

## Traffic Risk Greater than Volcanoes

"Crossing city streets is the great risk I incur in my travels nowadays." This was the statement made the other day by one of the world's greatest experts on volcanoes, Dr. Immanuel Friedländer, director and founder of the Volcanological Institute at Naples. In the course of his wanderings, Dr. Friedländer was once captured by Mexican bandits, and has had many experiences with live volcanoes, but he refuses to admit that the career he has adopted is any more dangerous than other professions. He is visiting America in order to interest American scientific men in the study of volcanology.

Born in Germany, Dr. Friedländer acquired ample means in the business world and was able to divert a large part of his time and attention to scientific pursuits. In 1913 he founded and endowed in Naples the Volcanological Institute, and at the same time he launched what was then the only volcanological journal in existence. The World War swept away a considerable part of his fortune and also seriously curtailed the resources of the Institute, but its work is still going on under Dr. Friedländer's direction.

This unique establishment occupies a beautiful building on the heights overlooking the Bay of Naples within a few miles of Vesuvius, the world's most historic volcano. The Institute comprises large physical and chemical laboratories, a seismological station, a museum of volcanic rocks and minerals, gathered from far and wide, and a volcanological library. The staff under the director includes three salaried assistants and two volunteers. A number of important researches have been carried out. The institute is now engaged in an elaborate study of the volcanic island of Ischia, near Naples.

Asked about the economic value of volcano research, Dr. Friedländer emphasized the fact that it is a short-sighted policy to encourage only those scientific investigations that promise to be of immediate utility. At the same time he pointed out how often it has happened that research in pure science, undertaken with no thought of practical applications, has contributed immensely to the material prosperity of mankind. When Galvani experimented with frogs' legs, no financially profitable outcome was to be anticipated—yet these experiments became one of the corner-stones of the great electrical industry of today. Röntgen did not

dream of the many uses that would be made of the X-rays at the time he discovered them, nor did Hertz foresee the wonders of wireless telegraphy, based on his discovery of electromagnetic waves.

"As for volcanology," said Dr. Friedländer, "there are at present very few specialists connected with this subject, and only a meager number of research institutions and observatories. The financial resources at the command of these establishments are ridiculously small compared with the millions spent on astronomy. Surely the physics of the globe on which we live ought to be studied as thoroughly as the phenomena of distant stars!"

"A more intimate knowledge of volcanism would lessen materially the danger to life and property in volcanic regions, including such parts of the American domain as California, the Hawaiian Islands, Alaska and the Philippines. Explorations of volcanic areas are likely to lead to the profitable exploitation of volcanic products, useful in agriculture and other industries, including potash, silicates, sulphur, acids, etc.

"The huge reservoir of volcanic energy represented by the heat of rocks and gases could undoubtedly be tapped in many places and used for power production. Up to the present time the only successful undertaking in this line has been at Lardarello, Italy, where thousands of kilowatts are produced from volcanic steam and used for power and lighting in the city of Florence. I believe that in time to come the greatest of all sources of power will be found in the subterranean storehouses of volcanic regions, where the internal heat of the earth can be reached at a relatively shallow level. The limited supplies of coal and oil in the earth will be exhausted in the comparatively near future. The waterpower available in rivers is already to a large extent taken up. Water-power from the tides will probably prove costly to utilize, and the same is likely to be true of any method now in sight of using direct solar energy. In both cases the receiving apparatus must occupy very large surfaces and cannot work economically. On the other hand, no insurmountable obstacles seem to exist to tapping the earth's internal heat on a vast scale, and volcanology is paving the way to this accomplishment."

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## Coffee Called Beneficial

Devotees of the coffee cup will welcome the glad tidings, announced by Prof. Ralph H. Cheney of the biology department of New York University, that coffee is not only harmless but beneficial.

"Evidence derived from my study of the effect of coffee on animals and man," Prof. Cheney declared recently, "indicates that the properly prepared beverage is highly advantageous with respect to over 90 per cent. of normal individuals. Judging from the effect of aqueous solutions of caffeine or of the coffee beverage taken through the stomach in the 1.5 grain quantities such as exist in the average coffee cup, the reasonable use of coffee is a great blessing to man. To be sure, caffeine is a drug and its use can be abused but acute injury, as far as the caffeine content is concerned, would necessitate the consumption of over 150 cups which is, of course, ridiculous.

"Psychological responses of amiability and a sense of well-being and good cheer are undeniable accompaniments of the coffee beverage and the physiological effects are also non-injurious and gratifying. Temporary relief from hunger and fatigue is a general result and light headaches, due to other than gastric disturbances, are commonly alleviated. Coffee serves as a mild stimulant of

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## GEOLOGY

### Greatest Landslide Coming

The movement of a 5560 foot high mountain, Monte Arbedo, near the Swiss-Italian border at Lake Maggiore will probably cause one of the greatest landslides in Swiss history before long. As the result of a warning by the Federal Geological Survey towns in the path have already been evacuated.

The chief town in danger was the village of Arbedo, which is now deserted. This is right in the path of the expected slide, but nearby Bellinzona, and other towns may also be endangered by the after effects of the slide. The Arbedo valley is steep and narrow and with such a large mass of soil and rock falling into it a dam perhaps a thousand feet high would be formed, holding back the waters of the Traversagna river, which will collect as a lake. It will not take long for the dam to be worn down or burst and then the flood will rush down the Ticino valley, in which Bellinzona and other towns are located.

The mountain has been moving

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