

**CRITICAL
THEORY
SELECTED ESSAYS
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NOTES ON SCIENCE AND THE CRISIS

1. In the Marxist theory of society, science is regarded as one of man's productive powers. In varying ways it has made the modern industrial system possible: as condition of the general flexibility of mind which has developed along with science over recent centuries; as a store of information on nature and the human world, which in the more developed countries is possessed even by people in the lower social classes; and, not least, as part of the intellectual equipment of the researcher, whose discoveries decisively affect the forms of social life. In so far as science is available as a means of creating social values, that is, in so far as it takes shape in methods of production, it constitutes a means of production.

2. The fact that science contributes to the social life-process as a productive power and a means of production in no way legitimates a pragmatist theory of knowledge. The fruitfulness of knowledge indeed plays a role in its claim to truth, but the fruitfulness in question is to be understood as intrinsic to the science and not as usefulness for ulterior purposes. The test of the truth of a judgment is something different from the test of its importance for human life. It is not for social interests to decide what is or is not true; the criteria for truth have developed, rather, in connection with progress at the theoretical level. Science itself admittedly changes in the course of history, but this fact can never stand as an argument for other criteria of truth than those which are appropriate to the state of knowledge at a given level of development. Even though science is subject to the dynamics of history, it may not be deprived of its own proper char-

acter and misinterpreted for utilitarian ends. Of course, the reasons which justify rejecting the pragmatist theory of knowledge and relativism in general, do not lead to a positivist separation of truth and action. On the one hand, neither the direction and methods of theory nor its object, reality itself, are independent of man, and, on the other hand, science is a factor in the historical process. The separation of theory and action is itself an historical phenomenon.

3. In the general economic crisis, science proves to be one of the numerous elements within a social wealth which is not fulfilling its function. This wealth is immensely greater today than in previous eras. The world now has more raw materials, machines, and skilled workers, and better methods of production than ever before, but they are not profiting mankind as they ought. Society in its present form is unable to make effective use of the powers it has developed and the wealth it has amassed. Scientific knowledge in this respect shares the fate of other productive forces and means of production: its application is sharply disproportionate to its high level of development and to the real needs of mankind. Such a situation hinders the further development, qualitative and quantitative, of science itself. As the course of earlier crises warns us, economic balance will be restored only at the cost of great destruction of human and material resources.

4. One way of hiding the real causes of the present crisis is to assign responsibility for it to precisely those forces which are working for the betterment of the human situation, and this means, above all, rational, scientific thinking. The attempt is being made to subordinate the more intense cultivation of such thinking by individuals to the development of the "psychic" and to discredit critical reason as a decisive factor except for its professional application in industry. The view is abroad that reason is a useful instrument only for purposes of everyday life, but must fall silent in face of the great problems and give way to the more substantial powers of the soul. The result is the avoidance of any theoretical consideration of society as a whole. The

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struggle of contemporary metaphysics against scientism is in part a reflection of these broader social tendencies.

5. Science in the pre-War years had in fact a number of limitations. These were due, however, not to an exaggeration of its rational character but to restrictions on it which were themselves conditioned by the increasing rigidification of the social situation. The task of describing facts without respect for nonscientific considerations and of establishing the patterns of relations between them was originally formulated as a partial goal of bourgeois emancipation in its critical struggle against Scholastic restrictions upon research. But by the second half of the nineteenth century this definition had already lost its progressive character and showed itself to be, on the contrary, a limiting of scientific activity to the description, classification, and generalization of phenomena, with no care to distinguish the unimportant from the essential. In the measure that concern for a better society, which still dominated the Enlightenment, gave way to the attempt to prove that present-day society should be permanent, a deadening and disorganizing factor entered science. The result of science, at least in part, may have been usefully applied in industry, but science evaded its responsibility when faced with the problem of the social process as a whole. Yet this was the foremost problem of all even before the War, as ever more intense crises and resultant social conflicts succeeded one another. Scientific method was oriented to being and not to becoming, and the form of society at the time was regarded as a mechanism which ran in an unvarying fashion. The mechanism might be disturbed for a shorter or longer period, but in any event it did not require a different scientific approach than did the explanation of any complicated piece of machinery. Yet social reality, the development of men acting in history, has a structure. To grasp it requires a theoretical delineation of profoundly transformative processes which revolutionize all cultural relationships. The structure is not to be mastered by simply recording events as they occur, which was the method practiced in old-style natural science. The refusal of science to handle in

an appropriate way the problems connected with the social process has led to superficiality in method and content, and this superficiality, in turn, has found expression in the neglect of dynamic relationships between the various areas with which science deals, while also affecting in quite varied ways the practice of the disciplines. Connected with this narrowing of scientific purview is the fact that a set of unexplicated, rigid, and fetishistic concepts can continue to play a role, when the real need is to throw light on them by relating them to the dynamic movement of events. Some examples: the concept of the self-contained consciousness as the supposed generator of science; the person and his world-positing reason; the eternal natural law, dominating all events; the unchanging relationship of subject and object; the rigid distinction between mind and nature, soul and body, and other categorical formulations. The root of this deficiency, however, is not in science itself but in the social conditions which hinder its development and are at loggerheads with the rational elements immanent in science.

6. Since around the turn of the century scientists and philosophers have pointed out the insufficiencies and unsuitability of purely mechanistic methods. The criticism has led to discussion of the principles involved in the main foundations on which research rests, so that today we may speak of a crisis within science. This inner crisis is now added to the external dissatisfaction with science as a means of production which has not been able to meet expectations in alleviating the general need. Modern physics has in large measure overcome within its own field the deficiencies of the traditional method and has revised its critical foundations. It is to the credit of postwar metaphysics, especially that of Max Scheler, that it has once again turned the attention of science as a whole to numerous neglected areas and prepared the way at many points for a method less hindered by conventional narrowness of outlook. Above all, the description of important psychic phenomena, the delineation of social types, and the founding of a sociology of knowledge have had fruitful results. Yet, leaving aside the fact that essays in meta-

physics almost always presented as concrete reality something called "life," that is, a mythical essence, and not real, living society in its historical development, such essays in the last analysis did not stimulate science but were simply negative towards it. Instead of pointing out and finally breaking through the limitations science had put upon itself by its narrow concentration on classification, metaphysics identified the very inadequate science of former times with rationality as such; it denied even judgmental thinking and abandoned itself to arbitrarily chosen objects and to a method cut completely loose from science. A philosophical anthropology arose which, in its independence, absolutized certain characteristics of man; to critical reason it opposed an intuition which rejected all restraining scientific criteria and trusted unquestioningly in its own clarity of vision. Metaphysics thereby turned its back on the causes of the social crisis and even downgraded the means of investigating it. It introduced a new confusion of its own by hypostatizing isolated, abstractly conceived man and thereby belittling the importance of a theoretical comprehension of social processes.

7. Not only metaphysics but the science it criticizes is ideological, in so far as the latter retains a form which hinders it in discovering the real causes of the crisis. To say it is ideological is not to say that its practitioners are not concerned with pure truth. Every human way of acting which hides the true nature of society, built as it is on contrarities, is ideological, and the claim that philosophical, moral, and religious acts of faith, scientific theories, legal maxims, and cultural institutions have this function is not an attack on the character of those who originate them but only states the objective role such realities play in society. Views valid in themselves and theoretical and aesthetic works of undeniably high quality can in certain circumstances operate ideologically, while many illusions, on the contrary, are not a form of ideology. The occurrence of ideology in the members of a society necessarily depends on their place in economic life; only when relationships have so far developed and conflicts of interest have reached such an intensity that even the

average eye can penetrate beyond appearances to what is really going on, does a conscious ideological apparatus in the full sense usually make its appearance. As an existing society is increasingly endangered by its internal tensions, the energies spent in maintaining an ideology grow greater and finally the weapons are readied for supporting it with violence. The more the Roman Empire was threatened by explosive inner forces, the more brutally did the Caesars try to revitalize the old cult of the State and to restore the lost sense of unity. The ages which followed the Christian persecutions and the fall of the Empire supply many other frightful examples of the same recurring pattern. In the science of such periods the ideological dimension usually comes to light less in its false judgments than in its lack of clarity, its perplexity, its obscure language, its manner of posing problems, its methods, the direction of its research, and, above all, in what it closes its eyes to.

8. At the present time, scientific effort mirrors an economy filled with contradictions. The economy is in large measure dominated by monopolies, and yet on the world scale it is disorganized and chaotic, richer than ever yet unable to eliminate human wretchedness. Science, too, shows a double contradiction. First, science accepts as a principle that its every step has a critical basis, yet the most important step of all, the setting of tasks, lacks a theoretical grounding and seems to be taken arbitrarily. Second, science has to do with a knowledge of comprehensive relationships; yet, it has no realistic grasp of that comprehensive relationship upon which its own existence and the direction of its work depend, namely, society. The two contradictions are closely connected. The process of casting light on the social life-process in its totality brings with it the discovery of the law which holds sway in the apparent arbitrariness of the scientific and other endeavors. For science, too, is determined in the scope and direction of its work not by its own tendencies alone but, in the last analysis, by the necessities of social life as well. Despite this law a wasteful dispersal of intellectual energies has characterized the course of science over