

PSYCHOLOGY

Furtive Glances Under Psychological Scrutiny

► **WOMEN LOOK** at each other, while talking and while listening, more than men do. They glance at men more often than men gaze at them, Dr. Ralph V. Exline of the Center for Research on Social Behavior, University of Delaware, Newark, has found.

To find out exactly what goes on in face-to-face communication, psychologists are turning to the eyes. They are counting the number of times people look at each other in the course of a conversation.

Women have a greater desire than men for affectionate relationships, Dr. Exline explained. They seek intimacy and warmth; they want to be included. These needs are reflected in their glances during conversations.

Sometimes the look is a signal, showing a desire to establish a more personal relationship. At other times the glance picks up subtle information about how others are reacting, Dr. Exline found.

The technique of the study, reported in the *Journal of Personality*, 31:1, 1963, is to get small groups of people together to talk about innocuous subjects. In such average situations, psychologists are finding out what goes on in conversations besides talk.

• Science News Letter, 83:248 April 20, 1963

NUTRITION

Packaged Potatoes Cheat Family of Vitamin C

► **FRESH COOKED** potatoes contain from two and a half to five times more vitamin C, or ascorbic acid, than the dehydrated kind hurried housewives buy in packages.

If predictions prove true that by 1975 the only available fresh potatoes will be for baking, vitamin C should fortify the packaged products in countries that depend on the potato for this vitamin.

Citrus fruits, tomatoes and other vegetables and animal products contain ascorbic acid, and most Americans do not depend on potatoes for it. But in Ireland the average consumption of potatoes is 394 pounds per year, or one pound per person every day.

Assuming that the Irish depend on potatoes entirely for their vitamin C, they would need 13.8 pounds of the dehydrated kind every day to supply their needs.

Two brands, called X and Y, were analyzed at the School of Home Economics, Montana State College, Bozeman, by Dr. Gladys Hartley Roehm and Patricia W. Myers, now at Purdue University, Lafayette, Ind.

They found that one cup of fresh fried potatoes would furnish around 15 times more ascorbic acid than Brand X dehydrated mashed potatoes and 10 to 11 times as much as Brand Y mashed potatoes. There was considerable difference in the ascorbic acid contents of these two brands, not only mashed but for fried potatoes, they

report in the *Journal of the American Dietetic Association* 42:325, 1963.

Cooking causes high loss in vitamin C, the researchers found. The loss in the dices prepared as hash browned potatoes averaged 36.4% for Brand X, and 37.4% for Brand Y. Mashed potatoes prepared from flakes lost an average of 74.54% and 68.14% vitamin C respectively.

In both brands, the slices contained most ascorbic acid and the flakes least.

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SPACE

High-Altitude H-Bomb Test Affected Atmosphere

► **THE HIGH-ALTITUDE** hydrogen bomb explosion by the United States last July affected the earth's high atmosphere, records made at Kingston, Jamaica, show.

The blast also generated extremely low frequency and very low frequency radio waves that were recorded in California, more than 3,000 miles away from the Johnston Island site.

However, neither of these effects would necessarily be of help in detecting unannounced thermonuclear bomb tests in the atmosphere.

The part of the earth's high atmosphere affected was 100 to 200 miles above the surface, called the "F" layer of the ionosphere, which reflects radio waves. The ionization change was "unusual," R. J. Armstrong and A. E. B. Wharton of the University of the West Indies reported in Washington, D. C.

The radio waves were detected by G. M. Crook, E. W. Greenstadt and G. T. Inoué of Space Technology Laboratories, Redondo Beach, Calif.

Both reports appeared in the current *Journal of Geophysical Research*, 68:1781, 1963.

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TECHNOLOGY

NASA, AEC Standardize Microfilm Program

► **STEPS** have been taken by the Atomic Energy Commission and National Aeronautics and Space Administration to improve the availability and usability of scientific and technical report information generated by programs in the two agencies.

The two agencies have agreed to a standard reduction ratio and size for microcopy of miniaturized forms of the reports. This pioneering agreement between two of the largest governmental producers of scientific text in microcopy form will allow users of the information to view and reproduce AEC and NASA material with the same equipment.

Use of the microcopy with reading and reproducing equipment makes information available in the shortest possible time, eliminating delays inherent in the process of obtaining reproduction from original documents at some remote location.

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IN SCIEN

PHYSICS

Radioactive Sands Of India Tested

► **SCIENTISTS** at the University of Kerala, Trivandrum, on the western shore of India, will study the effects that natural radiations from India's sands, the world's richest source of monazite containing the radioactive element thorium, have on the gene structure of plants.

The grant of about \$30,000 from the U.S. Department of Agriculture will be paid for with currency obtained by the United States through sale of farm products abroad under Public Law 480. This money cannot be converted into dollars for research in the United States, according to the USDA's Agricultural Research Service, which administers this foreign agricultural research.

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ZOOLOGY

Tadpoles Developing in Egg Short-Cut Evolution

► **ONE TROPICAL** American frog does not go through the vulnerable aquatic tadpole stage during its life cycle.

Instead of swimming freely in dangerous waters, the Fitzinger frog passes its tadpole stage safely inside the egg. It hatches later as a fully metamorphosed frog, with considerable ability to take care of itself.

Most frogs pass through growth stages from the eggs that hatch into tadpoles. As most boys know, these creatures gradually grow hind and front legs, then lose their tails and finally emerge with the typical frog structure.

This process of growth takes several weeks and is filled with dangers for the frogs. Mortality among tadpoles is especially high in the vicious struggle for food among the teeming inhabitants of ponds and streams. To compensate for this high death rate, frogs usually lay eggs by the thousands. Some tropical varieties of frogs may lay as many as 25,000 eggs in a single season.

The Fitzinger frog, however, lays only about 40 eggs in a season, states Dr. Doris Cochran, a Smithsonian Institution curator of reptiles and amphibians who recently completed a trip through much of South America in her search for frogs.

About as many mature individuals can be expected to live from this small clutch of the Fitzinger frog as from the 25,000 eggs laid by the more prolific kind, she explains.

Nature seems to have over-indulged the reproduction capacity of frogs to compensate for their high mortality, in comparison to mammalian or bird life where each fertilized egg may be expected to produce an individual.

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CE FIELDS

GEOPHYSICS

First Man on Moon Will Not Drown in Dust

► THE FIRST MAN on the moon will not have to worry about drowning in a sea of dust, predict scientists who are working with a big "nothing machine" at Hanscom Field, Mass.

The machine, which looks somewhat like a truck motor, is mounted in a basement of the Air Force Cambridge Research Laboratories. It is designed to recreate the atmospheric and radiation conditions on the moon's surface.

Officially called the lunar environment chamber, scientists refer to it as the "nothing machine" because it attempts to duplicate the almost perfect vacuum believed to envelop the moon.

Powdered samples of the basalt and other materials thought to be on the moon are placed in the machine and a switch turned on. The pressure inside is reduced 10 million million times in such ultra-high vacuums the powder clings to walls and wires within the chamber.

"It is dramatic evidence of the cohesion of the dust particles that may be on the lunar surface," said Dr. John W. Salisbury, chief of the laboratories' lunar planetary exploration branch.

He said the observations support the theory that moon dust is thin, compact and unyielding, rather than loose as others contend. A near vacuum does not permit dust particles to be separated by air molecules as on earth.

"This would result in a tightly packed, firm surface for a space landing," Dr. Salisbury said.

Dr. Salisbury plans to test more materials at near vacuum conditions and combine lunar temperature and radiation studies.

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PUBLIC HEALTH

To Alter Smoking Habit, Stopping Is Best

► PERSONS WHO STOP smoking entirely are the most successful among those who try to reduce or change their smoking habits.

This was true of University of Edinburgh, Scotland, teachers who were surveyed to find out how the Royal College of Physicians' report on smoking and health influenced them. This report stated unequivocally that the case against prolonged and heavy cigarette smoking was proved beyond all reasonable doubt.

The R.C.P. report successfully persuaded nearly 100 of the faculty to modify their smoking—either to smoke fewer cigarettes or to change to pipes or cigars, G. W. Lynch of the department of psychological medicine, University of Edinburgh, said in the British Medical Journal, March 30, 1963.

Two other surveys on the effect of smoking in this same issue showed little if any effect on cholesterol and other fatty content of the blood of heavy cigarette smokers. But the platelets of the blood, which aid in blood clotting, were affected.

Dr. J. F. Mustard of the National Heart Foundation of Canada, Toronto, and Dr. Edmond A. Murphy of Johns Hopkins University Hospital, Baltimore, said they believe their findings may have an important bearing on the relationship between smoking and vascular disease.

The other study, by Dr. Aarne Kontinen and Matti Rajasalmi of Wihuri Research Institute, Helsinki, Finland, maintained that any relationship between cigarette smoking and hardening of the arteries is only conjecture.

Forty healthy soldiers, 19 to 20 years old, were studied for the effect of heavy smoking after meals. They were habitual smokers of American-type filter-tip cigarettes, had smoked at least two years and were accustomed to smoking 15 or more cigarettes a day.

Dividing the group into 20 who did not smoke and 20 who smoked six hours after a fatty meal, the researchers found no difference in the cholesterol levels and very little in other fat absorption.

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PSYCHOLOGY

Parents Forget Early Experiences With Baby

► PAPA AND MAMA have a hard time remembering how they raised baby.

Parents of three-year-olds tended to forget the details of baby's care. Although they had been questioned since the baby's birth in connection with psychological studies, and although the children were still so young at the time of the present study, they forgot.

The parents had most trouble remembering items dealing with weaning, toilet training, thumb sucking and demand feeding, Dr. Lillian Cukier Robbins, New York University psychologist, found in the Journal of Abnormal and Social Psychology, 66:261, 1963. Most of the errors in their memory reported put the parents closer to the "experts' recommendations on child care than they actually were.

Baby care books oppose thumb sucking, favor the use of a pacifier, make a stand for feeding the baby when he wants his food and support early weaning from the bottle or breast to the cup. The parents reflected these recommendations in their errors, Dr. Robbins noted.

Some said their baby never sucked his thumb. This contrasted with the original record showing the baby did. The parents tended to overestimate their acquiescence to the baby's demand for food. They had actually fed him more according to their own schedule than they remembered. They recalled the time of weaning as being earlier than it actually was.

Mothers tended to be more accurate in their recall and more affected by expert advice than fathers.

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MEDICINE

No Smoking Prescribed For Chronic Coughers

► NO SMOKING should be included in treatment of chronic coughers who may have the lung disease emphysema or chronic bronchitis, or both.

The treatment of emphysema, which is characterized by "air pockets" in human lung tissue, and chronic bronchitis is essentially the same, doctors at the American Academy of General Practice meeting in Chicago were told.

Persons with an unexplained cough for three months or more during each of the last two years may have both the diseases, Drs. Gordon L. Snider and David W. Cugell of Chicago said. The condition may be improved by drugs, but it is sometimes "irreversible."

Chest X-ray and thorough physical examination are advised as soon as possible after the patient's cough becomes chronic.

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SPACE

Outer Space Vacuum Keeps "Picnic Jugs" Cool

► SPECIAL BOTTLES can keep gases in satellite systems frozen in the intensely cold vacuum of space. Liquefied nitrogen, hydrogen or other gases are poured in the bottles and then frozen solid. The vacuum of space keeps the gas frozen at temperatures from minus 320 degrees Fahrenheit down to minus 440 degrees.

These gases are used for cooling miniature parts of satellites and other space systems. Designed by experts at Aerojet-General Corporation's astronautics division, the space bottle requires no power supply for its operation, needs no system to dissipate the heat, has only one moving part, has no vibration and requires no lubrication or maintenance. The bottle is light in weight and is trouble-free for considerable periods of time.

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PHYSICS

Roof Tiles Show Radiation Doses

► ROOF TILES are being used to measure radiation from the Hiroshima and Nagasaki atomic bomb blasts.

Exposure to radiation makes the tiles, and many other substances, give off a glow, called thermoluminescence. By measuring the glow, scientists can tell how much radiation was absorbed.

Glow curves from past radiation were compared to those from present exposure to gamma rays. By this method, a direct measurement of the dose of gamma rays was obtained for the first time. Doses for samples radiated below 100 r can be measured, Drs. Takenobu Higashimura, Yoneta Ichikawa and Tunahiko Sidei of Kyoto University, Kyoto, Japan, reported in Science, 139:1284, 1963.

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