

GENERAL SCIENCE

**Blindfolded 'Seeing'
Claimed to Be Peeking**

► THE EXTRAORDINARY ability of some blindfolded people to "see with their fingers" is nothing but a peek down their nose, reported Martin Gardner of the *Scientific American*.

Many scientists, reporters and gullible people have been tricked by those who claim to "read" newspapers and "see" colors with parts of their skin while their eyes are "tightly" blindfolded, Mr. Gardner said in *Science*, 151:654, 1966. Tighter controls are finding that those claims are not true.

Even though science reporting in the United States is more accurate and freer from sensationalism than ever before, many reporters fell for a "seeing-with-fingers" story of a Michigan housewife in early 1964. Subsequent tests were negative when made with tighter controls due to better understanding of the ways in which a person can see past a blindfold. The housewife's responses turned out to be no better than chance guesses. Russian newspapers and popular magazines have been reviving ancient claims about certain gifted people, and running sensational science stories, much as the U.S. Sunday supplements did in the 1920s. However, Russian scientists are now beginning to report that certain sensational claims are hoaxes.

The ability to see with fingers is really an ability to peek down the nose under the blindfold in many ingenious ways, Mr. Gardner said. He pointed out that the nose protrusion always permits a sliver of light to reach the subject's eyes, no matter how many layers of bandages, tape, cotton or metal are covering the eyes. One can always manage a peek by moving the head slightly to sniff, scratch the back of one's head or make some other gesture.

A lightweight aluminum box that fits over the subject's head would put an end to all chances of peeking. With holes at the top and back for breathing, the box would cover the face and sides of the subject's head with solid metal that would extend completely under the chin and fit snugly under the neck. So far, scientists have not used such equipment.

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MEDICINE

**Epilepsy Drugs Have
Bad Effects on Some**

► THE DECISION of the U.S. Food and Drug Administration Commissioner, Dr. James L. Goddard, to allow physicians to continue treating epilepsy patients with the drug Elipten, now withdrawn, is being hailed as good news by a number of neurologists.

One physician told *SCIENCE SERVICE* he had been treating a great number of epileptics with Elipten for two years with no observable trouble.

"None of the well-known epilepsy drugs such as Dilantin, Mebarol, Phenobarbital and Myseline, to name only a few, are entirely without complications in some

patients," this authority stated. "This is true of any drug for any ailment unless it might be some vitamins. Aspirin cannot be excluded as possibly harming some individuals with peculiarities of response."

Justification of continued research for drugs, even when many others are licensed for marketing and seem to have positive effects, has been voiced by researchers and physicians.

All patients, especially those affected by epilepsy, should check with their physicians to be sure they are not being harmed by the medication which has been prescribed.

During an inspection FDA inspectors uncovered information of Elipten, produced by Ciba Pharmaceutical Co., Summit, N.J. They found a report of female rat studies involving the drug which showed serious toxic effects were produced in the thyroid, ovaries, adrenals and uterus. Atrophy and mottling of the adrenals of some male rats were also found.

This information was not included in the materials submitted to FDA with Ciba's application for a new drug in the winter of 1959.

Ciba officials told *Science Service* the company did not intentionally withhold any material information, and had reported side effects in 1964.

Dr. Goddard said FDA scientists would not have recommended approval of the application if the adverse rat research had been reported.

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OCEANOGRAPHY

**New Radar Device
Probes Antarctic Ice**

► A NEW RADIO sounding device was used to record the depths of ice and the profile of rock surface beneath the ice for 830 miles across the lonely Antarctic plateau.

The new instrument was mounted on one of three large tracked vehicles that recently arrived at the new U.S. station Plateau. One Norwegian and nine U.S. scientists, with their Belgian leader, completed the second stage of a projected 5,000-mile four-year expedition from the South Pole to a point near the coast of Queen Maud Land. The first stage, completed last year, extended from the South Pole to the Pole of Inaccessibility.

The radar instrument, which had been tried out briefly last year, automatically took soundings to the ice depth and rock surface. These were recorded on tape. Formerly, scientists could determine the ice cap depth only on a "spot" basis by means of slow and cumbersome methods of seismic explosions and gravity profiles. Scientists of many nations are engaged at Antarctica in continuous study of the depth of the ice cap and the nature of the land beneath, as well as with the region's weather and the earth's magnetic field. Research projects of the United States are conducted under the U.S. Antarctic Research Program (USARP), part of the National Science Foundation and the U.S. Navy.

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IN SCIENCE

SOCIOLOGY

**Police Officers Get
Courses in Psychology**

► POLICE OFFICERS from the Youth Division, New York City Police Department, have begun special psychiatric training aimed at improving their handling of troubled juveniles.

Training consists of 12 sessions and covers methods of dealing with narcotics addiction, violence, stealing, family conflict and neglected children, among other problems. Children affected by the new approach are those who get into trouble, but whose offenses are not serious enough to warrant arrest.

The 131 officers of the Youth Investigation Bureau, which handled 40,000 cases last year, will be taught how to diagnose a youngster's troubles, spot problems in his background, school and neighborhood, and refer him to the appropriate agency.

The object is to head off serious crimes by helping delinquents early.

In addition to this education, the youth officers requested guidance help in establishing rapport across ethnic barriers and in motivating hostile children to accept assistance.

The training is being conducted by the Postgraduate Center for Mental Health, one of the country's largest mental health clinics.

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MEDICINE

**Some Cancers Could Be
Second Embryonic Cells**

► EVIDENCE has been reported raising the possibility that some cancers may be an adult reappearance of embryonic tissue.

Dr. Phil Gold, a teaching Fellow at McGill University, Montreal, Canada, who has been awarded the Gold Medal in Medicine of the Canadian Royal College of Physicians and Surgeons for his significant work, is investigating human applications of his laboratory studies with rabbits. He already has worked with human tissue.

Investigation of 20 specimens of colonic cancer obtained at operation, coupled with his animal research, led him to conclude that certain parts of the embryonic digestive system tissue are lost before birth and do not reappear in the adult structures except during malignant transformation.

Dr. Gold found "marker" antigens only in cancers of the digestive system. The localization was so marked that it led him to investigate their appearance in embryonic intestinal tissue. The antigens appeared in the pancreas and liver, as well as the intestines, but only in the first trimester of pregnancy, after which they disappeared.

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E FIELDS

ASTRONOMY

Supernova Discovered By Russian Astronomer

➤ A SUPERNOVA, a star that suddenly explodes to a brilliance many million times that of the sun, has been discovered in the eastern sky by the Russian astronomer Yakimov.

News of his find is being telegraphed to astronomers in the Western Hemisphere by the Smithsonian Astrophysical Observatory, Cambridge, Mass. The supernova photographs as 15th magnitude, too faint to be seen except with a fairly large telescope.

Dr. Dimitrii Martynov of the Astronomical Institute of the University of Moscow reported that the blazing star is near the celestial object known as NGC 4688. Its location is right ascension 12 hours, 46 minutes and declination plus four degrees, 30 minutes.

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PSYCHIATRY

Group Therapy Valuable Aid to Married Couples

➤ GROUP THERAPY for married couples appears to work in spite of its expected drawbacks.

This optimistic note was sounded by two Cincinnati psychiatrists who treated four couples with neurotic marriages in once-a-week group meetings. Therapy lasted 20 months.

Drs. Anthony Gottlieb and E. Mansell Pattison of the University of Cincinnati College of Medicine said that the therapy was successful, in part, because the group exposed marital "games" or "bargains," which had been implicit, perhaps unconsciously, struck by the man and woman to maintain their marriage in neurotic balance.

For instance, one husband knew his wife was frigid, but claimed responsibility for this in order to preserve their relationship. By challenging this "bargain," the group forced the couple to find a better adjustment.

Married couple therapy revealed insights for individuals as well as for their marriages, the doctors reported. After a time, members of the group tried to establish the same relationships with others that they had with their husbands or wives. But the other men and women would have none of it.

One man turned to a woman, not his wife, and accused her of wanting him to fail at work. She asked him why she should want him to fail—she was not his wife. In this way, the man discovered attitudes he held toward women in general.

One thing the psychiatrists had feared was that by encouraging open expression between man and wife, they would release such hostility that marriages would be split.

In no case did this occur. There were violent attacks between spouses but no overwhelming eruptions.

The group became an open forum for working out arguments and setting up new lines of communication. It also acted as a kind of market, in which the couples provided each other with new and different solutions to conflict.

Some marriages may not be appropriate for this type of therapy, however. It may not be recommended when one partner is the primary source of neurosis, reported the psychiatrists in *General Psychiatry*, 14:143, 1966.

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GENERAL SCIENCE

Betting System Outlined To Avoid 'Going Broke'

➤ A BETTING SYSTEM for minimizing the chance of going broke in such gambling games as blackjack, or the game of life, has been outlined.

But a person must be very rich to begin with for the method to work best. He also has to be interested only in survival. When these two factors hold, then the way to make money—slowly, but surely and steadily—is to gamble conservatively.

Although most of the betting system is highly mathematical, Dr. Thomas S. Ferguson of the University of California at Los Angeles, has drawn this and other implications from his studies on "the probability of ruin."

As an example of a conservative gambler, Dr. Ferguson cites a hypothetical rich man who pays a dollar a day to live—the fixed price for playing the game of life—and who each day has a chance to make an even-money wager on a gamble offering him a two-thirds chance of winning money. However, if this rich man is interested only in survival, he should bet approximately \$5.89 each day and he would make money slowly but steadily.

Another implication he drew from his studies is: "If you are poor and interested only in survival, be bold" in your gambling.

Dr. Ferguson's betting system differs from the one widely publicized and used several years ago by Dr. E. O. Thorp, now at the University of California in Irvine, who proved the validity of his theories by a handsome profit at Las Vegas gambling tables.

Dr. Thorp's system calls for changing the size of the bet depending on the financial resources of the bettor, whereas Dr. Ferguson's method calls for bets of a constant amount.

In the *Journal of the Society of Industrial and Applied Mathematics*, 13:795, 1965, Dr. Ferguson notes that such games as roulette or "craps" are always unfavorable to the player because the odds favor the house. No matter how much money a player starts with, he will go broke or bankrupt if he sticks to such games long enough, a fact long ago proved both mathematically and by many unfortunate gamblers.

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MEDICINE

Progress in Study Of Adrenal Hormones

➤ AN ADDITIONAL STEP has been demonstrated in adrenal hormone synthesis.

Removal of the ovaries of albino rats does not lessen the overall production of adrenal hormones, but the production of the vital adrenal hormone, corticosterone, is decreased, a University of Virginia scientist reported in *Nature*, 209:808, 1966.

Eventual application of laboratory findings to humans is the goal of Dr. Julian I. Kitay, University of Virginia School of Medicine, Charlottesville. But he told *SCIENCE SERVICE* that there is no assurance that his findings will be repeated if tried on people.

What he has done so far is to inject a female hormone called estradiol-17 Beta, produced under the trade name of Estradurin by Ayerst Laboratories, New York City, under the skin of Sherman-strain rats after removing their ovaries.

The injection was given six weeks after the ovaries were removed, and two weeks later experiments involving adrenal gland mixtures with potassium chloride, sodium bicarbonate and other substances revealed these findings: In the untreated rats whose ovaries had been removed there was less corticosterone than in control animals which still retained their ovaries, or which had been injected.

The total amount of hormone produced was unchanged, suggesting that the adrenal glands produce a hitherto unrecognized hormone in the absence of the ovaries or of estrogen. The name of the hormone and additional findings are to be reported soon, Dr. Kitay said.

A next step with human tissue might involve taking a piece of adrenal gland immediately after human surgery, or testing a sample of blood from the adrenal vein to analyze the steroid hormone.

Dr. Kitay's animal research findings are believed to be previously unreported by any other scientist.

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TECHNOLOGY

Microwave Used to Test Planet's Atmosphere

➤ A MICROWAVE method for studying the way radio waves travel through the synthetic atmospheres of other planets is under development.

Microwave power at frequencies as high as 2,100 billion cycles per second has been obtained by scientists at Martin Company's Orlando Division, working under a contract directed by the National Aeronautics and Space Administration's Electronics Research Center, Cambridge, Mass.

The technique used was to mix two finely tuned microwave signals by means of a silicon crystal and tungsten whisker. The development holds out the possibility of telecommunications at 2,100 billion cycles, with possible extension to even higher frequencies.

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