

“Trial and Error” is Method of Nature

Psychology

Look at a bright spot and hold your eyes as steady as you can. Continually your eyes are shifting slightly, constantly readjusting themselves to keep the spot in view.

This process, called “approximation and correction,” was advanced by Dr. Raymond Dodge, Yale psychologist, speaking before the National Academy of Sciences, as a fundamental pattern of life, whether it be conscious intellectual endeavor by human beings or semi-automatic movements of lower animals.

“Trial and error” is recognized as a convenient method of ordinary life used by everyone unwittingly or con-

sciously. Now Dr. Dodge calls attention to this other basic method used by everyone. When we make a preliminary stab at something and then better our first attempt, we follow this basic method of approximation and correction.

Looking all sorts of people in the eye with delicate instruments and recording the shifting of their eyes as photographic records, Dr. Dodge has proved that when we look at a rapidly moving automobile or a swinging weight, our eyes jump into action, focus the object approximately, then correct their first attempt and finally swing into the (*Turn to next page*)

Corporation Medicine

Medicine

When the Chicago Medical Society decided to expel Dr. Louis Schmidt, Chicago urologist, from membership on the charge of unprofessional advertising, the society was really aiming a blow at what might be termed “corporation medicine”, in the opinion of some observers.

This is seen as the specter which the doctors fear will take away their bread and butter, not to mention their cake. It springs up in many forms, among them the pay clinics which are controlled by corporations or groups other than physicians and which advertise for patients. Dr. Schmidt's connection with such a clinic caused the medical society's action.

Advertising professional services is not considered strictly ethical among physicians. The doctor must not seek his patients by advertising but must wait till they come to him. This is because the practice of medicine is an art and a profession and not a business. The American Medical Association has a code of ethics to which all the members subscribe. It says in part:

“Solicitation of patients by physicians as individuals, or collectively in groups by whatsoever name these be called, or by institutions or organizations, whether by circulars or advertisements or by personal communications, is unprofessional.”

That other great ethical code to which physicians all over the world subscribe, the famous oath of Hippocrates, says nothing about this matter of advertising. Perhaps advertising was unknown to the Father of Medicine.

What Dr. Schmidt's associates advertised was not (*Turn to next page*)

Oldest Weather Records

Meteorology

Man has been keeping consistent weather records for only a few generations, but far back in the days when cavemen hunted reindeer in Europe weather records were nevertheless kept. They were kept on a natural calendar, which men have learned how to read only during the past few years.

This was one of the points developed at the meeting of the American Geophysical Union in Washington, in a survey of weather-keeping devices and methods by C. F. Marvin and A. J. Henry of the U. S. Weather Bureau. The natural weather record of Stone-Age days consists of certain deposits of very fine-grained clays, called “varve clays”. They were laid down by streams pouring from the melting glaciers into lakes and ponds, bearing loads of silt which they dropped when they flowed into still water.

When the streams were swollen, as in spring, they carried heavier particles, making a coarse layer; in late summer, when they were not so high, the particles they carried were finer, making a closer-grained (*Turn to next page*)

Foresees Infantile Paralysis Conquest

Pathology

The eventual conquest of infantile paralysis, the disease that has crippled many children in the last two years, is forecast by experimental work at the Rockefeller Institute for Medical Research, New York, reported to the National Academy of Sciences.

The fight is against an unseen foe, one that will lurk in a culture for twenty years and still slay. For no

Air Pilot Must Look!

Aviation

By THOMAS CARROLL

The first wisdom of the safe operation of ground transportation is Stop! Look! Listen!, but you cannot do that in the air.

While travelling on the ground, or on the water, sometimes, you become fog bound and there is but one sensible thing to do, that is, stop. After you have slowed down or stopped, then you listen. And if you are on the water your listening may guide you; and all the time you must keep your eyes open and look.

But in the air it is different. You cannot stop. If you are flying an airplane and you slow down to 40 or 50 miles per hour, this is equivalent to stopping. For when you have stopped in the air you are still going 40 or 50 miles per hour. An airplane is dependent upon its speed to maintain itself in the air, and the lowest speed at which it is generally capable of doing this is in the neighborhood of from 40 to 50 miles per hour. If a speed lower than this is reached, it ceases to be an airplane and merely falls. So the most dangerous thing that you can do in the air is to make any gesture toward stopping.

And you cannot listen. Our modern aircraft are fairly well silenced with engine mufflers and the elimination of wire bracing that shrieks, and so forth. Our propellers still make much noise and even the passage of the airplane through the air without the propeller and engine noises, in a closed cabin airplane, makes some noise, not much it is true, but something like the sound which one of these noiseless oil burners, which are not noiseless, makes when you are entertaining company. From noises outside of the airplane you have no hope of assistance. I have heard the explosions of bombs and firing of big guns while flying in the air, but I cannot see (*Turn to next page*)

scientist knows what causes poliomyelitis; it is one of the “filterable virus” diseases. Fortunately knowledge of the cause is not necessary before a disease can be prevented as the classic example of vaccination for smallpox, whose cause is still unknown, has amply proved.

So Dr. Simon Flexner, assisted by Dr. Cornelius P. Rhoads and other scientists of the (*Turn to next page*)

Aviator Must Look—*Con.*

how these noises can be converted to a pilot's benefit. Then again, you may say you can listen to the radio signal for your direction finding, and so forth, and this is, of course, true, but even in this case the trend of design is to make the radio beacon signals visible on the instrument board rather than audible.

So your hope lies in looking. Blind flying, that is, flying under conditions where visibility is almost zero due to fog or darkness, is possible and is quite a regular thing, but it is always necessary to make a landing. And landings under these conditions are dangerous, if not impossible. The pilot must have some visual assistance to bring him into an airport.

This is the reason that such a widespread movement is afoot to persuade all communities to paint the name of their town and other markings on a conspicuous building. Only those who have flown much and who have been lost at times can appreciate the value of such things. And as a general rule, when the weather gets so thick, or the darkness so dark that you cannot see where you are going, probably the safe thing to do is to turn around before it is too late.

So, in the air, instead of Stop! Look! and Listen! it is Look! Look! and Look! and if you can't Look! Look Out!

Science News-Letter, May 4, 1929

The mummy of the Egyptian Pharaoh Amenophis III, called the magnificent, shows that in his last years he suffered from two badly abscessed teeth.

A statistician says that "liability to appendicitis in this country is unquestionably increasing, and in all probability as the result of faulty dietary habits."

Poliomyelitis Conquest—*Continued*

Rockefeller Institute, have studied the disease with monkeys, the only other animals subject to the disease, as their experimental aids.

Most hopeful for use in treatment and prevention of infantile paralysis is convalescent serum, which can be obtained from man or monkey two months to forty years after recovery from the disease. The unfortunate victim thus profits from a successful fight waged against the disease months or years before. Protective substances are thus imported into the ailing body to reinforce its own defenses.

Unfortunately the serum from mon-

keys cannot be used in human beings in the case of this disease, although in the case of other ills horses and other animals can be used to manufacture the protective substances.

Within the last month, Dr. Flexner announced, there has been discovered in his laboratories a new method of introducing the convalescent serum into the spinal fluid at the base of the skull with the result that the development of the disease is prevented. So far this new technique has been applied to monkeys only, but the next step is clinical use.

Science News-Letter, May 4, 1929

"Trial and Error"—*Continued*

rhythm of the object's movement, always correcting their minor errors from time to time.

"The eyes sometimes act like a smart aleck by anticipating the object's movement," Dr. Dodge explained.

Dangling a piece of meat before the eyes of his dog trained not to snap for it, Dr. Dodge discovered that if the meat was moved back and forth fast enough the dog's eyes gave up the attempt to follow the oscillations of the tempting morsel. In mental diseases, such as precox and paranoid cases, the unfortunate individual gets into a similar situation with regard to his whole life, Dr.

Dodge suggested. The speed of the surrounding world becomes too fast, the individual quits trying to keep up and takes refuge in fancies and delusions. This suggestion is further supported by tests on such cases that show that their eye movements are not more jerky and less accurately adjusted than those of normal people.

Approximation and correction rule all biology, Dr. Walter B. Cannon, of Harvard, declared in supporting Dr. Dodge's contention. If a patient's temperature is taken frequently a steady fever will be found to vary slightly back and forth.

Science News-Letter, May 4, 1929

Medicine—*Continued*

the physician's services, but a place where people of little means could find treatment at a price within their means. Physicians as a class generously give their services free to thousands who cannot pay for medical treatment. But they believe that the great clinics, whether operated by private individuals or large corporations for the benefit of their employees, are taking patients and hence a living from the physician who practices individually.

As far as advertising goes, physicians advertise themselves as a class through their organization, the American Medical Association. This association publishes a popular health magazine which invariably advises the public to consult physicians in cases of sickness or injury. The editor of the Journal of the American Medical Association contributes many articles to magazines and writes a column of daily health advice for newspapers. He also recommends consulting a physician for the treatment of the various ills of which he writes. This advice is given in good faith, possibly with no selfish motive. Certainly it is excellent advice, for one should consult a trained physician in case of illness. But indirectly it is large-scale advertising of the medical profession as a whole.

The matter is not one of ethics alone. It is an economic problem. The cost of medical care to people of moderate means and the cost of a physician's training and subsequent living need to be adjusted to the satisfaction of both groups. The action taken by the Chicago Medical Society involves this question, as well as the question of unprofessional advertising by physicians.

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