SPACE AND DESIRE

One of the dominant characteristics of Western philosophical and literary history of the last two centuries is that the object of desire (in the novel) and the object of perception (in epistemology) have been made to reveal aspects which are more complex than the classical age had suspected. With Descartes, everything was clear: the object is but a portion of extension. But with Kant things already become more complicated: the object has a mysterious en-soi (an sich-in itself) which escapes us. And the object of desire, in literature, acquires such a mystic character that it loses its status of creature. "For what the romantic lover seeks is not really the beloved", writes Eric Heller. "Intermingled with his erotic craving, inarticulate, diffuse, and yet dominating it, is the desire for spiritual salvation." It is no longer the object (the creature) which one

Translated by R. Scott Walker

¹ Eric Heller, *The Disinherited Mind* (London, Bowes and Bowes, 1975) pp. 221-222 (original edition 1952). Here Eric Heller situates himself in a line of reflection begun by Anders Nygren when he wrote, "eros is a form of escape from the world ... the intrinsic beauty of the object ... has value ... only inasmuch as it evokes a higher world". *Eros et Agapé: La notion chrétienne de l'amour et ses transformations* (Paris, Aubier-Montaigne, 1944), vol. 1, p. 197.

wishes to embrace, but the invisible reality mirrored in it. Desire does not tend so much toward objects as toward what lies beyond these objects where, it believes, it will find its salvation.

Why should we speak of the object of desire and the object of perception together? Is an analysis which does not maintain a strict separation between vital impulses and cognitive faculties still legitimate?

Let us recall that the idea of knowledge as function of the élan vital (Bergson), of the will to power (Nietzsche) or of existential necessities (James) is a commonplace of contemporary philosophy. Let us observe also that, on the one hand, this idea has seen extreme developments which are difficult to adopt. We cannot reduce our cognitive faculties to being instruments of survival or of adaptation to the environment in an age in which technology is continuously making radical changes in our environment. On the other hand, this idea has an undeniably true foundation. Even when cognitive faculties are radically separated from vital impulses, as in Descartes, we find that the project of acquiring exact and impartial knowledge coincides ultimately with the desire to dominate nature in order to place it at the service of our needs.

And it is in fact to this point that we will be directing our attention first of all, for with Descartes we see how the notion of an infinite, i.e. acosmic, SPACE is the fruit of a DESIRE to know which does not aim at contemplating the cosmos but at dominating it. The idea of a domination over or mastery of nature obviously lies at the very basis of Cartesian philosophy;² but the link between this desire for dominance and the notion of an homogeneous and infinite (acosmic) space has hardly been discussed. This is the link which interests us here.

THE HOMOGENEITY OR THE HETEROGENEITY OF SPACE?

In order to achieve absolute domination over nature, as we might surmise, it is necessary that nothing in *space* any longer solicit a

² One of the most penetrating analyses of this idea is that of Lucien Laberthonnière in his "Etude sur Descartes" in *Œuvres de Laberthonnière* (Paris, Vrin, 1935), pp. 288-300. For an overview of the climate which encouraged the development of

desire. For domination implies sovereignty, and sovereignty is incompatible with the elan toward an object required to fill a need. A sovereign being needs nothing. It has no desires.

Generally the absence of desire is represented as the term of Buddhist or Stoic asceticism. But it is also possible to represent this absence as the term of a process which deals not with the person itself but with the world surrounding the person. If this world is made to be perfectly homogeneous, it is impossible to desire one thing therein rather than another. This homogeneization of the world, beginning in the seventeenth century, took place thanks to the theory of primary qualities and secondary qualities. Everything in an object which makes it desirable (odor, taste, sound, beauty) is declared to belong to the subject (secondary qualities), and not to the object which then retains but its extension, its form and its mass (primary qualities). How is it possible truly to desire objects whose power of seduction is like a veil of illusions which we ourselves cast over the monotonous greyness of their mass?³

The representation of an homogeneous world was not achieved without difficulties. In the *Journal de Trévoux* for 9 January 1709, the doctrine stating "that which pleases in an object is foreign to this object" is explicitly rejected.⁴ And we know Berkeley's vehement protests against the theory of primary and secondary

Cartesianism, see Robert Lenoble, Mersenne ou la naissance du mécanisme (Paris: Vrin, 1943). See also Paul Mouy, Le développement de la physique cartésienne, 1646-1712 (Paris, Vrin, 1934).

³ We should also mention the doctrine of the plurality of worlds which obviously destroyed every notion of cosmic hierarchy and, thereby, qualitative differences between the various parts of the universe. For a good presentation of the discussions which took place around this doctrine in England in the seventeenth century, see S.F. Mason, "Science and Religion in Seventeenth Century England", in *The Intellectual Revolution of the Seventeenth Century*, Charles Webster ed. (London and Boston, Routledge and Keagan Paul, 1974), pp. 212-216. For a more detailed presentation, see G. McColley, "The Ross-Wilkins Controversy", *Annals of Science* III (1938): pp. 153-189.

⁴ Quoted by George R. Healy in Mechanistic Science and the French Jesuits: A Study of the Responses of the Journal de Trévoux (1701-1762) to Descartes and Newton (Ann Arbor, University Microfilms, Doctoral Dissertation Series Publication, No. 20515), p. 61. Let us point out with Pierre Duhem that Cartesians "pushed to extremes the tendency to remove the material substance of various properties", La théorie physique, son objet, sa structure (Paris, Marcel Rivière, 1914,

second edition), p. 15.

qualities.⁵ But neither the resistance of the *Journal de Trévoux*, nor the protests of Bishop Berkeley succeeded in moderating the process of homogeneization of the universe begun in the seventeenth century.

This process was *necessarily* accompanied by another process which makes the universe infinite or, to use the term of Descartes himself, by a process at the end of which the universe is indefinite.⁶ A limited universe would allow the subsistence of a beyond which could be qualitatively different from the space surrounding us. A limited universe would be heterogeneous. Thus the closest of links exists between the homogenization of space and its indefinite or infinite nature.

An homogeneous and infinite space is a space in which desire has no further place. The dissolution of the cosmos in such a space (acosmism) eliminates a condition which is necessary for man's elan toward beings and things: the promise of meeting, at the end of a desire, something which arrives to satisfy this desire substantially. However, by eliminating the condition for the possibility of desire, the dissolution of the cosmos also provides the promise of an absolute sovereignty.

We see here taking shape a direct relationship between the nature of *space* (homogeneous or heterogeneous) and the elimination or the unfurling of desire.

Let us have a closer look at this relationship.

CONTEMPLATION OR CONTROL?

One of the specific characteristics of Cartesian science is that it believes that it can acquire an objective knowledge of nature. Once

6 Richard Westfall compared Cartesian space to Newtonian space in "Newton

^{5 &}quot;The wall is as truly white, as it is extended, and in the same sense". Berkeley, *Principles of Human Knowledge*, No. 99. Or again, "What nonsense they talk when they make a distinction between things considered in themselves and the same things considered in respect to us, and pronounce the former the reality." *Philosophical Commentaries*, no. 832. According to G.W.R. Ardley, Berkeley's philosophy "is the first magisterial attempt to cope with the intellectual demoralization over which men like John Donne had lamented ... In place of attitude of mere exploitation of natural resources encouraged by the new philosophy, Berkeley revived the sense of joyful intercourse of Man with nature as with his home". "Berkeley's Philosophy of Nature" in *Philosophy Series* no. 3 (University of Auckland, 1962), p. 10.

this objective knowledge has been obtained, it is combined with a mastery over and domination of nature in such a way that "we would enjoy all the fruits of the earth with no difficulty". The purpose of this knowledge is to grant liberating enjoyment which follows on absolute control of nature. It is evident that when fulfilled through enjoyment, desire is exhausted or disappears.

We have seen how the homogeneous and infinite space of Cartesian physics eliminates the possibility of desire in order to ensure universal control of beings and things. We now see that this control coincides with the exercise of sovereign enjoyment. It is not through his body that the Cartesian man masters nature, since he has eliminated every relationship of desire between himself and the universe. His knowledge is not rooted in a precise point of time and space; it is objective. In this way it seems to be attached to traditional science which also requires mastery of passions and desires. But Cartesian knowledge is distinguished from traditional knowledge by the fact that it does not culminate in contemplative rapture but in a liberation of the body. Through exercising sovereign enjoyment, Descartes' man is assured that he has transcended all the limits which his body had imposed on him.

Since Plato, philosophical tradition has always seen the close link between mastery of the body and the ascent of the mind toward a relative ontological autonomy. It is by silencing one's desires that one arrives at knowledge. But with Descartes this link takes on a new form. It is no longer a speculative effort which liberates the spirit from its fleshly prison; instead it is the systematic development of knowledge which allows the body to escape its spatial-temporal limits.

This knowledge does not lead to the vision of God or to contemplation of eternal truths. The effort of the mind seeking to understand no longer has theoretical life for its end, for this effort is the means for controlling nature and the body itself from a universal point of view. Once this control has been established, the body is

and Absolute Space", Archives Internationales d'Histoire des Sciences, 67 (1964): 121-132. I have also examined this subject from a different angle in "The Philosophical Consequences of the Formulation of the Principle of Inertia", Diogenes 123 (1983), 1-29.

⁷ René Descartes, "Discours de la méthode" in *Oeuvres et Lettres* (Paris, Gallimard, 1966), p. 196.

freed from the servitudes which humiliate it. Liberty is no longer the fruit of an effort of the spirit towards the contemplation of forms or ideas. Liberty is now associated with the possession and use of knowledge which, because it is no longer a desiring movement toward an object which will satisfy a carnal or spiritual thirst but is control of the object, will grant the one who possesses such knowledge liberty without limits. To the extent that sovereignty excludes desire, Cartesian science does not propose to help steer our elan toward beings and things better, but to eliminate such elan. The condition for acquiring liberating knowledge is no longer to desire anything. This is how the most immaterial science possible was ultimately placed at the service of a design much less impartial than such science would have us believe: the design for knowledge which establishes our omnipotence over things. Since the Discourse on Method, modern scientific research has been conducted from the viewpoint of a universal body, a body which is no more here than there. What most scandalized the Jesuits of the Journal de Trévoux was Descartes' conviction that it was possible to deny his own body.8 This conviction is the very keystone of his system since it guarantees both the enjoyment which follows on the elimination of desire and the exercise of an absolute control over nature.

The objectivity in which Cartesian knowledge culminates in theory is not the sign of a spirit which is progressively liberated from the demands of the body, but the sign of perfect control over the mechanism to which the body and its environment are subject. Everything happens as if, out of a profound distrust in the spirit's capacity to escape the body, there were to develop a technique for the control of matter which makes it possible to avoid the effort toward contemplative life for finding peace of soul and body. Mathematical precision and systematic objectivity clearly signal profound detachment with regard to the prejudices and particularities of the flesh, of time and of space. But with Descartes this detachment is not necessarily linked to an intellectual asceticism at the end of which the needs of the body will have ceased obscuring intellectual intuition. Rather it is the sign of a spirit

⁸ Ouoted by George R. Healy, op. cit., p. 50.

which has decided to deal exclusively with the body and with nature in order to understand their functioning so as to control them and thereby to be liberated from them.

ACOSMISM AND SOVEREIGNTY

If, rather than being impartial, scientific rigor of the Cartesian type is a clear sign of a project for absolute control over nature and of a profound distrust of the spirit, judged to be too weak to rise above the contingencies of matter, the legitimacy of comparing the object of desire and the object of knowledge is confirmed. For what is then hidden behind the designs of Cartesian scientific activity is a desire for evasion outside the world by the acquisition of total knowledge over this world. There is a soteriological thrust at work in the constitution of modern scientific knowledge.

This soteriological thrust leads to a representation of the universe which offers the possibility of sovereign liberty through an elimination of desire. Let us insist upon the fact that it is precisely this elimination of desire to the benefit of control which provokes a perception of the universe as homogeneous and infinite space. Since desire is the sign of an ontological deficiency, the elimination of desire is the sign of sovereignty and enjoyment. To the extent that the elimination of desire corresponds to infinite and homogeneous space, that is to a space no part of which awakens desire more or less than any other part, acosmism is one of the figures in which are reflected the hope for absolute liberty. There is no doubt that it is thanks to having been sustained by this hope that the West has, since the seventeenth century, systematically eliminated the condition for the possibility of a cosmology in order to devote itself better to the creation of a vast mechanical and controllable system for the universe. At the end of the process of the elimination of desire in an infinite and homogeneous space there appears the promise of limitless freedom.

⁹ For the elimination of the condition for the possibility of cosmology after the seventeenth century, see Jacques Merleau-Ponty, *The Rebirth of Cosmology* (New York, Knopf, 1976). On the reappearance of this condition for the possibility, see Stephen Toulmin, *The Return to Cosmology: Postmodern Science and the Theology of Nature* (Berkeley, University of California Press, 1982).

THE DISENCHANTMENT OF THE WORLD

The limited and heterogeneous space of Aristotelian physics excluded any pretense of developing a science which, by allowing control of all natural movements, would free desire by eliminating it. With elements seeking by themselves to regain their natural place in a hierarchical cosmos, mastery and possession of nature were inconceivable. But in infinite space, filled with elements which are indifferent to movement and rest (the principle of inertia), dominance of nature is perfectly conceivable.

In the seventeenth century do we find an awareness of what takes place between space and desire? In Shakespeare, in John Donne, in Blaise Pascal, the horror brought on by the collapse of the traditional cosmos in favor of an infinite and homogeneous universe is quite clear. ¹⁰ Less clear is the awareness of the effects of this collapse on the status of desire which, when confronted with the disenchantment of the world, found itself faced with the alternative of licentiousness or Jansenism. In any case it was in the seventeenth century that the articulation of human desire for things, beings and what lies beyond them became a problem. And to the extent that by transcending himself man has the feeling of living in a cosmos, the gradual elimination of the condition for the

10 It is impossible here to cite every work which deals with the scientific revolution of the seventeenth century and its cultural consequences. One of the most complete is that of Charles Webster, The Great Instauration: Science; Medicine, and Reform, 1626-1640 (New York, Holmes and Meiers Publishers, 1976). Let us point out that the consequences of the scientific revolution are complex. On the one hand certainly, there was dread at seeing the collapse of the traditional cosmos; on the other there was extraordinary enthusiasm at the idea (sensed more than understood) of the power that man would acquire over nature. Chronologically, there is no precise frontier separating serenity (which we tend to associate with the traditional cosmos) from dread or from enthusiasm. Victor Harris noted, for example, that after 1570 the theme of a profound corruption of nature took hold and was amplified before being eliminated abruptly in 1630 by the idea of a regenerated nature (All Coherence Gone, The University of Chicago Press, (1949), p. 87). As for the role played by science in the cultural and intellectual climate of seventeenth century England, the thinking today is that this was much less important than had been believed. This is the opinion of Michael Hunter in Science and Society in Restoration England (Cambridge, Cambridge University Press, 1981). For France, see the work by Jean Ehrard, L'idée de nature en France à l'aube des Lumières (Paris, Flammarion, 1970). For the history of the expression 'scientific revolution', see I. Bernard Cohen, "The Eighteenth-Century Origins of the Concept of Scientific Revolution", Journal of the History of Ideas, XXXVII (1976): 257-288.

possibility of desire leads to the flattening out of the world and, ultimately, to its disappearance.

This two-fold process of the weakening of desire and the elimination of the world has developed continuously from the seventeenth century to our own times, and various reactions to this process have appeared. In addition to the initial alternative between licentiousness and Jansenism, there have been many philosophical positions taken, and it is worthwhile to take the time to examine them. We have already had the opportunity to allude to Berkeley's reaction in the eighteenth century. Now let us consider some philosophers closer to us.

KNOWLEDGE AND DESIRE

In the twentieth century, the object of perception has lost its aspect of being a carefully circumscribed entity. From Wittgenstein to Heidegger, by way of Sartre and Gabriel Marcel, no one believes any longer in the classical representation of a subject confronting an object. Husserl had already undermined this model by showing that consciousness does not perceive an object other than through an intentional relationship which makes it go beyond the visible thing to situate it in an invisible context. Husserl's insistence on the notion of intentionality shows to what extent, in his opinion, there can be no knowledge without a *movement* of the mind toward the thing. To return to a philosophy guaranteeing the possibility of this movement was the hope of the founder of phenomenology. There is, in the thing, something other than the thing itself, and this is why we can and must turn ourselves toward it, that is desire it. 12

Heidegger, Sartre and even Wittgenstein, despite fundamental

¹¹ According to Emmanuel Levinas, "intentionality carries in itself the innumerable horizons of its implications and thinks of infinitely more 'things' than the object where it is affixed". *En découvrant l'existence avec Husserl et Heidegger* (Paris, Vrin, 1967), p. 130 (reprint).

¹² "The transcendental subject does not *see* the world unless it *leaves* its absolute-

ly non-worldly and non-temporal-spatial point: the pure present..." Marc Richir, Au-delà du renversement copernicien (The Hague, Martinus Nijhoff, 1976) p. 9 (the underlining is my own). We have no study comparing desire and intentionality.

differences, attempted to show that the context or the environment in which beings and things appear is at least as important and original as their individuality such as it seems to be given to us through a sort of inherent perception.¹³

The idea of situation has thus become a commonplace. In this emphasis placed on the importance of the context there is an effort to furnish our perception with the reality of a general framework there where the explosion of the cosmos of our ancestors into an infinite universe has stripped this perception of every stable reference. Modern culture, even while it was constructing itself on the disappearance of cosmology, at the same time secreted its own antibodies to heal the diseases caused by this disappearance. It has surrounded beings and things with a context, with a situation or an environment, in order to give them some consistency once again. And this is true to such an extent that today, that which is not the object seems more constitutive of the object than the object itself, and to a certain extent even, nothing exists of itself.

13 For Heidegger there is no inherent sense perception of beings and of things, a perception which would then be converted into intellectual terms. "The establishment of the divorce between what can be perceived through the senses and what cannot, between what is physical and what is not ... is unsatisfactory". *Der Satz vom Grund* (Pfüllingen, Günther-Neske, 1957), pp. 88-89. Arion L. Kelkel observes that, from Heidegger's point of view, it is "impossible to have pure sensations of color or of light or of sounds ... [and that there is] an 'apriority' of the world ... relative to every intra-worldly entity". La légende de l'être: Langage et poésie chez Heidegger (Paris, Vrin, 1980), pp. 222-223. It is very difficult to see how Heidegger's position can be reconciled with his theory of Seiende. If the world is always first given to us, what happens to the Seiende? As for Wittgenstein, after having thought, while writing the Tractatus Logico-Philosophicus, that it was possible to obtain a representation of the real which did not appeal to elements extrinsic to this representation, he came to consider that the idea of a direct access to the world or to things which occur in our minds had no meaning. Wittgenstein, according to Jacques Bouveresse, was perfectly aware of the fact that, "whatever we might see, it must be read and understood anew ... for it would have no meaning in itself and taken in isolation, but only because of a certain system ... of a certain usage". Le mythe de l'intériorité (Paris, Editions de Minuit, 1976), p. 34. In L'Etre et le Néante (Paris, Gallimard, 1943), Sartre already affirmed that the notion of pure sensation was a "hybrid notion ... a psychologist's pure illusion" (pp. 377-378). The tendency to deny that anything is given to us or presented to us has only grown stronger since then. We know the analyses of Jacques Derrida on the inexistence of any inherent perception: "There is never perception, and the 'presentation' is a representation of representation". La voix et le phénomène (Paris, PUF, 1967), p. 116, or the analyses of Willard O. Quine which, as Paul Gochet explains, "show that the quest for undeniable evidence and the obsession for foundations are two idols of classical epistemology which it is urgent to tear down". Quine en perspective (Paris, Flamma-

Recent developments in modern physics have accelerated even more the dissolution of the object, for the idea that we can ever localize the elementary particles of matter has now been abandoned.¹⁴

The dissolution of beings and things carefully circumscribed and located in a stable context is even more striking at the literary level. R.M. Albérès notes that in modern literature, "nothing is given to us in common, not the meaning of life nor any prior understanding. Strangers to one another, the author and the reader do not share through their communion in any system of agreed-upon signs, in any shared prejudices." ¹⁵ By insisting on the necessity of absolute objectivity, ¹⁶ trends like the *Nouveau Roman* have only manifested more plainly the dissolution of a shared world. This dissolution carries in its wake the dissolution of objects contained in this

rion, 1978), p. 36. Richard Rorty sets John Dewey alongside Heidegger and Wittgenstein inasmuch as all three "are in agreement that the notion of knowledge as accurate representation needs to be abandoned". *Philosophy and the Mirror of Nature* (Princeton, Princeton University Press, 1979), p. 9.

To understand better this rejection of all inherent perception and, a fortiori, of every object given to our awareness, we must remember with Leszek Kolakowski that during the last quarter of the nineteenth century, "efforts were made to do away with subjectivity, since the subject had come to be considered as a construction without a counterpart in reality, something illegitimately added to the content of experience. ... The essential thing was to reach ... a pure 'experience' rid of ... every subjective element''. The Alienation of Reason: A History of Positivist Thought (New York, Doubleday, 1968), p. 104 (original edition 1966). So radical an undertaking must necessarily provoke violent reactions. From that point on a large part of modern philosophy must be understood as a protest against the alienation of the subject brought on by the quest for a pure experience. The rejection of the possibility of such an inherent experience is but a roundabout means of reintroducing the subject into the world. That this reintroduction occurs at the very time when the death of the subject has been proclaimed says much about the ambiguities and the confusions of contemporary philosophy.

14 To my knowledge all non-technical works on the developments of modern

hysics consider the impossibility of apprehending the building blocks of the universe to be an undeniable thesis. But all insist likewise on the fact that this thesis still holds an all-powerful fascination for contemporary modes of thinking. Herbert Butterfield in *The Origins of Modern Science* (London, 1949) has made some very pertinent remarks in this respect.

15 R.M. Albérès, *Bilan littéraire du XXe siècle* (Paris, Aubier-Montaigne, 1962),

16 "An explanation, whatever it may be, can only be in excess when faced with the presence of things ... things will only accept the tyranny of meanings but apparently—derisively—to show better to what degree they remain foreign to man". Alain Robbe-Grillet, *Pour un nouveau roman* (Paris, Les Editions de minuit, 1963), reprinted by Gallimard, Idées), pp. 45, 24.

world, and it is precisely for this reason that there is such a feverish effort to describe them exactly.¹⁷

MICROCOSMIC SUBSTITUTES

It was inevitable that situations, contexts and microcosms specifically intended to provide meaning to beings and to objects would succeed the dissolution of the cosmos into the infinity of homogeneous space. We cannot perceive an object as such, an object *en-soi*. ¹⁸ We need to situate it not so much in a context made up of *a priori* forms as in a cosmos, just as we need an immobile background in order to perceive movement. But modern philosophers do not much appreciate talking about the cosmos, intimidated perhaps by the triumphant progress of modern physics. After having attempted to palliate the disappearance of the cosmos with an intentional context (Husserl), a clearing effected by being (Heidegger), an historical-political situation (Sartre), today they are trying to show that language is the ultimate background against which our world can stand out, unless they follow Thomas Kuhn and refer to the

¹⁷ According to Winfried Enger, for Robbe-Grillet, "Three dimensional space assumes functions which leave no room for a point of view specific to the author". *The French Novel* (New York, Frederick Unger, 1969), p. 221 (translated from the German). Winfried Enger forgets to add that without a point of view, not only does the author disappear but the world as well.

18 Even the simple view of an object is not the view of an object. Virgil C. Aldrich, following Nelson Goodman, emphasizes, "that nothing is simply seen". "Mirrors, Pictures, Words, Perception", *Philosophy* 55 (1980): 39:56. And long before Heidegger, Wittgenstein, Dewey, Quine or Derrida, Ernst Cassirer had already shown, not without elegance, that the grasping of individual elements, far from being given to us in an intuition or in a presentation, appears at the end and not at the beginning of intellectual processes: "Die Anschauung scheint den Inhalt als losgelösten, sich selbst genügenden Bestand zu ergreifen: aber sobald wir daran gehen, diesen Bestand im Urteil zu fixieren, löst es sich in ein Gewebe relativer Setzungen auf, die einander wechselseitig stützen. Begriff und Urteil kennen das Einzelne nur als Glied und gleichsam als Punkt einer systematischen Mannigfaltigkeit, die hier somit ... als das eigentliche Prius gegenüber besonderen Setzungen erscheint". Substanzbegriff und Funktionsbegriff: Untersuchungen über die Grundfragen der Erkenntniskritik (Berlin, Bruno Cassirer, 1910), p. 124 (italics are mine). Jean Piaget observes, along the same lines, "Scientific objectivity [during development of scientific thought] is no longer the result of an immediate intuition of a thing ... there is no object en soi". Introduction à l'épistémologie génétique (Paris, PUF, 1974), vol. 2, pp. 67-69.

notion of paradigm to stress how much our perception of the world is dependent on a context of obscure crystallizations or unconscious prejudices. The consequence is that modern man suspects that what he sees and says no longer bears on the object apprehended. Whereas a traditional cosmos provided a common background, the contexts, situations and other *microcosmic substitutes* are proper to classes, to nations, to groups, even to individuals.

The point of view which holds that objects are inscribed in a created and limited cosmos has been abandoned. Despite the conclusions of twentieth-century physicists who hold that the quest for an elementary particle can no longer have the meaning given to it by classical physics, today the idea is current that, because it is infinite and uncreated, the universe constitutes an epistemic foundation on the basis of which objects can be conceived which are absolutely separated from one another. These objects, detached from any cosmic order, can then be reinscribed in geometric representations, mechanical systems or various algorhythms. But this reinscription of objects in a framework supplied by the human intellect practically dissolves the exterior nature of the object relative to the consciousness which apprehends it. Although it is true that an object cannot appear other than in a context of relations, this framework, a pure product of the intellect, is also that without which the object would disintegrate. But an object which depends on a context of relations produced by the human intellect can hardly appear given from the exterior. From this point of view, it is not at all alienation from which contemporary man is suffering. To the contrary, what afflicts him is the perception of a world which he has produced himself and which, in that respect, is not foreign to him in the least.

To eliminate this difficulty, it would be necessary to admit a created universe, i.e. a totality of objects linked by a spirit *other* than the human spirit.¹⁹ But the Moderns cannot resolve themselves to make such an admission since they would thereby renounce the power to control this universe and, beyond that, of giving it a meaning which they had produced.

Without going so far as to accept the postulate of a created

¹⁹ This is Thomas Molnar's thesis in *Dieu et la connaissance du réel* (Paris, PUF, 1976).

universe, Husserl attempted to rediscover the exteriority of the world, for he never ceased believing in a method which would allow us to see things give themselves to us against the background of an horizon which is independent of the constructions of consciousness. Things which give themselves are evidently not products of consciousness.

THE ICONIC RECONSTRUCTION OF THE UNIVERSE

A cosmos is not just a simple stage set, as Kant naively tended to believe when he wrote the famous antinomies of the Critique of Pure Reason.²⁰ A cosmos cannot be represented because every mechanical representation of the real implies infinite and homogeneous space, and such space is acosmic. This does not signify that we cannot formulate a cosmology. If we examine the word cosmology, we note that it signifies a word about the cosmos. A word is not a representation. A representation is like a reflection of an object whereas a word about beings and things inscribes them within the field of a discourse. Since it does not represent them, a discourse allows beings and things the possibility to become more or less than what they are.²¹ To use the jargon of Jacques Derrida, let us say that a discourse, a word, denotes a "differance", that is, they introduce into reality a sort of potential ontological interval through which we suspect that things have not always been what they are and that they will not always remain what they are. In other words, a discourse and, in particular, a discourse about the cosmos, includes time.

At the beginning of the modern age, natural philosophy (physics) excluded time. The representation of the cosmos took the place of the discourse on the cosmos, and the word itself is now no more than a means of representation or of a clear and distinct intuition.²²

²⁰ For the importance of representation and, in particular, of geometric representation in the genesis of Kantian philosophy, see "Kant and Newtonian Science: The Pre-Critical Period", Ronald Calinger, *Isis*, 253 (1979): 349-362.

²¹ As L. Wittgenstein said, "It is only that which can also be represented as being other than language can say". *Philosophische Bemerkungen* (Oxford, Blackwell, 1964).

²² Nothing better expresses this arrival of vision to the detriment of word than

Analyzing this shift from the word to vision, Walter Ong observed that, since the seventeenth century, "knowledge is conceived almost exclusively through analogy with vision".23.

The arrival of the reign of representation bears in itself the seeds of acosmism. The Platonic renaissance and the decline of Aristotelian-Thomistic tradition gave credence to the idea that the world can be understood through geometry and mathematics and not through the word. However, with mathematics and geometry we are closer to Plato's demiurge than to the God of St. John whose Word created the world.24

The representative mode, by referring to a universe whose structure is mathematical-geometric and whose space is infinite, excludes the idea that there could be in the objects of our perception and our desire an invisible element, immaterial or supernatural, through which these objects would be inscribed in a cosmic totality. If a representation is truly an image of things such as they persist indefinitely in the inertia of their mass, the project of representing the cosmos implies that everything contained in the universe can be reduced to an inert mass. But it was neither Platonic renewal nor the development of mathematics which by themselves brought on the triumph of representation over the word. This renewal and this development are instead the fruits of a new relationship between space and desire.

the third of Descartes' Regulae: "Circa objecta proposita, non quid alii senserint, vel quid ipsi suspicemur, sed quid clare et evidenter possumus intueri, vel certo deducere, quaerendum est; non aliter enim scientia acquisitur". Oeuvres de Descartes published by Adam et Tannery (Paris, Leopold Cerf, 1908, p. 366, vol. X).

23 Walter Ong, The Presence of the Word (New Haven, Yale University Press,

1967, reprint 1981), p. 221.

²⁴ The importance acquired by linguistics and the modes of knowledge associated with it is perhaps the sign of a return to a philosophy in which the world, in its essence, is word and not matter, or according to which, as Louis Bouyer writes, "all knowledge of the world is but ... knowledge of a linguistic type, which would imply that the world itself is but a language shared by minds". Cosmos (Paris, Les Editions du Cerf, 1982), p. 42. According to Bouyer, the world, as language, is one of the characteristics of Aristotelian epistemology. It seems that the status given to matter depends on the adoption of the world as logos. The more that matter is declared real, the less the world is language and conversely. We need only recall Berkeley who denied all reality in matter; nothing is more typical of his philosophy than the affirmation that nature, to be fully understood, must be extended like a language, "because phenomenal sequences succeed one another in a semantic, and not causal, perspective". Michel Ambacher, La matière dans les sciences et en philosophie (Paris, Aubier-Montaigne, 1972), p. 94.

Here we find ourselves confronted by a basic change which, as Michel Foucault has suggested, defines the essence of modern western culture since the seventeenth century. On the one hand to know is to see, and the visibility of things reveals them to us (not the discourse held about them). On the other hand, to see things in this way is to pull them out of the cosmic harmonies through which they were inscribed in a relative totality. As soon as this extraction has been completed, things no longer participate in a reality other than that defined by their mathematical-geometrical essence; they are closed in on themselves and become controllable. The closing of objects coincides, paradoxically, with the dissolution of Aristotle's closed universe into Descartes' homogeneous and infinite space which, far from inscribing objects in a cosmos, to the contrary separates them from one another through an indefinite juxtaposition.

From then on the word becomes practically useless. When it refers to things set in Cartesian space and strictly circumscribed by it, the word does not reintegrate them in the cosmic or supernatural order in which they were inscribed. The word loses its cosmic-generative power to become the instrument of a systematic deconstruction of every given or revealed cosmic order, a deconstruction which is accompanied by what we will call an *iconic reconstruction* of the universe.

Despite these notable exceptions, modern philosophy, from its Cartesian phase up to its positivist and analytical phase, has been obsessed by the project for an *iconic reconstruction* of the real.²⁵

²⁵ Scientific faith in an iconic reconstruction of the real reaches its high point in Ernst Mach, for whom the goal of science "is the most complete and most coherent ... image of the world". *Die Prinzipien der Wärmelehre* (Leipzig, 1896), p. 366. However, Heinrich Hertz declares, "In der Tat wissen wir nicht, und haben auch kein Mittel zu erfahren ob unsere Vorstellungen von den Dingen mit jenen in irgendetwas anderem übereinstimmen, als allein in eben jener einen fundamentale Beziehung (the experimental relation)" [*Die Prinzipien der Mechanik in neuem Zusammenhange dargestellt* (Leipzig, Johannes Ambrosius Barth, 1894), p. 2] Ernst Mach proscribes everything which might be found beyond this representation, including the idea of a "res cogitans" or of a "res extensa". Mach thus finds himself in a Buddhistic type epistemology, as Robert Bouvier pointed out in *La Pensée d'Ernst Mach* (Paris, Libraire au Vélin d'Or, 1923). For the controversies created by Ernst Mach, see John T. Blackmore, *Ernst Mach: His Work, Life and Influence* (Berkeley, University of California Press, 1972). One of Ernst Mach's adversaries in the scientific world was L. Boltzmann whose ideas have been very well presented

This obsession was so profound that it was perpetuated at the very period in which the epistemic foundations for this project were being questioned by the development of modern physics.

Today, at last, this project is beginning to appear in vain. When we hear an analytical philosopher like Richard Rorty declare that the metaphor of the mind as mirror should be rejected and emphasis be placed on the fact that philosophy is to be understood as a conversation, ²⁶ we realize that the project in philosophy to reconstruct the world from the substitutes for elementary particles which are formal propositions seems less realizable than ever.²⁷

THE HEIDEGGERIAN IMPASSE

As Heidegger saw full well, to be the world needs time, a dimension which escapes all representation par excellence.²⁸ It is significant

by René Dugas in La Théorie physique au sens de Boltzmann et ses prolongements modernes (Neuchâtel, Editions du Griffon, 1959). Boltzmann was not opposed to representations; what he demanded was the freedom to imagine without reference to "sense data". Conversely, "The Vienna Circle intended to ... show the way in which concepts feed from a base of empirical observation. According to this view science, physical science in particular, contains or will contain everything we can know about the world". Stanley Cavell, "Existentialism and Analytical Philosophy", Daedalus, 93 (1964): 946-974. John Heil observes that Wittgenstein's intention was to "provide for a linguistic level at which there is no room for ambiguity or interpretation, so that any interpretation becomes superflous ... This theme was of course later abandoned by Wittgenstein". "Cognition and Representation", Australasian Journal of Philosophy, 58 (1980): 158-168.

²⁶ Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton, Princeton University Press, 1979), pp. 319, 394.

²⁷ The impossibility of realizing this project was clearly grasped by L. Wittgenstein who, according to Jacques Bouveresse, "contests the fact that primary signs really exist if this means signs which cannot and should not be interpreted". Le mythe de l'intériorité, op. cit. p. 396. In a book published in 1962, John Passmore observed, "Philosophers had supposed—Wittgenstein has particularly in mind the Tractatus and Russell's logical atomism—that there must be an 'ultimate analysis' of an expression's meaning, an analysis consisting of simple elements to which we would point in order to make that meaning perfectly clear. But there are no 'simples', he now thinks ...". A Hundred Years of Philosophy (London, Gerald Duckworth, 1962), p. 430. As for scientific historians and philosophers, they have known for a long time that "what are called 'observation' statements in the sciences as well as in our daily pursuits assert far more than what is actually presented in a

momentary experience". Ernest Nagel, Teleology Revisited and Other Essays in the Philosophy and History of Science (New York, Columbia University Press, 1979), p. 92.

28 For criticism of representation or image in Heidegger, see J.L. Mehta, The

that, for the author of Sein und Zeit, the world, and not simply a juxtaposition of "Seiende", can be only through "Dasein", i.e. through man's temporality. Even more significant is the fact that Heidegger also reached the point of paying a great deal of attention to poetry. The poetic object is not an object closed in on itself. However, as soon as we are dealing with an object which is not closed in on itself, we leave the infinite space of classical physics behind and enter into a cosmos. The poetic object is attached by a thousand invisible threads to the cosmos of the poet. The more the threads are tightened, the more the poetic object is taken away from natural reality conceived as indefinite juxtaposition. In other words, the more natural reality is disenchanted, the more poetry appears as a means of escaping from the juxtapositions of acosmism.29

But is it by way of human temporality or the word of a poet that we must proceed in order to re-introduce the invisible into the visible and to establish the foundations of a new cosmology? The question can be asked.³⁰ It is not only man who combines the invisible and the visible because he is in a state of becoming. With or without man, nothing is strictly identical to itself. Let us say, in Heideggerian jargon, that nothing is a Seiende. Let us think once more of recent developments in contemporary physics, developments which show the impossibility of finding the ultimate building blocks of the universe. Only such blocks would correspond to the definition which Heidegger gives of Seiende. If these blocks do not exist, all modern metaphysics must be revised, for this meta-

Way and the Vision (Honolulu, The University of Hawai Press, 1976), pp. 381-384.

29 According to Joseph Mazzeo, "the language of poetry is conceived as essentially the language of relations, metaphorical language, not the language of direct reference or statement". Nature and the Cosmos: Essays in the History of Ideas (New York, Dabor Science Publications, 1977), p. 29. By ignoring or excluding the possibility of immaterial relations between the elements it designates, the "language of direct reference or statement" is an acosmic language, that is a language which refers to an homogeneous and infinite universe. Poetic language, however, "frees us from the one accepted and firmly aggregated reality of the world we believe we live in, opening up before us multivalent relationships and other worlds". Leo Spitzer, Classical and Christian Ideas of World Harmony (Baltimore, The John Hopkins Press, 1963), p. 23.

30 Karl Löwith best expressed this doubt in "The Nature of Man and the World of Nature", in Martin Heidegger in Europe and America, ed. by Edward G. Ballard

and Charles E. Scott (The Hague, Martinus Nijhoff, 1973), pp. 37-47.

physics, under the influence of Descartes, believed in the existence of such blocks.³¹

THE ATEMPORALITY OF THE CARTESIAN UNIVERSE

An iconic representation of the universe, as we have seen, only admits elements which are strictly identical to themselves. If we consider that this representation expresses reality, then time has no place in it, since time produces an ontological interval within the objects themselves. At the end of a temporal interval, an object is no longer what it was at the beginning of that interval. Writes Michel Ambacher, "Things may seem to give the impression that they remain identical to themselves—objectively this is roughly true; but 'naturally', when we look at them again after having turned our eyes away for an instant, they are new, with the newness which separates in us the present moment from instant passed". ³² It is this newness which an iconic representation of the universe denies.

Human desire has no more place in an atemporal universe than in an homogeneous and infinite universe. It thus seems that the two latter qualities are coextensive with the atemporality of the Cartesian universe.

THE OBSESSION FOR CONTROL

Human desire, as we know, manifests an infinite lack of satisfaction (unlike animal desire). Nothing can truly satisfy it. If there is a single "thing" (man) which is not satisfied by all the interactions offered in nature, it is because the universe is not a mechanical or

³¹ In addition to such "dissidents" as Berkeley or Husserl, we must naturally mention Leibniz who believed that there was nothing at all in nature without a soul or something equivalent to a soul. See for example, "De la nature en elle-même, ou de la forme inhérente aux choses créées et de leurs actions" in *Opuscules philosophiques choisis*, translated from the Latin by Paul Schrecker (Paris, Hatier-Boivin, 1954).

³² Michel Ambacher, Cosmologie et Philosophie (Paris, Aubier-Montaigne, 1967), p. 322.

biological unit. We can understand why Heidegger chose to begin with man in attacking the iconic representation of the real. But we can also say that, although the universe is not a mechanical or biological unit, the possibility of a natural cosmology or theology cannot be excluded. The presence within the universe of a single element which cannot be integrated into the iconic representation or reconstruction of this universe obliges us to revise the natural philosophy which came out of the classical age. And this is what Heidegger does not do.

Therefore it is not simply developments in modern physics and the failures of analytical philosophy which invite us to revise our image of the world, but also the presence in the world of a desiring being which cannot be inscribed in a system of mechanical or biological interactions.

Why has this so easily drawn conclusion not been drawn? Why, from the seventeenth to the twentieth centuries, have the human sciences so radically separated themselves from the natural sciences by confirming the image of a world divided into objects closed in on themselves (Seiende/en-soi) and into individuals capable of being substantially transformed by time and history (Dasein/pour soi)? It is because such a dichotomy, even though tragic, also offers the hope of an extraordinary mastery and possession of nature. Objects which are only what they are, intemporal objects, are objects which we can manipulate, use and rearrange as we wish, without fear of pulling them out of some cosmic order. It is at this point that we must push our analysis of human desire even further.³³

THE WITHDRAWAL INTO THE INFINITE

In a universe whose elements would be only what they are, desire would find nothing toward which it could turn. The simple consumption of "Seiende" would only enclose man even more in the

³³ "A disenchanted world is also a manageable world ... Man, foreign to the world, establishes himself as master of the world". Ilya Prigogine and Isabelle Stengers, *La Nouvelle alliance: Métamorphose de la science* (Paris, Gallimard, 1979), p. 28.

kingdom of things as they are.

However, human desire is not simply a need for food or a sexual need. By turning toward the object of his desire, man, by consuming this object, also wishes himself to be transformed, i.e. to participate in the immateriality which is given through these objects, whether such immateriality be called soul, form or meaning. Paul Ricoeur spoke of these transformations by describing the act through which the mind apprehends a reality as co-naissance. This is to say that by moving toward things, we find in them more than they contain. This is impossible if the universe is only a juxtaposition of objects closed in on themselves. Man can only use these objects to satisfy his desire for power. It is a commonplace of contemporary reflection that a world of objects identical to themselves, a world of beings, constitutes the condition for the possibility of a technological and rational universe. Nothing therein opens man to what lies beyond him. It can hardly be doubted that the exaggerations or perversions of possessive individualism arise from a representation of the cosmos in which beings and things can only refer us to ourselves since they are parts of a universe which is perhaps infinite but certainly without a beyond. From a certain point of view, we could turn around Alexander Koyré's famous expression which holds that the modern age is the passage from a closed world to an infinite universe. Our world, although materially infinite or at least declared to be such, is, nevertheless, terribly finite to the extent that human existence finds therein nothing more to nourish itself on which would go beyond it. No longer able to see the invisible in the visible, we no longer know how to do anything else with nature but use it. The encounter with beings and things is no longer a *communion*. The reconstruction of the world from objects closed in on themselves in the final analysis proves to be, as Nietzsche correctly sensed, the construction of a cage. Man may succeed perhaps in giving himself the illusion that he is all-powerful within this cage. But it is certain that he can no longer open himself to the mystery of beings and things in order to be substantially transformed by their mystery. From then on his desire is transformed into agony.

ABSOLUTE CONFINEMENT

It is this agony of desire which explains, in part, why, in romantic literature, that is the literature from the period during which the iconic representation of the universe was the norm, woman takes on a truly mystic status, as Eric Heller noted at the beginning of this analysis. This literature, confronted with a world closed in on itself, expects from woman, supreme object of desire, infinitely more than she can give. It is through her that there is hope of piercing through the dismal surface of things to rediscover time and the substantial transformations which it promises.

No trans-substantiation can occur in a universe which is not open to something other than itself. Such a universe is, in any case, uncreated, for if it were created, it would, like every creation, contain the intentions, the love, the intelligence of its creator in the very substance of its matter. A world of things identical to themselves could not grant to desiring man a communion, or at least an encounter, with what is not himself. In the universe of iconic representation, man finds himself in an ontological prison, or, to borrow a remarkable expression from Jean Starobinski, he passes through visible things "to lose himself in empty space".34 What better definition could be given to the absolute confinement, the pure state of imprisonment, than that of an empty space?³⁵ Movement and desire are no longer possible therein. There are no longer tangible walls which inhibit the acts of living; but acts performed for reproduction, to nourish and clothe oneself, to change one's environment, to build cities, to create works of art, to exchange opinions no longer open the individual to anything beyond himself. Modern literature, beginning with Rousseau, offers abundant examples of "heroes" who are no longer able to go beyond themselves even though they are involved in a multitude of activities.³⁶ They sense that they are confined in a cage whose

³⁴ Jean Starobinski, *L'Oeil vivant* (Paris: Gallimard, 1961), p. 10.
³⁵ Ionesco refers to the "nullity" of space in his *Journal en miettes*, when he writes, "My internal space is not free. I cannot even reach my own door, nor the window to let in a little air". (Paris, Mercure de France, 1967), p. 59. It is as if the void space sought since the eighteenth century had, in the twentieth century, surged back into the world of objects.

on the theme of confinement and solitude in modern literature and philos-

bars they cannot see. Yet the police has never investigated them; they have committed no crime.

A CLOSED WORLD AND AN INFINITE UNIVERSE

Only a being able to move towards an object which attracts it can live in a *cosmos*. In order for an object to attract, it must escape, to a certain extent, that pure spatiality understood as a dimension where things are set alongside one another. When an object can be distinguished from another object only by the place it occupies, it is not possible to desire it for itself since it contains nothing, in itself, to distinguish it from the other objects surrounding it, unless space itself is ontologically differentiated, like Aristotle's space. But even the spatial differentiations (heterogeneity) of the Aristotelian cosmos have meaning only because there exists within the very objects making it up, an immaterial element (a desire, a tendency)³⁷ which arranges objects in terms of these differentiations, which Aristotle called natural places. The position of an object as well as its mobility or immobility then reveal something of its substance to us. If a stone falls, in Aristotle's physics, this means it is seeking its natural place, the center of the cosmos. The totality of natural places forms an heterogeneous space. Every object tends toward its natural place, and as soon as it has reached this place, it remains immobile. There is a structured space, a cosmic space which corresponds to all the tendencies or desires of beings or of things.³⁸ There is not just space in beings and things; there is also an

ophy, see Ben Lazare Mijuskovic, Loneliness in Philosophy, Psychology and Literature (Assen, Van Gorcum, 1979).

³⁷ According to Aristotle, natural objects have an innate tendency to move themselves or to stop, a principle of movement and of stasis (*Physics*, Book II, 1, 192b.) "All natural bodies ... are mobile by themselves depending on the place". On the Aristotelian concept of nature, see Friedrich Solmsen, *Aristotle's System of the Physical World* (Ithaca, Cornell University Press, 1960).

³⁸ William Gilbert delivered one of the most decisive blows to the Aristotelian concept of space, even though he managed to retain the Kepler theory attributing occult forces to bodies causing them to attract or to repel. "Sed non locus in nature quicquam potest: locus nihil est, non existit, vim non habet; potestas omnis in corporibus ipsis". *De mundo nostro sublunari philosophia nova* (Amsterdam, 1651), lib. II, cap. 8, p. 144.

immaterial element which makes them desirable or which urges them to attain the object of their desire.

In the case of objects which contain in themselves more than space, an autonomy is conceivable which allows them to move themselves to their natural place. Heterogeneous space does not distinguish radically, then, between the visible and the invisible, since the (invisible) forces which move these objects originate within the objects themselves. It is thus impossible that the volume occupied by these objects contain nothing other than space. It also contains a substance which pushes them or restrains them. The homogeneity or the heterogeneity of the space in which these bodies move corresponds precisely with the presence or the absence of a substance distinct from the "res extensa" in the bodies. Just as heterogeneous space forms a cosmos (finite universe), whereas homogeneous space is infinite, we can say that a closed world and an infinite universe correspond respectively to the presence or absence of a non-extended substance in these bodies. Or even that it is the point of view taken with regard to the relationship between the visible and the invisible which determines the point of view adopted concerning the finitude or infinitude of the universe. If, as Descartes thought, there was but space in bodies, our desire, by ricocheting off indifferentiated bodies, could no longer encounter that fabric of ontological differentiations through which we have a world before our eyes.

And thus the profound structure of the universe depends on the nature of the objects which correspond to our desires. Such objects cannot exist unless there is in space something other than simply space.

Are there "Seiende" in our universe, i.e. objects perfectly closed in on themselves? Is there only man who escapes the kingdom of juxtaposition?

Nothing is less certain.³⁹ We have already pointed out that the more modern physicists have examined the intimate structures of inanimate matter (the ideal place for finding things perfectly limit-

³⁹ "The idea of a pure object, or thing, or body is contradictory". Raymond Ruyer, *La Gnose de Princeton* (Paris, Fayard, 1974), p. 42.

ed by the space which they occupy), the less they have been able to *localize* an elementary particle. Pushed to the extreme, nothing could then be represented. No image would correspond to reality.

However, we are free to imagine an element completely contained within the space it occupies. Such an element would be perfectly inert, without life; there could be no exchange possible between it and the exterior. Conversely, the less an element would be limited by the place it occupies, the more life it would have in itself. All the biochemical exchanges which take place between a plant and its environment already are signs of the capacity for self-extension beyond the space occupied by the body. Burgeoning life immediately moves beyond the kingdom of juxtaposition (inasmuch as such a kingdom really exists) but without being able to escape it completely. By extrapolation we can easily imagine a sovereign life removed from this kingdom. Sovereign or eternal life, without itself ceasing to be localizable, would in no way be the space of Cartesian physics.⁴⁰ What happens to a body which has completely escaped the kingdom of juxtaposition? It is impossible to say. But it is certain that desire, in a sovereign life, would no longer seek to seize control of objects to use them or rearrange them according to the whims of its desire for power. And although it is true that the manipulation of natural objects is based on the postulate of an homogeneous and infinite space, a space which would be a pure cosmos would correspond to desires which would no longer manipulate beings and things in any way.

Human desire is not the desire which corresponds to sovereign life. Can we even still speak of desire in reference to such a life? But it is certain that there is, in man, a desire which, tendentially, aims for a cosmic communion and not technical manipulation. If the analysis presented here is correct, the presence of such a desire

⁴⁰ According to Newton, "No being exists, or can exist, which is not related to space in some way ... if an entity is posited, space is posited also...". *Unpublished Scientific Paper of Isaac Newton*, A. Rupert Hall and Marie Boas Hall (eds.) (Cambridge, Cambridge University Press, 1962), p. 98. Newton was absolutely opposed to Descartes on this point. The same opposition was manifested in a letter from Henry More to Descartes: "I question, however, if the soul does not occupy the whole body. Otherwise, I beg you, how can it happen that the soul ... can be so exactly united to the body?" Second Letter to Descartes in *Oeuvres de Descartes* published by Victor Cousin (Paris, 1824-1826), vol. X, p. 229. Newton was influenced by More's philosophy.

in the universe indicates to us that this universe is less hostile to such communion than might be thought. Otherwise we must postulate that man lives in a universe which is hostile to his most profound calling.⁴¹ The notion of infinite space has issued from a desire for absolute control of nature and says nothing essential to us about space itself. To the extent that we assume a desire for communion instead of a desire for control, we find that the space which corresponds to the former would have nothing more in common with the space of classical physics.

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⁴¹ The hostility of the universe to revelation was, it seems to me, an obsession with Rudolf Bultmann, and the origin of his demythologizing project. See, for example, "Jesus Christus und die Mythologie", in *Glauben und Verstehen: Gesammelte Aufsätze von Rudolf Bultmann* (Tübingen: Mohr, 1965), p. 178. It is true that Bultmann relativized the power of fascination that he seems to attribute to the image of the world which results from modern science when he writes, "kein Weltbild von gestern oder heute oder morgen ist endgültig. Das wichtigste ist jedoch nicht das konkrete Ergebnis wissenschaftlicher Forschung und die Inhalte eines Weltbildes, sondern die Denkart, aus der die Weltbilder kommen". (p. 157). One of the best critical analyses of the philosophical aspects of Bultmann's work is that of Hans Jonas, "Is Faith Still Possible? Memories of Rudolf Bultmann and Reflections on the Philosophical Aspects of his Work". *Harvard Theological Review* 75 (1982): 1-24. In my opinion this critical analysis is better than that of Karl Jaspers, "Wahrheit und Unheil der Bultmannschen Entmythologisierung" in *Karl Jaspers, Rudolf Bultmann: Die Frage der Entmythologisierung* (Münich: Piper, 1954), pp. 5-56. For a more general analysis of Bultmann's impact on Protestant theology, see the excellent work by Heinz Zahrnt, *Die Sache mit Gott. Die protestantische Theologie im zwanzigsten Jahrhundert* (Münich: Piper, 1966).