

Bordiga and Science

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*In your book *Passion and Algebra*, in some passages in No. 15-16 of the journal on the Marxist theory of knowledge, in *Science and Revolution*, and in some articles, you state that Amadeo Bordiga was well acquainted with the foundations of the science of his epoch and that therefore his critique of it was based on direct knowledge. I would add that then it should not be a criticism of science, since humanity can only express what it knows in a given epoch in relation to the social form; in short, there could be no other science. Nor could it be a critique of 'bourgeois' science, since in this case the use does not depend on science as such but on the interests of a particular class. In both cases the criticism would be sterile because it would hit obvious targets. So I have the impression that there is more to Bordiga's rage against science in this era than 'criticism'.*

On the other hand, Bordiga rejects philosophy and treats it as a dead branch in the tree of knowledge, whereas in the course of the 20th century one could even see a qualitative leap in philosophy: Marx's assumption, according to which philosophers are increasingly forced to talk about science to the point of achieving an almost complete identity between science and philosophy, as demonstrated by both the neo-positivists of the Vienna School and the various Kuhns, Poppers, Lakatos, Feyerabend and even Geymonat, a politically somewhat confused Maoist, whom you strangely reviewed, is verified.

Whichever way one looks at the question of Bordiga's relationship to philosophy, art and science, it is clear that he saved art (he did not pronounce on contemporary art) and condemned to death the other two branches of knowledge in this era. Extremising his concepts, that is, summarizing them even more than he did himself, we can say that he did not believe possible, as long as capitalism lasts, the existence of unitary forms of knowledge, that is, artistic, scientific and "philosophical" at the same time. Capitalism is a dualistic society by its very nature and therefore must deny in practice and theory the union of art and science. If he had written around the philosophers or epistemologists you cite, he would have simply said, with Marx, that philosophy was forced to cancel itself into science. In practice, for Bordiga, the integration that was typical in other eras, those that expressed a Leonardo or a Galileo, would not be possible today.

Consequently, philosophy, now having come to deny itself, crushed by the supremacy of science, no longer makes sense, while science, truncated by its own totalizing success, involutes itself by becoming mere technology at the

service of class society. For this reason, science bends to ideology (not to philosophy) and falls into a religious-type mysticism, inventing a dualistic world on several levels: 1) that of the separation between science and humanism (Croce, Gramsci, etc.); 2) that of the separation between matter and spirit; 3) that of the separation between the visible world and the microscopic world (thus between the world of determinism, which is defined as "mechanistic," and the micro world of indeterminism raised to neo-religion).

Bordiga seems to derive his granitic certainty about the scientific decadence of capitalism from a remarkable epistemological anticipation: capitalism is the most self-referential society that has ever existed and therefore cannot produce new knowledge about itself, it can only repeat the axioms accrued during its rise. This, with others, is such an important proposition that it needs to be explained.

In the Notes we published in No. 15-16 he mentions the incompleteness of formal logic and writes that logic is bent by science and philosophy to serve thought, whereas it can only be derived from the reality reflected in thought. The logical process of knowing can therefore only be infinite, because every tool of knowing is inferior to the reality to be known (the example is given of a precision mechanical part obtained with a tool necessarily of inferior precision, since obviously there is first the tool and then its product).

This important concept is related to a paragraph in *Antidühring*, chosen and summarized by Bordiga among many others, which shows us how attentive he was to the scientific developments of his time, without falling into the apologia of a "neutral" science. The observation about the incompleteness of formal logic could only be made by Engels on the basis of the knowledge attained in his time, for example by Gauss (Engels cites him for the calculus in more than three dimensions), Bolyai and Lobachevsky, who were the forerunners of non-Euclidean geometry and sensed the impossibility of proving certain propositions from within a given system. But Bordiga was certainly familiar with the new developments of the twentieth century, and this is also detected through fragmentary notes that were to be used for popularization. Bertrand Russell and Alfred Whitehead had attempted, in the years 1910-13, to bring to a "finite" system all the logical propositions underlying mathematics, but they succeeded only partially in their intent because they had to resort to ad hoc axioms to make their research conclusive. Bordiga could not have written those notes if he had not known Russell's conclusions. And on the other hand he would certainly have used less cautious expressions had he known the later work based on the mathematician-philosopher's premises.

It was only in 1931, in fact, that Kurt Gödel published his "proof" that from within a given system it is not possible to prove the validity of the system itself. And since Gödel had developed in an article the formally undecidable

propositions contained in Russel-Whitehead's work, we derived indirect confirmation of both Bordiga's cognitive path and the dating of the Notes to the Ustica period (1926-27).

Our reconstruction, brief for the importance of the issue and far too long for an exchange of ideas such as this, shows how Bordiga's critique of the science of the present is in no way comparable to that of so many critics today. Those who stigmatize above all the inhuman use of science by the bourgeoisie and at most go so far as to claim that it possesses within itself the capacity to dominate man and enslave him, but are intimately convinced that within this society science can be something other than what it is. Bordiga, on the contrary, sees in current science an inherent and insuperable inability to understand the world and the man who lives in it; at the same time he is fascinated by it because he sees in it the only possibility of salvation for the human species. Like Marx, he stresses that man's true anthropological nature is not his own pseudo-humanity tarred by class relations, but it is science, linked to industry, that makes him capable of overthrowing the praxis of society to which nature, anarchic, has led him.

Capitalism is the last natural society before the human one. It was a necessary and now accomplished transition. The solution to the double knot to be untied now lies in social overthrow: science can only be freed from its present limitation by overthrowing capitalism itself.