ped in large numbers, due to their habit of traveling in troops headed by an old male. Although good climbers, they are not exclusively arboreal, but spend much of their time on the ground.

Shipped to America and Europe in thousand lots, they are sold by animal dealers to medical laboratories, circuses, zoological parks, and individuals who desire unusual pets.

Until full grown, they are playful and easily handled as well as being long-lived and hearty in captivity, their length of life being roughly ten years. Doctors prefer them as subjects for experimentation because aside from their hardiness and easiness to handle, they exhibit more nearly the reactions of human beings to disease.

Science News Letter, July 20, 1935

MEDICINE

New Disease Found, Immunity Studies Now Being Rushed

DISCOVERY of a new disease and progress already made toward its prevention are announced simultaneously by two physicians in the U. S. Government service.

The malady, which has appeared in isolated instances in a number of states, has features resembling meningitis, infantile paralysis, and epidemic encephalitis, or sleeping sickness.

Pronouncing it a new diesase, Dr. Charles Armstrong, of the U. S. Public Health Service, and Lieut. Com. Paul F. Dickens, of the Navy Medical Corps, suggest the scientific name "acute lymphocytic choriomeningitis" for it. The agent causing the disease is found by the two physicians to be a filterable virus.

Cases of this disease have been reported in California, Maryland, District of Columbia, Illinois, Ohio, and Virginia. The disease runs its course in ten days to two weeks, and recovery is complete without paralysis or other after-effects.

Monkeys, mice, and guinea pigs are susceptible to the virus causing the malady, and the two physicians suggest that "a reservoir of the disease may exist in animals."

Tests show that a blood serum of patients who have recovered serves to protect experimental animals from the virus. The serum has not yet been used in human patients to test its power to forestall development of the disease.

Science News Letter, July 20, 1935

BOTANY

Science Five Steps Nearer Secret Of Green Leaf Factory

IT'S JUST a simple leaf inhaling carbon dioxide, but if it ever stops breathing in what man breathes out all life, as it exists today would cease in a short time.

Announcement was made by Dr. Dean Burk, U. S. Department of Agriculture scientist, that he and Hans Lineweaver, working in the U. S. Bureau of Chemistry and Soils, have come five steps nearer understanding the baffling chemical processes by which the leaf manufactures carbohydrates.

It is now only a matter of time, Dr. Burk said, until several more leaf reactions will be discovered. Then, chemists believe, man will be able to adopt and even improve on the method used in the green leaf chemical factory.

The process is known as basic photosynthesis. Chemists have long known that the wood in trees is created by the leaf. Its green coloring matter, chlorophyll, acts as a catalyst helping the air's carbon dioxide to unite with water to form a primitive carbohydrate which, in turn, becomes cellulose.

Dr. Burk compared the reaction of photosynthesis to an endless chain bucket pump in which the sun furnishes the power, the chlorophyll and another catalyst acting as buckets in pumping the carbon products to a higher energy level. The chemical equations, he discovered, are not of the simple type familiar to students of elementary chemistry, but depend upon changes of energy content.

The Department of Agriculture scientists experimented with a green alga, Chlorella, in the life of which little happens except the change of carbon dioxide to protoplasmic carbohydrates.

Importance of the work lies in the fact that when chemists can exactly duplicate the leaf's creative process, they will be able to improve and find short cuts. They may be able to do what Germany did in the War when her nitrogen supply ran low due to blockades, when she reached into the air and "fixed" nitrogen, taking the plentiful gas and converting it into explosives. In the same way chemists may eventually be able to create their own carbohydrates by taking carbon dioxide from the air or elsewhere.

The scientists also reported that those plants which are able to "fix" nitrogen do so by burning up the carbohydrates which their leaves created. It takes about as much energy to "fix" a pound of nitrogen as it does to "fix" a pound of carbon dioxide gas, Dr. Burk said.

Science News Letter, July 20, 1935

GEOLOGY

Earth's Upper Rock Layers Not Found Under Pacific

PACIFIC Ocean bottom rock is different from rocks found anywhere else, whether on land or under other oceans. It appears to be the earth's real foundation rock, overlaid elsewhere with other deposits which are missing throughout the area of the world's greatest ocean.

These are conclusions reached by Dr. B. Gutenberg of the California Institute of Technology, as a result of a long study of the rate at which earthquake and explosion waves travel through the earth's crust in various regions. The denser the rock the more rapidly the waves travel.

Everywhere except in the Pacific region the slower rate of rock wave movement indicates the presence of a "continental layer," says Dr. Gutenberg. This continental layer consists of two parts: an upper set of strata composed of sandstones, limestones and other sedimentary rocks; and a lower, thicker section made up of denser crystalline rocks like granite and basalt. Beneath this continental layer lies the real "rock bottom" of the earth's crust, called the "sial" by students of earth structure, made up of rocks of the class known as peridotites.

The continental layer is thickest in the earth's land areas, thinner under the oceans, but still present beneath all except the Pacific Ocean. There it is entirely missing and the sial foundation is the direct material of the ocean bed.

Science News Letter, July 20, 1935