

HEMATOLOGY

Hemoglobin in Adult and Infant Strikingly Similar

THE BLOOD'S oxygen-carrying hemoglobin is not as different in adults and infants as scientists think, two researchers report in *Science* (130, 1574, Dec. 4, 1959).

A "surprising" discovery is that there are striking similarities in the two groups' peptides—combinations of amino acids which, in turn, are the basis of proteins. Previously it had been thought synthesis of the two hemoglobins was under the control of two separate genes.

Of the 19 peptides analyzed, 11 were qualitatively the same, report Drs. Arnold M. Katz of the National Heart Institute, Bethesda, Md., and Amoz I. Chernoff of the University of Tennessee's Memorial Research Center and Hospital. Five showed minor differences and only three appeared to be very different. However, the researchers point out that only 65% of the expected number of peptides has been found and more differences may be detected.

It is also possible, Drs. Katz and Chernoff note in conclusion, that hemoglobin differences may not be caused by genes, but may reflect differences in individual adults and infants.

Science News Letter, December 26, 1959

MEDICINE

Magnetism Aids Man In War Against Disease

MAGNETIC forces are healing some of man's ailments.

Magnetism is being used by researchers to direct healing chemicals to a particular part of the body. These chemical particles are known as alpha iron crystals. They have the ability to pass through the tiniest capillaries of the body, Dr. Michael W. Freeman, Detroit, and Anthony Arrott of the scientific laboratory of the Ford Motor Company, Dearborn, reported at a conference on magnetism and magnetic fields in Detroit, Mich.

These iron crystals actually carry isotopic radiation or some adsorbed healing chemical throughout the body. The crystals can be alloyed with the properly selected radioactive element, or coated with an adsorbed layer of a therapeutic agent, Dr. Freeman said.

The first patient to receive alpha iron particles, was a six-year-old boy suffering idiopathic thrombocytopenic purpura, a disease characterized by hemorrhages, purple patches on the skin and a reduction in the number of blood platelets.

He was given iron crystals which he absorbed under his tongue. Within ten minutes after each such treatment, the serum iron in the boy's blood increased by 70%.

While the researchers do not pretend to understand fully the reasons for this reaction, they suggest that it may be connected with blood kinetics and enzyme activity.

It had been shown earlier that mice, when subjected to a magnetic field of from 3,000 to 6,000 gauss for from one to four

weeks, experienced a decrease in white blood cells. When removed from this environment, however, their white cell count jumped more than 70% normal values.

This effect has been used to reduce the death rate due to cancer from cobalt radiation.

Science News Letter, December 26, 1959

METEOROLOGY

Balloons Yield Useful Pacific Weather Data

RADIO-EQUIPPED balloons flying at constant altitude from Japan across the Pacific Ocean and the United States to the Atlantic can yield valuable weather data at a reasonable cost.

This is the conclusion of J. K. Angell of the U. S. Weather Bureau, Washington, from a study of balloons following the winds eastward from Japan during the period from September, 1957, to April, 1959. Cost of operating the constant-level balloons, called transondes, can be as low as \$75 for each wind reading.

This cost can not be compared with that for obtaining wind data from weather ships, since such measurements show winds, temperatures and pressures at various levels, and the ships also serve as rescue units in cases of emergency. Mr. Angell urges the continued use of balloons, particularly superpressure balloons, to determine wind conditions high over the Pacific. Mr. Angell's report on the use of transonde data appears in the *Journal of Geophysical Research* (Nov. 1959), a publication of the American Geophysical Union supported by the National Science Foundation and the Carnegie Institution of Washington.

Superpressure balloons, Mr. Angell reports, represent virtually no hazard to aircraft and are probably capable of circumnavigating the hemisphere.

"It is believed that, on the basis of the usefulness of the transonde data obtained during 1958-1959, a very good case can be made for operational and research purposes," Mr. Angell concludes.

Science News Letter, December 26, 1959

ASTRONOMY

New Comet Discovered Low in Southeast Sky

A NEW COMET bright enough to be seen with binoculars has been discovered low in the southeast sky.

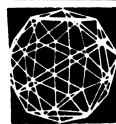
Of eighth magnitude, the comet was spotted in the constellation of Libra, the scales, which is visible from the United States near the southeast horizon shortly before sunrise. The diffuse stellar object, which has a short tail, will be known as Comet Mrkos after its discoverer, Antonin Mrkos of the Astronomical Observatory at Skalnaté Pleso, Czechoslovakia.

Report of the Dec. 3 sighting was cabled by Miss J. M. Vinter-Hansen to Harvard College Observatory, Cambridge, Mass., clearing house for astronomical information in the Western Hemisphere.

When discovered, the comet's right ascension was 15 hours, four minutes; its declination, minus 11 degrees, 50 minutes.

Science News Letter, December 26, 1959

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