Verification involves the prediction, either of future events, or of the discovery of new laws. It cannot be taken unless the first three steps have preceded it—unless we prophesy under divine inspiration. An uninspired prediction which has no factual and theoretical foundation can obviously have no value. Economics, alas, has such predictions galore. The most lamentable feature about them is that, because there is always some prophet for every possible point of view, many of these oneiromantic utterances "come true" and the fortune teller acquires a reputation for knowledge and wisdom. After every event there arises a clamorous horde shouting "I told you so!" But nevertheless, if we have the patience to winnow these prophecies, we can find an occasional genuine scientific prediction. Would there were more wheat in this field of chaff!

To show in detail the application of the scientific method in a particular instance is beyond the scope of this paper, but it is possible to indicate the process in outline. We may take, for example, statistics of savings bank deposits and insurance policies in relation to interest rates. We find that in "prosperous" years interest rates have been comparatively high, and the volume of savings large. In depression years interest is low; but while there is sometimes a decline in the volume of savings, such a decline is apparently not invariably a consequence of falling interest rates, and there have been such times when savings actually increased. The accumulation and arrangement of these facts completes our first step.

For our second step we draw the obvious inference that falling interest rates of themselves do not inevitably arrest the tendency to save, though of course they may discourage it. If we prefer positive assertions to negations, we may state our law thus: "Men have a tendency to save which is not eradicated by falling interest rates."

We know now what men do; we ask next why they do it. What motive induces men to save, when the incentive of interest is taken away? A consideration of possible explanations, assisted perhaps by an examination of our own motives, may lead us to adopt as the most probable the hypothesis that men save in order to accumulate a reserve fund against some future contingency. If we concede that the hope of receiving interest is also an incentive, we may now formulate our theory of capital accumulation: "The motives which impel men to save are (1) the desire to collect interest and (2) the desire to postpone consumption of their wealth until some future time." This completes Step Three.

We continue by noting that the two motives recognized in our theory are independent of each other, that each can operate without reference to the other, and that both operate in the positive direction. It follows that while both motives may have combined to produce our present capital fund, there would be some accumulation of capital even if one of the motives were absent. Moreover, since each motive operates in the positive direction, there will exist for each some opposing desire which will diminish but not nullify its effect. On the strength of these considerations we make our prediction: "There will be some accumulation of capital, even if interest disappears. This accumulation will persist in a lesser degree if interest becomes slightly negative (i. e., paid not by the borrower to the lender, but by the lender to the borrower), and will vanish only when negative interest equals the estimated cost of storing or hoarding wealth in whatever form involves the least foreseeable risk and expense."

This prediction will be tested by the future, but even now a partial confirmation is at hand: short term obligations of the United States Government are selling at a premium, which completely offsets the interest payable. If further confirmation is obtained, we may with greater confidence use our theory as a point of departure for new economic researches; if not, we must re-examine our data and our reasoning, assured that there is meaning in all things.

The rebuilding of economic science is a formidable task. Only clear heads and penetrating minds will discern the unbroken thread of cause and effect in the tangled skein of history. Economic variables can seldom be separated, and nations are not guinea pigs; and (as if these natural difficulties were not enough) the nomenclature of economics includes many terms (such as capital, labor, socialism, monopoly and the like) which evoke powerful emotional responses and make scientific thinking incredibly difficult. Yet men have overcome obstacles no less than these, though none in fields where the reward was so great. For in this balance hangs humanity itself; no other failure can entail so much suffering, no other success so liberate the nobler qualities of man. And though we grope in darkness, we may yet hope to see the dawn when men of good will shall possess the earth in comfort and peace.

Facts in Pseudo-Science

(Reprinted from *The New York Sun*)

TWO practical business men, Lammot du Pont and Floyd L. Carlisle, have put the professors of economics to their defenses. In their talks at Teachers College they attacked some of the bases on which the so-called science of economics rests. Mr. du Pont said:

> Can it be that the repeated attack by educators and others on so-called "classical" or "orthodox" economics is chiefly to cover up looseness of think-

> ing and ignorance of the subject, or to disguise radical and revolutionary teachings which have no relation whatever to sound economic thought? . . . The true science of economics can be no more radical or conservative than the multiplication table.

Complementary to this was a question posed by the chairman of the Consolidated Edison Company:

> How does it come about that upon a given set of facts one group in the population asserts that the private enterprise system can no longer expand . . . while another group asserts from the same facts that the private enterprise system, if relieved from excessive taxation and regulation, will enter a new period of tremendous expansion?

About the only thing economics has in common with true science is that its more serious-minded devotees really do try to employ sound scientific method. Their main trouble is not with their method but with their facts. Correct scientific method proceeds by working hypotheses which must be predicated on, and responsive to, facts that are absolutely and unquestionably ascertained. If a pertinent new datum happens along that does not quite square with the hypothesis, only two courses are scientifically possible: either the supposed datum must be proved not to be a fact at all, or the hypothesis must be revised to fit it in with all other pertinent facts.

When effort is made to constrain facts within the framework of a theory, instead of constraining the theory to fit all the known facts—when inaccurately observed phenomena are used to buttress argument or hypothesis—that is not scientific; it is pseudo-scientific. It is comparatively simple, for example, to ascertain facts about things that can be measured, weighed, dissolved in test tubes, counted, smelled, tasted, felt. It is not so easy to do anything of the kind with human tendencies and emotions. If you hit a nail accurately with a hammer, you should have a fairly accurate scientific idea of what that nail will do. But if you hit a stranger in the eye with your fist, you cannot be sure whether he will fall down or run away or retaliate with a blow from his own fist. Perhaps this helps explain why Karl Marx and Henry George could proceed from certain general phenomena of human experience to two startlingly different economic millenniums.

[The foregoing appeared as an editorial in the April 10, 1940 issue of *The Sun*, a leading New York daily, and is appended to the article "Science and Economics," by Paul Peach. Both these essays conjoin in a worth-while plea. Incidentally, the ideas contained in the editorial are in substantial accord with those expressed by Henry George in his "Study of Political Economy," a lecture delivered at the University of California.

While it is unfortunate that the writer of the above editorial holds aloof from any specific appraisal of the merits of George versus Marx, it is apparent that our friend on the staff of *The Sun* is well grounded in Georgean principles.—Ed.]

Rent as a Social Product in Relation to Productivity

By W. R. B. WILLCOX

In his rejoinder to the writer's discussion of Rent in the September-October, 1939, Land and Freedom, Mr. C. J. Smith rather chided the writer (with entire justification, be it said,) for not replying to his own argument that "Rent is a social product," and for failure to make "a more faithful restatement of George's position." Frankly, the writer had confined his remarks to the conceptions of Rent held by Ricardo and Henry George, and had left the points mentioned for later comment, as follows:

"Is Rent a social product?" In the sense that a social product is an outgrowth of human association (that which always appears with, and never without, human association), Rent certainly is a social product. But this fact does not warrant the deduction frequently made, that Rent belongs to, or is the property of, society. Proof of this lies elsewhere.

In the sense mentioned, many things are social products which are not, consequently, the property of society; for example, hotels, hospitals, railroads, etc. Granting that Rent is a social product, there must be some reason, some special characteristic of Rent which, differentiating it from all other social products, justifies the claim that it belongs to, or is the property of, society.

The failure of certain expressions to bring to any considerable number of people a consciousness, or conviction, of a basis for a stable social order suggests that something must be wrong with the logic of these expressions, or with the ideas they are intended to convey; expressions such as, land is a gift of nature, land costs mankind nothing, land cannot be the property of individuals; Rent is payment for the use of land, Rent is an unearned increment, Rent belongs to the people, Rent is a social product.

The following are some of the inconsistencies which characterize arguments associated with these expressions. People generally agree that land is a "gift of nature" and costs mankind nothing; but seldom are they impressed by the incongruity that some people are required to pay other people for the use of the land. It freely is admitted that, in some instances, Rent is an unearned increment, but the propriety of those who have "bought land," privately appropriating the Rent, is denied only by a few.

Many people believe that it would be an act of "confiscation" for the government to take over the land in order to get the Rent, but little objection is made to the government's getting some of the Rent by taxing the