

GENERAL SCIENCE

Blacktop Areas Are Avoided by Motorists

► DO YOU swerve toward the center of the highway when roadside objects loom up? Do you try to avoid blacktop stretches on a concrete highway?

If you are an average motorist you do, research by Dr. Harry Case, Robert Brenner and Slade Hulbert of the Institute of Transportation and Traffic Engineering at the University of California at Los Angeles has indicated.

In one highway study a large black panel, whose size could be changed, was set up alongside the road at various distances from the road's edge. Motion pictures of passing motorists' reactions showed that they tended to swerve toward the center of the highway about 110 feet away from the object.

In another study motorists' reactions were photographed on a stretch where a three-lane concrete highway was widened by adding a blacktop lane. It was found that the majority of motorists avoided the blacktop lane and some even swerved across the center of the highway upon encountering it.

It was concluded that highway engineers should consider this "barrier effect" in design of approaches to bridge abutments and other roadside structures and in the use of blacktop on concrete highways.

Science News Letter, March 19, 1955

PUBLIC HEALTH

Smog-Forming Fall-Out Worries Scientists

► ANOTHER KIND of fall-out—not radioactive but potentially a killer—is now worrying scientists: the invisible rain of small particles around which smog forms.

Warnings of the threat to health from the fumes spewed into the atmosphere by modern man are such smog-caused disasters as those in Donora, Pa., in 1948 and London in 1952.

From home chimneys, from industrial smoke stacks, from millions of automobiles, thousands of tons of tiny particles and gases are thrown into the air every day. The result is danger of duplicating on a national scale what has happened locally in Los Angeles.

Most of the know-how for dealing with the smog problem within the United States is already available. The only way to keep smog from blackening more cities around the country in the future is to take counter measures now.

New industries going up should be so located and designed that they do not contribute to air pollution. The atmosphere is still the best and most efficient way to get rid of wastes, but it will work only if it is not overloaded with noxious fumes.

The idea is not to get rid of industries, but to learn how to live with a certain amount of pollution and to keep the con-

tamination from reaching levels dangerous to health, in the opinion of scientists working on the problem.

They point out that cars are still being driven, although accidents have not been eliminated. A set of traffic lights, policemen and regulations for atmospheric pollution are now required, they say.

Much research on smog has already been done, including that by the federal government, and the important present need is action on a local level, since problems vary in different areas.

One way to encourage industrial cooperation is to give companies tax reductions for installing equipment cutting down their contamination of the air. Of the nearly 20 bills concerning air pollution submitted for Congressional action in this season, some bills would do this.

Others, such as S. 928, sponsored by the senators from Pennsylvania and California, where smog has become a problem, would provide for intensive research.

Science News Letter, March 19, 1955

MEDICINE

High Blood Pressure Runs in Families

► HIGH BLOOD pressure tends to run in families. For this reason, doctors can spot the man or woman likely to develop a serious form of the condition, by studying the family history.

These findings from a study of 799 persons over 40 years old are reported by Drs. Constance D'Alonzo, Allan J. Fleming and George H. Gehrmann of the E. I. duPont de Nemours and Co., Inc., Wilmington, Del., in the *Journal of the American Medical Association* (Feb. 19).

High blood pressure is more likely to occur in a person whose parents had disease of the heart and blood vessels than in one whose family had no history of such disease. It occurred most often when the mother had such disease.

The family history of the condition can help in job placement and should be used, the doctors said, to try to prevent or modify the condition.

Knowledge of family background could prevent turning down a job applicant because he seems at first to be a bad risk. As an example, the doctors told of three chemists they studied for 13 years. One was an "ideal" candidate physically, another might possibly have been turned down for high blood pressure, and a third was called the "riskiest" of the group. After 13 years, the "ideal" candidate had malignant hypertension (high blood pressure); the possible bad risk had shown no change, and the "riskiest" of the three showed normal blood pressure.

Family history revealed good health among the parents of the two riskier chemists, while high blood pressure appeared in the family of the apparently "ideal" candidate.

Science News Letter, March 19, 1955



MEDICINE

Radioactive Gold Used on 200 Patients

► MORE THAN 200 cancer patients have been given radioactive gold treatment at the Ohio State University Medical Center here during the past two years.

In some all evidence of the cancers has been wiped out. The patients cannot yet be called "cured," however, because cancer colonies may have established themselves throughout the body. Many of the patients who got the gold treatment have had recurrences and died of cancer that had spread through their bodies.

The radioactive gold treatment was pioneered by Dr. William G. Myers and his clinical associate, Dr. Ulrich K. Henschke. The gold is imbedded in six or seven or more feet of nylon thread and sewn through cancers that cannot be removed completely by operation.

A gram of radiogold, costing about \$25, can irradiate tissues with the power that would be obtained from a \$20,000 chunk of radium, the American Cancer Society which supports Dr. Myers' research, said. The radium, however, can be used for centuries, while gold has a half-life of 2.7 days and a useful life in irradiating cancer of little more than one week. One big advantage of radioactive gold is that the radiation dose can be controlled easily.

Science News Letter, March 19, 1955

MEDICINE

Navajo Indians Escape Heart Artery Trouble

► NAVAJO INDIANS escape the heart disease, coronary thrombosis, that kills nearly half a million persons in the United States each year.

No proved case of the disease was found among 10,267 admissions to the Navajo Medical Center general hospital at Fort Defiance, Ariz., during the period 1949-1952 inclusive, Dr. Jarvey Gilbert, now of Burbank, Calif., found in a study while he was practicing medicine on the Navajo Indian Reservation.

At St. Joseph's Hospital, Albuquerque, N. Mex., about 150 miles from Fort Defiance, there were during the same period 146 cases of coronary thrombosis among 20,289 admissions.

Why the Navajos escape this heart disease is not known. Dr. Gilbert thinks it is a matter of constitution or heredity.

He reported his findings to a joint meeting of the California Medical Association and the California Heart Association.

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CE FIELDS

PSYCHOLOGY

Natural Leader Is Also Preferred as Follower

► THE OLD saying that to be a good leader you must be a good follower has received scientific confirmation in a study made by Dr. E. P. Hollander of the Carnegie Institute of Technology and Dr. Wilse B. Webb of the U. S. Naval School of Aviation Medicine.

The study, reported in the *Journal of Abnormal and Social Psychology* (March), was of the choices made by 187 Naval Aviation Cadets of associates they would want to lead them on an "undisclosed mission" and those each cadet would want as a part of his unit, assuming that he was the leader. In addition, each cadet was asked to name his three best friends.

The choices for leaders did not turn out to be just a "popularity contest," the investigators found. In fact, an average of more than two out of three of the "best friends" failed to rate as chosen leaders.

Friendship seemed to have a little more to do with the choices made as followers than it did in the picking of leaders, but followers as well as leaders were chosen for their capability rather than for being a "good fellow."

The investigators also compared the choices of followers made by the cadets named most often as preferred leaders with the choices of those not picked as leaders. Being a preferred leader seemed to make no particular difference in picking followers.

The old military idea that those men who do not make good as leaders can be thrown into the ranks as followers and will succeed in the role of taking orders must be reconsidered, the investigators conclude.

Science News Letter, March 19, 1955

ASTRONOMY

Jupiter's Lost Moon Rediscovered by 100-Inch

► JUPITER'S LOST moon has been rediscovered with the 100-inch telescope at Mount Wilson, Calif., after a giant electronic "brain" computed where it should be. It was last seen in 1942.

Dr. Paul Herget, director of the Cincinnati Observatory, Cincinnati, Ohio, said the electronic computer pinpointed its location in 20 minutes.

The moon, number VIII of Jupiter's known family of 12 satellites, was spotted with the 100-inch telescope very close to the place where the calculations showed it was supposed to be.

It was first discovered photographically in 1908 at the Royal Observatory, Green-

wich, England. The eighth moon is very faint and believed to be about 30 miles in diameter. It is so far from Jupiter that its motion is greatly disturbed by the attraction of the sun. Sometimes it strays so far from Jupiter—20,000,000 miles—that the planet's gravitational pull is barely sufficient to keep it as a circling satellite.

This makes the computation of the moon's position extremely difficult. Dr. Herget, who keeps track of the wanderings of the minor planets or asteroids for the International Astronomical Union, put the problem on Remington Rand's electronic computer, UNIVAC, and its orbit was then calculated for the next 25 years.

The eighth moon's path through the heavens is remarkable because, along with three other satellites of Jupiter, it moves in a clockwise direction. This motion is known as retrograde, and is a direction opposite that of most objects in the solar system.

Jupiter is now the brightest celestial object, except the moon, in the evening sky. It can be seen high in the southern sky in the early evening. It is the fifth planet from the sun and the second outward from the earth. Jupiter has the largest diameter of any planet in the solar system. Whether its bulk or its mass is used as the measure, it is larger than all the other planets put together.

Science News Letter, March 19, 1955

PSYCHOLOGY

Introverts as Mentally Healthy as Extroverts

► THE OLD idea that the shy child who stood on the sidelines watching others play was headed for a mental institution needs to be revised or abandoned, it appears from studies reported by Drs. Carmen Miller and Don P. Morris and Miss Eleanor Soroker of the Southwestern Medical School, University of Texas, Dallas, at the meeting of the American Orthopsychiatric Association in Chicago.

The shy withdrawn child and his grown-up counterpart were at one time freely labelled "introvert" by parlor psychiatrists as well as professional ones. Parents of such a child were warned that he was likely to develop the serious mental sickness, schizophrenia. Patients with this disease are at times completely withdrawn from the world around them and give the picture of the very extreme of introversion.

The studies reported consisted of long-term follow-up investigations of little boys seen in a child guidance clinic.

"There is not adequate justification," the doctors reported, for the idea that children who might be classified as introverts are more likely to develop schizophrenia than children who are extroverts or between the two. Neither is there justification, the scientists said, for the idea that a large proportion of schizophrenics have introverted pre-psychotic personalities.

Science News Letter, March 19, 1955

MEDICINE

Urges Cancer Check for All Expectant Mothers

► EVERY EXPECTANT mother should be examined with the thought that she might have cancer, Dr. John I. Brewer, chairman of the department of obstetrics and gynecology, Northwestern University School of Medicine, Chicago, warned in the first Kellogg Lecture at George Washington University school of medicine, Washington, D. C.

Fortunately cancer does not occur often in pregnant women but tests for it should be made in all patients, Dr. Brewer said.

If cancer is present, proper and adequate treatment for it cannot be given without stopping the pregnancy unless the diagnosis is made late in pregnancy. Then a living baby can be obtained and the cancer then treated without harm to mother or baby.

Science News Letter, March 19, 1955

MEDICINE

Doctor's Visit Excites Fatal Heart Attack

► SIX CASES in which the doctor's visit killed the patient by bringing on a fatal heart attack were reported by Dr. Klaus A. J. Jarvinen, assistant physician-in-chief at the First Medical Clinic, University of Helsinki, Finland, to the *British Medical Journal* (Feb. 5).

All six were suffering from the heart trouble called myocardial infarction. They had all been in the hospital more than seven days but less than six weeks after the start of the heart trouble. Apparently the excitement of "ward rounds," in which doctor and nurse and sometimes several doctors and nurses visit patients, was too much for these six.

In two cases, the patients were recovering and expecting the doctor on that very round to give them the good news that they were well enough to go home. In two other cases, the patients always got excited during the doctor's visit. Three deaths occurred in connection with the visit of the physician-in-chief who made rounds only once or twice a week in each ward.

Dr. Jarvinen thinks the six deaths at the time of ward rounds by the doctors cannot be laid to coincidence. He points out that rest is fundamental in treatment of patients with this kind of heart disease and that the rest must be mental as well as physical.

To avoid putting the patient under mental stress, he advised doctors to be aware of the risk of death that may come from the excitement of their visit to the patient.

Nurses and other hospital personnel as well as doctors, he also advised, should not make ward rounds seem too important. Special care in making beds and extra speed in getting things in order on the day the physician-in-chief makes rounds may be enough to excite a patient so that by the time the doctor arrives the patient's mental stress puts a fatal strain on his heart.

Science News Letter, February 19, 1955