

SCIENCE

A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

THE SCIENCE PRESS

11 Liberty St., Utica, N. Y. Garrison, N. Y.,
New York City: Grand Central Terminal

Single Copies, 15 Cts.

Annual Subscription, \$6.00

Entered as second-class matter January 21, 1922, at the Post Office at Utica, N. Y., under the Act of March 3, 1879.

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PSYCHOLOGY AS A CAREER¹

PSYCHOLOGY is the science which deals with the nature of human and animal behavior and with the direction of its forces from the point of view of mental life.

There are as many words in the dictionary with mental connotation as with physical. There are as many mental phenomena subject to scientific study as material phenomena. The mental sciences may in the near future have as many branches and embrace as large scope as the material sciences.

As out of the pure physical sciences have come engineering, medicine, architecture, and other forms of applied material sciences, so in the near future will come the applications of psychology to education, medicine, industry, art, and all other varieties of human endeavor in which scientific knowledge of human or animal behavior can be made of practical value.

The opportunities for a career in mental science will, in the near future, be as numerous as in the material sciences.

No science is more intimately and practically related to the conduct of human life than is psychology. It is, indeed, concerned primarily with those facts and principles of experience and action upon which our understanding of ourselves as conscious beings and our ability to understand and sympathize with our fellows depend.

PURE PSYCHOLOGY

As now taught in the best colleges and universities, psychology is presented in several fairly differentiated courses. Ordinarily there is one general introductory course of one year furnishing a general survey of the subject from

¹ This article is one in a series published from the various divisions in the National Research Council under the general topic, "Opportunities for a Career in Science."

varied points of view. Beyond this, specialized courses are offered.

Technical laboratory courses in experimental psychology furnish training in the fundamental principles of scientific procedure in observation, measurement, statistics, interpretation and formulation of the laws of mental phenomena. This course furnishes a technique which should be employed in all branches of psychology regarded as scientific or experimental.

Physiological psychology usually reviews the facts about the nervous system as taught in neurology for the purpose of tracing the physical basis of mental life and showing the relation between the mental and the neural.

Genetic psychology is divided into two parts; mental evolution dealing with the training and development of mental life in the species, and mental development dealing with the unfolding of mental life and the integration of behavior in the life of the individual. Within this field lies also the problem of the inheritance of mental traits.

Abnormal psychology deals with mental phenomena that are strange and irregular deviations from the normal but not strictly regarded as disease; such as hypnotism, mediumship, and alterations of personality.

Animal psychology presents a field of great interest in itself; but it is of special significance in that it throws light upon human life, particularly in the study of the simplest and the highest forms of animal behavior.

Social psychology treats of the social aspects of mental life and often blends into other subjects, such as anthropology, social origins, social ethics, social welfare, and eugenics. Sometimes race psychology, or the psychology of peoples, is differentiated from social psychology.

Individual psychology is perhaps the most conspicuous field of interest at the present time as it is the foundation for "human engineering" in all its forms of selection and guidance of individuals as well as for an intimate and accurate account of character or individuality of a person. It has recently gained great impetus through the development of so-called mental tests.

Statistical psychology is a basic requirement for mental measurement, particularly as employed in mental and physical testing and in psychology applied to education, commerce, sociology, and vital statistics.

Psycho-analysis has come in from the medical side as a unique and new approach to the study of mental disorders such as hysteria, morbid fear, aversions, and suppressed desires; but also throws much light upon the nature of normal mental life. This is yet a polemic field in which we find great enthusiasms and antagonisms in contest.

Behaviorism is a purely objective study of human and animal life without reference to the testimony of consciousness.

These items may suffice to indicate roughly the principal points of view that the student entering upon a career in psychology must acquaint himself with as each contributes a distinct element to the conception of psychology as a whole.

APPLIED PSYCHOLOGY

Psychiatry, as the science and art of the treatment of mental diseases, is the only fully specialized profession which may be regarded as applied psychology, although in many respects it has developed independently and has contributed much to normal psychology. But aside from psychiatry proper, there are many specialties in medicine in which expert knowledge of the human mind and behavior is fundamental; as in the care and treatment of children, and the mental treatment of all types of defectives and delinquents. Preventive medicine, public health education, and sanitation are built largely around psychology as the science of human behavior.

Educational psychology presents numerous phases. Thus we have the psychology of the course of study, of the child, of the adolescent, of the learning process, of discipline, of particular types of training, and of special classes. The science and art of education is primarily applied psychology.

The psychology of business and industry appears in several large and distinct fields; such as the psychology of advertising, of salesmanship, of personnel, and of vocational selection and various types of efficiency activities.

Legal psychology appears in two groups of interest; first, the psychology of evidence or testimony and pleading; and second, the psychology of crime, delinquency, defective mentality, penology, dependency, correction, and special types of mental deviation.

Applied social psychology takes such forms as the psychology of social amelioration, eugenics, race betterment, child welfare, community welfare, recreation and amusement, and vocational and avocational guidance.

The psychology of art appears in the psychology of music, of graphic and plastic arts, and of literature, dealing in each case with the psychology of art principles, the psychology of the individual, and the psychology of training for the art.

The psychology of religion is applied mainly in the interpretation of religion and religious life, and in the organization of character building and religious education.

The above rubrics should not be regarded as an adequate classification of the fields of pure and applied psychology; they are listed merely as a suggestion for the purpose of showing the scope of the sciences and the types of outlets for a career.

FITNESS FOR A CAREER IN PSYCHOLOGY

The requirements for a career in psychology are in general the same as for other sciences; and psychology presents a wide range of outlets through particular types of human interest. In determining whether or not the student is qualified for a career in science, he might make use of a little device in applied psychology as illustrated in the following rating scale:

ANALYZED RATING OF FITNESS FOR A SCIENTIFIC CAREER

1. Reasoning power: capacity for solving problems, both deductive and inductive.
2. Originality: creative imagination, brilliancy, planful initiative and fertility of rational ideas.
3. Memory: extensive, logical, serviceable, and ready command of facts.
4. Alertness: quick, incisive, and responsive observation, thought and feeling.
5. Accuracy: precise, keen, regular and reliable observation, thought and feeling.
6. Application: power of concentration, sus-

tained attention, persistence, and well-regulated effort.

7. Cooperation: capacity for intellectual companionship, team work and leadership.

8. Moral attitude: intellectual honesty, wholesome moral standards, ideals and influences.

9. Health: nervous stability, physique, vitality, and endurance.

10. Zeal for investigation: deep interest in and craving for original and creative work.

Let the student rate himself and then ask three or more persons whom he regards as most competent and who know him well to rate him independently. Record the rating on a scale of 1-100 in which 1 represents the poorest example of this trait, and 100 the best that the person rating has ever observed in *college students*. College students, as a selected class, then become the "measuring scale."

These grades may be grouped as follows: 1 to 10 very poor; 11 to 30 poor; 31 to 50 low average; 51 to 70 high average; 71 to 90 excellent; and 91 to 100 superior.

These ratings will differ, but the very differences may throw significant light on the situation. For example, on "originality" the professor of literature may rate an individual low on the basis of observed work in poetry; whereas the chemist may rate him high on the basis of observed work in science. These represent two types of originality; or one person rating may have encountered the flashy fertility of ideas, whereas another may have observed a planful and persistent initiative, both of which represent originality, but of different types. For this reason the ratings on a given trait should not be averaged but analyzed. The student should seek a full and frank discussion of the grounds for each rating as this will analyze the situation further and throw important light on the nature of his character and capacities.

Nor should the ratings on the ten points ever be averaged. A man may be very high in one capacity and low in another and such differences are significant; but an average of them would be misleading. No person is uniformly high or low in all. These traits are not of equal value; some traits are more essential for one type of career than for another.

In general we may say that those persons who rank above 50 in the most essential traits give promise of achievement in a career in psychology.

Natural interest is another factor of which we should take account. A student seeking a career in psychology may have the opportunity of following his natural bent for interest in pure science or its applications to the educational, social, ethical, medical, artistic, and other fields of human interest in which he may find his natural bent.

TRAINING

The study of psychology is usually begun in the second year in college; whereas many other subjects are begun in the high school or in the freshman year. As a result, it usually becomes a more advanced subject and there is more necessity for carrying it into graduate study. Most standard colleges and universities now offer good introductory courses in the subject, but beyond the elementary work, the student should seek institutions in which the particular phase of psychology that he desires to pursue is most adequately represented. The best is none too good for one who desires to specialize. In selecting, let the student choose, not on the basis of size of institution, but with reference to the men who are recognized as most worth while in a particular specialty.

As a prerequisite to a career in psychology, it is desirable that one should have command of French and German as a large portion of the literature on the subject is in these languages. He should also have pursued elementary courses in mathematics, biology, and physics. Other college subjects may be carried to advantage with, or in sequence to, an elementary course in psychology.

There is now a movement on foot to provide for the certification of psychologists. Such certification will be based on certain types of courses, usually covering about three years of graduate work, and will entitle the psychologist to practice within his field of specialization. Legislation covering such licensing is now being passed by different states.

Psychology is a new science. In seeking advice, only those who are conversant with cur-

rent literature and present movements in the subject should be consulted.

TYPES OF CAREER

There are at present four distinct types of outlet:

Teachers of Psychology—The nature of this work and its opportunities are perhaps best known.

Scientific Research—The coming in of experimental psychology has opened up most fascinating new fields of investigation and many agencies furnish opportunity for a career as original investigator. The leading universities usually encourage this in connection with some teaching; but there are opportunities in universities, scientific foundations, surveys, and privately supported enterprises for persons who are unusually qualified for this type of work.

Specialists and Consulting Psychologists—Here the opportunities are most varied and new fields are opening rapidly as a result of research in each of the branches of applied psychology.

Technicians—All the specialists require technicians of various kinds as assistants. Most of these positions are, however, used as stepping-stones or apprenticeships in the gaining of experience for independent work.

Highly qualified advanced students can often find scholarships, fellowships, assistantships, and other financial provisions, given theoretically in recognition of some type of apprenticeship to graduate students. The remunerations open to persons who seek a career in psychology vary so much that figures would not be significant. In general, they depend upon the natural ability, the degree of training, and successful specialization.

C. E. SEASHORE.

DIVISION OF ANTHROPOLOGY AND PSYCHOLOGY,
NATIONAL RESEARCH COUNCIL

HORTICULTURE AS A SCIENCE¹

LIKE most applied sciences, horticulture has evolved by very slow degrees from an art, governed by rules justified by experience, to a

¹ Read before the Association of Southern Agricultural Workers, Atlanta, Georgia, February 21, 1922