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Nature, Science, and Technology in Habermas

Abstract

At a time when the ecological crisis of the past decades shows no sign of abating, the various theories criticizing unlimited economic growth, the logic of contemporary technics, the contemporary consumerist ethos, and so on, all indicate that we cannot continue to have the same attitude towards the nature within which we dwell. Confronted with the threatened breakdown of the earth's ecosystem, many voices agree that the seemingly universal 'Western civilization', and particularly its technological solutions and applications (inextricably bound to the competitive and hierarchical framework determined by the combination of the market economy and the structures of the contemporary state) are based on a flawed image of nature, the long–term repercussions of which may prove to be tragic. The more human potential for technical control grows unchecked, the more it becomes obvious that we are apprentice magicians, that we possess a power we perhaps do not know how to handle. With particular urgency, this era posits certain questions: What is nature; how must we think about the being of entities; what is time; what is our place in the world? Needless to say, these questions require a philosophical consideration since the empirical sciences seem to rest on precisely those 'obvious truths' we ought to question.

Introduction

The problem with the correct philosophical consideration of nature, the effects of such an attitude on our concept of technics in general, and its contemporary incarnations in particular, constitutes—in my opinion—one of the blind spots in the critical theory of Juergen Habermas, a theoretical position that today carries considerable weight in the circles of the left. By tracing the origins of the Habermasian oeuvre, I will attempt in this essay to identify the philosophical roots of his concept of nature and to follow its progress until the present while, at the same time, shedding light on some of its fundamental antinomies and difficulties. I will begin with a critical evaluation of Habermas's early confrontation with the views of H. Marcuse, representative of the old Frankfurt school, on the meaning of scientific–technical development. Afterwards, I will discuss the epistemological view that Habermas advanced towards the end of the '60s, and will emphasize its antinomies, using the problem of our cognitive approach to

nature as a keystone. Finally, I will deal with the mature communicative theory and the theory of social rationalization, examining the way in which these (pre)define the relationship between society and nature.

The Difficulties of Detachment from the Old Frankfurt School

The question of how we must interpret contemporary scientific–technical development, the transformations it brings about in society, and its prospects and the position of man in contemporary 'scientific civilization', permeates Habermas's early work in the '60s. The progress of his thinking was marked, in those years, by a confrontation with the reigning positivist and technocratic views of knowledge and society. The problem of the 'right mediation between theory and praxis' becomes the point of departure for Habermas's speculations and the spear–head of his critique towards positivists and technocrats. The young Habermas noted that in contemporary scientized civilization "the real difficulty in the relation of theory to praxis ... arises ... from the fact that we are no longer able to distinguish between practical and technical power."[1] This critique turned against the current monopoly of theoretical knowledge on the part of the empirical sciences—the cognitive results of which can direct technical action only—and implied the need to inject practical philosophy and critical social theory with practical–emancipatory intentions. Mediation between theory and praxis would aim as much at restoring scientific credibility, as in reconnecting critical theory to the sphere of political–emancipatory practice.[2] Such a critical theory would be in a position to give a more correct interpretation of contemporary scientific–technical development.

In this respect, the critique Habermas directs toward the technocratic interpretation of scientific–technical progress is characteristic; according to it, the evolution of technology follows its own 'logic', independent of the people's will. In A. Gehlen's anthropological approach to technical progress, for example, the latter must be considered as a kind of meta–biological evolution. From this perspective, technology merely reinforces and gradually replaces the functions of human organs. Evolution reaches its peak and ultimate limit with the computer supplanting the human brain.[3]

1. J. Habermas, "Dogmatism, Reason, and Decision: On Theory and Praxis in Our Scientific Civilization," in his *Theory and Practice* (Boston: Beacon Press, 1974), translated by J. Viertel, p. 255.

2. Consider A. Wellmer, *Kritische Gesellschaftstheorie und Positivismus* (Frankfurt a. M.: Suhrkamp Verlag, 1969), p. 55.

3. Consider the critical reference to Gehlen's views in J. Habermas, "Praktische Fol-

Thus, since technics 'complements' a given biological substratum of human existence, its evolution should comply with an internal logic which would determine the steps to be taken each time. Scientific–technical progress is construed as a 'secondary natural process' leading from pre–industrial superior civilizations to a universal industrial civilization representing a higher anthropological stage in the evolution of the human species.[4] Correspondingly, other technocratic theories (H. Schelsky, H. Freyer) relate the course of scientific–technical progress to certain 'objective necessities', to 'laws of technical progress' that act independently of any human will.[5]

Habermas denounces technocratic theories as an ideology promoting the political neutralization of very important ethical–practical choices. Technocratic positions rest on an erroneous fusion of the sphere of the practical with the necessities of the sphere of the technological. But the direction, the rhythm, and the functions of scientific–technical development are always determined by the interests of a particular strata of the population. The objectivistic theory of technical development presents as deterministically set that which, in fact, is the product of a political choice and/or negotiation.[6]

The paradox from which I would like to begin my reflections appears when Habermas directs this same critique—the disappearance of the difference between praxis and techne (technical action)—toward the interpretation of scientific–technical development put forward by Marcuse in *One Dimensional Man*. According to Marcuse, contemporary technology is firmly bound to the instituted form of capitalist domination, which it simultaneously serves and justifies. As he himself notes:

gen des wissenschaftlich–technischen Fortschritts," in his *Theorie und Praxis* (Frankfurt a. M.: Suhrkamp Verlag, 1978), reprint of the 1971 revised edition, p. 337.

4. *See* A. Gehlen, "Anthropologische Ansicht der Technik," in H. Freyer et al., eds., *Technik im technischen Zeitalter* (Duesseldorf: Verlag Joachim Schilling, 1965), pp. 101–18.

5. *See* H. Freyer, J. C. Papalekas, and G. Weippert, eds., *Technik im technischen Zeitalter* (Duesseldorf: Verlag Joachim Schilling, 1965); H. Schelsky, *Der Mensch in der technischen Zivilisation* (Koeln 1961).

6. On this critique, *see* J. Habermas, "Technical Progress and the Social Life–World," in his *Toward a Rational Society*, translated by J. J. Shapiro (Boston: Beacon Press, 1971), pp. 50–61, especially pp. 58 ff.; J. Habermas, "The Scientization of Politics and Public Opinion," in *Towards a Rational Society*, pp. 62–80, esp. pp. 64ff; and his "Praktische Folgen des wissenschaftlich–technischen Fortschritts," in *Towards a Rational Society*, p. 345.

As the project [of the technological–industrial society] unfolds, it shapes the entire universe of discourse and action, intellectual and material culture. In the medium of technology, culture, politics, and the economy merge into an omnipresent system which swallows up or repulses all alternatives. The productivity and growth potential of this system stabilize the society and contain technical progress within the framework of domination. Technological rationality has become political rationality.[7]

Habermas considers this evaluation complementary to the technocratic positions. Thus, whereas technocrats conceal political domination under the veil of 'scientific' technocratic administration, Marcuse is said to turn, inversely, technology into political domination. Marcuse favors, in a way, technocratic ideology when he adopts the view that contemporary technology is firmly connected to the existing form of political domination—a view supposedly easy to translate into an inability to democratically control scientific–technical development. [8]

This apparent confusion between the practical and the technological leads Marcuse to the paradoxical—according to Habermas—conclusion that the radical change of society (and consequently the form of domination) would necessarily entail the creation of a new technology and therefore a new science.[9] Confronted with this opinion, Habermas attempts to safeguard the neutrality of technical rationality, turning the program of technical domination upon nature and the development of the methods for the material reproduction of the species into a universal project of humanity.[10]

Opposite the idea of a new science and technology, Habermas raises the argument that there is no science or technics more humane than the

7. H. Marcuse, *One Dimensional Man* (London: Routledge & Kegan Paul Ltd., 1964), p. xvi.

8. *See* J. Habermas, "Praktische Folgen des wissenschaftlich–technischen Fortschritts," in *One Dimensional Man*, p. 349.

9. Ibid., p. 348. Marcuse characteristically noted: "Such a qualitatively new mode of existence can never be envisaged as the mere by–product of economic and political changes, as the more or less spontaneous effect of the new institutions which constitute the necessary prerequisite. Qualitative change also involves a change in the technical basis on which this society rests—one which sustains the economic and political institutions through which the 'second nature' of man as an aggressive object of administration is stabilized. The techniques of industrialization are political techniques; as such, they prejudge the possibilities of Reason and Freedom." H. Marcuse, *One Dimensional Man*, p. 18.

10. ibid., p. 348.

existent[11] and justifies it by invoking the schema of the gradual substitution of the organs of the human body, developed, as we have seen, by A. Gehlen. Habermas considers Gehlen to have shown in a definite way that technology is a project of the human species as a whole.[12] For this reason:

> Modern science can be interpreted as a historically unique project only if at least one alternative project is thinkable. And, in addition, an alternative New Science would have to include the definition of a New Technology. This is a sobering consideration, because technology, if based at all on a project, can be traced back to a 'project' of the human species as a whole, and not to one that could be historically surpassed.[13]

The contradictions of Habermas's argumentation are manifest. In order to rescue the neutrality of technology from Marcuse's radical criticism, he uses a weapon from the technocratic arsenal, which he has already, and rightly, criticized. Scientific–technical progress is thus presented—according to the argumentation's varying needs—now as the result of political (and therefore class) choices and then as the expression of some biologically given 'human' capacities.

The comparison of Marcuse's positions to those of the technocrats is, however, mistaken as well as misleading. In contrast to the latter, the former thinks historically, not evolutionistically. His critique does not turn against

11. *See* J. Habermas, "Technology and Science as 'Ideology'," in his *Towards a Rational Society*, pp. 81–122, esp. p. 88.

12. Habermas adopts Gehlen's schema in J. Habermas, "Technology and Science as 'Ideology'," in his *Towards a Rational Society,* pp. 87–90. He thus lays aside the observation Horkheimer had made in 1937: "...the phrase that instruments are extensions of human organs can be reversed: organs are themselves extensions of instruments"; M. Horkheimer, "Traditional and Critical Theory," in his *Philosophy and Social Critique*, translated into Greek by A. Oikonomou, Z. Sarikas (Athens: Ypsilon Ed., 1984), p. 22.

13. J. Habermas, *Towards a Rational Society*, p. 87. This passage suggests the image of a unified 'modern science', devoid of antinomies, the idea of an absolutely 'coherent instrumental rationality' which does not know of an 'other' 'alternative plan'. I think that in regard to science, matters are more complex and it is not possible to disregard historical continuity, or the coexistence of contradictory 'scientific paradigms'. On the concept of 'paradigm' and on the historical approach of scientific evolution which makes it difficult to define the term 'progress', *see* Th. Kuhn, *The Structure of Scientific Revolutions*, translated into Greek by G. Georgakopoulos, V. Kalfas (Athens: Synchrona Themata, 1981). On coexistence, e.g., of contradictory paradigms in modern physics (quantum mechanics—theory of relativity), *see* C. Castoriadis, "Modern Science and Philosophical Question," in his *The Crossroads of the Labyrinth* (in Greek, Athens: Ypsilon, 1991).

technology as a whole, but against the precise late–capitalist reality and, consequently, against its technical applications which reinforce and legitimize it. Marcuse is right when he stresses that the techniques a society employs are inextricably bound to its entire civilization, and are imbued with, while at the same time sustaining, its innermost standpoints, hopes and beliefs.[14]

The fact that today—as Habermas expresses it—there is no "other thinkable alternative project" apart from the existing science and technology does not constitute an argument against the idea of a new science and technology since it is clear to those who think historically that the bounds of the 'thinkable' are up to a point socially determined, without being, naturally, constant. For, what is the aim of the Habermasian critique of 'technocratic ideology', if not to redefine the 'thinkable', 'desirable', and 'possible'? The conviction that the reinstitution of values following a political reversal and a change in the present oppressive institutional framework would necessarily affect the emergence of new technologies is

14. Consider his observations in H. Marcuse, *One Dimensional Man*, p. xvi. This is the interpretation of Marcuse's work that we find in A. Light's very interesting article "Rereading Bookchin and Marcuse as Environmental Materialists," in *Capitalism, Nature, Socialism*, No. 13 (March 1993), pp. 69–98. In this essay, Light introduces the distinction between "environmental materialism" and "environmental ontolog," thus distinguishing the theories that anticipate the resolution of the ecological problem through the change in social institutions and in the relations of society's material reproduction, from those connecting this solution to a change in conscience and 'our attitude toward nature' (without any mention of a change in the institutional framework). Light rightly observes that the 'materialist' perspective (in the weak sense of a 'historical perspective') may admittedly be prominent in the Marcusian oeuvre, in which, however, we also find an irreducible 'ontological' viewpoint, expressed by the idea of a new science and technology and the emergence of a 'new sensitivity'. Comparing Marcuse to Bookchin, Light develops arguments in favor of such a combination, in order to compose a consolidated, multifaceted radical political ecology which would effectively counter one–sidedness in both mainstream environmentalists and deep ecology. For an overview of these approaches, *see* M. Bookchin, "Response to Andrew Light's 'Rereading Bookchin and Marcuse as Environmental Materialists," as well as A. Light, "Which Side Are You On? A rejoinder to Murray Bookchin in *Capitalism, Nature, Socialism*, No. 14 (June 1993), pp. 101–13 and 113–20 respectively. Very interesting for assessing the meaning of Marcuse's views on modern radical ecological politics is H. T. Blanke's "Domination and Utopia: Marcuse's Discourse on Nature, Psyche and Culture," in *Capitalism, Nature, Socialism*, No. 19 (Sept. 1994), pp. 99–123. Here, we find a reference to the early formulations of Marcusian 'ontological' viewpoints in *Eros and Civilization*, a critical evaluation of the interpretation of Marcuse's views on technology by C. F. Alford, W. Leiss, R. D'Amico and J. Habermas. The author adopts a position similar to Light's and my own (at least in regard to the Marcuse/Habermas confrontation).

a legitimate one—although remaining conjectural to a large extent.[15] Indeed, one could say that under the present conditions of a continually escalating ecological crisis, a radical democratic policy is inconceivable without concurrently radicalizing the critique of capitalist 'growth' and the idea of the 'unlimited expansion of the rational domination upon nature'. It is not without reason that the ecological movement of the past decades developed concepts (as well as the corresponding practices, though these are still experimental given the present–day inimical institutional framework) such as alternative technology, 'soft' and appropriate technologies, sustainable development, conservation of natural cycles and sustainable society, which may not deny the importance of scientific knowledge (indeed, in a certain sense they confirm it) but certainly entail its fundamental reorientation.[16]

In the light of contemporary ecological critiques, it is truly hard to comprehend what 'technology as a universal project of the human species' is. We are continually reminded (and not just by anthropological findings) that what we—blinded by the achievements of Western rationalism—until now considered a 'primitive' or 'backward' technique often contains a different, more balanced and certainly more ecological viewpoint, accompanied by brilliant technical solutions for the maintenance of ecological balance. Moreover, there is the problem of whether it is actually possible to put 'higher' Western technology into general use. Or should we, from the fact that the Chinese must necessarily forgo the joys and comforts of the private car—under penalty of total destruction of their country first, and then the earth's atmosphere—conclude that they do not belong to the human race? On the other hand, is it at all possible to 'correctly implement' nuclear reactors—technologies that favor hyperconcentration and a police state, while generating dangerous waste and grave dangers of accidents? While an operating reactor undermines the future of earth's environment

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15. In my opinion, the clarity of the following assertions is unquestionable: "The historical achievement of science and technology has rendered possible the *translation of values into technical tasks*—the materialization of values. Consequently, what is at stake is the redefinition of values in *technical terms*, as elements in the technological process. The new ends, as technical ends, would then operate in the project and in the construction of the machinery, and not only in its utilization. Moreover, the new ends might assert themselves even in the construction of scientific hypotheses—in pure scientific theory." H. Marcuse, *One Dimensional Man*, pp. 231–32.

16. Castoriadis's critique of 'economic growth' and the modern idea of 'rational domination' moves along these same lines. *See* especially his "Thoughts on 'Growth' and 'Rationality'" in the volume bearing the same title (in Greek, Athens: Ypsilon, 1993) and "Ecology and Politics," in C. Castoriadis, *Anthropology, Politics, Philosophy* (in Greek, Athens: Ypsilon, 1993), pp. 73–90.

in favor of capitalist accumulation and 'growth', creating the short–term (considering earth's history) danger of irreversible pollution, other techniques for conserving and exploiting renewable energy forces are based on a different—as Marcuse phrases it—"attitude toward nature"; an attitude respecting ecological balance and biological cycles. But since these technologies ultimately clash with the 'logic' of the dominant system, they remain discredited, marginal, and unsponsored.[17]

The moment Habermas rejects Marcuse's historical approach to technology—which comprehends society dialectically, as a whole—he inevitably adheres to an abstract evolutionist attitude towards society and history. Adopting the technocratic rhetoric on universal technological rationality, Habermas enters the straits of a fatal dualism. In the field he chooses we can detect, on the one hand, the outline of an abstract technical rationality based on universal criteria of effectiveness, regardless of the cultural environment within which this rationality is developed. On the other hand, a practical Reason can be discerned, which must develop historically and 'externally' control the implementation of instrumental reason. One could, then, claim that, in a sense, Habermas has finally approached the liberal (e.g., Popperian) interpretation of scientific–technical development, which he has elsewhere criticized,[18] and according to which science and technology provide the means for the achievement of

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17. It is obvious that an abstract 'efficiency' is not part of the features of nuclear reactors. These would be useless in an ecological society which would aim at a) long–term sustainment rather than short–term economic growth and accumulation at any price, and b) decentralization and democratic decision making instead of hyperconcentration and technocratic administration of political issues. *See,* in relation to this, the description of a society that would not confront an inimical nature, but converse with a nature as a co–worker; L. Brown et al., *Ecological Crisis and Sustainable Society*, translated into Greek by M. Bolota, L. Vlachou (Athens: Enallaktikes Ekdosis Kommuna, 1991). Naturally the list of examples (such as nuclear energy) can go on forever, with examples from medicine, transportation, farming, city–planning, the organization of labor, etc. For an ecological–liberating view on such matters *see* M. Bosquet (A. Gorz); *Ecology and Politics* (Athens: Nea Synora, 1984); Ivan Illich, *Limits to Medicine. Medical Nemesis: The Expropriation of Health* (Thess/niki: Ekdotiki Omada, 1988); *You Reach Socialism Only on a Bicycle* (Thess/niki: Katsanos, 1989); M. Bookchin, *The Limits of the City* (Athens: Eleutheros Typos, 1979); B. Coriat, *The Worker and the StopWatch* (Athens: Kommuna, 1985); and E. Morin et al., *The Ecologization of Thought* (Athens: Enallaktikes Ekdosis Kommuna, 1990). On the discussion of the issue of 'ecological technology': D. Dickson, *Alternative Technology and the Politics of Technical Change* (Athens: Kalvos, 1985).

18. For criticism on the 'liberal interpretation' of technological progress, *see* J. Habermas, "Praktische Folgen des wissenschaftlich–technischen Fortschritts," p. 341.

objectives that human beings have freely chosen. The difference of the liberal from the 'critical' view is confined to the meaning ascribed to 'freely': in the context of the former it means 'ultimately arbitrarily', whereas according to the latter it means 'reasonably'.

What is it, finally, that drives Habermas to this antinomic critique of Marcuse's views? Why does he feel obliged to disqualify—by way of questionable arguments—the Marcusian idea of an 'other technology' that would succeed in overcoming the resistance of nature in a liberating instead of an oppressive way?[19] Why does he stubbornly persist in stating that there is no 'more humane' substitute for scientific–technical development? The answer to these questions is related to Habermas's philosophical and epistemological position toward nature, which is, in its turn, inextricably bound to a specific estimation concerning the possibilities for radically changing the institutional framework of contemporary societies (as we shall see in the third part of this essay). He reveals his motives in his critique on Marcuse:

> In several passages Marcuse is tempted to pursue this idea of a
> New Science in connection with the promise, familiar in Jewish
> and Protestant mysticism, of the 'resurrection of fallen nature'.
> This theme, well–known for having penetrated into Schelling's
> (and Baader's) philosophy via Schwabian pietism, returns in
> Marx's *Paris Manuscripts*, today constitutes the central thought

19. *See* H. Marcuse, *One Dimensional Man*, p. 236. Th. McCarthy's argument (*see Kritik der Verstaendigungsverhaeltnisse* (Frankfurt a. M.: Suhrkamp Verlag, 1989) [German translation of *The Critical Theory of Juergen Habermas*, MIT 1978], p. 441, note 15) that Habermas's claim for 'neutrality' concerns the fundamental logical structures of technology and not their historical actualization confuses the issues instead of clarifying them. On the one hand, from the account I gave above, it becomes obvious that Marcuse refers to a specific historical realization of technology and does not reject technology as a whole. On the other hand, Habermas's views are extremely ambiguous and waver—as I have tried to show—between a historical and an evolutionary perspective, as one can see in the following passage: "Technological development thus follows a logic that corresponds to the structure of purposive–rational action regulated by its own results, which is in fact the structure of *work*. Realizing this, it is impossible to envisage how, as long as the *organization of human nature* does not change and as long therefore as we have to achieve self–preservation through *social labour* and with the aid of means that substitute for work, we could renounce technology, more particularly *our* technology, in favor of a qualitatively different one"; "Technology and Science as 'Ideology'," p. 87. (The second and third phrases italicized are my own emphasis.) Understandably, the questions arise: to whom does this "our" refer; what is this "we"; and how can the (historical) realization of "social labour" be used in the same breath as the (ahistorical) necessities of the "organization of human nature?"

of Bloch's philosophy and, in reflected forms, also directs the more secret hopes of Walter Benjamin, Max Horkheimer, and Theodor W. Adorno.[20]

For the representatives of the old Frankfurt school, the solution of the fundamental problems of contemporary society presupposes and entails a 'reconciliation with nature'. In the *Dialectic of Enlightenment* (1947), Horkheimer and Adorno radically questioned the ability of the enlightenment project to lead to the emancipation it presages.[21] The subjugation of external nature requires the repression of the subject's inner nature, the renunciation of his natural drives in order to channel them into the organized mutation and control of nature. Thus, every advance in the attempt to dominate nature in order to create the 'material conditions' for a free affluent society entails a further 'reification' of the subjective mind.[22] This is the reason the emancipatory program leads to the rise of barbarity—as seen and experienced by the representatives of the Frankfurt school in the years of the rise of National Socialism and World War II.[23] Indeed, in the *Dialectic of Enlightenment*, the destructive course of the rationalization

20. J. Habermas, "Technology and Science as 'Ideology'," pp. 85–86.

21. *See* M. Horkheimer, Th. Adorno, *Dialektik der Aufklarung* (Frankfurt a. M.: Fischer Verlag, 1988), reprint of the 1969 edition.

22. M. Horkheimer noted characteristically in his *Eclipse of Reason* (New York: Oxford University Press, 1947), pp. 93–94: "The human being, in the process of his emancipation, shares the fate of the rest of his world. Domination of nature involves domination of man. Each subject not only has to take part in the subjugation of external nature, human and nonhuman, but in order to do so must subjugate nature in himself. Domination becomes 'internalized' for domination's sake. What is usually indicated as a goal—the happiness of the individual, health, and wealth—gains its significance exclusively from its functional potentiality. These terms designate favorable conditions for intellectual and material production. Therefore self–renunciation of the individual in industrialist society has no goal transcending industrialist society. Such abnegation brings about rationality with reference to means and irrationality with reference to human existence. Society and its institutions, no less than the individual himself, bear the mark of this discrepancy. Since the subjugation of nature, in and outside of man, goes on without a meaningful motive, nature is not really transcended or reconciled but merely repressed."

23. In regard to this, *see Eclipse of Reason*, pp. 122–23: "Repressed natural drives were harnessed to the needs of Nazi rationalism. And their very assertion led to their denial.... Clearly, the Nazi rebellion of nature against civilization was more than an ideological facade.... The revolt of natural man—in the sense of the backward strata of the population—against the growth of rationality has actually furthered the formalization of reason, and has served to fetter rather than to free nature. In this light, we might describe fascism as a satanic synthesis of reason and nature—the very opposite of that reconciliation of the two poles that philosophy has always dreamed of."

process does not appear as a feature of contemporary society alone, but is shown to pervade the entire history of humanity. This position determined the pessimism of the old Frankfurt school. True emancipation would entail reconciliation with nature via a new science that 'instead of oppressing would liberate'. However, a solution of this kind would require such a radical break with established scientific and technical reason that Horkheimer, Adorno, and Marcuse never managed to satisfactorily substantiate such an aspiration.[24]

Fearing that the idea of a new science or an 'other' (cognitive) relationship with nature would inevitably lead to mysticism and metaphysics with unforeseeable political consequences—as the experience of national–socialist antimodernism has shown—Habermas chooses to question the fundamental idea of the old school itself: the homology between control of external nature and repression of inner nature. Above, we saw that Habermas compares Marcuse's views to those of the technocrats. His argument is that both the former and the latter merge indiscriminately two irreducible types of action: technical action and praxis. And precisely this will be his critique of classic critical theory; that is, that the latter is monistic, allowing for the conception of instrumental action only, whereas in reality, human life is reproduced within a dualist framework containing both instrumental/strategic action (labour) and communicative action (symbolic interaction). These two levels of life reproduction are of course connected, but their development does not obey the same 'logic'. Classic critical theory, having rendered the model of instrumental reason absolute, does not possess the means for understanding the particular logic that governs the subject's formation via the repression of inner nature. This monism lies at the basis of both its pessimism and its inability to account for the criteria on which its critique is grounded. For, if theory, and conceptual thought in general, coincides with identitary–instrumental reason (and therefore domination), how is a critical theory that would not serve rational control but would lead to emancipation possible?[25]

As early as his initial critique on Marcuse, Habermas proposed a new analytical framework for a theory of scientific–technical development in late–capitalist societies that would not reach the impasses of the old

24. *See* J. Whitebook, "The Problem of Nature in Habermas," in *Telos*, No. 40 (1979), p. 42. *See also* H. T. Blanke's critical observation, "Domination and Utopia," pp. 121ff. on the lack of empirical suggestions on an 'alternative technology' in the work of Marcuse.

25. This contradictory approach of the old school is succinctly presented by H. Dubiel, "Herrschaft oder Emanzipation?" in A. Honneth, Th. McCarthy et al., *Zwischenbetrachtungen. Im Prozess der Aufklaerung* (Frankfurt a. M.: Suhrkamp Verlag, 1989), pp. 504–18.

Frankfurt school. This framework contains two categories of social action: work, or purposive–rational action, and interaction, or communicative action. To these two types of action correspond two different spheres of social action. These are the "technically advancing subsystems of purposive–rational action" that are "embedded" within an "institutional framework" or a "social life–world." These two spheres form society as a total network of actions.[26]

In the field of purposive–rational action, the accumulation of knowledge expands the possibilities for the control of external nature—which (control) constitutes the condition for the liberation from the 'natural' constraints of material reproduction—whereas in the field of communicative action, rationalization means the universalization of moral–practical orientations and advancing individualization. Indeed, the distinction between instrumental and communicative action (work and interaction) and between the corresponding social spheres of 'subsystems' and 'life–world' gives Habermas the leeway to use contradictory arguments, according to the needs of every discussion. Since the spheres of technology and praxis are separate and blend only 'externally', there may be some truth in the technocrats' viewpoint in regard to the 'subsystems of purposive–rational action', while the old Frankfurt school (Marcuse, in particular) may be partially justified in regard to the claim of emancipation at the level of the 'life–world' or the 'institutional framework'. The key to the correct—according to Habermas—standpoint is to learn to make these distinctions. This socio–theoretical view is completed by an evolutionist view of history. According to the latter, social evolution, the 'process of cognitive evolution of the species' occurs on two parallel levels: that of active adjustment (the subsystems level), and that of passive adjustment (the level of the institutional framework). The conjectured meaning of history—which has yet to be practically verified—is the transformation of passive to active adjustment when human beings make their own history with will and consciousness. Critical theory ought to contribute to the completion of this process, revealing and reviving the human species' universal practical interest in emancipation, which lies at the root of the option for reason.[27]

26. Consider J. Habermas, "Technology and Science as 'Ideology'," pp. 91ff.

27. On the dialectics of active–passive adjustment, *see* J. Habermas, "Praktische Folgen des wissenschaftlich–technischen Fortschritts," pp. 350ff and his "Technology and Science as 'Ideology'," p. 115f. Of course, this early schema would undergo serious changes in *Zur Rekonstruktion des historisches Materialismus* (Frankfurt a. M.: Suhrkamp Verlag, 1976) in which Habermas adopted a model for the cognitive evolution of societies, according to which progress at the level of the institutional framework is anything but 'passive'. The most important texts of *Zur Rekonstruktion des historischen Materialismus* can be found, in English, in J. Habermas, *Communication and the Evolution of Society* (Oxford: Polity Press, 1991), translated by Th. McCarthy.

In his attempt to safeguard the particularity of the sphere of praxis from the reductions of technocratic and positivist consciousness and, at the same time, to avoid the pessimism of the old Frankfurt school, Habermas is led to a dualism, which cedes the sphere of technology and the cognitive relation with external nature to technocratic ideology. It is not by accident that the claim concerning the neutrality of technical reason goes hand in hand with the neutrality of the subsystems that incarnate technical reason, that is, the state and the capitalist market. The latter will be considered, from this point onwards, as indelible elements of modernity, the highest level of historical evolution. Thus, for human reason, nature is but a mere object of instrumental manipulations, even if we occasionally remember that we humans are part of this nature.

Habermas clearly states that "what raises us out of nature is the only thing whose nature we can know: language."[28] Therefore, any type of knowledge addressed to what lies "outside language" must retrogress to pre-critical metaphysics or irrational mysticism.[29] However, as we shall see further on, the problem of a possible different attitude toward nature reoccupies a central position in the Habermasian theory of knowledge.

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28. J. Habermas, "Knowledge and Human Interests: A General Perspective," appendix to his *Knowledge and Human Interests* (Boston: Beacon Press, 1971), translated by J. S. Shapiro, pp. 301–17. This particular quote is on p. 314.

29. It is not clear to me, however, why the claim for, as far as possible, a cooperative and conciliatory relationship with nature is necessarily 'mythicizing', whereas the idea of dominating a hostile nature is 'rational'. An example could help us recognize the arbitrariness of this modern bias. What Habermas calls the "universal project of the species" underwent 'dramatized reenactment' during the inaugural ceremony of the 1992 Olympics in Barcelona. The organizers made the—understandable—decision to link the contemporary 'Olympic spirit' to two 'ketches': the 'Conquest of America' (because of the anniversary of its discovery) and the 'Domination of Nature'. Particularly in the unsightly and horrifying second part, Nature was presented as a multilegged, swollen monster moving threateningly toward frantic humans, who finally manage to pierce and kill it!! The ravings of the contemporary collective imagination were attended—in the same year—by the 'ecological sensitivities' exhibited by the fiesta of the International Congress on the Environment, in Rio. Bearing in mind this 'show', I do not think that I would be deducting from the validity of rational argumentation on the modern bias regarding 'hostile nature' if I said that our attitude toward this subject is *also* a matter of *good taste*. It is significant that the modern subjectivization of this *sensus communis* today permits certain (not always particularly innocent) individuals to rhapsodize over nuclear plants or the dense network of highways twining itself around the dying torso of the subjugated nature of Western countries. Habermas's philosophy of knowledge, situated as it is halfway between philosophy and empirical science, has been characterized as an 'anthropology of knowledge'.

The Antinomies of the Epistemological Combination of Materialism and Transcendentalism

In his famous *Knowledge and Human Interests*,[30] Habermas attempted to present a more refined grounding of his critical social theory by formulating a critical theory of knowledge that investigates the quasi-transcendental[31] conditions of possible knowledge. At the root of this argument lies the idea that the radicalized theory of knowledge can be constituted only as a reconstruction of the history of the species and that consequently, a critical 'philosophy of history' may, in reverse, be based on a reflection upon the conditions of humanity's cognitive development. Indeed, in *Knowledge and Human Interests*, Habermas draws the guidelines of 'a theory of knowledge as a critical social theory', radically criticizing the objectivism which characterizes both the tradition of transcendental philosophy and positivism.

Habermas's research assumes the form of a reconsideration of the "abandoned stages of reflection" and intends to reveal the fundamental structure of an "anthropology of knowledge of three cognitive interests."[32] The self-reflection of the empirical-analytical sciences, which pertains to the logical structure of the possible scientific propositions and to the conditions of their control, suggests that they comprehend reality while guided by interest in its technical control. Empirical-analytical sciences are thus motivated by a technical interest. Historical-hermeneutic sciences, on the other hand, approach their subject in the terms of a different, quasi-transcendental framework. The interpretation of the 'facts of the mind' is mediated by the hermeneutic-practical viewpoint of the interpreter and his era. The interpretation of cultural tradition always signifies its application to the present situation. This unity of interpretation and application reveals the fact that interpretive research approaches its object

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30. J. Habermas, *Knowledge and Human Interests*.

31. It has been labeled quasi-transcendental' because the theory of knowledge presented in *Knowledge and Human Interests* intends to be a critical theory, that is, positioned between a philosophy claiming to an absolute grounding and (an empirical) science. The transcendental framework, as revealed by the critical theory of knowledge, is not the framework of idealist philosophy, is not connected to the a priori categories of the transcendental consciousness but to the pragmatic conditions for the reproduction of human life. However, these 'pragmatic conditions' are not simply contingent-empirical but connected to the 'deep-seated necessities' of the reproduction of the species.

32. Habermas explains cognitive interests as "the basic orientations rooted in specific fundamental conditions of the possible reproduction and self-constitution of the human species, namely *work* and *interaction*"; J. Habermas, *Knowledge and Human Interests*, p. 196.

guided by the practical interest in maintaining and expanding the possible understanding that directs social action.[33]

Finally, critical theory, which aims to dissolve the ideologically camouflaged relations of power and dependence, is motivated by an emancipatory interest. It is the emancipatory interest that constitutes the standpoint of self–reflection; it is this, therefore, that guarantees the validity of the 'anthropology of knowledge' in its entirety. At this higher level of reflection, knowledge and interest, reason and decision in its favor, coincide. The emancipatory interest encourages reflection on the formation process of the human species. This reflection ultimately reveals the fact that the species constitutes itself by means of work, language, and domination. These means determine the quasi–transcendental conditions of theoretical, practical, and critical knowledge respectively. Thus, Habermas tries to construct a theory of knowledge which would avoid the idealism of transcendental philosophy and would be founded on a theory of the history of the species.[34]

But where does nature appear in this epistemological schema? According to Habermas's 'anthropology of knowledge', our cognitive relation to external nature is determined by the interest in technical control. Empirical–analytical sciences produce knowledge that consists of sets of hypothetico–deductive propositions, allowing the deduction of empirically verifiable predictions:

> Taken together, these two factors, that is the logical structure of admissible systems of propositions and the type of conditions for corroboration suggest that theories of the empirical sciences disclose reality subject to the constitutive interest in the possible securing and expansion, through information, of feedback–monitored action. This is the cognitive interest in technical control over objectified processes.[35]

This interpretation of empirical–analytical sciences is related to the Marxian theory of knowledge. Marx conceives man as the creator of instruments for exploiting nature. Nature is constituted as objective nature for the human being via this process of nature's appropriation by his subjective nature. Thus, labour is not only a fundamental anthropological category, but an epistemological one as well: "The system of objective activities creates the factual conditions of the possible reproduction of

social life and at the same time the transcendental conditions of the possible objectivity of the objects of experience."[36] Thus, in Marx—according to Habermas—labour holds the position of the Kantian synthesis of subject and object.

Materialistic synthesis is not the product of a transcendental consciousness (as in Kant), nor the positing of an absolute ego (as in Fichte), or the movement of an absolute mind (as in Hegel), but an empirical as well as transcendental product of a historically reproduced species.[37] The objectivity of nature is thus formed within processes of social labour. This concept maintains the independence of nature from human activity and knowledge, insisting on a concept of 'nature in itself'. Thus, Marx does not propose an absolute unity of man and nature, as Hegel does, but maintains the Kantian distinction of form from matter. But the forms now cease to be categories of the mind and become categories of the pragmatic activity of human beings. Similarly, the unity of the objectivity of possible knowledge is not created within a transcendental consciousness, but within the "functional cycle of instrumental action," and matter assumes form via actual labour.[38] The objectivity of experience is thus based primarily on the human being's given bodily organization and not on a fundamental unity of apperception, which Kant posited as a guarantee for the unity of ahistorical transcendental consciousness. Contrarily, the specific form of this unity is set and renewed at every level of development of the human being's productive capacities. It is an achieved unity. The expansion of productive forces thus entails a continuous cognitive formation of subjects, a continuous creation of new conditions of possible knowledge. This connection of the transcendental framework with the history of the species is—according to Habermas—the great difference between Marx and Kant. Transcendental is thus the interest in technical control of external nature, which is based on a 'natural substratum', on the given bodily organization of the working human being. The categories the acting individual uses can evolve historically.

The attempts to combine transcendental philosophy with materialism lead, however, to paradoxes[39] that demonstrate to what extent the exclu-

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33. J. Habermas, "Knowledge and Human Interests" (appendix), pp. 308–10; and *Knowledge and Human Interests*, pp. 191ff.

34. *See* J. Habermas, *Knowledge and Human Interests*, pp. 197ff.

35. J. Habermas, "Knowledge and Human Interests" (appendix), p. 309.

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36. J. Habermas, *Knowledge and Human Interests*, p. 28.

37. Ibid., p. 31.

38. Ibid., pp. 34–35.

39. M. Theunissen, very early on, observed the difficulties of such a combination in *Gesellschaft und Geschichte* (Berlin 1969), esp. pp. 13ff. Theunissen points to the combined danger of simultaneously swerving towards naturalism and idealism. On the same subject, *see* H. Ottmann, "Cognitive Interests and Self–Reflection," in J. B. Thompson, D. Held, eds., *Habermas: Critical Debates* (London and Basingstoke: The MacMillan Press Ltd., 1982), esp. p. 91f.

sively instrumental interpretation of our knowledge of nature is problem-
atic. Persistence in a quasi–transcendental conception of the interests that
are rooted in the "natural history of the species" and connected to a "contingent
organization of the human body"[40] creates the following paradox: nature is
constituted as an "objective nature for the human being" while simultane-
ously being the foundation of its own quasi–transcendental formation. As
McCarthy[41] notes, Habermas tries to evade the vicious circle by distin-
guishing, as Marx did, between 'objective', 'subjective', and 'nature in
itself'[42] In order to circumvent the accusation of naturalism, he supports a
different, reflective way of approaching subjective nature, insisting, how-
ever, that the latter is related to a 'natural history of its appearance'.
Nature—downgraded in the framework of (quasi) transcendental analy-
sis—thus takes revenge for its relegation to a mere object of possible
instrumental manipulations. After analytically presenting the concepts of
nature that Habermas uses, McCarthy concludes that "the dilemma …
appears not to have been resolved. Regardless of the form it assumes, nature
in itself remains within the transcendental framework 'an abstraction which
is requisite of our thought'. The idea that such an abstraction could
simultaneously be the foundation of thought is inadequate."[43] Thus it
appears that the consistent development of the central Habermasian idea
requires a nonobjectified concept of nature as *natura naturans*, as na-
ture–creator of—among others—the human species. But Habermas has
ruled out this approach, considering, in advance, every philosophy of
nature or every ontology as bad metaphysics, bringing us back to the
territory of pre–Kantian philosophy.[44]

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40. J. Habermas, *Knowledge and Human Interests*, pp. 35–36.

41. *See* Th. McCarthy, *Kritik der Verstandigungsverhaltnisse*, p. 134.

42. On the distinction between external (objective) and inner (subjective) nature, *see
also* J. Habermas, *Knowledge and Human Interests*, pp. 275ff. On "nature in it-
self," *see* p. 32.

43. Th. McCarthy, *Kritik der Verstandigungsverhaltnisse*, p. 147. (Unfortunately, it
has been impossible to find McCarthy's original text in English. I hope that this
retranslation, from the German, does not do complete injustice to the original.)
The characterization of nature in itself as "an abstraction, which is requisite of
our thought" is Habermas's own: *Knowledge and Human Interests*, p. 34.

44. Habermas places himself, from the start, within a clearly anti–ontological per-
spective. In regard to this, one can make two observations: On the one hand, as
Th. Kisiel ("Habermas' Reinigung von reiner Theorie: Kritische Theorie ohne
Ontologie?," in W. Dallmayr, ed., *Materialen zu Habermas' Erkenntnis und In-
teresse* [Frankfurt a. M.: Suhrkamp Verlag, 1983], pp. 295–317) comments, not
even Habermas himself is in a position to unbendingly adhere to his ontological
position because (a) it is impossible to do away with the concept of "nature in it-
self" (*Knowledge and Human Interests*, p. 308), and (b) there is a tendency to

Habermas's transcendentalism leads to the same difficulties as that of
Kant. It makes the approach of the thing–in–itself (*Ding an sich*) impossi-
ble and permits only an anthropocentric perspective, drawing an absolute
dividing line between pre–human nature and the human mind. Although
for the author of the *Critique of Pure Reason*, nature is but a network of
causal relations without an ultimate telos, the obvious existence of tele-
ological phenomena forced him to include the distinction between deter-
minant and reflective judgements.[45] Living ('organized') beings are a
distinct example of these 'teleological phenomena'. Habermas, however,
makes no similar attempt to take into consideration the kind of teleology
we encounter in biology.

Starting from this deficiency, J. Whitebook formulated an argument that
questions Habermas's transcendental analysis and rests on the idea that "if
it could be shown … that a particular branch of scientific practice could not
be accounted for satisfactorily by Habermas' theory—that the principles
presupposed by that science contradicted his transcendental scheme—then
that branch would constitute an anomaly for Habermas' philosophy of
science."[46] This kind of argumentation has the advantage that it can be
based on a position within modern science without having to proceed to a
speculative conception of a 'new science'. Whitebook examines the case
of the science of biology and particularly the contemporary scientific

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"ontologize practical structures" in which cognitive interests take root (*Knowledge
and Human Interests*, pp. 309–10). On the other hand, the disappearance of ontologi-
cal speculation in the melting–pot of cognitive interests and (later) of 'communica-
tive capacity' and of the 'consensual theory of truth' is, besides, rather shortsighted.
Philosophy cannot afford the luxury of anti–ontological modesty because it would
thus abandon this field to the arbitrariness of the empirical sciences, which ulti-
mately enforce their own nonreflected ontology. In my opinion, the need for a philo-
sophical questioning on the being of entities becomes particularly acute in the face
of the ecological crisis and the impasse of modern 'instrumental rationality'. C. Cas-
toriadis's work moves toward a new ontology, which will not consider 'being' as
'being determined'. *See* C. Castoriadis, *The Imaginary Institution of Society* (Ath-
ens: Rappas, 1985), esp. Part B, Chapt. V ("The Socio–historical Institution: Legein
and Teuchein") and VI ("The Socio–historical Institution: Individual and Thing"),
pp. 319–474, and his "Modern Science and Philosophical Question," in his *The
Crossroads of the Labyrinth* (Athens: Ypsilon, 1991), pp. 181–265. H. Jonas's or-
ganismic philosophy also takes an ontological turn. His philosophy uses findings of
biology in order to formulate a view on the being of living entities, which would
transcend traditional dualisms (body/matter, mind/soul). *See* H. Jonas, *Das Prinzip
Leben* (Frankfurt a. M. und Leipzig: Insel Verlag, 1994), reissue of *Organismus und
Freiheit. Aufsaetze zu einer philosophische Biologie* (Goettingen 1973).

45. *See* I. Kant, *Kritik der Urteilskraft*, Vol. X of his collected works, W. Weis-
chedel, ed. (Frankfurt a. M.: Suhrkamp Verlag, 1974), pp. 24ff.

46. J. Whitebook, "The Problem of Nature in Habermas," p. 56.

community's various estimations concerning the significance of the application of systems theory in regard to living beings.[47] He locates three basic standpoints: (a) The first purports that the systemic approach finally provides the appropriate method for incorporating biology in physics and chemistry. This is the reductionist position that has always aspired to a physio–chemical explanation of life in mechanistic terms. (b) The second position consists in a defense of the autonomy of biology. Within this perspective, systems theory allows for a third, intermediate approach to living entities, which, while rejecting reductionism, is not tempted to attribute the particularity of living organisms to a 'metaphysical' essence—as the vitalists did at the end of the previous century. (c) Finally, the third position criticizes systems theory's insistence on the model of mathematicalized science. Such is, for example, H. Jonas's organismic philosophy, which stresses the fact that living beings cannot be approached exclusively by way of an external perspective but also require understanding from the inside.[48] In this sense, we are able to perceive life 'from the inside', through our identity as living beings.

What position can a biological science, inspired by systems theory, occupy in Habermas's transcendental schema? Since prehuman living entities do not speak, it is obvious that the cognitive approach to them can be directed by neither a practical nor, even more, by an emancipatory cognitive interest. The only remaining cognitive interest is the technical one, a fact signifying that Habermas should adhere to the neo–empiricist reductionists and consider the use of systems theory as an opportunity to compose a unified natural science which would include biology. However, there are—as we have seen—serious viewpoints that oppose such an annexing of biology to the exclusivity of the mechanistic worldview and, therefore, to instrumental reason.

Indicative, however, of Habermas's perplexity in view of the antinomies of his attempted combination of transcendentalism and materialism is that he does not always manage to remain in line with his transcendental construction or that he is obliged to resort to subterfuges in order to avoid contradictions. This becomes particularly obvious when he tries to construe natural history as the prehistory of transcendental consciousness. In the introduction to the new edition of *Theory and Practice,* he notes characteristically:

> As long as these interests of knowledge are identified and
> analysed by way of reflection on the logic of inquiry that

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47. Ibid., pp. 57ff.

48. *See* H. Jonas, *Das Prinzip Leben*, esp. pp. 164ff.

structures the natural and the humane sciences, they can claim a "transcendental" status; however, as soon as they are understood in terms of an anthropology of knowledge, as results of natural history, they have an "empirical" status. I place "empirical" within quotation marks, because a theory of evolution which is expected to explain emergent properties characteristic of the sociocultural life–form—in other words, to explain the constituents of social systems as part of natural history—cannot, for its part, be developed within the transcendental framework of objectifying sciences. If the theory of evolution is to assume these tasks, it cannot wholly divest itself of the form of a reflection on the prehistory of culture that is dependent on a prior understanding of the sociocultural life–form. For the time being these are speculations, which can only be confirmed by a scientific clarification of the status enjoyed by the contemporary theory of evolution and research in ethology. Till then, at most, they designate a perspective for the formulation of the problems.[49]

This passage clearly demonstrates the a prioris arising from the combination of conflicting motives. Habermas is forced to accept the idea of 'reflection on the prehistory of culture' when he abandons forever the epistemological means needed for legitimizing it. The anticipated future 'scientific clarification' of those sciences is merely the same monotonous reiteration of the positivist claim: "All the problems of unified science may not yet be resolved, but it is only a matter of time."[50]

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49. J. Habermas, *Theory and Practice*, pp. 21–22.

50. Habermas's awkwardness before the status of the theory of evolution is observed by both Th. McCarthy in *Kritik der Verstaendigungsverhaeltnisse*, pp. 144ff; and J. Whitebook, "The Problem of Nature in Habermas," p. 60f. McCarthy, p. 455, note 17, points to a passage of "Die Rolle der Philosophie im Marxismus" in J. Habermas, *Zur Rekonstruktion des historischen Materialismus* (Frankfurt a. M.: Suhrkamp Verlag, 1976), p. 57, in which Habermas notes: "The unity of nature and history cannot be comprehended philosophically, so long as advances in physics and social theory do not lead to a general theory of nature or to a general theory of social evolution.... Philosophy is the so far irreplaceable custodian of a claim for unity and generalization, which, of course is either satisfied scientifically or not at all." This extract clearly implies the possibility for an 'other'—than a philosophical—unity of knowledge, which has still to be realized. However, referring the matter to the Greek kalends can, in my view, mean only one of two things: If it is not connected to the traditional positivist faith in the unswerving progress of scientific development (the metaphysical character of which is now widely accepted), it must necessarily signify turning a blind eye to the a priori of scientific research and to the prolonged frustration of the hope for a unified (natural) science. This failure should be reflected upon.

Social Rationalization and Nature

In the beginning of the '70s, Habermas was led—under pressure from criticism—to reorient his theoretical work. Apart from the difficulty in clearly determining the meaning of 'reformed transcendental philosophy', which I mentioned above in the course of describing the contradictions in the attempts to combine transcendentalism with materialism, 'anthropology of knowledge' has suffered further criticism for its discernible tendency to interpret instrumentally the knowledge produced by empirical-analytical sciences, as well as for its nonrealistic consequences. This criticism defends the claim made by scientific knowledge to approach a theoretical truth, which transcends the narrow framework of its technical exploitation.[51] Indeed, Habermas was forced to accept that the initial formulations of *Knowledge and Human Interests* tend to confuse the logic governing the constitution of the objects of possible experience with that of the validity of propositions. However—contrary to the Kantian system's architecture—we should distinguish the a priori of the constitution of possible experience from the a priori of the justification of scientific knowledge.[52]

Apart from the absence of this distinction, *Knowledge and Human Interests* ultimately suffered from deficient grounding.[53] Habermas recognized these difficulties and turned eventually to a direct grounding of critical theory by formulating a general theory of communication.[54] 'Rational reconstruction' of the universal communicative competence[55] now

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51. I cannot here enter into the details of the criticism. *See* N. Lobkowicz, "Interesse und Objektivitaet," in W. Dallmayr, ed., *Materialien zu Habermas' "Erkenntnis und Interesse"* (Frankfurt a. M.: Suhrkamp Verlag 1974), pp. 169–99; G. Fløistad, "Soziale Handlungsbegriffe: Bemerkungen zu Habermas' Vorschlag einer sozialen Erkenntnistheorie," in W. Dallmayr, ed., p. 84; L. Krueger, "Ueberlegungen zum Verhaeltnis wissenschaftlicher Erkenntnis und gesellschaftlicher Interessen," in W. Dallmayr, ed., pp. 209ff.; and H. Albert, "Der Mythos der totalen Vernunft," in Th. W. Adorno et al., *Der Positivismusstreit in der deutschen Soziologie* (Neuwied und Berlin: Luchterhand Verlag, 1969), pp. 193–234.

52. *See* J. Habermas, "Nachwort (1973)," in *Erkenntnis und Interesse*, the new revised edition (Frankfurt a. M.: Suhrkamp Verlag, 1973), pp. 381ff.

53. Naturally, I cannot enter into details, but for such a critique, *see*, e.g., D. Boehler, "Zur Geltung des emanzipatorischen Interesses," in W. Dallmayr, ed., *Materialien*, p. 360. On Habermas's response, in which his future 'turn' can be discerned, *see* J. Habermas, "Nachwort (1973)," pp. 411ff.

54. On the difficulties that determined Habermas's 'turn' in the beginning of the '70s and particularly on the significance of his attempt to conceal the 'grounding deficiency' in his early work, *see* Chapter II of my thesis, *Juergen Habermas: The Foundations of Reason and Critical Social Theory*, published in 1996 by Po-

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takes the place of quasi–transcendental analysis. This attempt assumes the form of a 'universal pragmatics', which reconstructs the implicit intuitive knowledge underlying human beings' communicative competence. At the centre of interest lies the identification and description of the 'general conditions of communicative action', that is, the type of action that aims toward understanding.

At this point I can refer briefly only to the theory of communication and its consequent theory of truth. These suggestions are necessary for the also very cursory reference to the theory of social rationalization.[56] One could summarize the findings of the investigation on the 'presuppositions of possible speech' as follows: Every speech act (i.e., every statement) raises simultaneously three types of validity claims: A claim to truth for the propositional content, a claim to rightness for the rules and values which form a statement's normative horizon, and a sincerity claim in regard to the subjective intention, which is manifested through expression. In addition, the speech act thematizes only one of these validity claims at a time. To these three types of validity claims correspond three basic modes of speech action: constantive, regulative, and expressive, according to the validity claim which is thematized each time. By way of these speech acts the speaker always refers to one of the three 'formal worlds' that Habermas distinguishes: the objective world of actual situations, the social world considered as the sum of the legally valid intersubjective relations, and the subjective world, viewed as the sum of experiences to which the speaker has privileged access. This system of validity claims, types of speech acts, and 'world relations' composes the general structure of communication, which can explain the "universal validity basis of possible speech."[57]

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55. The first approaches to this subject are to be found in Habermas's "Vorlesungen zu einer sprachtheoretischen Grundlegung der Soziologie" (1970-71), in his *Vorstudien und Ergeanzungen zur Theorie des kommunikativen Handelns* (Frankfurt a. M.: Suhrkamp Verlag, 1984), pp. 11–126, and "Vorbereitende Bemerkungen zu einer Theorie der kommunikativen Kompetenz," in J. Habermas, N. Luhmann, *Theorie der Gesellschaft oder Sozialtechnologie?* (Frankfurt a. M.: Suhrkamp Verlag, 1971), pp. 101–41.

56. Unfortunately, the schematic character of such a presentation entails a high level of abstraction which impedes comprehension. I can only hope that I have avoided boring my readers.

57. *See* Habermas's "What Is Universal Pragmatics?" in his *Communication and the Evolution of Society* (Oxford: Polity Press, 1991), translated by Th. McCarthy, pp. 1–68. A particularly informative and concise presentation of these positions can be found in "Zur Kritik der Bedeutungstheorie," in his *Nachmetaphysisches Denken* (Frankfurt a. M.: Suhrkamp Verlag, 1988), pp. 105–35. To avoid any misunderstanding, it should here be noted that the three 'worlds' that Habermas distinguishes do not constitute the fundamental concepts of an ontological view

The Habermasian theory of meaning is structured in a way that enables the transition to a 'consensus theory of truth'.[58] The theory of truth appears as an explanation of what 'is always implied' by every speech act.

In accordance with the program outlined in his Epilogue (written in 1973) to the revised edition of *Knowledge and Human Interests*, Habermas puts forward a theory of truth which begins with the distinction between objectivity and truth. The former refers to the constitution of experience whereas the latter concerns the results of a process of intersubjective confirmation of hypothetical validity claims. Thus, in practical situations, claims inform us about the objects of experience, whereas during discourse a validity claim that has been rendered problematic is redeemed on the basis of rational arguments. Thus the problem of truth is posited as such only within this particular, discursive speech action which is—as far as possible—removed from the pressure of experience and action.

Universal pragmatics suggested the system of validity claims governing everyday communication and revealed its rational potential. When these validity claims are rendered problematic, interlocutors can (and must) reach a higher type of conversation, namely dialogue, which constitutes the reflected form of everyday communication and wherein the objective is to achieve rational consensus, the content of which should be considered true. Dialogue deploys the latent rational potential of communication.[59]

Having now grounded communicative Reason via universal pragmatics, Habermas refines his early socio–theoretical and historical–evolutionary views, which I mentioned above. According to his more mature social theory, society should be bisected into: (a) the system (that cares for the material reproduction of society) and (b) the life–world (wherein the symbolic reproduction takes place).[60] Now, according to Habermas's historical–evolutionist view, social rationalization and modernization are conducted at two levels: (a) in the accumulation of instrumental knowl-

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but the instruments of the pragmatics of language. In other words, the three worlds always *appear* within the language and are indivisible from it.

58. *See* my critical presentation in K. Kavoulakos, "Signification, Validity, Truth: Habermas's Theory on Signification and its Relationship to the Theory of Truth," to be published in *Vima ton Kinonikon Epistimon* (Volos: Athens).

59. In regard to the theory of truth, *see* J. Habermas, "Wahrheitstheorien" in his *Vorstudien und Ergeanzungen*, pp. 127–83.

60. On the justification of this distinction, *see* J. Habermas, *The Theory of Communicative Action* (Oxford: Polity Press, 1989), Vol. II, particularly pp. 119–52. For a critical presentation of the arguments supporting Habermas's mature socio–theoretical dualism, *see* K. Kavoulakos, *Juergen Habermas: The Foundations of Reason*, Chapt. 5.

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edge, the consequent development of productive forces and the rational organization of production—it is the level of the creation of 'systems', which constitute spheres free from ethical commitments, in which the individuals' action is coordinated through the so–called 'steering media' (money/economy, power/bureaucratic administration); and (b) the level of communicative rationalization, consisting of the formation of specialized discursive processes for the production of knowledge and in the differentiation of the so–called 'structural components of the life–world' or—according to Weber—"value spheres" (*Wertsphaeren*) (world–image—science, normative structures—law, personality structures—art).

From this perspective, history appears as a process of twofold rationalization: communicative rationalization of the life–world on the one hand, and functional differentiation and an increase in the system's complexity on the other. The life–world's rationalization may be described as the gradual differentiation of its structural components (culture, society, personality) and explains the evolutionary logic of phylogenesis, whereas the system's differentiation contributes to the increase of its steering capacity and explains its evolutionary dynamics. Concurrently, there is a second evolutionary movement toward the gradual uncoupling of the system from the life–world, reaching its peak in modern times, wherein the system and the life–world constitute separate spheres of social reality.[61]

In modernity, the steering media money and power constitute spheres of 'system integration', wherein the communicative, symbolically mediated coordination of social action is no longer required. 'System integration' relieves the overburdened (due to tradition's waning power) 'social integration' (the fragile communicative integration of the life–world), but does not lack negative repercussions. The system's inordinate development results in the violent replacement of the structures of social integration, which cannot be supplanted without the emergence of 'social pathologies'. The latter can thus be explained as the result of the so–called "colonization of the life–world" on the part of the system.[62]

This viewpoint provides arguments with which to confront the conservative and post–modernist critics of modernity. The loss of meaning, anomy, and alienation must not be attributed to the life–world's rationalization process because the problem is not located in the domination of the instrumental orientations of action (since rationalization produces new

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61. *See* J. Habermas, *The Theory of Communicative Action*, Vol. II, pp. 153–97.

62. In regard to the 'colonization' thesis, *see* J. Habermas, *The Theory of Communicative Action*, Vol. II, pp. 185–97, and pp. 301–73.

normative structures) but in the tendency to replace the mechanisms of social integration with those of system integration. Modernity does not suffer from an excess of instrumental rationality, but rather from the inordinate development of the system's 'functionalist reason'. Capitalist economy and bureaucratic administration constitute efficient productive 'machines'. The issue lies in subduing the 'unchecked dynamics of their development' and in facilitating those communicative processes that would permit the rational orientation of their implementation.

How can the relation of society and nature be determined on the basis of the Habermasian view of social rationalization? First, the description of society's 'material reproduction' in terms of systems theory results in the moral–practical neutralization of capitalist economy and bureaucracy. These spheres appear as incarnations of a neutral 'functional reason'. The system is a kind of efficient machine, the use of which must be 'externally' controlled by the 'communicative impulses' of a rationalized life–world. Introducing elements of 'communicative Reason' to the interior of the system (such as, e.g., instituting forms of self–management for the productive units) would endanger its 'efficacy'.

Such a viewpoint is inevitably blind to the particular radicalism of the ecological critique of the economy of growth and the imaginary meaning of the rational control of nature and society, which (critique) questions precisely the supposed neutrality of 'functionalist rationality'.[63] The schema of the life–world's colonization cannot explain the nature of the ecological crisis. The latter is connected with orientations that cut horizontally through its sections (system/life–world), in other words, that meet both inside the limitlessly expanding system as well as within the life–world (wherein the garbage produced by capitalist development is finally consumed). The ecological crisis again stirs up the problem of authentic human needs, and for this reason—unfortunately for our own philosophic 'moderation'—it necessitates a kind of holistic criticism which perceives the social field as a unified field for the exercise of political, economic, and ideological power and for the continual renegotiation of even apparently obvious practical orientations. Whoever wishes today to produce critical theory without mentioning the content of needs (confining himself to the definition of 'formal procedures') would be in silent agreement with the present–day power of the multinationals, the media, and the politicians in their service. Precisely because in the framework of meta-

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63. We should not be, then, surprised by Habermas's (in any case infrequent) observations on the ecological crisis. *See* J. Habermas, *Legitimation Crisis* (Boston: Beacon Press, 1975), pp. 41–43, in which the crisis of the ecosystem is considered "not specific to the system's rationality," which apparently remains intact even if it reduces half the planet to dust.

physical thinking it is impossible to 'objectively determine' what the needs are, and therefore collective democratic procedures for their definition are required, it is imperative that critical thinking not be confined to the hyperabstract 'grounding' of 'procedures' (which smacks of good old idealistic foundationalism), but participate in the social dispute on the established definitions of needs, since it is possible that the latter may cancel the possibility and validity of the 'processes'. The claim for 'democratic processes' is simply naive (when not used as a cover, as in the case of the various liberal mouthpieces for the establishment) if we do not simultaneously raise the issues of the economic and state concentration of power, of hierarchical and social power relations, of dominant consumerism and political apathy, and so on.

Equally significant are, on the other hand, the consequences of the Habermasian view of the life–world's rationalization. The 'evolutionary logic' which governs the life–world's communicative rationalization is determined by the deployment of the 'rational potential' of speech, revealed—as we have seen—by universal pragmatics.[64] Language appears 'as pre–programmed'; that is, it contains certain structures that deploy themselves through history according to a particular 'logic' and crystallize into specific cultural and institutional forms. The rationalization of the life–world thus appears as a gradual loss of power on the part of the major metaphysical systems, as the formation of a decentered worldview and as the differentiation of three 'value spheres' (science, law, art) with a simultaneous institutionalization and specialization of cultural production in each of these spheres.[65]

In modern times, the deployment process of the communicative rationality inherent in language reaches its peak. So how can criticism be exercised on an actually realized social rationalization? In *The Theory of Communicative Action*, Habermas constructs an ideal model of 'possible rationalization' by developing the categories of universal pragmatics in order to determine the possible cognitive relations between subjects and world.

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64. The correspondence between the three kinds of lingual 'world relations,' the three validity claims of possible speech, the three formal concepts of the world, the three rationality complexes (value spheres) and, finally, the three 'structural components' of the life–world, which constitute the latter's 'material' incarnation, is obvious.

65. On the characteristics of the life–world's communicative rationalization, *see* J. Habermas, *The Theory of Communicative Action*, Vol. II, pp. 145ff. On the decentered worldview, *see* Vol. I of the same book (Oxford: Polity Press—Basil Blackwell, 1991), translated by Th. McCarthy, pp. 43–74.

The model of a trisected, decentered world–view provides the pattern for a non–selective, that is, complete rationalization of the life–world, and can be used as a criterion for the evaluation of the actually accomplished rationalization. Indeed, in his critique of M. Weber,[66] Habermas begins to formally ground the model of social rationalization that would be 'structurally possible'.[67]

For the needs of this grounding he researches the possible combinations of the subjects' basic attitudes (objectivating, norm–conformative, expressive–aesthetic attitude) and the formal concepts of the world (objective, social, subjective world), beginning with the realization that "the acting and knowing subject is able to assume different basic attitudes toward elements of the same world."[68] From this combination fundamental "formal–pragmatic relations" emerge between actors and their "formal worlds."[69] Habermas now poses the question as to which of these relations is susceptible to rationalization, identical, in his view, to 'acquiring knowledge'. The question, then, is which of the nine relations "are sufficiently productive, from the standpoint of acquiring knowledge, to permit, in Weber's terms, a development of cultural value spheres with their own inner logics?"[70]

Following after Weber, Habermas pronounces only six out of the nine relations as cognitively fruitful. And these six relations crystallize, in twos, into "rationalization complexes," the independent development of which supposedly characterizes modern cultural rationalization.

Formal–pragmatic relations and rationalization complexes[71]

Worlds/ Basic Attitudes	objective 1	social 2	subjective 3
I. Objectivating	Cognitive-instrumental relation	Cognitive-strategic relation	Objectivistic relation to self

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66. J. Habermas, *The Theory of Communicative Action*, Vol. I, esp. pp. 233ff.

67. Ibid., p. 233.

68. Ibid., p. 236.

69. Ibid., pp. 236–37.

70. Ibid., p. 237.

71. The table combines figures 10 and 11, p. 324 and 326 respectively. J. Habermas, *The Theory of Communicative Action*, Vol. I.

Rationalization complex	Science–technology COGNITIVE—	Social technologies INSTRUMENTAL RATIONALITY	
II. Norm–Conformative	Moral relation to a non–objectivated environment	Obligatory relation	Censorious relation to self
Rationalization complex		Law MORAL–PRACTICAL	Morality RATIONALITY
III. Expressive	Aesthetic relation to a non–objectivated environment	Presentation of self	Sensual–spontaneous relation to self
Rationalization complex			Eroticism AESTHETIC–PRACTICAL RATIONALITY

Habermas admits that this schema is temporary and that its systematic defense could be based on the idea that since the 'continuous' and 'cumulative' production of knowledge is connected with the institutionalization of specialized reflected processes of dialogue, "we should be able to demonstrate, for each historically articulated sphere of value ... the existence of plausible relations to a typical form of argumentation specialized in accord with a universal validity claim."[72] According to Habermas, the table is proved wrong, if the above is not possible or, if forms of argumentation can be shown corresponding to squares I.3, II.1 and III.2, considered by Habermas to be "cognitively unfruitful." I cannot deal here with all the obscure corners of the model of "possible rationalization,"[73] so I will confine myself to the issue of our attitude towards nature.

As the table shows, the rationalizable relations with the objective world concern the sphere of art on the one hand and the sphere of science on the other. Habermas considers contrarily that man's ethical–moral relationship with external nature is "theoretically unfruitful": only an objectivating

attitude is cognitively interesting. Every attempt to moralize our relationship with nature is, for him, condemned to a "re–enchantment of the world." Epistemology ought to turn toward the "successful examples of theory formation."[74] Criticizing this argument, McCarthy objects that there is no logical necessity, on the basis of which the attempt to reconnect theoretical to practical reason should end up as a metaphysics of nature. One can think of a natural philosophy which perceives nature as fallible, as *natura naturans*, producing, among others, the human species as well. Although such a natural philosophy would remain, in a sense, anthropocentric, it would, however, help to cultivate an attitude toward nature other than the objectivating. Also, it is an obvious mistake to compare the rationality of such knowledge with the rationality of, for example, Newton's theory.[75] Because:

> the view of the human species as in–and–of–nature that we
> would get from a non–objectivating perspective would be quite
> different from the view of the human species as set
> over–against–nature that lies behind the objectivating sciences,

which, on Habermas's own account, are structured by a cognitive interest in prediction and control. And this change in viewpoint might well have consequences for our sense of obligation to nature and for the norms governing our interaction with nature that we regard as justifiable.[76]

The closed schema of social rationalization, which Habermas uses, does not allow the thematization and criticism of overall signification complexes, such as the 'rational domination of nature', which is transformed into a 'natural attitude', animating the cognitive–instrumental dimension of rationality. Unfortunately for Habermas (and perhaps, fortunately for us), in this extremely crucial and topical—due to the escalation of the ecological crisis—field (as, indeed, in the remaining fields as well) the 'modern worldview' is not as homogeneous as he imagines. In regard to this, J. P. Arnason comments that:

> To equate the concept of nature with the model of a nomological
> and—via a purposive rationality—controllable order, has been
> repeatedly challenged in the history of modern thought by
> another concept of nature, the basic notion of which—leaving
> aside its variations—consists in the reiteration of *natura
> naturans*. The idea of creativity, underlying the superficially
> stable orders, while concurrently relativizing them, has not only
> served to ground the autonomy of the social order opposite the
> order of nature, but also to render the nomological concept of
> nature problematic on its own ground. The advocates of this
> tendency orient themselves based on the paradigm of self–or-
> ganization, which intends to transcend the confusion between
> the order internal to nature, and the nomological connection of
> things and facts. One cannot cast off their arguments either as a
> simple reissue of the romantic philosophy of nature or as an
> expression of the quest for a cosmic 'abode'. Although there are
> ideological ramifications, to which the latter diagnosis can be
> applied, the alternative paradigm is not limited to them in the
> same way that the nomological concept of nature is not limited
> to the deterministic ideology of progress—for the needs of
> which it was successfully used.[77]

However, for Habermas, an advocate of enlightenment, such views regarding an 'alternative example' are but a factor of the romantic reaction to Reason and, ultimately, are but a moment in its deployment. Habermas's

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72. Ibid., p. 239.

73. Th. McCarthy, in his critique "Reflections on Rationalization in the Theory of Communicative Action" in R. J. Bernstein, ed., *Habermas and Modernity* (Cambridge, MA: Polity Press, 1985), pp. 176–91, pinpoints the following weaknesses in the schema of possible rationalization: 1) It is not at all obvious what 'knowledge accumulation' and 'progress' mean in the sphere of art and ethics. But also in the sphere of science and technology, post–empiricist epistemology has questioned the idea of continuous cognitive progress; p. 179. 2) Nor does the idea of the 'institutionalization of specialized forms of argumentation' help to validate the schema. Because, for example, communicative ethics has not until now met with a satisfactory institutional incarnation; nevertheless, Habermas considers ethics as a 'rationalizable' field of social life; p. 180. 3) The schema of possible actor–world relations creates confusion due to the fact that the 'worlds' are 'formal', i.e., are already constructed on the basis of the 'attitude' of a communicating subject; p. 182. The same difficulty in correlating formal–pragmatic and substantial concepts of the world is critically analyzed by J. P. Arnason, *Praxis und Interpretation* (Frankfurt a. M.: Suhrkamp Verlag, 1988), pp. 272ff. 4) Habermas's decision to proclaim certain formal–pragmatic relations as "cognitively unfruitful" is arbitrary and unfounded, as becomes apparent from a more careful examination of these formal–pragmatic relations (*see* J. P. Arnason, *Praxis und Interpretation*, p. 187f.).

74. *See* J. Habermas, "A Reply to My Critics," in J. B. Thompson, D. Held, eds., *Habermas: Critical Debates* (London and Basingstoke: The MacMillan Press Ltd., 1982), p. 245.

75. As Habermas does, "A Reply to My Critics," p. 249. J. P. Arnason, *Praxis und Interpretation*, pp. 336–37, note 115, underlines the arbitrariness in identifying nomological science with science in general.

76. Th. McCarthy, "Reflections on Rationalization," p. 190.

77. J. P. Arnason, *Praxis und Interpretation*, p. 274.

theory of rationalization has justly been characterized as ethnocentric and restrictive. The problem is not only that it justifies the specific process of rationalization which occurred in the framework of 'Western civilization', but that, moreover, it tends to consider an essential change of its course as utopian in a negative sense.[78]

Conclusion: The Need for an Alternative View of Nature

Up until now, we have closely observed how Habermas perceives the problem of our cognitive approach to nature and the subsequent questions on technical progress and the relationship of society to nature. I have pinpointed the motives for this particular approach to these problems in an attempt to transcend 'philosophical monism', which was considered responsible as much for the pessimism of the old Frankfurt school as for its love affair with the mysticism of the 'resurrection of nature'. I then described the way the program of a 'dualist conceptual framework' is deployed, stressing the fact that the latter—in its various versions—entails the absolute objectivation of nature and its surrender to the exclusivity of instrumental reason. However, as we have seen, although it seems that Habermas's chosen path may avoid reaching some of his teachers' impasses (specifically, Habermas avoids both pessimism and radical utopianism, creating a more 'realistic' and critically optimistic theory), it does not lack serious antinomies, which create 'anomalies' in his theoretical edifice. These antinomies—always revolving around the problem of our knowledge of nature—appeared in sharp relief in my examination of his critical epistemology that was formulated at the end of the '60s. Finally, in the third section, the critique took a 'normative' turn and tried to show the ethnocentric and restrictive (ultimately ideological) character of a schema of social rationalization, which is based on a system–theoretical neutralization of the established institutional framework of the capitalist market and the state and on the idea of 'language programming'.

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78. The restricted character of the Habermasian description of the evolution of world–images is pinpointed and criticized by J. P. Arnason, "Die Moderne als Projekt und Spannungsfeld," in A. Honneth, H. Joas, eds., *Kommunikatives Handeln. Beitraege zu J. Habermas' "Theorie des kommunikativen Handelns"* (Frankfurt a. M.: Suhrkamp Verlag, 1986), pp. 278–326, esp. p. 280. Arnason connects the downgrading of the elements of creativity and openness to a conceptual strategy, whose objective is to discover 'a universal and closed rationality'. The rationality of communication, the way Habermas perceives it, is based on a pre–programming of language, the universal structure of which is deployed gradually, and revealed in its entirety (although its development is not balanced) in modern times. *See also* J. P. Arnason, *Praxis und Interpretation*, pp. 280–81.

The conclusion is obvious. Despite variations in attitude regarding other issues, Habermas still remains faithful to the exclusion of ontological speculation and to the idea that the only possible, cognitively fruitful attitude toward nature is the objectivating (which is ultimately inspired by a technical interest). In my critical observations up till now, I have clearly implied that this standpoint of Habermas deprives him of the theoretical means to formulate an ecological critique which would correspond to the duties assigned by the critical situation of the earth's environment. And this is because its emphatic anthropocentricity (which puts up a distinct front and delineates a hostile relationship between human beings and non–human nature) does not allow the formulation and justification of the ecological ethics required today.

Indeed, since the issue of 'ecological ethics' is not one of Habermas's favorites, J. Whitebook tried to (re)construct the Habermasian answer to ecological problems.[79] The elimination of disharmony between people, that is, the solution to the 'social question' would bring about the end of the ecological crisis. Thus, the communicative ethics which Habermas defends[80] not only provides us with the correct rules for human beings' social coexistence but also affects the coexistence of humans and nature. Here, I must circumvent (even though it has been alluded to) the question of whether the way Habermas conceives a possible 'solution to the social issue' is adequate.[81] However, even if it were adequate, it would not be possible, in my view, to show convincingly that the communicative interpretation of the good life would automatically bring about the correct rules of our interaction with nature. To the degree that communicative ethics refers only to relations between speaking, reasonable subjects, it is not at all clear that the void between what is 'good for Man' and what is 'good for nature' can be bridged without reference to a concept of nature as an end in itself.[82]

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79. *See* J. Whitebook, "The Problem of Nature in Habermas," pp. 61ff.

80. On communicative ethics, or the 'discourse ethics', *see* J. Habermas ,"Discourse Ethics: Notes on a Program of Philosophical Justification," in his *Moral Consciousness and Communicative Action*, translated by Christian Lenhardt and Shierry Weber Nicholson (Cambridge: Polity Press, 1990), pp. 43—115.

81. For a more systematic questioning of this sufficiency in the field of political theory, *see* K. Kavoulakos, "The Relationship of Realism and Utopianism in the Theories of Democracy of Juergen Habermas and Cornelius Castoriadis," in *Society and Nature*, Vol. 2, No. 3 (1994), pp. 69–97.

82. The impasse of the Habermasian position toward nature in view of the need to justify an 'ecological ethics' appears in all its magnitude in a relatively recent publication in which Habermas devotes a few pages to a critical evaluation of G. Patzig's 'ecological ethics'. *See* J. Habermas, "Erlaeuterungen zur

Naturally, a possible rebirth of ontological or natural–philosophical speculation cannot be epistemologically 'naïve', that is, revert to the separation of being and time. We could be aware that such a theory of *natura naturans* could be fallible without this diminishing its significance or its consequences for our practical orientation in the present situation.[83] Such a fallibilistic theory could contribute to transcending the dualisms (society/nature, mind/body) established by the Habermasian viewpoint, permitting a reflection on the 'limits' (between the poles of the dualist antithesis).[84] In the present paper I have, indirectly, sided with such a theoretical undertaking, but also with those who consequently hope for a radical reorientation of humanity, for a 'big change' of present–day society and its relationship to nature. Thus, beginning with an internal criticism of the antinomies of the Habermasian approach, I have been led to an 'external' (in regard to Habermas's work) perspective, which considers social change to be closely connected with the change of our attitude towards nature. It goes without saying that the defense of this 'external perspective' definitely exceeds the bounds of a short article. Such an

attempt is the work of a lifetime: it demands years of work for the formulation of systematic arguments to support and explain a new proposition. Moreover, as it is removed from the actual, it runs the danger of being finally proved to be a meaningless illusion if it is not accompanied by and if it does not accompany commensurate social–cultural, economic and political changes. Indeed, the analysis of the antinomies of the Habermasian oeuvre demonstrates that it is not possible to distinguish the problem of technical and cognitive approach to nature from the wider analysis of the institutional framework of a specific, historical society. In this sense, the change in 'our attitude toward nature' lies in a relationship of mutual implication, together with a more general social change in a liberating direction.[85] However, nothing can guarantee that the wave of the age will not wash us on the shores of unrealizable utopia. But this is a risk we cannot avoid to take.

Diskursethik," in the volume under the same title (Frankfurt a. M.: Suhrkamp Verlag, 1991), esp. pp. 219–26. Habermas insists that as long as our starting point is the anthropocentricity of communicative ethics (inspired by the Kantian oeuvre) which he proposes, we cannot justify 'rights' for nonhuman living beings, nor any responsibilities toward them. For, if it is only human beings that are reasonable, that communicate and interact, the mutuality and the relationships of mutual recognition that underlie communicatively interpreted ethics do not apply. Respect for nonhuman life does not constitute an ethical imperative, in the strict sense that communicative ethics accords this term, since it does not derive from interactive obligations. Habermas explicitly divests our responsibility toward plants and maintaining the species, from every moral content. And if one did not know that he seldom jests in his writings, one would be tempted to consider as a joke the justification of a kind of 'quasi–rights' for certain animals which take part in our interaction and with which one could say that—mutatis mutandis—we 'communicate'. It is a pity that this way of thinking can justify the defense of the rights of lapdogs and hamsters and not, e. g., crocodiles, leopards, or mice. Since the latter are unsuitable for pets, they can continue to provide the 'raw material' for our handbags, furs, and experiments.

83. Habermasian philosophical grounding of (practical) reason is itself supposedly 'hypothetical' and its intentions 'therapeutical' (*see* J. Habermas, "Discourse Ethics," and his "Philosophy as Stand–In and Interpreter," in his *Moral Consciousness*, pp. 1–20, without this diminishing its practical–political significance (*see* J. Habermas, "Discourse Ethics," note 81, p. 114, on the political relevance of an ethics of discourse).

84. One of the most significant contributions to this end is undoubtedly M. Bookchin's dialectic naturalism. *See*, among many others, M. Bookchin, "A Philosophical Naturalism," in *Society and Nature*, Vol. I, No. 2 (1992), pp. 60–88. A confrontation with Bookchin's work is necessary to anyone hoping for such a renewal of philosophy.

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85. Only such a combination of an 'ontological' and a 'materialistic' (to use Light's terminology, *see* previous footnote 14) perspective can guarantee the creative transcendence of liberal environmentalism, which confines itself to the claim of lukewarm technical reforms (not affecting the existing institutional framework), the mystical–misanthropic positions of deep ecology (which refer ahistorically to the change of the human 'species' as a whole) as well as many Marxist views (which, like Habermas, consider the solution of the ecological problem as an 'automatic' result of resolving the social issue).