Einstein and Marx

Theory of Relativity and Dialectic Materialism

by Will Herberg

We have emphasized more than once in these articles that the theory of relativity has generally been utilized to undermine the foundations of philosophical materialism and to bolster up idealism in some form or other. It is true that Einstein himself has not drawn any such conclusions or indeed any conclusions of a philosophical nature but the impression is probably justified that Einstein leans to a pronounced degree towards the empirical-idealist viewpoint (Machism) and regards his discoveries as something of a support of this viewpoint. On the other hand it should be made clear that Mach himself refused to have anything to do with the theory of relativity while the consistent materialist and anti-Machist scientist, Max Planck, has accorded complete recognition to Einstein's discoveries. It is even more significant that the German "fictionalists" (extreme idealists), such as Lipsius, Links and Kraus, consider themselves as thorogoing philosophical opponents of Einstein's views which they regard as a bulwark of materialism. Yet, however important all this may be, it is nevertheless clear that to determine the real philosophical meaning of Einstein's stein's theories an independent examination of these theories is necessary. An attempt at such an examination *in merely outline form* will be made in this article.

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The thesis of the following paragraphs is that *the theory of relativity not only does not stand in disagreement with the viewpoint of dialectic materialism but is, on the contrary, a striking confirmation of this viewpoint as applied to natural science.*

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The Criterion of Existence

The essential feature of Einstein's scientific methodology is given in the famous dictum: *"What cannot essentially be observed, cannot be said to exist."* Time and again Einstein emphasizes that if you want to know what a physical entity ("space", "time", "simultaneity") really is, find out how it is *measured*. "The definition of a thing is given thru its measurement."

Now it certainly must be admitted that in formulating this criterion Einstein is quite ambiguous and lays himself open to the idealist-empiricist interpretation. It is easy to twist this criterion into declaring that: "What s not observed does not exist," and, since "observation" is a subjective process and depends upon the presence of an observing mind, therefore existence is purely subjective —and we have idealism, pure and simple. But this is NOT what Einstein's results say or mean; it is very much the contrary.

What these results actually do declare is that the only way the existence of anything *can become known to man* is thru entering into his experience. If something cannot, *in its very nature* be observed (enter into our experience), then it cannot be said to exist. How does this square with Marxism?

Marxism, being materialistic, maintains as a first principle that matter exists independent of and prior to human thought. Human thought (perceptions, conceptions, ideas, etc.) is the reflection in mind of the independently existing natural world. To establish the objective validity of human thought, its correspondence with the external objects it reflects, is the task of human activity, of human practice.

> "The question if objective truth is to be attributed to human thought is not a question of theory but a question of practice. It is in practice that man proves the truth, i.e., the reality and force, the this-sidedness of his thought."[1]

Einstein's criterion is essentially this. "What cannot *essentially* be observed"— what cannot *in its very nature* enter into human practice—"cannot be said to exist"—since the criterion of existence is human practice. When Einstein says that the "definition of a thing is given in its measurement" he is putting one-sidedly in the terminology of physical science the criterion of Lenin: "The definition of a thing must be given thru its relation to human practice."

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Relativity, Relativism and the Absolute

The relativity of time and space gives rise to two sorts of philosophical problems. In the first place a sharp distinction must be made between the relativity of Einstein and the "relativism" of the empiricist-idealist philosophers. Since these philosophers deny the very idea of objective existence (as independent of human thought) they must naturally deny the possibility of "absolute truths", i.e., of truths corresponding exactly with an objective reality. All truth to them is merely "relative" and cannot essentially be anything else—that is, there is nothing objective (absolute) towards which our partial (relative) knowledge is approaching more and more closely as our knowledge improves and increases. This of course, is not the viewpoint of Einstein nor is there any point of contact between his theories and "relativism" except the accidental similarity in terms and perhaps deliberate distortion on the part of the "systematic relativists."

A more serious problem is the question of the apparent subjectivity of relativity. We say: "A length (space-interval) on System A (moving at constant velocity in reference to System B) is shorter to an observer on System A than to one on System B." Does this not make the length of an object depend upon the existence (or condition) of an observer so that if there were no observer there would be no length and therefore no object? A real understanding of Einstein's ideas will show that this idealistic conclusion is thoroly illegitimate. A length is shorter as measured from one system than from another not because of the subjective condition of the observer but because of an *objective relation* between the systems of reference—their state of relative motion. The observer could well disappear, yet the objective relation would remain just the same and so would the effects on length-intervals and time-intervals. A simple illustration will make this clearer. We say Chicago is "to the East" if the observer is in San Francisco but "to the West" if the observer is in New York. But, of course, this does not mean that if there were no observer Chicago would lose its directional location! Here, in the theory of relativity, we use "observer" not as an essential thinking mind upon whom reality depends but as the designation for the objective basis of reference *relative to which* the direction of a city, or the length of an object, is determined.

On the other hand, the Newtonian (the "common sense") conception of "absolute" space and "absolute" time as "empty forms of existence", as metaphysical non-material vessels for objects and events, which would maintain their existence even if no objects or events existed at all, have always been something foreign both to materialism and to dialectics, especially the latter. Engels expressed his philosophical dissatisfaction with Newton's absolutist conception more than once. The Einsteinian conception which makes space depend *solely* upon the relation between objects, and time, *solely* upon the relation between events, is thoroly in spirit with the philosophical demands of the dialectical viewpoint.

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Unity Out of Disparity

> "In nature there are no irreconcilable contradictions, no fixed lines of demarcation or distinction and if certain contradictions and distinctions are discovered then their immobility and absoluteness are read into nature by us alone."[2]

This expresses in the clearest possible form the basic proposition of dialectics in natural science. The irreconcilability and absolutely mutually exclusive character of space and time, matter and energy, according to the old physics, constituted a serious challenge to dialectics itself as a fundamental form of reality and of viewing reality.

But the bottom falls out of this hitherto insuperable obstacle once we approach nature from the point of view of the relativity physics. The "fixed lines of demarcation" disappear, the "irreconcilable contradictions" (space vs. time, matter vs. energy) are synthesized in the relativity physics into a higher organic unity, the space-time world, the equivalence of matter and energy. Out of disparate categories—dialectic unity!

But it is precisely here that contemporary bourgeois philosophy points to what it calls the bankruptcy of materialism. If matter is equivalent to energy and both are essentially conditions of space, then does not matter disappear, is not the universe "dematerialized"? Those who raise this cry may be passable scientists but they are very indifferent philosophers.

> "The error . . . (of these physicists and philosophers) . . . is that the foundation of materialism is ignored. . . . . To put the question from the only correct, that is, dialectical-materialist standpoint, we must ask: do electrons, ether, etc. (also: energy, space—W.H.) exist as objective realities outside of the human mind? The scientists must answer this question without hesitation and the answer must be an affirmative one. Thus is the question now decided on the side of materialism for the idea, matter, . . . means nothing besides some objective reality existing independently of the human mind and reflected by it."[3]

So far from contradicting dialectical materialism the new developments in physical science even confirm it, emphasizing the dialectical nature of the processes of the universe.

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We Must Face the New Problems!

> "With each epoch-making discovery in the department of natural science, materialism has been obliged to change its form."[4]

Thus declared Engels—and Lenin adds: This is the type of revisionism "which is an integral part of Marxism." It is now surely time for Marxist thinkers, for dialectic materialists, to take up seriously the task of evaluating recent advances in science from the viewpoint of dialectic materialism and of revising the form of dialectic materialism on the basis of the most recent advances in natural science.

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(1) *Marx's "second thesis on Feuerbach." Appendix to Engels: Ludwig Feuerbach.*

(2) *Lenin: Materialism and Empiriocriticism, p. 211.*

(3) *Lenin: Materialism, etc., p. 221.*

(4) *Engels: Ludwig Feuerbach.*

THE SWISS ELECTIONS

How quickly the ultra-left course has told on the fighting powers of the Communist Party of Switzerland was shown by the recent elections in Basel for candidates to the Buergerrat. In the last three years the Party had always been gaining in influence and votes in the elections. In the 1930 elections, however, the CP of Switzerland lost about 10% of its votes and one mandate while the Social-democrats gained nearly a thousand votes and several mandates. The gain of the Social-democrats was especially noticeable in the working class districts of Basel. Basel is the center of Communist strength in Switzerland.

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In view of the tremendous increases of lynchings within the last year we publish below the story of a typical lynching as told in Scott Nearing's book "Black America".

—Editor.

Henry Lowry, a Negro about 40 years of age, was lynched in Arkansas under conditions which typify the lynching practise as it has developed in the United States.

Lowry, with his wife and a 6-year old daughter, were living on the farm of O. T. Craig, a large planter in Mississippi County, Arkansas. Lowry was rated an honest, hard-working Negro. Craig, the planter, was an extensive landowner. He and his sons controlled the political as well as the economic life of the neighborhood.

As Christmas approached, Lowry, the Negro, asked Craig for a "settlement". He had been working about two years for the white planter and it is said that Lowry was intending to move and wanted to know where he stood financially. . . O. T. Craig ordered him off the place and threw a billet of wood, which struck Lowry. At the same time, Dick Craig one of the sons, who had the reputation, among the Negroes, of being a "bad man", came out on the porch and, as Lowry was backing off, shot him. It was then that Lowry pulled his gun and shot, killing O. T. Craig and his

A Plea for

It is hard to remember a time when
Never was the need for a powerful un
employment and wage slashing.

The chaos in all existing shoe w
of the problems confronting us and to

It is for the purpose of getting ge
York that we have started this Sho

Every shoe worker—no matter to
this discussion.

Write your article or letter. We w
Shoe workers! Let us make this

The first article in this discussio
Workers Union, was published in las

The shoe industry in New York is composed of three grades of shoes, made by 25,000 shoe workers divided in the following categories: (1) stitchdown shoes, a cheap grade shoe; (2) felt slippers, for housewear; (3) high grade ladies shoes.

The Stitchdown Shops

A few words about the conditions in the various shops. In the *stitchdown shops*, the workers work for starvation wages and long hours. Sanitary conditions in the shops are inadequate and as a result disease lurks in every corner and endangers the health of the workers. The wages are at starvation level. As an example take the shop of Jacob & Sons, one of the largest shops of its kind in New York City. In spite of the long hours and wages of $20 and $25 a week for skilled workers and $8 to $15 a week for unskilled, who compose most of the crew, the bosses still find further ways of reducing their miserable wages. Here is one method they use. The firm tells the workers that there is no work and decide to make shoes for stock. The boss argues that in making stock he takes a chance and therefore the workers must accept a wage reduction of 10 to 20%. The

It is impossible not to discern clearly the partisan struggle in philosophy, a ggle which ultimately expresses the tendencies and ideology of classes hostile each other in modern society. Recent philosophy is as partisan as it was two nd years ago. The contending parties are in the main materialism and altho their nature may be concealed under a pseudo-erudite phrase-harlatanry or beneath the guise of stupid non-partisanship.

—LENIN