

EARTH BUILT OF WEDGES NEW GEOLOGICAL THEORY

A world built of wedges, like an orange, only with the wedges more irregular and probably not running all the way to the center, is the gist of a theory which is set forth in recent issue of the Journal of Geology by Dr. Rollon T. Chamberlin of the University of Chicago. According to this new theory, the more level parts of the earth's surface represent the broad ends of these great wedges, and the mountain chains are due to the crumpling up of their sides, where they are crushed against the sides of neighboring wedges. Not all mountain ranges were necessarily formed in this way, but wherever they occur in pairs, with a broad highland in between, there is a strong probability that such forces have been at work. Examples are pointed out in the Rockies and Sierras in America, with the Great Basin highland between; and in Asia the Tibetan plateau lying between the Himalaya and Kuen Lun mountains.

This theory, was first given wide prominence by a German geologist, Dr. Leopold Kober though Dr. Chamberlin first called attention to it in this country a number of years earlier. Dr. Chamberlin has tested it out not only by studies in the field but by laboratory experiments. He placed wedge-shaped masses of material in a triangular frame of massive steel, and slowly squeezed in the sides. Under the pressure the material buckled and broke in wedge-shaped fractures. The same kind of results were also obtained when layers of loose sand were pushed between wooden blocks. Not only did wedge-shaped "faulting" occur, but miniature mountain ranges piled up on the surface, as called for by the theory.

GREATER TORNADO DAMAGE SEEN AS POPULATION INCREASES

Tornadoes will do more damage as the United States becomes more thickly populated, was the forecast made by two U.S. Weather Bureau meteorologists, Clarence J. Root of Springfield, Ill. and S. D. Flora of Topeka, Kansas, before the recent meeting of the American Association for the Advancement of Science.

"There is no reason to believe that in prehistoric days tornadic storms were fewer or less severe than today," Mr. Root said. "Before the white man came these storms sweeping over treeless prairies could do little harm. The living conditions of the Indians were such that loss of life was slight. The early settlers in isolated cabins were for the most part ignorant of the real menace of the tornado."

As the country becomes still more thickly populated the point will be reached, according to Mr. Flora, where construction will be perfected to resist wind stress more.

"Just as the modern fireproof building was evolved to reduce the enormous fire loss, so we may expect to see buildings in the future withstand violent storms," he said. "A study of the tornado which hit Murphreesboro, Illinois, in March, 1925, showed that better construction would have saved many lives and much property."

According to a compilation of data on storms made by Mr. Root, the state of Iowa leads in important tornadoes, having nine percent. of them all. Missouri, Kansas, Tennessee, Alabama, Minnesota, Illinois, and Wisconsin follow in order.

Out of 384 tornadoes, he stated, seventy-eight per cent. moved northeast. Out of 452 tornadoes, eighty per cent. happened between noon and six o'clock in the evening.

NEW WORLD MADE FOR PLANTS AT BOYCE THOMPSON INSTITUTE

How plants respond to strange conditions never found in nature, such as daylight arbitrarily set at anything from zero to twenty-four hours a day, carbon dioxide ten times as concentrated as it is in normal air, and atmospheric moisture held anywhere that the manipulators want it, was told in an illustrated discussion before the American Association for the Advancement of Science by John M. Arthur of the Boyce Thompson Institution, Yonkers, N.Y.

One lot of plants was given ten times the normal amount of carbon dioxide and at the same time had its daylight period lengthened six hours with powerful electric lights. Red clover plants in this lot blossomed and produced a good crop of hay in 38 days, when under ordinary agricultural conditions two years would have been required for the same results. Spring wheat, barley and oats in the same group produced taller plants, yielding larger crops of both grain and straw, than control plants under normal conditions.

A second series of plants was given light for 24 hours a day, but no extra carbon dioxide. These did little better than the control plants, and on the whole not nearly as well as those that were given the extra gas. Apparently plants need a rest, for a tomato plant subjected to continuous light treatment finally died. A second tomato plant, given 19 hours of light and 5 hours' rest, survived and grew slowly, while a third, with 7 hours' rest each night, bore fruit.

With its facilities for complete and accurate control of all conditions affecting plant life, the Boyce Thompson Institute plans a long and extensive campaign of research into the fundamental problems of plant physiology.

DOCTORS' CHARGES CHANGE WITH MEDICAL PROGRESS

What should a doctor charge his patient? This is a question that was brought up before the American Association for the Advancement of Science meeting recently by Dr. Michael M. Davis of the United Hospital Fund of New York.

Since the advent of the specialist, the increase in the importance of the laboratory analysis, X-rays and therapeutic services, radical changes have come about in medical fees, Dr. Davis said. In the old days when most physicians did practically the same work, the fees charged were, so to speak, fixed by custom and were fairly uniform.

At the present time fees in cities, and to a less extent in the country, vary from \$1.00 a visit to the office of a country practitioner, to \$10,000 for a major operation by a surgeon of national reputation. Other costs besides doctors' fees have arisen, such as expenditures for laboratory and X-ray tests, nursing, and hospital charges.