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Francis Bacons Philosophy of Nature: A Postmodern
Critique

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Just as there is sleepwalking, there is also sleepthinking.

– Ortega y Gasset

Time is the greatest innovator.

– Francis Bacon

...where there is danger, there grows also what saves.

– Friedrich Holderlin

I. Prologue

We have indeed become disenchanted with the vast technometropolis where everything both human and natural is manufactured and commercialized as prosthetic – with the world whose dominant prose is written in the language of technology and with the modern predicament of humanity which is enframed by the hegemony of technology including the cybernation of knowledge and the computerization of society. We are wired to, and have become hostages of, the network of technology from whose “channeled existence” there seems to be no exit in sight. Modernity is the epoch when technology has become totalizing, one-dimensional, planetary, and terrifyingly normalizing and thus banal; when the fundamental project of macro- technology threatens to create a “nuclear winter” or a vast necropolis for the entire earth and to bring all humankind to the brink of collective extinction; and when micro-technology claims to have invented or cloned a “second self” whose alleged “soul” may soon become imprisoned behind the invisible walls of a gigantic Panopticon. 1 Indeed, our dilemma – particularly our modern dilemma – lies in the fact that man is human by virtue of the fact that he/she is technological in the most basic sense of *techne*. 2 And yet, on the other hand, man’s very physical survival is in jeopardy or hangs in the balance because of the overproduction and superabundance of his own artifacts. As Jose Ortega y Gasset – a Spanish existential phenomenologist and one of the great philosophical minds of the twentieth century – puts it, man is “a kind of ontological centaur” because he/she is “half immersed in nature, half transcending it” (1962: 111). Now man

has reached the crucial juncture of history where technology has the potential of annihilating him/her and the natural world. He/she has potentially become the tragic victim of his/her own creation: as the Hindu scripture Bhagavad Gita goes: I am become death. 3 Man has finally succeeded in manufacturing his/her own death.

Postmodernity intends to deconstruct modernity: the “reality” of modernity is deconstructed as a postmodern “possibility.” From the perspective of the deep ecology movement, the postmodern possibility purports to be “ecotopian.” 4 As a new paradigm, postmodernity is radically discontinuous with modernity: the former intends to become a radical rupture from the latter. What, then, is modernity which postmodernity will replace? What, in other words, is the modern *Weltanschauung*? Modernity is that condition which is governed by the Promethean ideology of progress based on the Western “invention” of time as unilinear with the aid of “enlightened” reason translated into the language of science and technology as the indomitable will to power. 5 Progress – that is, human progress – is identified with or tantamount to the production of “acquisitive man” or “economic man” (*homo oeconomicus*) whose ethos is dictated by growthmania and pleonexia, i.e., a gluttonous orgy of conspicuous consumption. In essence, the sinew of so-called modernization is industrialization and economic growth which is necessarily technomorphic. 6 In the name of modernization, industrial civilization remains no longer just European or Western but has now become a global phenomenon. 7

In the name of progress, the ideology of modernization demands and justifies the domination of nature to benefit humankind, humankind alone. From the perspective of the deep ecology movement, the disappearance of wilderness and the death of nature are the inevitable consequences of modernity which is industrial and technomorphic. 8 In significant measure, postmodernity is the Age of Ecology. In his *Man and Technics* (1932), Oswald Spengler was prophetic in relating modern technomorphic civilization not only to the death of nature but also to the end of man and history. He prophesied the self-destructive impulses and drives of modern man as the technological warrior. To wit: modernity leads to the ecological destruction of the entire Earth.

II. Bacon’s Philosophy of Nature and *Weltanschauung*

Rene Descartes (1596-1650) and Francis Bacon (1561-1626) are the two master shapers of modernity as the age of technology. 9 Both sought after a new and apodictic foundation of human knowledge and the liberation of man from the ancient and medieval tradition of the West. Descartes adamantly claimed not to borrow anything from the allegedly dead past. He searched for the absolutes in the theory of the *Cogito*. His mechanistic conception of the universe as a gigantic machine is rooted in the Galilean mathematization of nature, that is, Galileo’s assertion that the “book of nature” is written in the language of mathematics,

i.e., the geometric figures of squares, triangles, and circles. For our purpose here, the most notable is Descartes's bifurcation of man and nature as well as of the mind (*res cogitans*) and the body (*res extensa*). In his *Discours de la methode* (1636), he spoke without equivocation of men as "the masters and possessors of nature." Not only is nature a mindless or soulless pile of inert things which, through the cultivation of knowledge, man is entitled to master and possess, but man himself/herself is visualized as the grandest machine of all. In this way, Descartes paved the way for the cybernetic theory of man, i.e., the theory of man as an automaton or a cyborg (see Barrett, 1986 and Jung, 1989). The fallacy with this theory is that in it man absolutely dominates and utilizes physical and biological nature, while he himself/herself is viewed and defined in terms of physical realities. Be that as it may, Descartes also recognized experimentation as indispensable to the advancement of scientific knowledge by means of which man can promote his/her general welfare and enjoy the fruits of the Earth. Yet he believed that "the real progress of science hinged on the work of theorists. Technics, as such, does not contribute to the progress of scientific knowledge" (Rossi, 1970: 109) and experiment had a subordinate place in the scheme of his thought.

The Faustian pathos of modern man intellectually owes more to Bacon than to any other thinkers – including Descartes. In every respect Bacon was the intellectual harbinger and architect of the modern age of science, technology, and quantitative economy: he is "the first philosopher of the modern age" (Bury, 1955: 50) who is directly responsible for generating the technological and industrial ethos of modernity. Bacon upheld the convergence of theory and practical operations, of knowledge and utility, and of knowing and making. Experimentalism, the utility of knowledge, power over nature, and philanthropia are all the inseparable qualities of Bacon's thought which, when put together, become an all-out attempt to replace the old "cult of books" by the new (experimental) "cult of nature."

The fact that man has scientific theory does not in itself guarantee that he/she will automatically have technology. To initiate the technological elan there must be both the knowledge of nature (or, as Bacon calls it, "the inquisition of nature") and power over nature. Experiment is not only the essence of the natural sciences but also the way to discover or unveil the "feminine" secrets of nature. It is that uniquely new method which promotes the direct commerce of the mind with things themselves. By increasing knowledge through experiment man is capable also of extending his/her dominion over nature. Seeing the idea of utility as the end of knowledge, Bacon aimed to lay the foundation of "human utility and power" to "subdue and overcome the necessities and miseries of humanity"; and "dignity" of knowledge is maintained by "works of utility and power." He formulated the principles of *Herrschaftswissen* (see Leiss, 1972) in which knowledge and power coincide with each other for the sake of utility. The framework of modern technology is laid down by Bacon when he insists on the meeting of human knowledge and power in one (i.e., *scientia et potentia* in

idem coincidunt) and finds “in the womb of nature many secrets of excellent use” (see Bacon, 1955, *passim*). 10 “Bacon,” writes Karl Lowith, “wanted to make science more practical and efficacious in its application for ‘the kingdom of man’. Through science, man must subject nature to transformations whose purpose is to change the world by continually improving it” (1966: 155-156). As Bacon himself recognizes, moreover, the fruits of science do not grow on books. In *The Advancement of Learning*, he scorns without reservation the idea of studying “words” rather than “matter” because the former are only “images” or “shadows” of the latter. To fall in love with words, therefore, is to fall in love with only a picture. Speaking against the “degenerate learning” of scholasticists or Schoolmen, Bacon felt that they had “sharp and strong wits” and “abundance of leisure” in “the cells of monasteries and colleges” but that they knew little history of nature or “no great quantity of matter,” i.e., their “cobwebs of learning” produced “no substance or profit” (see Bacon, 1955, *passim*).

The idea of philanthropia is unmistakably the centerpiece of Bacon’s magisterial discourse of nature. From the counter-discursive or subversive perspective of deep ecology as a postmodern quest, his short posthumous work *Temporis Partus Masculus* (*The Masculine Birth of Time*) which was written in 1603 with the subtitle *Instauratio Magna Imperii Humani in Universum* (*The Great Restoration of the Power of Man over the Universe*) is most fascinating and revealing (see Farrington, 1964: 60-70). Bacon’s conception of philanthropia is an anthropocentrism pure and simple. For it is predicated upon man’s absolute knowledge and mastery of nature justified on the ground of the Biblical mandate. 11 As the holy inquisition of nature leads to philanthropia, the Bible mandates that nature with “all her children” be bound and enslaved to serve man and achieve “the fructifying and begetting good” for mankind. 12 It is quintessentially anti-ecological because it calls for the disappearance of wilderness and the death of nature.

No doubt Bacon is a pioneer in discovering a new continent of modern thought or a “scientific” cartographer of terra incognita for modernity whose ultimate ends are none other than “philanthropic.” In *The Masculine Birth of Time*, however, the keyword is *instauratio* or restoration that recovers something that was already discovered in the past but got lost or ignored. In the first place, philanthropia proceeds with the worship of God and results from putting into action Christian duty and charity. Bacon faults those intellectuals who are indifferent to “the plight of mankind” and calls them “unholy and unclean,” that is, they are unphilanthropic or misanthropic. He wages a holy polemic in the name of Biblical religion in “Jerusalem” against allegedly wrong-headed philosophers in “Athens” (e.g., Plato and Aristotle) as unholy “talkers.”

In the second place, there is no need to recount in detail the controversial disputation of Lynn White, Jr. that faults Christianity as the most anthropocentric religion the world has ever known and thus the root cause of the ecological cri-

sis in the West (White, 1968: 75-105 and cf. Jung, 1972). Bacon's philosophy of nature for the sake of philanthropia exemplifies Christian thought which is criticized by White in his historic essay. In significant measure, White engages in a fundamental critique of Bacon's philosophy of nature. Christianity is most anthropocentric because while it sacralizes man at the apex of God's creation, it desacralizes nature. For it, nature is a mass of inert matter which may be wantonly exploited and used for the ennobling ends of man or – as Bacon calls it – philanthropia: nature is never a "Thou" but always an "It." To borrow the incisive and elegant expression of Loren Eiseley: Christianity "took God out of nature and elevated man above nature" (Eiseley, 1960: 138). The modern ideology of progress itself is nothing more than a secularized extension of the march of God in history which is singularly an "invention" of the modern West.

III. Epilogue

Industrial civilization, which is by necessity technomorphic, is thoroughly anthropocentric and hence anti-ecological. Bacon is truly a prophet of the coming in the West of technomorphic civilization and its globalization in the name of modernization for whom philanthropia is the ultimate Christian end of man's dominion over nature. His conception of philanthropia is destined to foster a fetish obsession with pleonexia which defines "TO BE" as "TO HAVE," that is, reduces human existence to a seriality of economic categories. 13

The Baconian conception of technology as instrumentum is cultivated into and overtaken by "autonomous technology": it does not tell the whole truth about the essence of technology today because technology has now become end itself rather than means. 14 In essence, ends are subverted by means. Ours is the age of autonomous technology which litters such slogans as "the medium is the message." Heidegger is profoundly poignant when he asserts that the essence (Wesen) of technology (Technik) is not technological. Technology is no longer the application of the mathematical and physical sciences to praxis but is rather a form of praxis in and of itself (see Heidegger, 1977). The idea that technology is applied knowledge and instrumentum is obsolescent. Technology indeed "discloses" and "enframes" the being of man and the world. In the age of technology as "enframing" (Gestell), there is a "reverse adaptation" between man "the master" and the machine "the servant."

What is so categorically imperative and urgently needed is a critique of the technological – a fourth critique, as it were – after the fashion of and in addition to Kant's three critiques – the theoretical, the practical, and the aesthetic (cf. Mitcham, 1985). Critique of the technological, that is, technological rationality as "instrumental" and "autonomous," is integral to and inseparable from the deep ecology movement as a postmodern project. As modernity is inhabited by the sons and daughters of Bacon, postmodernity as the master postparadigm must be post-Baconian, i.e., post-industrial, post-technological, and even post-

Christian. From the perspective of the deep ecology movement, modernity is anthropocentric while postmodernity is ecocentric. What “domination” and “utility” are to the anthropocentric age of modernity, “harmony” and “reverence” are to the ecocentric age of postmodernity. Accordingly, the moral sense of humanity must go hand in hand with the moral sense of nature as something intrinsic (cf. Kohak, 1984: 13). Ultimately, the question of how to dwell properly on this “good earth” (Bellaterra) as a moral quest looms as the greatest future challenge of life and death for humanity. 15

Notes

1. Some seminal critiques of technology and technomorphic civilization are found in Ellul (1964), Marcuse (1964), Mumford (1934), Galbraith (1971), and Heidegger (1977). Among them, Heidegger is most radical in the sense that he traces the fundamental root cause of technology in Western metaphysics which “enframes” the way of thought, life, history, and culture. For the direct impact of technology on the degradation of ecology, see Commoner (1971).

2. The physicist Heisenberg intimates that man is to technology what the shell is to the snail and the web is to the spider (1958: 18). Eiseley describes human arrogance from the very moment of man’s appearance on this earth: “It is with the coming of man that a vast hole seems to open in nature, a vast black whirlpool spinning faster and faster, consuming flesh, stones, soil, minerals, sucking down the lightning, wrenching power from the atom, until the ancient sounds of nature are drowned in the cacophony of something which is no longer nature, something instead which is loose and knocking at the world’s heart, something demonic and no longer planned – escaped, it may be – spewed out of nature, contending in a final giant’s game against its master” (1960: 123-124).

3. The historian of architecture Scully describes the deadly influence of technology on nature as forcing man to drink “the death of nature out of the sockets of iron weapons” (1962: 7). Tiger (1987) raises the important ethical questions concerning industrial civilization which is technomorphic.

4. Naess is credited with the birth of the term “deep ecology” movement. By it, the Norwegian philosopher sought to promote the intrinsic connection between the ecology movement and philosophy as an encompassing discipline. He writes that “In so far as ecology movements deserve our attention, they are ecophilosophical rather than ecological. Ecology is a limited science which makes use of scientific methods. Philosophy is the most general forum of debate on fundamentals, descriptive as well as prescriptive, and political philosophy is one of its subsections. By an ecosophy I mean a philosophy of ecological harmony or equilibrium. A philosophy as a kind of *sofia* wisdom, is openly normative, it contains both norms, rules, postulates, value priority announcements and hypotheses concerning the state of affairs in our universe. Wisdom is policy

wisdom, prescription, not only scientific description and prediction” (1973: 99). For the most comprehensive and systematic treatment of deep ecology, see Naess (1989). For a discussion of the deep ecology movement with a focus on the neologism of ecopiety, see Jung and Jung (1989).

5. Rifkin (1980) proposes “entropy” as a counter-paradigm to “progress.”
6. Universities are conservative institutions, deeply rooted in the dominant paradigm, shaped by the philosophy which undergirds industrialism. Universities gave us industrial agriculture and forestry, both of which are implicated in major environmental and cultural problems. But there are other products of university work which lend themselves to transition to the Age of Ecology.
7. See Adas (1989) for an extensive account of modernization as the globalization of Western science and technology.
8. For a discussion of the place and disappearance of wilderness in relation to ecology, see Oelschlaeger (1991).
9. For a brief comparison of Descartes and Bacon, see Rossi (1970, *passim*). The intellectual “revival” of Bacon in recent years coincides with a proliferation of debates over the role of all forms of technology in contemporary life. See particularly Jardine (1974), Stephens (1975), Weinberger (1985), Whitney (1986), Urbach (1987) and Briggs (1989).
10. Glacken (1967) offers an epic and panoramic account of Western thought which is relevant to ecology. For his placement of Bacon, see particularly pp. 471-475. For a superb discussion of the cultural ecology of industrial civilization in the early modern West, see Nef (1960).
11. For a Christian justification of technology, see Clarke (1983). For an argument that would promote “ecological ecumenism” based on religious thought, see Jung (1972).
12. Bacon’s rhetoric of masculinity in his philosophy of nature is no accident. What man is to nature, the mind is to the body and the masculine is to the feminine. De Beauvoir wrote the classic work *The Second Sex* which likens the idea of the domination of male over female to the notion of the domination of man over nature. In the context of discussing the issues of femininity, technology, and ecology in Bacon’s thought, see Merchant (1980), particularly pp. 164-191.
13. For the critical accounts of reducing human existence to a series of economic categories, see Fromm (1976), Jung (1991), and Jung and Jung (1992).
14. “Autonomous technology” is the title of Winner’s work (1977). Marcuse is forceful and persuasive in stating the meaning of the “autonomy” and the “one-dimensionality” of technology when he writes: “The scientific method which led to the ever-more-effective domination of nature thus came to provide the pure

concepts as well as the instrumentalities for the ever-more-effective dominion of man by man through the domination of nature. Theoretical reason, remaining pure and neutral, entered into the service of practical reason. The merger proved beneficial to both. Today, domination perpetuates and extends itself not only through technology but as technology, and the latter provides the great legitimation of the expanding political power, which absorbs all spheres of culture" (1964: 158).

15. Heidegger advances the thesis that to dwell properly on earth is to dwell "poetically." See Heidegger (1971, particularly pp. 145-161). For the authors' exposition of Heidegger's formulation of poetic dwelling for ecology, see Jung and Jung (1975). For the important questions and issues pertaining the "disenchantment" and the "re-enchantment" of the world, see Berman (1981).

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