HEMATOLOGY

Hemoglobin in Adult and Infant Strikingly Similar

THE BLOOD'S oxygen-carrying hemoglo-
bin is not as different in adults and infants
as scientists think, two researchers report in

A surprising discovery is that there are
striking similarities in the two groups' pepti-
ides—combinations of amino acids which,
in turn, are the basis of proteins.

Previous studies had thought of the two
hemoglobins as 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,
Baltimore, Md., and Amos I. Chernoff of
the University of Tennessee's Memorial Re-
search Center and Hospital. Five showed
minor differences and only three appeared
to be very different. However, the
researchers pointed out that only 65% of
the expected number of peptides had been
found and more differences may be de-
tected.

It is also possible, Drs. Katz and
Chernoff note in conclusion, that hemoglobin
differences may not be caused by genes,
but rather 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 confer-
ence on magnetism and magnetic fields
in Detroit, Mich.

These iron crystals actually carry isotopic
radiation or some adsorbed healing chemi-
al throughout the body. The crystals can
be alloyed with the properly selected radio-
active 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 re-
action, they suggest that it may be con-
ected with blood kinetics and enzyme ac-

It had been shown that mice, when
subjected to a magnetic field of from
3,000 to 6,000 gauss for one to four
weeks, experienced a decrease in white
blood cells. When removed from this en-
vironment, however, their white cell count
jumped more than 70% normal values.

This effect is hoped to be able to reduce the
death rate due to cancer from cobalt radi-
ation.

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METEOROLOGY

Balloons Yield Useful
Pacific Weather Data

RADIO-EQUIPPED balloons flying at con-
stant altitude from Japan across the Pacific
Ocean and the United States to the Atlan-
tic can yield valuable weather data at a rea-
sonable cost.

This conclusion is reached by Dr. J. K.
Angell of the U. S. Weather Bureau, Wash-
ington, 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 bal-
loons, called stratospheres, 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, tem-
peratures 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 super-
pressure balloons, to determine wind condi-
tions high over the Pacific. Mr. Angell's
report on the use of transsonde data ap-
pears in the Journal of Geophysical Research
(Nov., 1959).

The publication of the American Geophysical
Union supported by the National Science
Foundation and the Carnegie Institution of
Washington.

Superpressure balloons, Mr. Angell re-
ports, represent virtually no hazard to air-
craft and are probably capable of circum-
navigating the hemisphere.

"It is believed that, on the basis of the
usefulness of the transsonde data obtained
between 1958-1959, a very good case can be
made for operational and research pur-
pose," 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
discovery, Antonin Mrkos of the Astronomical
Observatory at Skalnate Pleso, Czechoslovakia.

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

When discovered, the comet's right ascen-
sion was 15 hours, four minutes; its
decimation, minus 11 degrees, 50 minutes.

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