

The Eco-Technological Issue

Toward a Liberating Production Theology

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Raimon Panikkar has tackled the “technological issue” several times.¹ We would like to rethink this theme from the situation in Latin America and in the peripheral countries, as the contradiction is much clearer here. Indeed, these countries need, on the one hand, a speedy “development” in order to escape shortages, hunger, and misery. But, on the other hand, that very same development propels into the foreground, in a much sharper way than in the developed countries, the ecological issue, the problem of the destruction of the natural milieu and traditional life, which has created over centuries — if not millennia — a balance between the human race and Mother Earth. Is it contradictory to attempt at the same time development and ecological conservation? Must one remain underdeveloped, exploited, and oppressed in the name of defense of nature? These are serious, real problems, relevant issues lying at the very heart of the revolutionary situation of the Third World.

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1. See, among others, R. Panikkar, *Técnica y tiempo* (Buenos Aires: Columba, 1967); “Some Theses on Technology,” *Logos* 7 (1986), pp. 115–24; “Some Supplementary Theses on Technology,” (unpublished, 1987); “Ecology from an Eastern Philosophical Perspective,” *Monchanin* (Montreal) 50 (1975), pp. 23–28; “Alternatives to Modern Culture,” *Interculture* (Montreal) 77 (1982), pp. 2–4; *Worship and Secular Man* (Maryknoll, N.Y.: Orbis Books, 1973); *Blessed Simplicity* (New York: Seabury Press, 1982).

THE "NO" TO TECHNOLOGY

Panikkar, like Heidegger,² is clear in his "no" to technology *as such* — in its essence. Technology is a "mathematical" rationalization of reality: the tyranny of quantity over quality;³ it manages to exert a total hegemony over Western civilization as "technocracy." Technology is neither neutral⁴ nor readily universal: "The universalization of technology implies the Westernizing of the world and the destruction of the other cultures that rest on visions of reality that are incompatible with modern Western presuppositions of technology. Technology is therefore not neutral."⁵

In fact, technology is not autonomous from the human being.⁶ It is the primacy of what is mechanical — and of machines — over the human being. But, at the same time, and paradoxically, it is an affirmation of the "anthropocentrism" ("homocentrism") that destroys nature. It asserts "objectivism" versus the subjective and ethical existence of the person. The time and space of technology cancel, annihilate, despise the time, space, and rhythm of human — organic, cultural, historical — life. The inertia of matter destroys the "soul." Technology supposes a certain epistemology, a manipulating nominalism: "quantifiability."⁷ It is the triumph of instrumental reason: control, instrumentalization, bureaucratization.

THE "YES" TO TECHNOLOGY

As Panikkar has told me, one has to distinguish between technology and technique. The first refers to the modern and scientific use of technique — with all its attendant dangers. But technique — the Greek word *tekhnè* must be understood as a creative attitude of the human being who transforms nature without destroying it but rather respecting its rhythm, its timing, its balance — is an organic integration with the cosmos:

Technique is always of the order of *tekhnè*, technology introduces into *tekhnè* an essential mutation. Technique is an art... wherein the human mind embodies itself into matter to produce an artifact (pottery, music, poetry, a building, etc.). . . . In one sense, technical activity is human activity that modifies the material world by establishing a new symbiosis with

2. See Friedrich Dessauer, *Streit um die Technik* (Freiburg: Herder, 1959); Joseph Sadzik, *Esthétique de M. Heidegger* (Paris: Ed. Universitaires, 1963). For another view on the subject, see Carl Micham and Robert Mackey, *Philosophy and Technology* (London: Macmillan, 1972), bibliography, pp. 379–89. See also Enrique Dussel, *Filosofía de la producción* (Bogotá: Nueva América, 1984); idem, "Ecologico-cultural Ethic," *Ética comunitaria* (colección Cristianismo y Sociedad=Teologia e Libertação) (Ediciones Paulinas, 1986). There are translations of this last work in Portuguese (*Vozes*), English (*Ethics and Community* [Maryknoll, N.Y.: Orbis Books]), and German (Patmos).

3. Panikkar, "Some Theses on Technology," pp. 115ff.

4. *Ibid.*, pp. 117ff.

5. *Ibid.*, pp. 117–18.

6. *Ibid.*, p. 118.

7. *Ibid.*

Man. When this activity is institutionalized, it belongs to human affairs, and hence to culture, which consists in cultivating not only the earth but also all that contributes to the enrichment of human life.⁸

THE DILEMMA

The difficulty begins when society as a whole, and the Third World in particular, wonders: What is the solution, using or forgoing technology? One could possibly dream in a romantic or utopian way of a zero rate of development. But can the poor and miserable countries without means of feeding, clothing, and housing their populations leave technology aside in their projects of liberation and development, projects of satisfying basic needs?

Panikkar puts the question as follows:

It becomes difficult, often impossible, not to collaborate with the sons of men in the building up of the earthly city. . . . This does not prevent us from being conscious of what we would like to call Samson's vocation: getting involved, mixing with the others, collaborating and pulling everything down, because there is no other means of building up the extra-temporal kingdom than to exhaust the potentialities of the temporal kingdom.⁹

But in the impoverished, underdeveloped, and exploited world of the periphery, Samson would not find a palace to pull down, only people in need of tilling the land for food, of weaving clothes to face the cold, of using technology to build houses.

Panikkar raises this objection:

One may say that non-technological Man was subject to cold, epidemics, floods, seasons and such. The answer to all that is that *tekhne* can solve the majority of these problems and that there is no need of going back to some primitivism, that no form of romanticism can justify. The point is to discover the meaning of life and the nature of human joy, and seek to determine whether in this respect technology has brought us forward or backward.¹⁰

Moreover — and it is relevant today, at the end of the twentieth century — we are made aware by the ecological movements of the deadly risk for the human race entailed by the destruction of Mother Earth. It is simply a matter of suicide: nature's death is our death. And it is sure that technology is the major instrument of ecological destruction. Here too we reach an impasse: a sharp "no" to technology as destructive power, and a mistrustful, hesitant "yes" to the positive potentiality of that instrument; a "return" to the cultures, civilization, or to the organic and balanced *tekhne* of the pre-modern human being. But are such

8. *Ibid.*, p. 115.

9. Panikkar, *Técnica y tiempo*, pp. 36–37.

10. Panikkar, "Some Theses on Technology," p. 119.

returns actually possible? Who is going to defend — and with what means — those nice utopian experiments, which are impossible as viable alternatives for the millions of famished people of the peripheral, underdeveloped, and exploited world? The ecological movement is right in its diagnosis, but it is caught in an impasse as far as a concretely applicable alternative is concerned.

TECHNOLOGY AS TECHNOLOGY, AND TECHNOLOGY AS CAPITAL

The implicit argument in the sharp and essential “no” to technology — of the movement of ethical affirmation — would seem always to reach the same point: technology, both in a capitalist society and in a socialist society (where there exists a “technologistic” spirit of ecological destruction, although in a different way) comes out with the same effects. However, it is possible that modern capitalist technology raises critical issues for different reasons from those in socialist countries. The fact that technology, both in capitalism and in existing socialism, has developed in such a way that it destroys nature and rules over humans has nothing to do with its essence but only with two historical paths of its possible developments. There has been confusion between the essence and the possibilities of technology *as such*, on the one hand, and the development of technology in capitalism and in existing socialism, on the other. This confusion leads to saying “no” to the essence of technology, a “no” that has nothing to do with the human possibilities of technology. I think that this is due to a certain limitation or blindness at the analysis level. I should like to limit myself to pointing out another path (which, within the limits of this work, I shall not cover completely).

When one speaks of modern or European technology or of overdeveloped society, one always means technology such as it has been subsumed by capital in its own movement. Should this ontological aspect be left in the shade, one leaves aside the transubstantiation of *tekhnè* into technology.

In all pre-capitalist systems, *tekhnè* or the instrumental totality — comprising material objects as well as science as a theoretical instrument — was confined to a secondary area, even if it was determinant in many aspects. Darcy Ribeiro has shown technico-instrumental conditioning in universal history.¹¹ The use of the horse introduced a much speedier vehicle than those known before. The introduction of iron into weaponry and agricultural tools — a food revolution and consequently a demographic explosion — resulted in migrations of warriors. Using horses and iron is subjacent to the Indo-European invasions and to the organization of the first states and empires. But those developments never got anywhere near to technology under the reign of capital.

If capital is the movement (*kinèsis* in the Aristotelian sense) of the economic value in the process of valorization (even unto profit), technology will be an essential moment of its own being. Capital reaches a relative surplus-value or

11. Darcy Ribeiro, *El proceso civilizatorio* (Caracas: Universidad Central de Venezuela, 1970). See Eugene Ferguson, *Bibliography of the History of Technology* (Cambridge: MIT Press, 1968).

increase in exploiting the living labor thanks to machinery — that is, science and technology — which increases the productivity of this living labor. More value is produced over the same time or the same value in less time. The “saved” time of living labor is the “surplus-value” produced, which will later be realized as “profit.”¹²

Technology as an Instrument for Life

As such, *tekhne* — in its preindustrial (pre-capitalist) meaning — and technology can be interpreted positively as a means for life: “Technology presents itself to us as the activity of the human being in front of nature, the immediate process of production of life.”¹³

Technology, according to its anthropological and ethical definition — and not technology as we know it today — is a mediation toward life:

I would have objectified my individuality and its peculiarity in my production, I would thus have had a double enjoyment; during the activity, by experiencing an individual vital expression, and, in contemplating the object, the individual joy of knowing that my personality is an objective power. Work would be an expression of free life and thus enjoyment of life.¹⁴

Technology as Capital: A Valorization Instrument

In a text of major anthropological and ethical importance — and also theological, as will be shown later — it is said:

Even if it is only in the machine (read: in technology) that capital gives itself its adequate form as use-value in the production process, this does in no way mean that this use-value — the machine as such — is the capital or that its existence as a machine is identical to its existence as capital.¹⁵

It is a fundamental ontological problem. Technology in itself, in its essence, is a means for human life. It is intrinsically valuable and not ambiguous, as Heidegger pretends. But, when it is subsumed by the economic value as its mediation to reach a greater surplus-value, a greater *profit*, then technology is perverted, loses its essence, is corrupted. It is no longer a means of life but rather for death. It is here — and not earlier — that a “no” has to be said to technology. Actually, with technology, capital has also assumed the human person, the “living work,” as a mediation for profit. It is only here that technology

12. See Karl Marx, *Cuaderno histórico-tecnológico, London 1851*, trans. and intro. Enrique Dussel (Puebla: Universidad de Puebla, 1983). On the technological issue in Marx, see Enrique Dussel, *La producción teórica de Marx: Un Comentario a los Grundrisse* (Mexico: Siglo XXI, 1985), and *Hacia un Marx desconocido: Un comentario a los Manuscritos del 61–63* (Mexico: Siglo XXI, 1988). I am preparing a third volume with a long chapter on technology.

13. Karl Marx, *Kapital* 1, ch. 13 (*Marx-Engels Werke*) vol. 23 (Berlin: Dietz, several editions), p. 393, note.

14. *Paris Notebooks (1844)* (MEGA 1, 3 [1932]), pp. 546–47.

15. *Grundrisse* (Berlin: Dietz, 1974), p. 585.

is transformed into an anti-ecological structure. But, in truth, it is no longer technology but its new substance, its new essence: capital.

What is questioned, then, is not technology or science *as such*; it is their alienation (their destitution and corruption, the negation of their essence) when they are assumed by capital. Capital, the movement of economic value (as money, means of production or utilized living labor, product, merchandise, and, again, as money) goes through the metamorphosis of its determinations, of its moments. Capital is the movement of the life of economic value (a thing) to which the living person is immolated. It is a holocaust offered to an anthropophagic idol. Technology becomes an instrument of torture, of mediation that imprisons living labor and has it work at its own rhythm, in its materiality, under its control. Technology, *as capital*, is an anti-human monster.

In the nineteenth century, long before any theoretical critique of technology, machines were destroyed by workers. We could say that in the judgment against technology, something like an ideological misformation happened. The sheer *appearance* of the "technology of capital" was attributed to the *essence* of technology and, by negating this one in its essence, one negates the alternative — a just use of technology.

In an ontology of technology, it would be necessary to show how today's technology is the sheer phenomenon or appearance of the inner being of capital. Thus, technology "as capital" is the negation of the essence of technology — mediation for more human life. In capital, technology is a means or instrument to increase surplus-value production, that is, profit. If a technological invention does not yield immediate profit, it will not be put into operation, will effectively not exist. In the history of current technology, the only real inventions are those which are subsumed by capital. Consequently, technology can objectively destroy the human being, for it is assigned a goal which is alien to that human being. Such is the perverse — ethically and ontologically — sense of technology or science.

Development of Third-World Countries and Eco-Technology

The poverty of the peripheral underdeveloped countries, which has increased enormously recently, and will do so even more in the coming decades, is produced by the exploitation of the capitalist system. The dependent capitalism of the peripheral countries — with its national bourgeois class that oppresses the poor and unjustly extracts exchange-value — transfers exchange-value to the capital of the rich and developed countries. This constitutes a gigantic mechanism of extraction of life, which in turn generates the death of nature and of humans. The exchange-value (gains) of the peripheral capital (Third World) passes over to the global capital of the central countries (USA, Federal Germany, Japan, etc.) thanks to the profits of the transnational corporations, the banks with their fictitious credits, and monopoly prices. Capital and interest must be paid to the banks not just with printed money notes, but with products in which human life is objectified: exchange-value. The monopoly prices are fixed under their exchange-value for the products of the poor countries and over this value

for the products of highly developed countries. It is thus a theft of human life objectified in the exchange-value extracted.

But, besides the theft of human life — theft of exchange-value, which is the reason for the poor's poverty — the ecological value of nature is also destroyed. The ecological value of the human being is not only destroyed through economic exploitation but also in the devaluation of human life in the Third World. The urban catastrophes (Mexico, Calcutta) are products of economic exploitation — industrial wastes, vehicle fumes, etc. — that provoke a contamination of water, air, and ground. Capital destroys simultaneously the earth and the human being. This destruction is not the work of technology as such, but of technology as used and developed by capital (or by existing socialism, which is not the kind of socialism to be put to work in the Third World). This means that technology, as we know it, is not what it could be at the service of the human being. The perverse development of technology in the hands of capital has produced absolutely inhuman instruments, articulations, and theories. But negating those technological developments does not invalidate in any way technology as such. The automobile, as we know it, is a harmful product, a disproportionate and irrational means of transport. It spends too much nonrenewable energy in order to transport little weight; it needs too much space; and so forth. But there could be an electric solar car. This car would be an ecologically harmless means of transport. But it would bring in fewer gains to the automotive corporations, and therefore this development has not taken place.

Intrinsically, technology has a value from the ecological viewpoint (ecological value, use-value), for it results in saving human labor. Technology does not add exchange-value to the products, but it saves work by reaching the same use-value (ecological value) with less exchange-value (economic value). From an anthropological viewpoint, it allows sparing human life, and this constitutes its ethical value: technology, as such, is "good" from the ethical standpoint. Saving human work *for life* means that the person can work less or produce more in the same time. But if technology is in the hands of capital, the saving of human life is accumulated into capital gain instead of objectifying this boon as a decrease in human work. This is why technological discoveries have not directly benefited humankind, but rather capital. Technology has only secondarily benefited humankind through the means of the technological monsters built by the profit-minded logic of capital without the least humane intention. Marx called this "the civilizing power of capital."

It follows, then, that in the impoverished and exploited Third World, the first essential and irreplaceable task, after the revolution, is the use of technology in favor of the human being. "After the revolution" because before it any technological development in the hands of capital is a factor of a greater exploitation and of a greater destruction of the environment. One cannot go back to building roads with shovels, because bulldozers would allegedly be perverse technology, any more than one can go back to counting on one's fingers because computers would enslave the imagination. Technology, as a means or instrument to save and develop human work by bringing in more strength, more precision,

more speed (quantitative increases, of course) can serve the human person and development. This is an inescapable and fundamental challenge.

It must be an "eco-technology," a "techno-ecology," an ecological technology that develops the productive potentialities of the human being while preserving nature and allowing for its development. Two poles must be maintained: on the one hand, the defense and development of nature; on the other hand, the development of a technology for life and justice, in order to feed the hungry, provide drink to the thirsty, clothe the naked, house the homeless, and restore the sick to health.

TOWARD AN ECO-TECHNOLOGICAL AND ECONOMIC THEOLOGY

The theological question that unifies our theme is the sacramental question. It articulates person-nature relations, the person-technological means relations, and time spent with other persons — all in the context of an economy that governs the relation between persons through the production of work on nature with tools. The sacrament is a material good — water, bread and wine, oil — that bestows God's grace.

The eucharistic bread is first wheat — fruit of the earth, sun, water, vegetative life. But it then becomes flour — fruit of the work of the peasant, the transporter, the miller. Finally, it is bread — fruit of the work of the baker, the distributor. It is actually a total synthesis of the evolution of life on earth since the creation of the universe and of all the existing technologies — from the plow to the truck and the computer. A synthesis of the history of creation, of the life of humankind — all in a simple piece of bread! When the celebrant says, "We offer you this bread, fruit of our work and of the earth," he refers to this ecological, technological, and economic synthesis. The theological status of technology is sacramental and its locus in the believing praxis is liturgy: celebrations, joy, feast, banquet of the Kingdom.

In those conditions, artistic and spiritual creation — art and science, and let us add prayer and mystical contemplation — would be the fundamental human activity. What is important to us here is to show the anthropological and ethical meaning of technology; it is a mediation toward free time, free from material coercion in order to attain to the supreme human goals. Technology makes possible the existence of bread as surplus for the sacrifice (given that one can only offer or make an offering of what is not absolutely needed to satisfy basic needs) or, even more, it is a mediation toward the free time of feasting, of liturgy.

The development of the Third World, impossible without technological mediation, must go further than the capitalist system in a non-Stalinist mode of socialism. This development is the condition to celebrate the eucharist in those countries. The bread offered in sacrifice must be the bread of justice — which is also economic justice — "good" technological bread — product of a *tekhne* — bread in surplus of what is needed to live. The eucharistic feast cannot be celebrated if there is hunger:

All the believers shared their belongings with one another. They would sell their property and possessions and distribute the money among all, according to what each one needed. Day after day they met as a group in the Temple and met in their houses for the breaking of bread (Acts 2:44–46).

The liberation of the human being today requires the liberation of technology as a fundamental moment. It is a liberation of technology as a moment of capital — as its instrument, an instrument of death, an anti-ecological and anti-human instrument. Thus, technology ethics deals neither with the moral issue of respecting the property of inventions nor with that of devoting oneself to science or to technology as one would to a religion, nor again with that of deceiving a colleague, and so forth. The ethical — and theological — issue par excellence of technology today is that which discovers, in the first place, the sad and destructive function of technology as a mediation for the extraction of surplus labor, as a means of extracting life from the living work of the worker of the poor countries. Second, this ethics of the liberation of technology must create conditions for the production of a technology as a mediation for human life, for the respect of nature and the development of conditions of decent living for the poor, the exploited, the oppressed. It is the liberation of technology so that it may produce the eucharistic bread.

If technology is not liberated on behalf of the human being, the human being will go on being immolated to the Fetish, to the Idol, through its materiality as a machine, as technology, and thus:

All surplus labor, which humankind can obtain as long as it exists, belongs to capital according to its inbred laws. *Moloch*.¹⁶

16. *Kapital* III, ch. 24 (*Marx-Engels Werke* 25), p. 378.