PSYCHOLOGY

Flirtation is Called Safety Valve

SOCIAL flirtation can serve as a safety valve for real infidelity. The man who is jealous of his wife's flirtation with another man fails to realize this, psychiatrists declare.

"Conventional experience teaches us that such little ventures in the direction of infidelity are not to be held against either party," stated the New York psychiatrist, Dr. A. A. Brill, in presenting cases of abnormal jealousy before the American Psychiatric Association.

"In most cases it actually happens that the inflamed passion, fanned by a strange love object, finds gratification in a sort of turning back to fidelity at home," he added.

In this type of jealousy which psychiatrists term projection jealousy the man projects his own impulses to disloyalty to his wife. By accusing or suspecting her of infidelity, he unconsciously relieves his own conscience of blame for actual unfaithfulness or for impulses toward it which have been repressed but nevertheless worry him.

Prof. Sigmund Freud pointed out that social conventions wisely grant some leeway to the married woman's desire to attract and to the married man's desire to conquer. The expectation is that the indisputable tendency to infidelity will thereby be drained and rendered harmless.

Science News Letter, May 19, 1934

RADIO

Rain May Interfere With Ultra Short Wave Radio

FOG and rain will prevent the development of a reliable wartime or commercial radio communication system with ultra-short waves less than ten centimeters long, Prof. Gennady W. Potapenko, California Institute of Technology physicist, predicted.

Short waves of this length or less can be transmitted in clear weather, he said. However, their absorption during inclement weather makes them unreliable for commercial purposes.

Based on data compiled on charts, Prof. Potapenko made the forecast that rain and fog would absorb all waves from ten centimeters to the infrared waves of about 100 microns in length.

"Therefore," he added, "in order to avoid atmosphere absorption by fog and rain, one must use waves either longer than ten centimeters, or shorter than 100 microns."

Recently it was revealed that Prof. Potapenko's short wave tube system, published during 1929 in Germany, is being used by the International Telephone and Telegraph Laboratories in England to transmit 15 centimeter waves in a direct beam across the English channel between two 12-foot metallic mirrors.

That tube system, developed for making magnetic and electric measurements, now is obsolete as far as Prof. Potapenko's research is concerned. At present he uses three-centimeter waves.

In the channel experiments of transmitting telegraphic and telephonic communications, less than one hundredth the power needed to illuminate an ordinary household electric bulb was required to send the waves 38.2 miles. The antenna used was less than one inch long.

The advantage of ultra-short wave communications, Prof. Potapenko stated, lies in the fact that messages can be concentrated in a beam.

Science News Letter, May 19, 1934

ENGINEERING

Robot Counts Autos; Ignores Pedestrians

ELECTRIC EYES now count and record each automobile that enters the grounds of the Massachusetts Institute of Technology, Cambridge, Mass., but students rushing to class or other persons passing by are ignored by this robot sentinel.

Two light beams several feet apart are focused on two photo-sensitive cells and a counting relay registers every time the two beams are both interrupted by the passing of a large object such as an automobile.

Pedestrians shield but one light at a time and hence are not counted.

The device will be of practical interest for checking traffic over toll bridges or highways.

A slight change permits the electric eyes to measure the speed of cars by noting the very small time interval between the interruption of the two light beams a few feet apart as the speeding car passes by. A mechanism for measuring minute time intervals is connected with the electric eyes.

Science News Letter, May 19, 1934

IN SCIEN

PSYCHOLOGY

Women Slower to Apply Brakes Than Are Men

WOMEN, on the average, reacted more slowly than men in jamming on brakes to avoid hitting an automobile ahead of them when tested at the Massachusetts Institute of Technology.

For use in a CWA traffic study conducted by Charles W. Frank, M. I. T. graduate, an electrical measurer of the speed of response of men and women to visual and audible impulses was devised.

This device was used to measure the time interval between the instant of application of the brake in one car and the instant the operator in the car following notes the act and applies his brakes. The tests showed that the time consumed averages about six-tenths of a second for men and about eighth-tenths of a second for women if the cars are equipped with stop lights. For cars without stop lights the time is more than twice as long.

The reaction times measured include the mechanical and electrical lags in the lighting of the stop lights as well as the lag due to the driver and observer. The times obtained in the traffic studies are much larger than reaction times obtained when keys are pressed by individuals in response to a warning light or sound.

Science News Letter, May 19, 1934

CHEMISTRY

Harvard President Given Chemistry Medal

DR. JAMES Bryant Conant, president of Harvard, has been awarded the annual American Institute of Chemists medal for outstanding service to American chemistry. His most important researches have been on the chemical structure of complicated organic compounds, among them the blood's haemoglobin, the green chlorophyll coloring of plants and other coloring substances in flowers and feathers.

Science News Letter, May 19, 1934

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CE FIELDS

SEISMOLOGY

Earthquake After-Shocks Follow the Moon

FROM a study of many thousands of earthquake records, Dr. Charles Davidson, English seismologist, has found that the after-shocks that follow the main quake, and which can be followed by means of seismographs for many months after the people of the area affected have ceased to feel them, do not diminish in a continuous manner, but at regular intervals increase in frequency and intensity. He found three distinct cycles having average periods of 7.4, 14.7, and 29.3 days.

These are almost exactly a quarter, a half, and a whole lunation—the period from new moon to new moon, which has an average value of 29.53 days.

Dr. Davidson believes that the cycles are due to tidal action of the moon, which alternately lifts and depresses the earth's crust to a slight extent.

Science News Letter, May 19, 1934

EVOLUTION

"They Never Come Back" True of Bones in Evolution

"THEY NEVER come back." The old axiom of the sporting world applies to bones in evolving lines of animals as well. There has been, throughout the long history of vertebrate animal development, a steady tendency for the bones of the skull to become fewer and more specialized. The lessening in number of bones has been accomplished partly through sheer disappearance, partly through the fusion into one bone of two or more originally separate bone units.

At a joint meeting of the American Society of Mammalogists and the American Association of Physical Anthropologists, Prof. William K. Gregory of the American Museum of Natural History presented the results of an extensive study on the skulls of living and fossil animals, conducted jointly with Miss Marcelle Roigneau and a number of graduate students.

The basis of the dictum supported by the researches of Prof. Gregory and his associates is what he calls "Williston's Law," a generalization that originated with the late Prof. S. W. Williston of the University of Chicago. Prof. Williston noted the much larger number of bones in the skulls of certain ancient reptiles, as compared with their modern successors and with the mammals, including man. Prof. Gregory has further extended Prof. Williston's generalization and tested its truth for the whole vertebrate animal group.

Among fishes, he found that the most primitive have as many as 180 skull bones, while higher forms have only about 100. The lowest members of the amphibia, or frog-toad-salamander group, had 90 to 95 bones in the skull; the higher modern ones, only 50. The earliest reptiles had skulls in some 80 pieces, while the most highly evolved modern ones, the snakes, possess 50-bone skulls.

The very strange reptiles that apparently started the mammalian line of development had something over 70 skull bones; the most primitive of mammals, the marsupials, have less than half that number; primates, which include monkeys and men, have about 30.

Primates are usually considered to be the highest of animals, and in most respects the claim is probably correct. But there are a few highly specialized animals outside this lordly group of ourselves and our next of kin that beat us at the skull-bone reduction game. Peccaries, which are little pig-like animals that live from Texas on southward into the American tropics, have their skulls so fused that they may be said to have only two bones apiece: the lower jaw, and the rest of the skull.

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SEISMOLOGY

Severe Earthquake Shakes Alaska

MAINLAND Alaska, near the head of Prince William Sound, felt a severe earthquake on May 3. Reports from seismological observatories collected by Science Service and interpreted by the U. S. Coast and Geodetic Survey gave an epicenter about 125 miles northeast of the coast city of Seward, not far from the small settlement of Chickaloon, on a branch of the Alaskan Railroad. The region is sparsely populated.

Science News Letter, May 19, 1934

PALEONTOLOGY

Platyhystrix Reconstructed At American Museum

A PREHISTORIC animal with a nearly flat body and head but with tall bony processes growing out of its backbone has just been pieced together from fossil fragments in the American Museum of Natural History by a visiting scientist, Dr. D. M. S. Watson, professor of zoology in the University of London.

In front view this bizarre creature would have looked like an inverted T. It is about two feet long and the "fin" along the back is nine or ten inches high. Its name is *Platyhystrix* and it belongs to a very ancient group of amphibia that crawled along the slimy pond bottoms of the Southwest 220,000,000 years ago.

Specimens with flat bodies and flat triangular heads like this one are well known from this period but the "fin" along the back is all wrong. So much so that when the late Prof. S. W. Williston of the University of Chicago first described this form several years ago, his fellow scientists would not accept his reconstruction.

Now Dr. Watson has proved he was right.

Science News Letter, May 19, 1934

GENERAL SCIENCE

Voices of Scientists Recorded For Future

INAUGURATING a plan to preserve for future generations on the campus the voices of distinguished persons connected with Cornell University, short addresses by Dr. William L. Bragg and Sir Arthur Stanley Eddington have just been recorded. The plan will result in a library of records which will eventually have historical significance, and Prof. Vladimir Karapetoff of the Cornell School of Electrical Engineering has volunteered to make the records on his high-fidelity voice-recording equipment perfected after several years of experimenting.

Dr. Bragg, professor of physics at Manchester (England) University and lecturer this term at Cornell, outlined the work which led to his receiving the Nobel Prize. Sir Arthur Eddington, the British astronomer lecturing at Cornell, read a passage from one of his books.

Science News Letter, May 19, 1934