and the global dominance of the colonial powers. Technological progress was real enough, and on this depended the exploitation of natural resources and the creation of economic wealth for which capitalism inevitably took all the credit. Moral and social progress towards a more just and kindly order was perhaps less real, for while the new information media made it possible for human consciences to be stung by events far away from home, it also enabled the easy manipulation of human feeling at the expense of independent thought.

Modernity gave rise to three other great forces or “big ideas” in particular: *democracy* (the

sovereignty of the people), *nationalism* (the sovereignty of states) and *rationalism* (the sovereignty of reason). In a way each of these was a manifestation of the rising tide of *individualism*, involving dissolution into ever-smaller units of the traditions that had previously bound people together, culminating in a conception of society determined by the will of the individual. But this was only the beginning. It was the phase that followed that laid the foundations of the urbanization of culture.

Nationalism requires the support of industrial might, and “industry” in the modern sense is the rationalized organization of labour to serve production, trade, and war. Postmodernity was simply a continuation and intensification of this logic. By 1970 it had permeated most Western societies to the core. This transition was from the previous concern with democracy, nationalism, and rationalism towards *consumerism* (political choices reduced to consumer choices), *globalization* (transnationals, the “international community”, the worldwide web), and *relativism* (truth replaced by doctrines of convenience).

To illustrate: for a time it had made sense for the United States to see itself as a “melting pot” in which refugees from many cultural and ethnic traditions could willingly be absorbed. Their new loyalty would be to the nation that gave them a home. In the historical phase that followed, however, this was less and less the case. Subcultures would no longer submit to a national ethos; they could not be assimilated in the old way.

Increasingly, it is being suggested that the era of nationalism itself may now be coming to an end—at least in some parts of the world. The most serious problems facing mankind are either too big or too small for nations to hope to tackle. In *A Turning Point for Europe?* Cardinal Ratzinger spoke of nationalism as a modern heresy, a form of tribalism that spread across Europe in the nineteenth century, no doubt of temporary duration.[11] Perhaps the more effective unit of human organization is no longer the nation, but (as it has been in the past but now on a larger scale) the city.[12]

Nations, which are created to a large extent by a process of historical accident and political fortune, are not the most natural way of governing large groups of people or creating deep-rooted solidarity. This is obvious in the case of the nations of the Middle East and Africa established by the influence of European powers. Cultural, economic, and geographical *regions* would seem a more appropriate basis for such solidarity, and cities are best placed to take the leadership of these regions. Global governance through UN representatives meeting in New York is demonstrably ineffective, whereas collaboration between cities with similar or connected problems generates an international network that may actually work.

Urbanization has other implications. In the new phase of human civilization, technology no longer serves the nation; it aims to serve the individual. We have moved from the crudities of mass production to a more sophisticated technological process that allows the appearance of consumer choice and products customized for individual needs and taste. The retail economy is driven by the search for the non-standard item that will serve (for a few days!) as a status symbol. All of this is at best a pathetic imitation, and at worst a demonic mockery, of the true individuality achieved through the traditional crafts in the period before modern industry made them economically unviable. (More of that later.)

Instead of simply draining people and resources from the countryside, the city now spills over and absorbs the country. The ultimate aim of industrial civilization is nearing fulfillment: the actual replacement of the natural world by a manufactured world entirely designed by man. The postmodern manufactured world is, however, not merely a world of physical artifacts dominating the countryside and the skyline (factories, pylons, skyscrapers); in this latter stage

of our culture the manufactured world increasingly exists in cyberspace. It is a world of information (and of supposed information, in the sense of propaganda)—that is, of virtual reality.

The city (and the “virtual” city located in cyberspace) is not the only candidate to replace the nation as the dominant power in our civilization. Another is the corporation, that mysterious entity through which most human business is now conducted. Invested with an identity in law amounting to that of a “person,” the existence of the corporation is based on a spirit that unites its members, and mutual submission in that spirit for the sake of a common good. The corporation was originally a religious idea, in fact it derives from the Jewish notion of the covenant, and was transferred *via* St Paul to the Christian Church, before in the middle ages being used as the model for the corporations that ran universities and guilds.[13]

Whatever the powers in charge, whether city, corporation, secret cabal, or some new kind of community formed over the internet, postmodern culture is decentered, in the sense that it is even less bound to tradition than its predecessor was. The past, with all its riches, is either filtered through the technology that presents it to view, or eliminated and forgotten altogether. On the other hand, this “decentering” goes hand in hand with a centering elsewhere: for example, in the liberal ideology of consumption. This explains how our society can be both so *individualistic* and so *conformist*. This simultaneous decentering or detaching from tradition and recentering in an alternative liberal tradition (that vaunts its freedom precisely from tradition) is already characteristic of modernity.

The political categories of Left and Right originated in the French National Assembly as the nation state began to define itself in contradistinction to the *ancien régime*, but have become increasingly difficult to apply. At our more advanced stage of modernity, politics are determined by a range of other concerns, particularly a growing anxiety about security. It is likely, for example, that before long a great many instruments of mass destruction will be in the hands of individuals and rogue states. The instability that this creates is becoming the major political concern on the planet in the present century, cutting across all party political lines. The battle over the freedom of the internet is typical of the new world order. The demand for control (in the interests of security, peace, unity, or ecology) will gradually override concerns for freedom, privacy, and local autonomy. The growing power and sophistication of our technology requires ever-more sophisticated safety measures.

In this way the new technological mass culture inevitably penetrates every nook and cranny, erodes every pocket of resistance.

The Christian Response

At the time of *Rerum Novarum*, at the height of the Victorian period, the Church could presuppose the existence of a certain cultural framework. She assumed a community still to some extent rooted through an agricultural economy in the natural environment, and a common belief in the dignity of human nature, the same in all human beings. Thanks to the vestiges of pre-modern civilization, in other words, she was able to appeal to a natural moral law and attack specific injustices. But once the logic of modernity has finally eroded even the vestiges of pre-modernity, the Church must go further. She has no alternative but to give a whole new religious inspiration to the culture. That is why Pope John Paul II made the “new evangelization” the theme of his pontificate, and why his social encyclicals have to be read merely as a part of a wider cultural critique—the critique of the “culture of death” advanced by *Veritatis Splendor* (1993), *Evangelium Vitae* (1995) and *Fides et Ratio* (1998)—and why Benedict XVI re-launched the new evangelization.

Whereas the target of *Rerum Novarum* had to be the injustices brought about by industrial capitalism (and the socialist reaction to capitalism), the target of the new cultural critique must be—in addition to these specific injustices—something much more subtle and pervasive: our consumerist, technologically driven way of life, the logic that expresses itself in this way of life, and the spiritual disorder that lies behind it. The tyranny of mechanism is the projection of a mentality that reduces all of nature, including human nature, to something merely mechanical.

In fact this is one place where Catholic social teaching meets the “new feminism” called for by Pope John Paul II in 1995,[14] since this “tyranny of mechanism” is due to a certain distortion of what might be called the “masculine genius” (a point we will pick up again at the end of chapter 9). Hans Urs von Balthasar makes the connection as follows: “Under the guise of equality and equalization of the sexes, the goal is being pursued to masculinize the entire civilization, which even now is marked by male technological rationality. By further putting the sexual sphere at the disposal of every technological manipulation, the person-centered height and depth of sexual differentiation is lost.”[15]

The lifestyle of the affluent West does still, to be sure, generate specific inequalities of wealth and patterns of exploitation across the planet, much as the early stages of capitalism generated great hardship and injustice in the West. These injustices continue to cry out to heaven: they need to be denounced and opposed, just as before. The lifestyle of postmodernity, however, has lifted a mask and revealed the “death of God” and the reduction of knowledge to power that lies at the very core of the modern project—much deeper than these important, but relatively superficial, injustices. When in the medieval civilization (for all its faults) work, art, study, and political life were perceived as belonging to a religiously based or sanctioned order, these things were nevertheless still (in principle) oriented towards the divine, even if society was divided as to how this orientation was to be expressed.

But the practically atheistic or secularized society of modernity, which is shaped from within no longer by a religious tradition but by other forces altogether (and this applies whether or not a large number of citizens attend churches on a regular basis), can have no official religion, no thanksgiving to God on behalf of the society as a whole. Such official religious ceremonies that remain are emptied of real content; they become purely conventional, if not meaningless, and are likely to be abolished in the name of efficiency. Thus modernity entails, ultimately, an injustice that transcends the occasional or accidental exploitation of man by man—a more fundamental injustice against not only the image of God in man, but God himself.[16]

Lest this seem to be simply a plea for a return to an older sacral society, I should add that the roots of the modern (dis)order lie far back in time, and that medieval society was marked not only by “faults”, as I have just hinted, but by deep flaws and problems of its own. This should not distract us from the seriousness of our situation. An attack on God is an attack on the cosmos, and vice versa. One of the most important victims of the historical process is a sense of the integrity of the world as a gift of God formed by divine wisdom. Respect for the “integrity of creation” is inseparably linked to a sense of the transcendent, and of the Absolute. A concern with poverty and injustice is also reinforced by this awareness of the sacred, and thus of our responsibility towards the divine image in the world.

Not Neutral

Against this background, the critique of technology developed by Benedict XVI in *Caritas in Veritate* makes a lot of sense. Controversies over abortion in the late twentieth century

presaged even more bitter and profound disputes over genetic engineering in the twenty-first. When the British government licensed the cloning of human embryos for the purpose of medical experimentation, and at the same time the sale of abortifacients to children without parental permission, parts of the Catholic community recognized that a new threshold had been crossed. It seemed to some that humankind was now in the business of inventing *new sins* for the first time in history. Only by examining the (implicit) anthropology of our society, its operative assumptions and theories concerning human nature and its destiny, could Catholic thought make a contribution to resolving the ethical issues raised by modern technology. A merely moralistic response to technological developments—a list of rights and wrongs—was insufficient.

The problem lies deeper, in an anthropology assumed in the technology and in modernity itself. Technology is far from morally neutral, as it is frequently assumed to be in both popular and scholarly writings on this subject. “The medium is the message” (McLuhan), and a technology is not simply a technique that may be employed for good or ill purposes. It carries within its very structure a value system and a worldview—perhaps even a metaphysics and a theology.[17]

In *Caritas in Veritate* Pope Benedict addresses the question of technology, which has been of concern to philosophers since Heidegger.[18] On the one hand, he writes, “Technology enables us to exercise dominion over matter, to reduce risks, to save labor, to improve our conditions of life” (n. 69). On the other hand, it can become “an ideological power that threatens to confine us within an *a priori* that holds us back from encountering being and truth. Were that to happen, we would all know, evaluate and make decisions about our life situations from within a technocratic cultural perspective to which we would belong structurally, without ever being able to discover a meaning that is not of our own making” (n. 70).

The idea of technology as *ideological power* is extremely important, and needs a bit of unpacking. It may be helpful to look what some of the more extreme critics of technology have said on this point. Despite the fact that Pope Benedict does not refer to them by name, he may well have had them in mind, and if not they at least clarify the meaning of such a statement. The “bluff” in the title of Jacques Ellul’s book *The Technological Bluff*, for example, refers to the widespread and growing conviction that technology is the answer to every problem (unemployment, pollution, poverty, war, depression, inequality...).[19] I have already referred to Georges Bernanos and his concept of the “imbecile.” In fact many of the most perceptive critics of this syndrome seem to come from France. Michel Henry sums up this line of thought in the most vivid terms:

Technology is alchemy; it is the self-fulfillment of nature in place of the self-fulfillment of the life that we are. It is barbarism, the new barbarism of our time, in place of culture. Inasmuch as it puts the prescriptions and regulations of life out of play, it is not simply barbarism in its most extreme and inhumane form that has ever been known—it is sheer madness.[20]

The slide into insanity began, he claims, when Galileo eliminated subjective perceptions or “secondary qualities” from the domain of reality, simply on the grounds that they were not measurable.

Benedict’s language is necessarily more moderate, though its implications may be every bit as radical once they have been thought through. His critique rests on a profound Christian anthropology, a sense that we receive our own existence from God, that truth is a “given,” and that our true freedom lies in respect for the “call of being” (n. 70). Like Ellul, he argues that we

have come to rely on “automatic or impersonal forces” to improve our lot, but this is a mistake. “When technology is allowed to take over, the result is confusion between ends and means, such that the sole criterion for action in business is thought to be the maximization of profit, in politics the consolidation of power, and in science the findings of research” (n. 71).

There must be “moral consistency” between ends and means. That is to say, technology must be at the service not of our desires and intentions, but of truth, and in particular the truth of the human person who is made for love. Benedict presumably agrees that technology is hardly ever morally “neutral” in the way we assume when we say, casually, that everything depends on the way you choose to use it (the same computer can be used to write a masterpiece, design a bomb, or view pornography). Adrian Walker puts his finger on the problem here when he points out that this faith in the neutrality of technology merely expresses,

the essence of technology itself – the conviction that the [human] transformation of nature is uncircumscribed by any moral standard given in the nature of things apart from human will. The belief that technology is a set of neutral instruments, like technology itself, is of a piece with the typically modern conviction that there is no moral order in physical nature, just brute matter whose only meaning we put into it through our transformative making and doing.[21]

A given piece of technology should be judged not just according to the end it is being used for, but the ends implicit in the technology itself as “means.” A computer, says Walker, processes information, which seems harmless enough, but this means that it carries within it the idea that meaning can be broken down into packets of electrical signals; thus necessarily treating a whole as if it were what Aristotle called a “heap” (*soros*).

Telephone, television, and the internet, for example, change our sense of space and time, and have a variety of effects on the relationships within the family and the wider social community. Some of these effects will be humanly beneficial, others less so, but an assessment of the technology is not possible without paying attention to the overall pattern of these effects, and to the purpose or function of the technology in relation to the purpose of human life itself. In what respect is a given tool actually serving the true end of man?[22]

In other words, technology always has purposes of its own, or (if you prefer) an implicit logic that we accept when we buy into the machine for our own purposes. Technology represents an entire world-view, an organizing myth for our culture, and increasingly it is coming to shape the way we view and experience our own bodies and those of our children.

Up until now, the Church has tended to go along with the general view that technological progress is benign and in any case irresistible. Christians must simply make the best of it. Every new invention may be used for good or ill: the Church should simply discourage its use for ill. If technologies in themselves are *not* morally or culturally neutral after all, then this policy needs to be re-examined. The crisis over human cloning is likely to force such a re-examination in any case, for now even many scientists and technicians are asking: “are some kinds of knowledge so terrible they should not be pursued?”

Transhumanism

This question was phrased in the *Newsweek* “Issues 2001” special edition, which drew attention particularly to a widely-quoted paper by Bill Joy, the cofounder and chief scientist of Sun Microsystems, in the April 2000 issue of *Wired* magazine. This paper was influential and

alarming because it came from a man at the cutting edge of the present technological revolution. He wrote: “we are on the cusp of the further perfection of extreme evil”, through the “empowerment of extreme individuals”, and the “pursuit of unrestricted and undirected growth through science and technology”, especially through robotics, genetic engineering, and nanotechnology.

In his article, Bill Joy went on to evoke a truly apocalyptic scenario: the prospect that (if we do not first destroy ourselves) our technology itself, soon to be self-replicating, may dispense with human beings altogether:

By 2030, we are likely to be able to build machines, in quantity, a million times as powerful as the personal computers of today.... As this enormous computing power is combined with the manipulative advances of the physical sciences and the new, deep understandings in genetics, enormous transformative power is being unleashed. These combinations open up the opportunity to completely redesign the world, for better or worse: the replicating and evolving processes that have been confined to the natural world are about to become realms of human endeavor.

There is in fact a powerful “transhumanist” movement of people who believe man is about to take control of his own evolution, or that he is about to cede his place to a *homo superior* or “posthuman” of his own construction. We see already the widespread use of performance-enhancing drugs and prosthetics. It is a small step from present forms of medical intervention to the incorporation of genetic modifications or improvements that can be passed on through human reproduction, or replicated commercially in artificial wombs. Among the modifications suggested are gills to enable human beings to adapt to an undersea environment, or more radical changes to enable life on other planets or in permanent space stations.

Naturally the rapid development of information technology and computing suggests other scenarios, such as the incorporation of a direct and permanent connection to the internet within the human brain itself, and the creation of artificial intelligence that will appear to be conscious and creative. Robots, androids, and cyborgs were once the stuff of science fiction, but the children who grew up on these tales are now being employed to make them a reality. It is widely assumed, as Joy notes, that once an artificial—or artificially enhanced—intelligence has been created that is capable of self-replication, the speed of evolution will increase even more rapidly, leading to futures we can barely imagine.

Joy believes that the new technologies are being developed less by governments than by corporate enterprise. However, the possibility that such technologies might be employed by the State for coercive social engineering or military purposes also seems extremely likely.

Common sense, and the experience we have already accumulated of human interference with the environment, suggest that such developments will not only give rise to new forms (and new extremes) of wealth and poverty, but pose a risk to the biosphere itself that cannot be easily quantified. Joy would prefer to err on the side of caution. “The only realistic alternative I see is relinquishment: to limit development of the technologies that are too dangerous, by limiting our pursuit of certain kinds of knowledge.” He looks to his grandmother and to the Dalai Lama for examples of “common sense”, and takes hope from the unilateral US abandonment of the development of biological weapons, which “stemmed from the realization that while it would take an enormous effort to create these terrible weapons, they could from then on easily be duplicated and fall into the hands of rogue nations or groups”. However, verifying relinquishment will require transparency amounting to the loss of privacy, the

invention of new forms of protection for intellectual property, and the adoption by scientists and engineers of “a strong code of ethical conduct” akin to the Hippocratic Oath.

It is hard to imagine attempts to ban certain technologies, or at least to prevent them falling into private hands (out of fear of “unacceptable risk” and public outcry), being more than partially and temporarily effective. After all, some at least of the new technologies being developed will have very clear and direct benefits, and it is easy to cry “Luddite!” However, it is not the case that research is currently being driven by sheer curiosity (or the desire to benefit mankind) along an inevitable path. Scientific endeavor always runs along certain channels, created by political and commercial pressures, by social and metaphysical assumptions, by the availability of funding and desire for fame, and by the manifold “spirit of the age.” Rather than ask how we might repress certain types of research, we might therefore consider how to redirect some of those creative energies—to make them, perhaps, even more unambiguously beneficial to mankind. Bill Joy himself touches on this when he suggests we might “rethink our utopian choices”—the dreams that define our direction.

What goals are we setting for ourselves? Men might have been standing on Mars by now, if the drive to conquer space had not evaporated after the United States beat Soviet Russia to the Moon. Funding went in other directions. Similarly, the direction of current research can be changed by legislation and investment that sets other priorities, priorities more in tune with our true purpose on this earth and with the dignity of the human person.

It is a vital aspect of this dignity to which we now turn. It is essential that we reclaim our humanity in the face of the Machine, and to do this we must understand the human body as more than a machine.

[1] Bernanos, *Tradition of Freedom*, 156.

[2] *RSA Journal* (July 1997).

[3] *Religion and the Modern State*, 80.

[4] See especially Balthasar, *The Glory of the Lord*, Vol. I, pp. 136–41.

[5] Josef Pieper: *An Anthology* (San Francisco: Ignatius Press, 1989), 86–7.

[6] *Theo-Drama*, IV, p. 427, citing John 15:24.

[7] For a detailed analysis of *Gaudium et Spes*, please see papers in *Communio: International Catholic Review* 23:4 (Spring 1996) by Walter Kasper, Pedro Morandé, and David L. Schindler.

[8] More should be said about the treatment of animals, who tend to be neglected in treatments of Catholic social teaching (including this one, I regret to say). In farming and the cosmetics industry, not to mention commonly in scientific experimentation, they are cruelly mistreated as machines without feeling or dignity. Such mistreatment thrives in obscurity and ignorance, and indeed most people never see the conditions in which such animals are kept and the ways they are exploited. Although she affirms that animals may be “used” by man and should not be treated as “persons,” the Church also condemns cruelty to animals in the *Catechism of the Catholic Church* (n. 2416), as follows: “Animals are God’s creatures. He surrounds them with his providential care. By their mere existence they bless him and give

him glory. Thus men owe them kindness. We should recall the gentleness with which saints like St Francis of Assisi or St Philip Neri treated animals.”

[9] On 19 March 2013, at the inaugural Mass of his pontificate, Pope Francis spoke of the need to protect our environment: “I would like to ask all those who have positions of responsibility in economic, political and social life, and all men and women of goodwill: let us be ‘protectors’ of creation, protectors of God’s plan inscribed in nature, protectors of one another and of the environment.”

[10] Louis Dupré, *Passage to Modernity: An Essay in the Hermeneutics of Nature and Culture* (Yale University Press, 1993). See also Hans Urs von Balthasar, *Theo-Drama, Vol. IV: The Action* (San Francisco: Ignatius Press, 1994), pp. 457-64; Glenn W. Olsen, *The Turn to Transcendence: The Role of Religion in the Twenty-First Century* (Washington, DC: CUA Press, 2010).

[11] J. Ratzinger, *A Turning Point for Europe? The Church in the Modern World – Assessment and Forecast* (San Francisco: Ignatius Press, 1994), pp. 120-123. He goes on to argue that this heresy will become a thing of the past only if we renounce our belief in progress, recognize the priority of ethics over politics, and reclaim the idea of God (pp. 135-142). A more positive view of nations is this. The identity of a nation is an aspect of the common good of its people—what they know, will, feel, and love writ large; what they won’t do, and what they will. It is the past (memory) and the future (imagination). It is the stories it tells about itself, the ideals it aspires to. Deeper than all this it is a mission. As in the case of my personal identity, I am what I am given to do. I am unfinished; I must become what I am. Thus we find our identity when we hear a call, the summons to be a self. This is why a nation has a patron saint. Often, that saint expresses the particular character and mission of the nation, at least in some symbolic way. England should be asking St George, what dragon must we conquer?

[12] Benjamin Barber, *If Mayors Ruled the World: Why They Should, and Why They Already Do* (Yale University Press, 2013). An example proposed by Barber is that 80% of all energy is used in cities, and 80% of global carbon emissions come from cities of more than 50,000 people. Where nations regularly fail to sign energy and carbon agreements, cities can take the lead and work together much more effectively. The campaign against international terrorism may also benefit from collaboration between cities. Paradoxically, the intensity of national feeling may grow as its rational basis disappears. Nationalism remains a strong force, and may be expected to become more violent the more it comes under threat. Another unit of social organization that is a strong candidate for replacing the nation in power and influence is the corporation. On this topic, see Michael Black, “The Crisis of the Corporation” online at www.secondspring.co.uk/economy/articles.html

[13] See Michael Black, “The Crisis of the Corporation,” in *Second Spring* (Issue 17, Spring 2013). It is worth noting that the only corporations that survive and flourish over a long period of time are those which treat their enterprises as “living work communities”—i.e. humanistically rather than as purely economic machines, valuing human talent above money and capital. See Arie de Geus, *The Living Company: Growth, Learning, and Longevity in Business* (London: Nicholas Brealey, 1999).

[14] “In transforming culture so that it supports life, women occupy a place, in thought and action, which is unique and decisive. It depends on them to promote a ‘new feminism’ which rejects the temptation of imitating models of ‘male domination,’ in order to acknowledge and affirm the true genius of women in every aspect of the life of society, and overcome all discrimination, violence, and exploitation”—John Paul II, *Evangelium Vitae* (1995), n. 99. The new feminism will be treated in more depth by Léonie Caldecott in a forthcoming book.

[15] H.U. von Balthasar, "How Weighty is the Argument from 'Uninterrupted Tradition' to Justify the Male Priesthood?" in Helmut Moll (ed.), *The Church and Women* (San Francisco: Ignatius Press, 1988), p. 159. Balthasar makes the point that discussion of these points should be purified of all classical, patristic, and medieval antifeminism, which of course is not always easy in practice.

[16] Furthermore, the injustice against God that is bound up with the abandonment of religion in turn leads to the further abuse of man, who is now systematically stripped of his transcendent dignity.

[17] See David L. Schindler, "George Grant and Modernity's Technological Ontology," in *Ordering Love: Liberal Societies and the Memory of God* (Grand Rapids: Eerdmans, 2011), pp. 277-87.

[18] Martin Heidegger, *The Question Concerning Technology and Other Essays* (New York: Harper & Row, 1977).

[19] J. Ellul, *The Technological Bluff* (Grand Rapids: Eerdmans, 1990).

[20] M. Henry, *Barbarism* (London: Continuum, 2012), p. 52.

[21] A. Walker, "Not Neutral: Technology and the 'Theology of the Body,'" *Second Spring* 7, p. 29.

[22] For my view of the potentially catastrophic effects of over-reliance on technology in education see S. Caldecott, *Beauty in the Word*.

