

Science More Christian Than Churches

Psychology

Advocates of the idea that war is a blessing should not be argued with but confined in a hospital for the insane, Dr. J. McKen Cattell, pioneer American psychologist, declared in closing his address as president of the Ninth International Congress of Psychology, the first on American soil, at the gathering's first session last Monday morning.

"When in the fullness of time there is a family of the nations," said Dr. Cattell, "when each will give according to its ability and receive according to its needs, when war among them will be as absurd as it would now be for members of this congress to begin murdering one another, this will be due in no small measure to cooperation among scientific men of all nations in their common work. And it may be that psychology, the child among the sciences, and the United States, the child among the nations, shall lead them. The objects of the sciences are more ideal than the objects of the churches; their practices are more Christian."

To describe, understand and control human conduct is the object of psychology, the recent progress of which was related by Dr. Cattell. He spoke authoritatively. As the first occupant of the first chair of psychology in any American university, as the first to make psychological measurements of individual differences, the first of the now widely used mental alertness or intelligence tests, Dr. Cattell is the dean of American psychologists. Even conditioned reflexes, most often associated with the name of the great psychologist-physiologist, Prof. I. Pavlov, himself a distinguished member of the first Soviet delegation to such a congress, were first described by Dr. Cattell, formerly professor of psychology at Pennsylvania and Columbia, now editor of *Science* and president of Science Service.

Fifty years ago, in so far as psychologists are concerned, America was then like Heaven, Dr. Cattell ex-

plained, "for there was not a damned soul there." Since then this country, despite the fact that America's psychologists number less than a thousand, has developed a science, both descriptive and applied, of human nature and behavior the like of which did not issue from European psychologists. Philosophical generalizations comprised psychology before America furnished facts and methodical observations. America's psychologists have been those who ask "how and what for" rather than exclusively "why", Dr. Cattell explained.

Psychology dates back to primitive man and his speech, habits and customs. Yet psychology in its scientific phase is the baby of sciences. Dr. Cattell sees a dual reason: The complexity and instability of human behavior and the circumstance that it is easier to satisfy needs and control behavior by altering the environment than by altering individuals.

"The motions of the solar system since its beginning are less complicated than the play of a child for a day," Dr. Cattell explained.

America's progress was cited by Dr. Cattell as an example of environmental alteration: "By increasing economic production we can do more for the welfare of people than by teaching them to be virtuous and wise. In America we have constructed a great civilization, not by trying to be civilized, but by applying invention and

organization to the exploitation of natural resources.

His epochal experiments on effort, fatigue, learning and variation in human performance were begun by Dr. Cattell in 1886. He has published little on his extensive researches. Today he presented a method of judging a student's progress which is much more exact than the opinion of the teacher.

If the school task is learning words of a foreign language, records are kept of the time required to learn a given number day after day. The student competes against himself, attempting to do better today than he did yesterday rather than striving to head his class.

Keeping of continuous scores and curves of games played for recreation, such as bridge, chess, billiards and tennis, was advocated by Dr. Cattell as a means of making the games interesting in themselves and thus making gambling superfluous. For the past four years Dr. Cattell has made these experiments on himself and he presented the results to the congress with the observation that in spite of the fact that millions of people daily play these four games, there has heretofore been no scientific investigation of the effects of practice or of variability in performance.

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Russian Glacier Retreating

Geology

A large glacier in the Caucasus has been found to be in retreat during recent years, thus agreeing with similar shrinkages observed elsewhere, notably in the Alps and in Alaska. This is the principal glacier of the north slope of Mt. Elborus, which forms the source of the Malka river. The expedition of the Russian State Hydrological Institute determined that this glacier has retreated 570 meters since 1889, and that during the past ten years its rate of shrinkage has been about 20 meters a year.

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