

But in the course of the nineteenth century, intellectuals (and everybody else, I suspect) began to confuse science with technology. When science came to be identified with technology, it had been "instrumented"; its truths became important as they were renderable into techniques. By the middle of the twentieth century, there was much voiced concern about the need for a revival of "pure" research. The justification was that this would lead to the discovery of laws which would, in turn, be renderable into techniques for technological purposes. In short, the sciences had become the handmaidens of technology.

The point of this discussion needs to be spelled out so that misunderstanding will be avoided, if that is possible. Nothing said is intended to disparage technology or to deny the connection between the sciences and technology. (Benjamin Franklin felicitously demonstrated the connection between science and technology around 200 years ago. He reasoned that lightning is electricity. He performed his famous kite experiment to prove his hypothesis. Since lightning is electricity, since electricity is a natural phenomenon, it behaves in predictable ways. In consequence of these conclusions, he made the technological application — i. e., invented the

lightning rod.) My point is that when the scientist became identified with technology, he ceased largely to speak authoritatively about the nature of the universe and, instead, provided means for manipulating things within it. He ceased to provide information about an enduring reality, or rather, he no longer made available information which was understood in this way. The treatment of reality was left to the proponents of the "new reality."

Instruments of Reform

Not only were the sciences "instrumented," then, but also they provided the method by which social reform was to be undertaken. Lester Frank Ward was enamored of the analogy between the social and the physical, and he treated the analogy as if it were a one-to-one relationship. "The sociologist," he said, "who really believes there is such a science has a right to claim that all the social forces may be utilized as the physical ones have been. He classes those who maintain the contrary along with those who once believed that the thunders were only engines of destruction, the winds powers of evil, and the gases demoniacal spirits."³

³ Lester F. Ward, *Dynamic Sociology*, I (New York: D. Appleton and Co., 1920, 2 volumes), 43.

Ward's is the underlying preconception of contemporary ameliorative reform. It should be noted that several strange equations were made: science with technology, the physical with the social, things with people. Ward saw nothing untoward, at that point, in recommending that people be manipulated according to the prescriptions of sociologists, in the same manner as physical scientists prescribe the manipulation of things. Neither has many another reformer.

The Personification of History

Before examining further the import of the "new reality," however, it is in order to give some demonstrations to substantiate the assertion that these conceptions of change, society, and psyche are used in a metaphysic-like manner. What does it mean to treat change as if it were real? It means to treat it as if it were an entity, a being with properties, attributes, and characteristics. Actually, this has frequently been done with change by personifying (thingifying, reafying, anthropomorphizing) it as History.

Let us take a simple and not very significant example first. One often hears some such statement as this: History will decide whether so and so was a great President or not. This is palpable

nonsense. There is no such being as History to render any such decision. It may be objected that I am taking a figure of speech literally, that those who make such statements really mean that historians will decide whether or not someone was a great man. If this latter were indeed the meaning to be attached to the initial statement, it would make sense, but it would be in error. Historians do not assemble in a great parliament to render the final verdict upon the characters of the past (for which oversight we should all be grateful). If they were to do so, they would only be playing at being gods. Those who have insufficient knowledge about such matters may suppose that historians come to a consensus about important figures of the past. This is not really the case. Vigorous controversies still go on about figures in the most distant past. In short, there is no reality which conforms to the view that History reaches final decisions.

But there is much reason to suspect that this usage is derived from a much more serious personifying of history. The usage to which I refer is the treatment of history as force or as a vehicle for a number of forces. The conception involved is that the past shapes the future, that the past contains trends, movements, de-