problems. Many of us have been content to work out our problems in the laboratory and perhaps publish the results, and let the matter rest there. There is nothing startling to the public mind in the agricultural field, such as occurs in the engineering industries or in the sciences of physics and chemistry. Agriculture seems slow, inactive and dull compared with these other fields. We must, therefore, push forward more rapidly the educational campaign in order to more generally focus public opinion on our problems. Humanity needs to have these problems solved. They are more important than air transportation, wireless communication and the hundred other things which humanity discusses daily, but how long will it take us to convince the human race of this fact?

CLAYTON ROBERTS ORTON
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THE AMERICAN PSYCHOLOGICAL ASSOCIATION[1]

WHEN I asked the president of your society for suggestions on this toast, he said there were only two rules that would be strictly enforced. In the first place, he thought you would not stand for more than 10 or 15 minutes from each of us, and in the second place he was sure it would not be safe for us to inflict our presidential addresses upon you. I told him that, in view of the time limit, the second injunction was entirely unnecessary, as no one ever heard of a ten-minute presidential address. In view of the "blue laws" that your president has laid down, I can only say a few words about the American Psychological Association and the work of its members.

The association was founded in 1892 by G. Stanley Hall, who was made its first president. It is one of the smallest of the national scientific societies. Its membership of 500 looks very insignificant, indeed, in comparison with the 15,000 of the American Chemical Society or the 75,000 of the American Medical Association. There are several reasons for our scanty numbers.

In the first place, although psychology of a sort has a very ancient history, and, as the science of magic, was the parent of medicine, chemistry and astronomy, psychology as an experimental science is hardly more than a half century old.

In the second place, the ranks of psychologists have been seriously depleted by the fact that so many have been called to university presidencies, though why any one should be willing to give up the delights of psychology for the worries of a university president is a little hard to understand. Among those who have seen it otherwise are the presidents of Yale, Cornell, Northwestern, Indiana, Kansas and a half dozen other universities and colleges. These men have at least proved that the psychologist is not afraid of a dangerous occupation!

We used to lose a good many of our members to philosophy. To-day we are more likely to lose them to biology, medicine, education, social science or business administration. As an illustration of the catholicity of the psychologist's interests and contacts, I may mention the fact that this year one of our members (Cattell) heads the American Association for the Advancement of Science, and another (Troland) the American Optical Society. The psychologist's work is leading him into such a variety of fields that his science is becoming ever harder to delimit. As Cattell recently expressed it, you can only define psychology as that which the psychologist works at.

But to resume my apology for our small numbers. I want to make it clear that the trouble is not due to any dearth of psychologists. I am sure there are more psychologists on Main Street, in Los Angeles, than there are chemists in the whole United States! Paradoxical as it may seem, it is precisely because there are so many psychologists that the American Psychological Association is so small. In order to reduce undesirable competition we have had to raise the bars higher than any other scientific body has found necessary. Not even the holder of a Ph.D. degree in psychology from the best university is assured of admission. He must also hold a respectable position in psychology and must prove by continued publication that he is genuinely interested in research. We do not dare to accept every bright graduate student of psychology, much as could be said about the inspiration this would bring to the young worker. If we did so, we might soon have a number of our members scattered over the country reading palms and practicing psychoanalysis at so much per palm and psyche. Hence the bars, which perhaps are even higher than necessary. Our membership committee is sometimes dubbed the "exclusion committee."

Now the psychologist must compete not only with the thousand and one kinds of professional fakirs, but also with everybody else, for all of us have practiced psychology from infancy up, including mind-reading, the psychology of suggestion, and the psychology of salesmanship. The boy runs away on Sunday to go swimming, slinks home, reads his father's mind from the look in his eye, and discreetly retires behind the barn. Even mental tests, which are often supposed to be a recent development,

[1] A toast at a dinner given by the Sigma Xi Society of Stanford University in honor of Stanford presidents of national scientific bodies.

are anything but new. One has only to recall Solomon's test of the rival claimants for possession of the disputed child. In fact, every one has practiced setting conditions to see how others would react to them, and this is the principle of the mental test.

The fact that everybody is something of a psychologist by necessity makes trouble for those of us who are psychologists by profession. We can hardly say anything about human nature but that some one will "up" and dispute it. Sometimes we envy the chemist or electrical scientist or astronomer in the fact that they have so much less competition from the layman. If you do not believe the astronomer who tells you that on a given day and hour and minute the moon's shadow will eclipse the sun over a certain area, all you have to do is to go there and see for yourself. When you have seen the eclipse appear at the very second it was predicted, you will be ready to believe the astronomer if he tells you it was caused by the shadow of Gabriel's wings. And if you don't take any stock in the electrical scientist's dicta about super voltage, all you have to do is to go to his laboratory and touch a little of it. If you are not convinced, I dare say you will at least be silenced.

But the psychologist, too, is gradually discovering a few constants in his phenomena and is thereby beginning to learn the game of prediction. It is already possible to predict with considerable accuracy for a six-year old child what I. Q. he will have at the age of sixteen, and roughly what the final limits of his educability will prove to be. It is possible after a few hours' study of a youth one has never seen before to make forecasts of considerable value with respect to the amount he will be able to accomplish in music, mathematics, mechanics or literature.

People are gradually finding out that this is true, with the result that a great change has come about in recent years in the status of the psychologist. A few decades ago he was regarded by the average person as at best an armchair theorist and at worst only a harmless crank. But now that psychology has tested and classified nearly two million soldiers; has been appealed to in the grading of several million school children; is used everywhere in our institutions for the feeble-minded, delinquent and insane; is appealed to by congressmen in the reshaping of national policy on immigration; is furnishing high-powered explosives for the social reformers of one wing, while serving at the same time as the target drawing the hottest fire from the other wing—no psychologist of to-day can complain that his science is not taken seriously enough.

In fact, we are not infrequently embarrassed by what people expect of us. Here are a few samples of problems that have been put up to me in the last sixty days:

(1) A business man has absent-mindedly mislaid some important papers and is unable to locate them. Can we, by means of hypnosis or crystal gazing, reinstate the facts in his memory?

(2) A boy of six has mastered the work of the first three school grades without instruction. The parents are afraid he is going to be a prodigy; what can they do about it?

(3) A boy of normal intelligence and superior environment steals, lies and runs away. Can we cure him by suggestion?

(4) A genius in Washington, D. C., has evolved an idea— *The Great Idea*— which, to use his words, "will cure all the ills of mankind except dying." Can we help him sell it to a long-suffering world?

(5) A woman student, a typist, is constantly obsessed by motor imagery of her fingers playing over the keys of the typewriter. She goes to class, tries to listen to the lectures, but can think of nothing except the feel of her fingers running over the keyboard. The harder she tries to stop it, the worse it gets. It is in the back of her head every moment, whatever she is doing. Can we get it out?

(6) A promoter tries to sell me stock in a new factory and is greatly humiliated by his failure. It must be due to my greater knowledge of psychology. Will I not put him in touch with the latest thing in the psychology of salesmanship so that he may have better success next time?

A good many of the problems put up to us are entirely legitimate from a scientific point of view; perhaps a majority are. Nearly every human problem, whether in education or business or politics or social reform, has its psychological aspect. The keynote of the last century was progress in the material sciences. Cattell suggests that the keynote of the next should be progress in the direction and control of human behavior. He believes that economic productivity can again be multiplied by two or three by the possible developments of psychological science.

The purpose of the American Psychological Association is to further the development of psychology as a science. As a result of its high admission requirements, 90 per cent. of its members are engaged in research. Perhaps you would like to know what kind of research. Forty years ago it would have been book research or armchair speculation. Now, of course, it is experimental. A census taken in 1920 showed that approximately half of those engaged in research were working along lines that might be classed as pure psychology, the other half in applied psychology, including educational, industrial, social and pathological psychology. By 1923

approximately 60 per cent. of our members were doing work in the field of mental tests.

Naturally, there are some of our members who deplore the modern emphasis upon applied psychology. They are prone to classify their colleagues into two categories, the pure and the impure. I think they overlook the fact that even pure science often grows fastest when the workers are moved by the dynamic incentive to human service. We may well remember that it was in researches on such homely practical problems as chicken cholera, swine fever, rabies, the diseases of silkworms and the manufacture of vinegar that Pasteur created out of hand the science of bacteriology. Accordingly, I see in the fact that psychology is being brought down from the clouds and made useful to men not the threatened degradation of a once pure and holy discipline, but the promise of a fuller science, one that will better deserve a place in the honored circle of its elder sisters.

LEWIS M. TERMAN

STANFORD UNIVERSITY

SCIENTIFIC EVENTS

OXFORD EXPEDITION TO THE ARCTIC

A BRITISH Arctic expedition, according to the London *Times*, is shortly sailing from Newcastle. The expedition has been organized and will be led by Mr. George Binney, who was secretary of the Oxford University Spitzbergen Expedition in 1921 and leader of last year's Oxford Expedition.

Two ships have been chartered, a 300-ton Norwegian whaler, the *Polar Bjorn* (Polar Bear), of Tromsö, and a small Norwegian sealing sloop. A seaplane specially designed for Arctic reconnaissance work has been constructed.

Oxford University has given its name to the expedition, which also has the support of the Royal Geographical Society and the Air Survey Committee of the War Office and of the Air Ministry. The primary objective of the expedition is to explore North Eastland, a large island, 90 miles square, which lies to the northeast of the main Spitzbergen Island. Two previous attempts have been made to explore it; the first in 1873, by the Swedish explorer Nordenskiold, who was only partially successful, and the second by the ill-fated German expedition of 1912, which perished in the attempt.

In addition to the main purpose of the expedition, other objectives are to beat the "farthest North" record of sailing in navigable waters (latitude 81.40 approximately) and to investigate and explore to the northwest of the Franz Josef Archipelago, where practically no work has ever been attempted and where there is reason to suppose unknown land exists. It is for this purpose that the second ship has been chartered.

Colonel J. E. Tennant is to lead the sledging party in North Eastland. Captain Helmar Hansen, who was at the South Pole with Amundsen, is going as "dog driver." Major Sir Ian Colquhoun is another member of the sledging party. The War Office have loaned Lieutenant Aldous, R.E., to conduct the ground survey. Other members of the expedition are Mr. H. Clutterbuck, Mr. R. Thornycroft, Mr. Relf, surveyor to the last expedition, Mr. K. S. Sandford, Burdett-Coutts, scholar in geology at the university, and Mr. Rankin, ornithologist and bird photographer.

RESOLUTION ON DESTRUCTION OF VERMIN AND PREDATORY ANIMALS

THE following resolution was unanimously adopted by the American Society of Mammalogists at the sixth annual meeting of the society, held in Cambridge, Massachusetts, on April 16:

WHEREAS, Active propaganda for the destruction of so-called "vermin" and predatory animals is being carried on throughout the country; and

WHEREAS, Much of this is advanced by arms and ammunition interests, and by others financially benefited, and mainly by persons only superficially acquainted with these animals, or by misinformed persons; and thus much serious injury is done to wild life conservation; therefore, be it

Resolved: First, That the American Society of Mammalogists, which is a professional society of international membership of students of wild life, including practically all field naturalists who are primarily interested in mammals, points out the danger which lies in such propaganda;

Second, That there exists no real occasion for a nation-wide campaign for the destruction of predatory animals, and that this is particularly unwise because it furnishes a pretext for illegal hunting out of season;

Third, That copies of these resolutions be forwarded to other interested organizations, game and protective associations, and to all federal and state agencies concerned.

HARTLEY H. T. JACKSON,
Corresponding Secretary

THE YELLOWSTONE SCHOOL OF NATURAL HISTORY AND BIOLOGICAL STATION

THE region of Yellowstone National Park contains a wealth of material of interest in the natural sciences. The splendid pioneering work of Hayden on the geology of the region has never been properly followed up, and virtually the whole of the work waits to be done again. The vulcanology of the geyser and hot springs basins, as well as the paleontology of the fossil forests, exist at present only as the barest