denies itself, he simultaneously developed and misinterpreted in an empiricist manner the connection of knowledge and interest. For the new phase of positivism, Nietzsche seemed to have furnished the proof that the self-reflection of the sciences only leads to the psychologizing of matters that, like matters of logic and methodology, may not be placed on the same level as empirical relations. The "self-reflection" of the sciences could appear as a further example of the naturalistic fallacy, which in the history of modern philosophy was so often repeated and with so many consequences. Accordingly, it was believed that all that was necessary was a restoration of the separation in principle of questions of validity from those of genesis. In the process, epistemology, including the theory of knowledge developed immanently out of the logic of the natural and cultural sciences, could be surrendered to the psychology of research. On this basis modern positivism then erected a pure methodology, purged, however, of the really interesting problems.

APPENDIX

Knowledge and Human Interests: A General Perspective

In 1802, during the summer semester at Jena, Schelling gave his Lectures on the Method of Academic Study. In the language of German Idealism he emphatically renewed the concept of theory that has defined the tradition of great philosophy since its beginnings.

The fear of speculation, the ostensible rush from the theoretical to the practical, brings about the same shallowness in action that it does in knowledge. It is by studying a strictly theoretical philosophy that we become most immediately acquainted with Ideas, and only Ideas provide action with energy and ethical significance.¹

The only knowledge that can truly orient action is knowledge that frees itself from mere human interests and is based on Ideas—in other words, knowledge that has taken a theoretical attitude.

The word "theory" has religious origins. The theoros was the representative sent by Greek cities to public celebrations.² Through theoria, that is through looking on, he abandoned himself to the sacred events. In philosophical language, theoros was transferred to contemplation of the cosmos. In this form, theory already presupposed the demarcation between Being and time that is the foundation of ontology. This separation is first found in the poem of Parmenides and returns in Plato's Timaeus. It reserves to logos a realm of Being purified of inconstancy and uncertainty and leaves to doxa the realm of the mutable and perishable. When the philosopher views the im-
mortal order, he cannot help bringing himself into accord with the proportions of the cosmos and reproducing them internally. He manifests these proportions, which he sees in the motions of nature and the harmonic series of music, within himself; he forms himself through mimesis. Through the soul’s likening itself to the ordered motion of the cosmos, theory enters the conduct of life. In ethos theory molds life to its form and is reflected in the conduct of those who subject themselves to its discipline.

This concept of theory and of life in theory has defined philosophy since its beginnings. The distinction between theory in this traditional sense and theory in the sense of critique was the object of one of Max Horkheimer’s most important studies. Today, a generation later, I should like to reexamine this theme, starting with Husserl’s The Crisis of the European Sciences, which appeared at about the same time as Horkheimer’s. Husserl used as his frame of reference the very concept of theory that Horkheimer was countering with that of critical theory. Husserl was concerned with crisis: not with crises in the sciences, but with their crisis as science. For “in our vital state of need this science has nothing to say to us.” Like almost all philosophers before him, Husserl, without second thought, took as the norm of his critique an idea of knowledge that preserves the Platonic connection of pure theory with the conduct of life. What ultimately produces a scientific culture is not the information content of theories but the formation among theorists themselves of a thoughtful and enlightened mode of life. The evolution of the European mind seemed to be aiming at the creation of a scientific culture of this sort. After 1933, however, Husserl saw this historical tendency endangered. He was convinced that the danger was threatening not from without but from within. He attributed the crisis to the circumstance that the most advanced disciplines, especially physics, had degenerated from the status of true theory.

II

Let us consider this thesis. There is a real connection between the positivistic self-understanding of the sciences and traditional ontology. The empirical-analytic sciences develop their theories in a self-understanding that automatically generates continuity with the beginnings of philosophical thought. For both are committed to a theoretical attitude that frees those who take it from dogmatic association with the natural interests of life and their irritating influence; and both share the cosmological intention of describing the universe theoretically in its lawlike order, just as it is. In contrast, the historical-hermeneutic sciences, which are concerned with the sphere of transitory things and mere opinion, cannot be linked up so smoothly with this tradition—they have nothing to do with cosmology. But they, too, comprise a scientific consciousness, based on the model of science. For even the symbolic meanings of tradition seem capable of being brought together in a cosmos of facts in ideal simultaneity. Much as the cultural sciences may comprehend their facts through understanding and little though they may be concerned with discovering general laws, they nevertheless share with the empirical-analytic sciences the methodological consciousness of describing a structured reality within the horizon of the theoretical attitude. Historicism has become the positivism of the cultural and social sciences.

Positivism has also permeated the self-understanding of the social sciences, whether they obey the methodological demands of an empirical-analytic behavioral science or orient themselves to the pattern of normative-analytic sciences, based on presuppositions about maxims of action. In this field of inquiry, which is so close to practice, the concept of value-freedom (or ethical neutrality) has simply reaffirmed the ethos that modern science owes to the beginnings of theoretical thought in Greek philosophy: psychologically an unconditional commitment to theory and epistemologically the severance of knowledge from interest. This is represented in logic by the distinction between descriptive and prescriptive statements, which makes grammatically obligatory the filtering out of merely emotive from cognitive contents.

Yet the very term “value freedom” reminds us that the postulates associated with it no longer correspond to the classical meaning of theory. To dissociate values from facts means countenancing an abstract Ought to pure Being. Values are the nomi-
nalistic by-products of a centuries-long critique of the emphatic concept of Being to which theory was once exclusively oriented. The very term "values," which neo-Kantianism brought into philosophical currency, and in relation to which science is supposed to preserve neutrality, renounces the connection between the two that theory originally intended.

Thus, although the sciences share the concept of theory with the major tradition of philosophy, they destroy its classical claim. They borrow two elements from the philosophical heritage: the methodological meaning of the theoretical attitude and the basic ontological assumption of a structure of the world independent of the knower. On the other hand, however, they have abandoned the connection of theoria and kosmos, of mimesis and bios theoretikos that was assumed from Plato through Husserl. What was once supposed to comprise the practical efficacy of theory has now fallen prey to methodological prohibitions. The conception of theory as a process of cultivation of the person has become apocryphal. Today it appears to us that the mimetic conformity of the soul to the proportions of the universe, which seemed accessible to contemplation, had only taken theoretical knowledge into the service of the internalization of norms and thus estranged it from its legitimate task.

III

In fact the sciences had to lose the specific significance for life that Husserl would like to regenerate through the renovation of pure theory. I shall reconstruct his critique in three steps. It is directed in the first place against the objectivism of the sciences, for which the world appears objectively as a universe of facts whose lawlike connection can be grasped descriptively. In truth, however, the knowledge of the objectively objective world of facts has its transcendental basis in the prescientific world. The possible objects of scientific analysis are constituted a priori in the self-evidence of our primary life-world. In this layer phenomenology discloses the products of a meaning-generative subjectivity. Second, Husserl would like to show that this productive subjectivity disappears under the cover of an objec-

tivistic self-understanding, because the sciences have not radically freed themselves from interests rooted in the primary life-world. Only phenomenology breaks with the naive attitude in favor of a rigorously contemplative one and definitively frees knowledge from interest. Third, Husserl identifies transcendental self-reflection, to which he accords the name of phenomenological description, with theory in the traditional sense. The philosopher owes the theoretical attitude to a transposition that liberates him from the fabric of empirical interests. In this regard theory is "unpractical." But this does not cut it off from practical life. For, according to the traditional concept, it is precisely the consistent abstinence of theory that produces action-orienting culture. Once the theoretical attitude has been adopted, it is capable in turn of being mediated with the practical attitude:

This occurs in the form of a novel practice . . . , whose aim is to elevate mankind to all forms of veridical norms through universal scientific reason, to transform it into a fundamentally new humanity, capable of absolute self-responsibility on the basis of absolute theoretical insight.

If we recall the situation of thirty years ago, the prospect of rising barbarism, we can respect this invocation of the therapeutic power of phenomenological description; but it is unfounded. At best, phenomenology grasps transcendental norms in accordance with which consciousness necessarily operates. It describes (in Kantian terms) laws of pure reason, but not norms of a universal legislation derived from practical reason, which a free will could obey. Why, then, does Husserl believe that he can claim practical efficacy for phenomenology as pure theory? He errs because he does not discern the connection of positivism, which he justifiably criticizes, with the ontology from which he unconsciously borrows the traditional concept of theory.

Husserl rightly criticizes the objectivist illusion that dictates the sciences with the image of a reality-in-itself consisting of facts structured in a lawlike manner, it conceals the constitution of these facts, and thereby prevents consciousness of the
interlocking of knowledge with interests from the life-world. Because phenomenology brings this to consciousness, it is itself, in Husserl's view, free of such interests. It thus earns the title of pure theory unjustly claimed by the sciences. It is to this freeing of knowledge from interest that Husserl attaches the expectation of practical efficacy. But the error is clear. Theory in the sense of the classical tradition only had an impact on life because it was thought to have discovered in the cosmic order an ideal world structure, including the prototype for the order of the human world. Only as cosmology was theory also capable of orienting human action. Thus Husserl cannot expect self-formative processes to originate in a phenomenology that, as transcendental philosophy, purifies the classical theory of its cosmological contents, conserving something like the theoretical attitude only in an abstract manner. Theory had educational and cultural implications not because it had freed knowledge from interest. To the contrary, it did so because it derived pseudonormative power from the concealment of its actual interest. While criticizing the objectivist self-understanding of the sciences, Husserl accumbs to another objectivism, which was always attached to the traditional concept of theory.

IV

In the Greek tradition, the same forces that philosophy reduces to powers of the soul still appeared as gods and superhuman powers. Philosophy domesticated them and banished them to the realm of the soul as internalized demons. If from this point of view we regard the drives and affects that enmesh man in the empirical interests of his inconstant and contingent activity, then the attitude of pure theory, which promises purification from these very affects, takes on a new meaning: disininterested contemplation then obviously signifies emancipation. The release of knowledge from interest was not supposed to purify theory from the obfuscations of subjectivity but inversely to provide the subject with an ecstatic purification from the passions. What indicates the new stage of emancipation is that cathar-
relation to the prior frame of reference to which they are affixed, the objectivist illusion dissolves and makes visible a knowledge-constitutive interest.

There are three categories of processes of inquiry for which a specific connection between logical-methodological rules and knowledge-constitutive interests can be demonstrated. This demonstration is the task of a critical philosophy of science that escapes the laws of positivism. The approach of the empirical-analytic sciences incorporates a technical cognitive interest; that of the empirical-hermeneutic sciences incorporates a practical one; and the approach of critically oriented sciences incorporates the emancipatory cognitive interest that, as we saw, was at the root of traditional theories. I should like to clarify this thesis by means of a few examples.

V

In the empirical-analytic sciences the frame of reference that prejudges the meaning of possible statements establishes rules both for the construction of theories and for their critical testing. Theories comprise hypothetico-deductive connections of propositions, which permit the deduction of lawlike hypotheses with empirical content. The latter can be interpreted as statements about the covariance of observable events; given a set of initial conditions, they make predictions possible. Empirical-analytic knowledge is thus possible predictive knowledge. However, the meaning of such predictions, that is their technical exploitability, is established only by the rules according to which we apply theories to reality.

In controlled observation, which often takes the form of an experiment, we generate initial conditions and measure the results of operations carried out under these conditions. Empiricism attempts to ground the objectivist illusion in observations expressed in basic statements. These observations are supposed to be reliable in providing immediate evidence without the admixture of subjectivity. In reality basic statements are not simple representations of facts in themselves, but express the success or failure of our operations. We can say that facts and the relations between them are apprehended descriptively. But this way of talking must not conceal that as such the facts relevant to the empirical sciences are first constituted through an a priori organization of our experience in the behavioral system of instrumental action.

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.

The historical-hermeneutic sciences gain knowledge in a different methodological framework. Here the meaning of the validity of propositions is not constituted in the frame of reference of technical control. The levels of formalized language and objectified experience have not yet been divorced. For theories are not constructed deductively and experience is not organized with regard to the success of operations. Access to the facts is provided by the understanding of meaning, not observation. The verification of lawlike hypotheses in the empirical-analytic sciences has its counterpart here in the interpretation of texts. Thus the rules of hermeneutics determine the possible meaning of the validity of statements of the cultural sciences.

Historicism has taken the understanding of meaning, in which mental facts are supposed to be given in direct evidence, and grafted onto it the objectivist illusion of pure theory. It appears as though the interpreter transposes himself into the horizon of the world or language from which a text derives its meaning. But here, too, the facts are first constituted in relation to the standards that establish them. Just as positivist self-understanding does not take into account explicitly the connection between measurement operations and feedback control, so it eliminates from consideration the interpreter's pre-understanding. Hermeneutic knowledge is always mediated through this pre-understanding, which is derived from the interpreter's initial situation. The world of traditional meaning discloses itself to the interpreter only to the extent that his own world becomes clari-
fied at the same time. The subject of understanding establishes communication between both worlds. He comprehends the substantive content of tradition by applying it to himself and his situation.

If, however, methodological rules unite interpretation and application in this way, then this suggests that hermeneutic inquiry discloses reality subject to a constitutive interest in the preservation and expansion of the intersubjectivity of possible action-orienting mutual understanding. The understanding of meaning is directed in its very structure toward the attainment of possible consensus among actors in the framework of a self-understanding derived from tradition. This we shall call the practical cognitive interest, in contrast to the technical.

The systematic sciences of social action, that is, economics, sociology, and political science, have the goal, as do the empirical-analytic sciences, of producing homological knowledge. A critical social science, however, will not remain satisfied with this. It is concerned with going beyond this goal to determine when theoretical statements grasp invariant regularities of social action as such and when they express ideologically frozen relations of dependence that can in principle be transformed. To the extent that this is the case, the critique of ideology, as well, moreover, as psychoanalysis, takes into account that information about lawlike connections sets off a process of reflection in the consciousness of those whom the laws are about. Thus the level of unreflected consciousness, which is one of the initial conditions of such laws, can be transformed. Of course, to this end a critically mediated knowledge of laws cannot through reflection alone render a law itself inoperative, but it can render it inapplicable.

The methodological framework that determines the meaning of the validity of critical propositions of this category is established by the concept of self-reflection. The latter releases the subject from dependence on hypothetized powers. Self-reflection is determined by an emancipatory cognitive interest. Critically oriented sciences share this interest with philosophy.

However, as long as philosophy remains caught in ontology, it is itself subject to an objectivism that disguises the constitution of its knowledge with the human interest in autonomy and responsibility (Mündigkeit). There is only one way in which it can acquire the power that it vainly claims for itself in virtue of its seeming freedom from presuppositions: by acknowledging its dependence on this interest and turning against its own illusion of pure theory the critique it directs at the objectivism of the sciences.11

VI

The concept of knowledge-constitutive human interests already conjoins the two elements whose relation still has to be explained: knowledge and interest. From everyday experience we know that ideas serve often enough to furnish our actions with justifying motives in place of the real ones. What is called rationalization at this level is called ideology at the level of collective action. In both cases the manifest content of statements is falsified by consciousness' unreflected tie to interests, despite its illusion of autonomy. The discipline of trained thought thus correctly aims at excluding such interests. In all the sciences routines have been developed that guard against the subjectivity of opinion, and a new discipline, the sociology of knowledge, has emerged to counter the uncontrolled influence of interests on a deeper level, which derive less from the individual than from the objective situation of social groups. But this accounts for only one side of the problem. Because science must secure the objectivity of its statements against the pressure and seduction of particular interests, it deludes itself about the fundamental interests to which it owes not only its impetus but the conditions of possible objectivity themselves.

Orientation toward technical control, toward mutual understanding in the conduct of life, and toward emancipation from seemingly "natural" constraint establish the specific viewpoints from which we can apprehend reality as such in any way whatever. By becoming aware of the impossibility of getting beyond these transcendental limits, a part of nature acquires, through us, autonomy in nature. If knowledge could ever outwit its innate human interest, it would be by comprehending that
the mediation of subject and object that philosophical consciousness attributes exclusively to its own synthesis is produced originally by interests. The mind can become aware of this natural basis reflexively. Nevertheless, its power extends into the very logic of inquiry.

Representations and descriptions are never independent of standards. And the choice of these standards is based on attitudes that require critical consideration by means of arguments, because they cannot be either logically deduced or empirically demonstrated. Fundamental methodological decisions, for example such basic distinctions as those between categorical and noncategorical being, between analytic and synthetic statements, or between descriptive and emotive meaning, have the singular character of being neither arbitrary nor compelling. They prove appropriate or inappropriate. For their criterion is the metalogical necessity of interests that we can neither prescribe nor represent, but with which we must instead come to terms. Therefore my first thesis is this: The achievements of the transcendental subject have their basis in the natural history of the human species.

Taken by itself this thesis could lead to the misunderstanding that reason is an organ of adaptation for men just as claws and teeth are for animals. True, it does serve this function. But the human interests that have emerged in man's natural history, to which we have traced back the three knowledge-constitutive interests, derive both from nature and from the cultural break with nature. Along with the tendency to realize natural drives they have incorporated the tendency toward release from the constraint of nature. Even the interest in self-preservation, natural as it seems, is represented by a social system that compensates for the lack of man's organic equipment and secures his historical existence against the force of nature threatening from without. But society is not only a system of self-preservation. An enticing natural force, present in the individual as libido, has detached itself from the behavioral system of self-preservation and urges toward utopian fulfillment. These individual demands, which do not initially accord with the requirement of collective self-preservation, are also absorbed by the social system. That is why the cognitive processes to which social life is indissolubly linked function not only as means to the reproduction of life; for in equal measure they themselves determine the definitions of this life. What may appear as naked survival is always in its roots a historical phenomenon. For it is subject to the criterion of what a society intends for itself as the good life. My second thesis is thus that knowledge equally serves as an instrument and transcends mere self-preservation.

The specific viewpoints from which, with transcendental necessity, we apprehend reality ground three categories of possible knowledge: information that expands our power of technical control; interpretations that make possible the orientation of action within common traditions; and analyses that free consciousness from its dependence on hypothesized powers. These viewpoints originate in the interest structure of a species that is linked in its roots to definite means of social organization: work, language, and power. The human species secures its existence in systems of social labor and self-assertion through violence, through tradition-bound social life in ordinary-language communication, and with the aid of ego identifications that at every level of individuation reconsolidate the consciousness of the individual in relation to the norms of the group. Accordingly the interests constitutive of knowledge are linked to the functions of an ego that adapts itself to its external conditions through learning processes, is initiated into the communication system of a social life-world by means of self-formative processes, and constructs an identity in the conflict between instinctual aims and social constraints. In turn these achievements become part of the productive forces accumulated by a society, the cultural tradition through which a society interprets itself, and the legitimations that a society accepts or criticizes. My third thesis is thus that knowledge-constitutive interests take form in the medium of work, language, and power.

However, the configuration of knowledge and interest is not the same in all categories. It is true that at this level it is always illusory to suppose an autonomy, free of presuppositions, in which knowing first grasps reality theoretically, only to be taken subsequently into the service of interests alien to it. But the mind can always reflect back upon the interest structure
that joins subject and object a priori: this is reserved to self-reflection. If the latter cannot cancel out-interest, it can to a certain extent make up for it.

It is no accident that the standards of self-reflection are exempted from the singular state of suspension in which those of all other cognitive processes require critical evaluation. They possess theoretical certainty. The human interest in autonomy and responsibility is not mere fancy, for it can be apprehended a priori. What raises us out of nature is the only thing whose nature we can know: language. Through its structure, autonomy and responsibility are posited for us. Our first sentence expresses unequivocally the intention of universal and unconstrained consensus. Taken together, autonomy and responsibility constitute the only idea the we possess a priori in the sense of the philosophical tradition. Perhaps that is why the language of German Idealism, according to which “reason” contains both will and consciousness as its elements, is not quite obsolete. Reason also means the will to reason. In self-reflection knowledge for the sake of knowledge attains congruence with the interest in autonomy and responsibility. The emancipatory cognitive interest aims at the pursuit of reflection as such. My fourth thesis is thus that in the power of self-reflection, knowledge and interest are one.

However, only in an emancipated society, whose members’ autonomy and responsibility had been realized, would communication have developed into the non-authoritarian and universally practiced dialogue from which both our model of reciprocally constituted ego identity and our idea of true consensus are always implicitly derived. To this extent the truth of statements is based on anticipating the realization of the good life. The ontological illusion of pure theory behind which knowledge-constitutive interests become invisible promotes the fiction that Socratic dialogue is possible everywhere and at any time. From the beginning philosophy has presumed that the autonomy and responsibility posited with the structure of language are not only anticipated but real. It is pure theory, wanting to derive everything from itself, that succumbs to unacknowledged external conditions and becomes ideological. Only when philos-

ophy discovers in the dialectical course of history the traces of violence that deform repeated attempts at dialogue and recurrently close off the path to unconstrained communication does it further the process whose suspension it otherwise legitimates: mankind’s evolution toward autonomy and responsibility. My fifth thesis is thus that the unity of knowledge and interest proves itself in a dialectic that takes the historical traces of suppressed dialogue and reconstructs what has been suppressed.

VII

The sciences have retained one characteristic of philosophy: the illusion of pure theory. This illusion does not determine the practice of scientific research but only its self-understanding. And to the extent that this self-understanding reacts back upon scientific practice, it even has its point.

The glory of the sciences is their unswerving application of their methods without reflecting on knowledge-constitutive interests. From knowing not what they do methodologically, they are that much surer of their discipline, that is of methodical progress within an unproblematic framework. False consciousness has a protective function. For the sciences lack the means of dealing with the risks that appear once the connection of knowledge and human interest has been comprehended on the level of self-reflection. It was possible for fascism to give birth to the freak of a national physics and Stalinism to that of a Soviet Marxist genetics (which deserves to be taken more seriously than the former) only because the illusion of objectivism was lacking. It would have been able to provide immunity against the more dangerous bewitchments of misguided reflection.

But the praise of objectivism has its limits. Husserl’s critique was right to attack it, if not with the right means. As soon as the objectivist illusion is turned into an affirmative Weltanschauung, methodologically unconscious necessity is perverted to the dubious virtue of a scientistic profession of faith. Objectivism in no way prevents the sciences from intervening in the conduct of life, as Husserl thought it did. They are integrated into it in any case. But they do not of themselves de-
velop their practical efficacy in the direction of a growing rationality of action.

Instead, the positivist self-understanding of the nomological sciences lends countenance to the substitution of technology for enlightenment. It directs the utilization of scientific information from an illusory viewpoint, namely that the practical mastery of history can be reduced to technical control of objectified processes. The objectivist self-understanding of the hermeneutic sciences is of no lesser consequence. It defendssterilized knowledge against the reflected appropriation of active traditions and locks up history in a museum. Guided by the objectivist attitude of theory as the image of facts, the nomological and hermeneutical sciences reinforce each other with regard to their practical consequences. The latter displace our connection with tradition into the realm of the arbitrary, while the former, on the levelled-off basis of the repression of history, squeeze the conduct of life into the behavioral system of instrumental action. The dimension in which acting subjects could arrive rationally at agreement about goals and purposes is surrendered to the obscure area of mere decision among refined value systems and irrational beliefs. When this dimension, abandoned by all men of good will, is subjected to reflection that relates to history objectivistically, as did the philosophical tradition, then positivism triumphs at the highest level of thought, as with Comte. This happens when critique uncritically abdicates its own connection with the emancipatory knowledge-constitutive interest in favor of pure theory. This sort of high-flown critique projects the undecided process of the evolution of the human species onto the level of a philosophy of history that dogmatically issues instructions for action. A delusive philosophy of history, however, is only the obverse of deluded decisionism. Bureaucratically prescribed partisanship goes only too well with contemplatively misunderstood value freedom.

These practical consequences of a restricted, scientistic consciousness of the sciences can be countered by a critique that destroys the illusion of objectivism. Contrary to Hesel's expectations, objectivism is eliminated not through the power of renewed theoria but through demonstrating what it conceals: the connection of knowledge and interest. Philosophy remains true to its classic tradition by renouncing it. The insight that the truth of statements is linked in the last analysis to the intention of the good and true life can be preserved today only on the ruins of ontology. However even this philosophy remains a specialty alongside of the sciences and outside public consciousness as long as the heritage that it has critically abandoned lives on in the positivistic self-understanding of the sciences.