BIOCHEMISTRY

rigin of Food Allergies?

➤ A POSSIBLE clue to the origin of food allergies and other irregularities in the body's use of protein, sugar and fat was suggested by Dr. Anthony A. Albanese of the Nutritional Research Laboratory of St. Luke's Hospital, New York, to the American Chemical Society in Philadelphia.

Cortisone, the scarce but powerful drug used to treat rheumatoid arthritis in combination with sex hormones and other complex chemicals of the type known as steroids, has increased beneficial effects on the patients when their nutritional condition is improved.

This combination suggests that, by improving the patient's physical condition by better feeding, better results may be expected from the limited amount of cortisone available for his treatment.

Steroid chemicals have a profound effect in the body's transformation of food into tissues needed for growth and repair, ac-

cording to other papers presented to the chemists. The male hormone, for example, causes increase in the amount of protein stored in the body. These chemicals especially affect protein, fat and sugar metabolism, Dr. Albanese said. He pointed out that individuals vary widely in the way they are able to make use of the substances.

The relief that patients get from cortisone and other anti-arthritis drugs also varies widely from patient to patient. These effects may be parts of the same problem, Dr. Albanese said, and the solution may lie in the whole field of the relationship between steroids, hormones and foods. By evaluating the patient's condition through tests of vitamin levels and nitrogen analyses, he hopes to be able to obtain the maximum benefit of steroidal treatment of arthritis and the minimum of untoward effects.

Science News Letter, April 22, 1950

Photo-Electric Eye Heart

➤ A TINY disk of the metal germanium is the heart of a new photo-electric eye announced by the Bell Telephone Laboratories, New York, N. Y.

This entirely new type of electric eye is about the size of a small caliber rifle cartridge but it delivers very high power for a photo-electric cell.

The new device will be known as the "Phototransistor" because of its relation to the amplifying transistor which also uses a tiny chip of germanium. In this parent device, two hair-thin wires are pressed against the germanium, a semi-conductor material. The ends of the wire are hardly two-thousandths of an inch apart. The flow of very small electrical currents in one of the wires controls the flow of currents in the other in such a way as to give signal amplification. The transistor is a device to

replace vacuum tubes in certain usages.

The phototransistor is similar in operation to the amplifying transistor, but is controlled by light rather than electric current. It uses only a single collector wire. The tip of this wire rests in a small dimple ground in the germanium metal. At this point the germanium is only three-thousandths of an inch thick.



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Light focused on the opposite side of the disk can control the flow of electricity in the wire, thus making a control device similar in function to a photo-electric cell. It is a rugged device, without vacuum, glass envelope, grid, plate or hot cathode.

Photo-electric cells have been in use for the past quarter-century and have wide applications.

Science News Letter, April 22, 1950

Words in Science— ANTHROPOLOGY-ARCHAEOLOGY

➤ ANTHROPOLOGY, in its broadest sense, is the science of man. Why are we built as we are, act in a group as we do, live where we do? Anthropologists search for the answers. They are scientific historians, studying man as an animal in relation to his physical character, his geographical distribution, the origin of various races, social relationships and customs.

Archaeology is more limited. It is the study of ancient civilizations. By digging up the pots and pans of peoples who lived long ago, studying their art, architecture, language and literature, archaeologists contribute to man's knowledge of himself.

Science News Letter, April 22, 1950



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