

GENERAL SCIENCE

Fundamental Science Faces Serious Problems of Support

Each One of Us Has Tremendous Stake in Future Of Science; Life Itself Depends on Health Progress

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Digest of radio talk given over the Columbia Broadcasting System under the auspices of Science Service. Dr. Robbins is director of the New York Botanical Garden.

EACH one of us has a tremendous stake in the future of fundamental science. To millions of people, the stake is life itself, for advance in medicine, sanitation, and public health, which gives life to millions, depends upon fundamental science. We are all familiar with the material conveniences and comforts which science has given us, but we often forget the original patient, fundamental research which made them possible, and will be the basis for future advances.

The scientists who carry on fundamental research are like explorers. They are continually seeking to push forward the frontiers of knowledge, by discovering basic principles and how some law of nature works. Their discoveries are the raw material of applied science. If their kind of research should end, then progress in all applied science would presently end also, just as the water fails when the spring runs dry.

We forget the significance of fundamental science sometimes, just as we forget that fundamental science cannot support itself, since even the greatest of these basic discoveries cannot often bring to the scientist or to his institution any immediate return in money. For this very reason, the greatest part of such research in this country is carried on in our universities and in a few specially endowed research institutions. (Industry and government incline toward *applied* research—the application of some fundamental discovery to immediate problems).

Today fundamental science is confronted by a serious problem: universities and research institutions in general have been hard hit in recent years by reduced earnings on their endowments at a time when gifts and bequests have fallen off sharply. These institutions no longer have the funds to finance

much essential research. As a result, fundamental science is receiving less support today than at the end of the 1920's.

To help supplement existing support for science, the National Academy of Sciences has created the National Science Fund—a national clearinghouse for advice on philanthropy in science. In every community there are many persons who would like to make large or small gifts for science, but who hesitate because

they do not know how it can be done effectively. Sometimes they feel that the amounts which they can afford to give would be of slight assistance to science.

Through the National Science Fund, any donor may obtain the advice of those scientists best qualified to assist him in making a useful gift to science. If he wishes, the Fund will administer his gift for him. Through the Fund, many smaller gifts may be pooled to accomplish large results. The National Science Fund does not carry on any research of its own, but acts through those institutions and scientists best qualified to undertake the research at that time.

Scientists today have great faith in the infinite possibilities of science in the future. So do countless laymen. Through the National Science Fund, every one—scientist or layman—can share in the adventure of exploring these unknown realms.

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PSYCHOLOGY—CONSERVATION

"Fag Bag" for Cigarettes Reminds Smokers of Fire

"Fire-Conscious" Pledge Tag on Drawstring Serves To Break Automatic Smoking Habit at Right Moment

PSYCHOLOGY has turned out an answer to automatic cigarette smoking in America's forests.

It's the fag bag, a small red muslin sack into which a smoker entering a forest must place his package of cigarettes. The bag is closed with a drawstring, to which is attached a "fire-conscious" pledge tag signed by the smoker. Together, the bag, drawstring and tag make thoughtless "lighting up" impossible.

Before the fag bags were given an experimental tryout recently in Angeles National Forest, located in Southern California, the idea was submitted to psychologists. One and all, they put the stamp of approval on the bags, declaring the bits of muslin served to break up the habit pattern of automatic smokers at the right moment, that is, at the moment of reaching for a cigarette.

An example of the way men of science viewed the fag bags, which Girl Scouts made by the thousands for the United States Forest Service, is this statement by Dr. Robert A. Millikan, Nobel prize winner and head of the California Institute of Technology:

"The use of fag bags as a means of reducing the forest fire hazard from careless smokers seems to me to be not only ingenious but psychologically sound. I hope that it will prove to be increasingly successful."

In behalf of Mt. Wilson Observatory's staff of world-famous astronomers, Dr. Alfred H. Joy declared of the bags:

"We are always greatly interested in the matter of fire protection, not only because of our equipment in the National Forest on Mount Wilson, but because we have a very live appreciation of the beauties and benefits of the tree-covered mountains in our vicinity. I am sure that the very clever idea of the cigarette bag will call attention to this matter in such a way that it will encourage carefulness on the part of smokers. This method is psychologically correct in that it does not bring up any latent opposition which might be caused by regulations being put upon the visitor to the forest."

Fag bags already are in fire season use in three Southern California forests and may be in all of the nation's timberlands next year.

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