

VOLCANOLOGY

124 Earth Tremors In 10 Days at Mt. Lassen

See Front Cover

MOUNT LASSEN, America's one "live" volcano, continues to show signs of activity, word received by the U. S. National Park Service indicates. During the first ten days after the new steam jets began to spurt from its slopes, 124 distinct earth tremors were felt, and recorded themselves on the seismographs maintained at headquarters in Mount Lassen National Park.

The view of Mount Lassen which appears on the front cover of this week's SCIENCE NEWS LETTER was taken for the National Park Service by B. F. Loomis.

Science News Letter, May 30, 1936

PUBLIC HEALTH

Negro's TB Death Rate Due to Living Conditions

LIVING conditions rather than racial susceptibility may be responsible for the high tuberculosis death rate among American Negroes, it appears from a study of Bush Negroes living in the South American jungle. The study was reported by Prof. Morton C. Kahn of Cornell University Medical College to the National Tuberculosis Association.

The average death rate for Negroes in the United States is three to four times the average for the white population, Dr. Esmond R. Long, director of the Henry Phipps Institute, University of Pennsylvania, stated in another report at the same meeting.

Dr. Kahn's report was based on observations he made in an expedition to the Tapanahoni River region of Dutch Guiana, South America. These Negroes are of identical blood with the North American Negroes. Their ancestors came from the same part of West Africa. These slave ancestors revolted from the Dutch and since 1760 have been living in the wildest and most inaccessible part of Dutch Guiana. They have reverted to the same customs and type of existence as had their forebears in the forests of West Africa. Before the revolt, however, the ancestors of many of them had intimate contact with white people who presumably suffered from tuberculosis to the same degree as white populations in Europe.

Tuberculin tests were made on 765 of these Bush Negroes by Dr. Kahn and his assistants. Only 18 were found tuberculin positive, that is, infected with tuberculosis germs. Of these 18 only

two men had had any contact with white people. One of them had made a brief visit to a trading post. The other had lived at the trading post for two years. This man was found suffering from active tuberculosis.

"It is evident that this man may be responsible for the spread of the infection in his village," Dr. Kahn stated.

Their isolation may be one reason why the Bush Negroes show so little evidence of tuberculous infection in contrast to their North American blood brothers and also to those Negroes living in the West Indies and the towns of Dutch Guiana.

Dr. Kahn believes, however, that another reason is the way the Bush Negroes live. Their towns are "universally clean and sanitary." Their huts are large and spacious, with no crowding, and usually open at both ends, thus insuring ample ventilation. They bathe frequently, eat a fairly adequate diet, and get plenty of sunlight. Even more important, it appears, is the fact that when they are tired they stop working.

Science News Letter, May 30, 1936

CHEMISTRY

Paints Get Sunburn, Too; Chemists Work to Combat It

PAINTS have a trouble corresponding to that afflicting the human skin in sunburn, it was disclosed at the meeting of the American Chemical Society.

Ultraviolet light from the sun, causing either a pleasant suntan or a painful burn depending on how much and how hurriedly a person acquires a daily dose, also affects paints. Especially does ultraviolet light cause the fading in white and light-colored paints.

Henry A. Gardner of the Institute of Paint and Varnish Research, Washington, D. C., told the chemists how various metals are now being combined in paint, with the chemical known as phthalic acid, to cut down the penetration of the ultraviolet and stop the troubles of paint chemists.

The use of the acid-metal combination known technically as "metallates" should substantially increase the life of external paints. Another valuable application, suggested Mr. Gardner, will be in rubber manufacture, since the same ultraviolet light of the sun is a contributing factor in the deterioration of rubber with time. Anything which can in some way reduce the penetration of the ultraviolet into the rubber will make longer lasting tires, as only one example.

*Science News Letter, May 30, 1936***IN SCIENCE**

SEISMOLOGY

Earthquakes Belong to Two Different Families

EARTHQUAKES are not all alike. There are two distinct families of them—born of wholly different geological parentage and under quite different circumstances, Dr. H. Landsberg of Pennsylvania State College declared in an address before the American Geophysical Union.

One family of earthquakes originate in regions where changes in the crust of the earth have for a long time been going on very, very slowly, and mainly in a slight up-and-down direction. Here the great blocks of the earth's deeper structure are pretty well consolidated: the "family background" of this group of earthquakes is solid and stable. The earthquakes are what might be expected of such a "conservative" origin; they cause only minor disruptions and disturbances. They arise mainly from the breaking of rock masses, or from slipping along the lines of breaks made in the past.

The other family of earthquakes have a more revolutionary background, and are of a more fundamentally violent type. They arise in regions where the deep strata of rock are in travail, bringing mountain ranges to birth. Here the crustal movements involve horizontal thrusts and pushings, and the earthquakes often originate far beneath the surface and produce catastrophic effects on the face of the earth.

Science News Letter, May 30, 1936

ENTOMOLOGY

Seven Ages of a Butterfly Studied By Scientist

SEVEN ages of a butterfly, no less marked than Shakespeare's seven ages of man, have been studied by Austin H. Clark of the U. S. National Museum on one little-known species, the golden-banded skipper.

During its "infancy" as a caterpillar, this insect changes its skin five times in about five weeks. Then it "pupates" as a violet-tinged white chrysalis. Finally, as the seventh stage in its life, it emerges as a full-grown butterfly.

Science News Letter, May 30, 1936

E FIELDS

PALEONTOLOGY

Termites Descended From Cockroaches, Fossils Show

WINGS of fossil cockroaches from Kansas, and wings of primitive termites found in Australia today, have shown an ancestral connection between the two groups of insects. The study was conducted by Dr. R. J. Tillyard, leading Australian entomologist. (*Nature*, April 18.)

That termites were descended from cockroaches has been conjectured for a long time, but conclusive evidence was lacking. Dr. Tillyard found that the shape, vein-patterns, and especially the mode of folding the wings were almost identical between the modern Australian termite and the Kansas roach of more than 200 million years ago.

Science News Letter, May 30, 1936

ANTHROPOLOGY

What Is an American? A Mixture of Races

WHAT is an American? Not a "pure Nordic," typically, said Prof. E. A. Hooton, of Harvard University, answering his own question before the New Haven meeting of the American Association of Physical Anthropologists. Of three good-sized samples of the American population, taken from diverse social and geographic backgrounds, the pure Nordic type averages out by long odds the least numerous—only 2.25 per cent. of the total.

The largest groups, in the nine physical types into which Prof. Hooton analyzed the American population, are Nordic mixed with something else—Nordic-Mediterranean and Nordic-Alpine. The first of these two types have long heads and darkish coloration; the second have round heads and medium coloration—never either pure blonds or pure brunettes. Other physical types added by the Harvard anthropologist to the Nordic-Alpine-Mediterranean racial triad of popular conversation and writing are the Dinaric, a round-headed, medium-colored, narrow-nosed people, mostly Teutonic in modern distribution, and the East Baltic, also round-headed, but blond and wide-nosed. He also

recognized as a definite physical racial type the long-headed, red-haired, blue- or gray-eyed Keltics.

Prof. Hooton took his population samples in three different ways: from a considerable number of prisons, from "ordinary citizen" groups in Boston and Nashville, and from a group of rather highly educated persons who visited the Century of Progress in Chicago. Especially interesting, in his estimation, is the fact that the racial percentage in each group, whether jailbird, man-in-the-street, or high-brow, was just about the same as the percentage in the whole population. That is, a really scientific analysis cannot discern any such thing as racial criminality or racial superiority.

This does not mean that there is no correlation between racial type and tendencies in activities, whether criminal or lawful. Thus, criminal Keltics tend to sex offenses and to crimes involving violence, while criminal Nordics are "experts," specializing in forgery and fraud, but not going in very much for murder. Yet unjailed Keltics rate very high in education, while Nordics at large show a more moderate achievement in this direction.

In concluding his discussion, Prof. Hooton poured scorn on "the ridiculous and pernicious doctrines of racial inequality which have become a menace to the peace of the world." There is no anthropological ground whatsoever, he said, for selecting any so-called racial group, or any ethnic or national group, or any linguistic or religious group for preferment or for condemnation.

Science News Letter, May 30, 1936

ZOOLOGY

Quintuplet Lion Cubs Are Born in Denmark

THE city of Odense, famed chiefly as the birthplace of Hans Christian Andersen, Denmark's great story-teller, can now lay new claim to fame for another birth. This time it is quintuplet lion cubs, born to a lioness in the municipal zoological park.

The mother was unable to nurse all of her offspring at once, so a canine wet-nurse was called into service. She took over two of the cubs, in addition to her own puppies. The arrangement proved to be satisfactory to all concerned.

Lions in captivity ordinarily do not give birth to more than two or three cubs at one time, and the arrival of more than four is considered most unusual by zoo officials.

Science News Letter, May 30, 1936

PHYSICS

\$10,000 Violin Really Better Than Cheap Fiddle

IS a ten-thousand-dollar violin technically superior to a twenty-dollar fiddle?

This question propounded some time ago to Prof. Frederick A. Saunders, physicist of Harvard University, might be restated: Putting aside sentiment, is a costly violin, bearing a famous Italian name, better from the acoustic standpoint than an ordinary instrument of modern manufacture?

In an address at the University of California, Dr. Saunders described the experiments which led to an affirmative answer. Violin manufacturers, to be sure, could have given the distinguished physicist the same answer without waiting for experiment, but unfortunately their methods of appraisal are those of the artist and artisan, not of the scientist. A violin of superlative quality from such sources is thus not subject to exact reproduction or low cost of production.

In the Harvard tests of good and bad fiddles advantage was taken of vacuum-tube testing instruments which have revolutionized acoustics in recent years. Every wooden strip, post or partition in the violin was subjected to the searching ear of the electrical equipment.

Results so far indicate that the back and sides of a violin have no important relation to emission of good tone, although faulty parts of such type may emit undesired sounds in addition to the possible good tone of other sections of the instrument. Ornamentation of these under parts, including carving, often practiced in earlier centuries, is thus tolerable. The top of the instrument is of vital importance, however. It emits far more sound than the strings.

The principal merit of tone quality in the high-class violins was found to lie in the lack of superfluous overtones. These undesired tones were found to come from various odd parts of the woody framework of the cheaper fiddles.

The substitution of light metal for part or all of the wood of the violin has been considered by Dr. Saunders and others. So far, however, no convincing demonstration has been made that a metal frame can be constructed as light as the wood, but strong enough to withstand the tightening of strings. Only from a very light frame can the desired volume of pleasing tone be secured. Even aluminum appears to be too heavy.

Science News Letter, May 30, 1936