

## PSYCHOLOGY

# 'Finger Sight' for Blind

"Finger sight," a sensitivity discovered in some persons but not yet understood, is being studied to determine whether it can be taught—By David F. Nolan

► CAN THE BLIND someday be taught to "see" with their fingers—to read regular print and recognize people in pictures?

The Russians say yes; in fact, they claim to have already taught several people "finger sight."

The claim is made in an article by N. D. Nyuberg of the Institute of Biophysics, USSR Academy of Sciences, translated in the Federation of American Societies for Experimental Biology Translation Supplement for July-August 1964.

In the United States, work is being done along similar lines by Dr. Richard P. Youtz, a professor of psychology at Barnard College, New York City.

Dr. Youtz told SCIENCE SERVICE of his work to date and outlined his plans for further investigation.

For the past year he has been searching for and experimenting with persons who possess at least a minimal ability to discriminate between colors by using their fingers.

His search was prompted by his investigations of Patricia Stanley, a 43-year-old Michigan housewife who possesses this ability to a fairly high degree. Not only can she tell one color from another, but she can recognize colors without making comparisons.

A young Russian woman, Rosa Kuleshova, can supposedly even read printed text by running her fingers over a page without touching it.

Exactly how she does this, nobody is sure.

But if her secret can be discovered, then perhaps others can be trained to perform similar feats. Such training would be of great help to the blind, in addition to being of great theoretical interest.

Dr. Youtz emphasizes that the ability to differentiate between or recognize colors, or even the ability to "read" print or "scan" photographs with one's fingers, is not vision in the true sense. True vision involves depth perception, focusing capability, the ability to follow motions and many other factors.

Working with Barnard College students as subjects, Dr. Youtz is attempting to find out what percentage of the population has "color sensitive" fingers, what causes the sensitivity, and whether or not the ability can be developed and trained.

He has discovered so far that the ability exists in its crudest form—ability to distinguish between black and white—in about ten percent of the subjects he has tested, all of whom were female college students.

The ability can apparently be improved by training to some extent—although Dr. Youtz has not taught anyone to "read" with his fingers yet, and does not anticipate it in the near future.

How this strange ability works is still unknown, and it may well be nothing more than a useless freak of nature. But Dr. Youtz says that he "definitely believes it is worth investigating."

• Science News Letter, 86:119 Aug. 22, 1964

## CHEMISTRY

# New Form of Vitamin K Found in Spinach Study

► A NEW FORM of vitamin K has been found in spinach.

In the separation of fats from parts of spinach cells containing chlorophyll, scientists observed a compound that shows different color properties from those of the well-known vitamin K-1.

Vitamin K is essential for blood clotting and is used in treating and preventing hemorrhage. It is widely distributed in green plants.

Vitamin K is a naphthoquinone, a compound derived from naphthalene, an aromatic hydrocarbon.

This second naphthoquinone is believed to be a demethylated form of vitamin K-1. It was isolated by extracting spinach chloroplasts with a heptane-propanol mixture.

The discovery was made by M. McKenna, Mrs. M. D. Henninger and Dr. F. L. Crane, Purdue University, Lafayette, Ind., and reported in *Nature*, 203:524, 1964.

The new form of vitamin K, which is the ninth quinone to be found in chloroplasts, should be considered in any investigations of restoration of biological activity after solvent extraction, the researchers reported.

• Science News Letter, 86:119 Aug. 22, 1964

## ROENTGENOLOGY

# Isotope-Power for Chest X-Ray Unit

► A NUCLEAR chest X-ray unit, suitable for use in areas remote from civilization, has been developed by the Viso Corporation, Detroit.

The unit uses nuclear radiation from the isotope ytterbium-169 to do the work done by electrically generated X-rays in conventional systems, and will run for three months on a single "charge" of the isotope.

It is easily portable, can be set up for use by one person in 15 minutes and can be operated by ordinary medical personnel.

• Science News Letter, 86:119 Aug. 22, 1964

## BIOLOGY

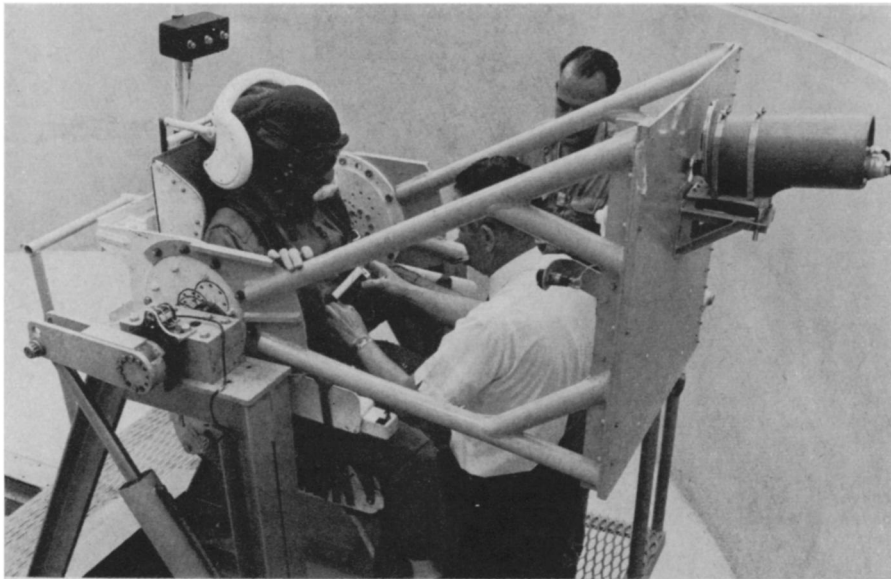
# Centrinauts: Students In a Spin for Research

► NINE YOUNG MEN from the University of California at Los Angeles are making their pocket money at the oddest of odd jobs—they are "centrinauts."

These nine volunteers are spun around at three times the force of earth's gravity in the giant centrifuge at Douglas Aircraft Company's Missile and Space Systems Division, Santa Monica, Calif. Measurements of their respiration, pulse rate and blood pressure are providing valuable data on how the body will adapt to high gravity over long periods of time.

This information will be useful to astronauts and space scientists who may have to remain in space stations for up to a year, and possibly longer.

• Science News Letter, 86:119 Aug. 22, 1964



Douglas Aircraft Co.

**READY FOR RUN**—UCLA student centrinaut is being strapped into the centrifuge chair at Douglas Aircraft Company's Missile & Space Systems Division, for a 10-minute run on the device that produces artificial gravity by rotation. Electrodes are pasted on centrinaut's chest and back to record pulse, heart, blood pressure and respiration reaction.