the other of a pair of brother astronomers. Studying intensively the markings on Jupiter, he finds that they have a periodicity of about eight years and that they correspond somewhat to variations in the sunspots and the prevalence of earthly northern lights.

The great spot on Saturn that appeared Aug. 3 of last year and subsided by November was the second such immense storm on the planet so far discovered. Only a similar spot in 1876 was as large. The earth could have been swallowed up in the 1933 Saturn spot, for it was fifty thousand miles long and some twelve or fifteen thousand miles wide.

Science News Letter, July 7, 1934

PHYSIOLOGY

Many More Gland Secretions Still Awaiting Discovery

A VAST number of gland secretions capable of influencing the human body in a multitude of ways will be discovered in the future, Prof. Vincent du Vigneaud, George Washington Medical School, Washington, D. C., predicted in a report to the American Association for the Advancement of Science.

Already more than a dozen of these hormones are known. Six have been isolated in pure crystal form and two of them, epinephrine and thyroxine, have been manufactured in the chemical laboratory with entire satisfaction. Like vitamins, only very small amounts of hormones are required to produce large effects.

In tearing the hormones apart chemically in hope of discovering their composition, remarkable relationships among substances in the body have been found, Prof. du Vigneaud explained, for example, that the female sex hormone shows relationship to the male sex hormone, to a bile acid, to cholesterol, to ergosterol, to the sunshine vitamin D, to strophanthin (a drug used as a heart tonic), and even to the substance in coal tar which causes certain types of cancer through chronic irritation of the skin.

May Be Proteins

It may turn out, Prof. du Vigneaud hinted, that certain of the hormones may actually be proteins. The idea has been held by some that the peculiar properties of certain of these gland secretions are due to chemical groups attached to the foundation molecule of the protein, but Dr. du Vigneaud's suggestion is that certain protein-like hormones have their powerful effects because of the nature of the whole chemical substance itself and that this substance is really what is called a protein. Thus, insulin promotes the use of sugar in the blood because it is a protein and not due to a foreign group attached to it. Typical proteins are the substances in pollen that cause hay fever and the enzymes in plants and animals that speed up reactions in the body. Proteins, in turn, are known to consist of combinations of some twenty-one amino acids, some of which are necessary to life. Protein has been best known as one of the old triumvirate of food factors, being a dietary triplet with fats and carbohydrates.

Science News Letter, July 7, 1934

SEISMOLOGY

Two Earthquakes Shock Mexico and Chile

THE WEEK-END of June 23-24 was marked by a pair of earthquakes, both apparently in the Latin-Pacific area.

Data gathered telegraphically by Science Service and interpreted by the Jesuit Seismological Association and the U. S. Coast and Geodetic Survey indicated that a shock of moderate severity occurred at 1:33.8 on Saturday morning off the west coast of Mexico, near the State of Colima, in latitude 18.5 degrees north, longitude 105 degrees west.

Similar data, interpreted by the U. S. Coast and Geodetic Survey, suggested that the second quake, which occurred at one o'clock on Sunday morning, had its epicenter somewhere in the Chilean region; but whether on or off shore the information received was insufficient to indicate with certainty. It was a deep-focus earthquake, that is, the rock-slip that started the tremor was located far beneath the surface of the earth.

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GENERAL SCIENCE

Pressing Problems of Science Listed by SAB Chairman

PRAISING the scientific spirit in which President Roosevelt and his new deal is tackling its problems, Dr. Karl T. Compton, chairman of the U. S. Science Advisory Board and president of the Massachusetts Institute of Technology, in a recent address to the American Association for the Advancement of Science said that a return to the old regime desired by conservatives would be "as silly as for a scientist to repeat an experiment which proved unsuccessful."

The proven path of progress is the scientific method intelligently applied, Dr. Compton said, "whether in the hands of Democrats or Republicans, Kings or Soviets, scientists or laymen."

He held that President Hoover, like a good engineer, started out to ascertain the facts through a group of fact-finding commissions, but that political conditions and the breakdown of our unstable economic system, caused by years of unintelligent enjoyment of a fools' paradise, prevented progress of the Hoover program.

Five pressing problems that challenge science were cited by Dr. Compton: 1. Unemployment, which can be remedied by science by creating new industries. 2. Wise use of natural resoures, including land and minerals. 3. Hereditary weaknesses, both mental and physical, that constitute a tremendous drain on happiness and finances. 4. Sickness, which despite the advances of medicine still takes enormous toll. 5. Crime.

"It is too much to hope that the Devil will be banished from the face of the earth, but science can certainly help to reduce the number of his followers," Dr. Compton said.

To allow science to continue to do its part for national welfare, Dr. Compton said that a general tax to support scientific research would be preferable to a special tax on industries. The cost of great achievements, such as the eradication of yellow fever, has been only the equivalent of a few battleships, and Dr. Compton raised the question "as to whether such examples do not suggest a more beneficial distribution of government expenditure."

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Parsons, West Virginia, is trying to get all home owners to plant flame azaleas, as the floral badge of the town.