



The Science Service radio address next week will be on the subject

PLANTS OF THE DUNES

by

Prof. George D. Fuller
of the Department of Botany of the University of Chicago

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Standard Time

Over Stations of

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his chemical researches that led to the discovery of isotopes, those varieties of a chemical element that differ only in atomic weight, Prof. Soddy has studied economics.

As a result he developed principles which if introduced into practice would, in his opinion, bring about what might be called a beneficial rule by technology or applied science.

Fundamental to the Soddy concept of economics is the idea that the production of wealth obeys the physical laws of conservation and that the exact reasoning of the physical sciences can be applied. The scale on which wealth can be produced, Prof. Soddy said, is practically limited only by the state of technical knowledge.

"There is no longer any valid physical justification for the continuance of poverty," Prof. Soddy wrote. "The phenomenon of unemployment and destitution at one and the same time today is solely due to ignorance of the nature of wealth and the principles of economics, and to the confusions between wealth and debt which have hitherto bemused that subject, even among those who have essayed its scientific investigation and elucidation."

Prof. Soddy pointed out that there are two distinct categories of wealth which owe their value to the opposite qualities of perishability and permanence. Both of these are alike in their manner of production.

But in the formation of the perishable wealth the energy required is stored up for use later by life when the wealth is consumed. This perishable

wealth can only be used once, it actually supports life and it includes food, fuel, explosives, fertilizers and all such materials.

The permanent wealth does not have energy stored within it, but energy has already gone to waste in the process of its making. Prof. Soddy explained that it "enables and facilitates life but does not empower it." Within this category of wealth are all the machines, all our permanent possessions, all the organs of production in industry and elsewhere. The permanent wealth is the "capital" of civilization in the true economic sense, not the monetary sense.

"By saving to an indefinite extent the expenditure of human time in production," Prof. Soddy said of capital in this sense, "capital appears to afford a continuous revenue of wealth without further work, but the origin of the wealth produced is in the continued use of capital by human agents, not in the capital itself. There is no ethical principle to which to appeal, in order to equate the time spent in the accumulation against the continuous expenditure necessary to make it productive, or to determine the just division of the wealth produced as between the capitalist and the worker."

Science News Letter, February 18, 1933

ARCHAEOLOGY

Princeton Expedition Unearths Mosaic Floor

SCENES of brave hunters facing wild animals are revealed on a large mosaic pavement unearthed at Daphne in Syria. A report received in Princeton says that the discovery was made by the committee for the excavation of Antioch and its vicinity, the headquarters of which are at Princeton University.

Exact antiquity of the important mosaic is not yet determined, but the spirit of the drawing has led archaeologists to assign it to the late third or fourth century A.D. The expedition will excavate the building completely this spring.

One large mosaic panel of the pavement, about 23 feet square, depicts hunters on land. A smaller panel depicts hunters at sea. A central medallion contains a bust named "Megalopsychia" in reference to the great mental courage of the hunters in meeting the beasts. The border, now badly damaged, represented scenes from Daphne.

Science News Letter, February 18, 1933



Surviving Flies

WE ARE ALL familiar with the few furtive flies that flit and crawl about the corners of our houses all winter long, usually disregarded, living along somehow until warmer weather comes again. There are probably more flies that do not thus make themselves evident, but lurk torpidly in corners, moving little or not at all—really hibernating insects.

Such flies are believed by many entomologists to be the starting-points of the swarming myriads that make such intolerable pests of themselves all during the warm seasons. Other scientists disagree, and believe that flies start from eggs or pupae left in manure over winter. In any case, however, each year's crop of flies undoubtedly does start from a relatively small focus of surviving insects.

Flies can spring from nearly nothing to a universally distributed pest in a few weeks because of their amazingly rapid powers of multiplication. The fly lays many eggs, and at the same time has one of the shortest life cycles among insects.

Depending mainly on temperature conditions, but to some extent on other factors also, the fly egg hatches in from eight to thirty hours after it is laid. The larva or maggot feeds and fattens for from five to fourteen days. Then it transforms itself into a pupa, which stages lasts for from three to ten days. The adult insect that emerges from the pupa-case lives for from two to 23 days before egg production begins. Under the most favoring circumstances, therefore, the time from newly deposited egg to egg-producing adult can be as little as one week.

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