

# SCIENCE

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## THE RECENT CHANGE OF ATTITUDE TOWARD THE LAW OF CAUSE AND EFFECT<sup>1</sup>

By Professor P. W. BRIDGMAN

HARVARD UNIVERSITY

NEARLY every educated person, brought up in present-day society and under the influence of the scientific ideas and spirit which pervade our intellectual life, prides himself in the belief that nothing happens without there being some cause for it. We may briefly characterize this attitude of ours by saying that we believe in the law of cause and effect or in the causality principle. To many of not too cynical a temperament this attitude will seem the most sweeping characteristic of the mental difference between the superstitious savage and the cultivated product of a hard-won civilization.

It is now becoming common knowledge that one of the most startling developments of the altogether surprising progress of physics in the last few years has

<sup>1</sup> Address delivered at the University of Wisconsin, April 21, 1931.

been a weakening of the belief of the physicist, at least, in the validity of the causality principle. I want to examine with you this situation—to inquire in what sense we are losing our conviction of the validity of the causality principle, and to discover some of the implications. I want especially to emphasize that I am concerned only with the objective aspects of the situation. The idea of causality which we shall discuss is as remote as possible from the subjective questions of free will or determinism which are often associated with it, both in popular discussions and in a number of recent more technical discussions by scientific men. We shall be concerned only with the domain accessible to experiment, and the causality principle, in the sense in which I use the term, is a principle dealing with the findings of actual experiments.

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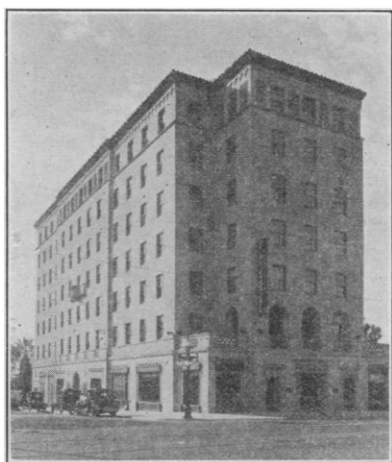
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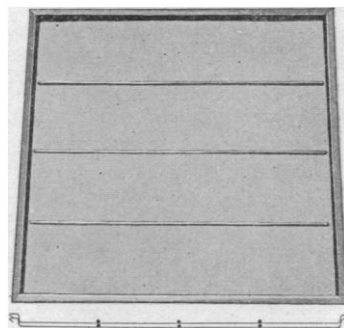
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