

## VOLCANOLOGY

# Intensive Volcano Study Proposed for Central America

## Carnegie Institution Scientist Outlines Ideas Which May Eventually Make Eruption Predictions Practicable

**T**HE FLAVOR of your morning cup of coffee may be affected by a volcanic eruption.

Not that it will get a scorched taste from the rolling streams of hot lava, or from the clouds of glowing gas belched forth from the crater. The change is quite likely to be an improvement, due to the good effects of the blanket of granular volcanic ash laid down over the coffee plantations for miles around.



### RUSSIA'S BURBANK

*Ivan Michurin, Russian plant breeder, who has for many years been carrying on the kind of experiments that made the late Luther Burbank famous in this country. He has 67 new varieties of apples to his credit, besides many other new fruits and vegetables, many of them special adaptations to the rigors of Russian climate. Recently the Russian town of Koslov renamed itself in his honor, and will henceforth be known as Michurin.*

This acts as a mulch, holding moisture in the soil, while areas not so covered become dry and barren under the tropic sun.

This was one of the intimately human angles of volcanic activity brought out by Dr. E. G. Zies of the geophysical laboratory of the Carnegie Institution of Washington. Other importances of volcanology range through various practical fields to such problems in "pure" science as the study of the orientation of the magnetic field of lava flow. There is some evidence, Dr. Zies said, quoting his associate, J. A. Fleming, that the local magnetic field of a lava flow is determined in its polarity or direction by the condition of the earth's general magnetization at the time the lava was erupted. If this preliminary evidence is substantiated by later work, it may some day be possible to date lava flows from the known state of the earth's magnetic field in the past.

### Hope for Prediction

The chief practical point in volcano study, however, is the hope it gives of eventually working out a method for the prediction of eruptions. We are still far from this, Dr. Zies stated, but enough has been done to justify a hope that it can yet be accomplished. When predictions are undertaken, they must be reliable, for the unnecessary terror caused by the prediction of an eruption that fails to come off would be second in evil only to failure to predict one that does happen.

The working out of a practical prediction method will depend entirely on amassing continuous and connected data over a long period of years, Dr. Zies pointed out. This will have to be done, not by short-lived expeditions to the neighborhood of some spectacularly active volcano, but by settling down in the neighborhood of an active volcanic field with a staff of competent scientists and carrying on the work as a regular laboratory project.

Central America, Dr. Zies declared,

offers at our own back door the best imaginable field for such an intensive study of volcanoes in all phases of their activity. It contains the greatest concentration of volcanoes, both active and long-extinct, in all the world. Among the active craters is the famous Izalco, the most active volcano known; it erupts every half hour, and about every two years sends forth a lava flow. Contrasted with this are volcanoes so long extinct that all traces of their craters are eroded away and deep gorges have been carved in their slopes.

### Organization Suggested

His suggestion was that some agency, either an already existing scientific foundation or a cooperative group of volcanologists with a central administrative organization, go into the field with a definite program of work in view, to cover a long stretch of years. Under a scheme like this, he feels, an encouraging beginning can be made toward a fuller understanding of volcanoes and the eventual ameliorating of their terrors for mankind through foreknowledge.

*Science News Letter, December 3, 1932*

## RADIOLOGY

## Wax Model Helps Fix Dosage of Radium

**M**EASURING the intensity of radium applied externally for treating cancer in the head or neck is a problem that one British hospital has attempted to solve by use of wax models.

A life-size human head has been built up in a series of sections about one-third of an inch thick. Each is cast in wax of very nearly the same density as the soft tissues, and superimposed on the top and bottom surface of each section is a photograph of the anatomical structures occurring there. If the actual radium applicator used on the patient is applied to the model it will affect a photographic film inserted at any particular level where the dosage is in question so that after development its relative intensity can be measured.

In the report summarizing the results of research work in the treatment of cancer by means of radium lent to selected centers in Great Britain where this is mentioned, the Medical Research Council states that although new lines of technique are being explored it cannot be said that any one method has yet been devised and tested which gives the fullest scope to radiological methods.

*Science News Letter, December 3, 1932*