

SUN SPOT THEORY OF SLUMPS DENIED

'Positive' Economists Guided by Insufficient Facts, Says Harvard Educator

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Attention to Laws of Chance Advised as Big Help in Business Life

Economists who foster the sunspot theory of the ups and downs of the business cycle were criticized yesterday by Dr. Harlow Shapley, director of the Harvard College Observatory, with the assertion that they had not enough factual material on which to base such a theory.

The coming and going of sunspots has been put forward as a cause of depressions and periods of prosperity by some scientists and economists, but Dr. Shapley declared that, although there might be evidence in that direction, there was far too little to form a definite conclusion. He added that the positiveness of some of the sun-spot theorists "makes one think that one day they will say Wall Street makes the sun-spots."

He spoke on "The Current Explorations of Atoms and Galaxies" before 400 persons at a joint luncheon of the Association of Mathematics Chairmen and the Association of Teachers of Mathematics of New York City at the Essex House.

Sees Great Economic Aid

Stressing the importance of the laws of chance, Dr. Shapley asserted that "it would help us a great deal in our economic life" if greater attention were paid to them.

"Here on this island at the southern end there is a great deal of discussion about the ups and downs of business," he said. "They find sun spots, study them and see they are regular and think they may have a connection. Finally a correlation between a sun spot and the grain market is found and then they form a theory."

Dr. Shapley recognized that the belief was put forward that there was a connection between sun spots and human irritability, but he added that it was not important enough to serve as a basis for an economic theory because there was not yet enough material. Hence, he said, some economists have jumped to conclusions in the sun spot theory.

Sidelights on Universe

Giving some sidelights on the universe, he said astronomers believed that "2,000 million, or perhaps 3,000 million, years ago something happened." Proof of that lies, he said, in the expanding universe, the fact that there are clusters of stars and that there are split stars.

Long time-exposures through powerful telescopes have revealed 150,000 "objects" within the bowl of the Big Dipper, he continued, and the average distance of these objects is "over 100 million light years." He added that the number of meteors which struck the earth's atmosphere every twenty-four hours was ten to the eleventh power.

Dr. Edward Kasner of Columbia University reported some terrestrial figures. His mathematics classes have worked out the number of words spoken by the human race

"since Adam and Eve." The number is 10,000,000,000,000,000. Seeking an easy way to say the number he mentioned a billion billion, but quickly withdrew that because it had eighteen zeros instead of sixteen and was "far too generous."

Dr. William S. Schlauch, professor of the New York University School of Commerce, Accounts and Finance, pointing to the growing tendency to view the social sciences quantitatively instead of qualitatively, said the world was growing "mathematics minded."

"It is a good thing, too," he said, "because we have too many ignoramuses in high places who do not know these quantitative relationships of public matters."

Dr. John L. Tildsley, former associate superintendent of schools, declared that the most important thing in education was "the association with rich personality and the association with great fundamental ideas."