THE
PSYCHOLOGICAL BULLETIN

GENERAL REVIEWS AND SUMMARIES

PSYCHOLOGICAL PROGRESS IN 1912

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In approaching our tenth consecutive survey of the annual achievements in psychology, the temptation to review the decade as a whole is strong. In a science so active as is ours at present, the ten years, however, could suffice to give only indications which might sound much as mere beginnings. And, in view of the timely readjustment of the plans of this journal to meet the task of disseminating and evaluating our new knowledge, we do not yield. We therefore limit ourselves to the year just closing. Nineteen hundred twelve has not been a twelve month which will stand out as conspicuous for a few single, great achievements. The flood of productivity has been kept to its high level, fed by the inpouring streams of the periodical and other material. The inner unity of the science, so notable towards the close of the last century, seems either to have been consciously neglected, or to have quietly disappeared amid the richer activities directed towards particular problems of methods and results. The reflective worker may well ponder the problem: Is the future of a science so young as psychology in any serious danger when it passes through movements which seem to affect a neglect of its historical continuity? The psychologist of today is actuated by a zeal for doing whatever his hands find to do, and the year has consequently shown its tendencies.

As though to overcome the loosening of its connections with the science's past, the year has given us a few interesting summaries and systematic treatises which should be mentioned first. If one may find progress by looking backward occasionally, then the most

interesting thing brought to hand is President Hall's (11) biographical chart which shows us the way by which our science has come to be. In selecting Zeller, "the scholar in his field," von Hartmann, "the philosopher of temperament," Lotze, "the harmonizer," Fechner, "the animist," von Helmholtz, "the ideal man of science," and Wundt, "a scientific philosopher," as the six founders, the author adds to the account of the fundamental advances and changes which psychology made in the nineteenth century, an intimate autobiography which illumines the source of his own permanent contributions. To the *cis*-Atlantic student, the book is of peculiar value and definite service, being filled with those rare tokens of progress that outlive the range of single years. Also through the medium of another lecture foundation, the Ichabod Spencer at Union College, Angell (1) has summed up more objectively and popularly "a just and comprehensive impression of the principal features of the psychology of today." The eight chapters become an inventory which reveals well-funded assets. Perhaps more striking and instructive is the sharp, and justly impatient criticism which Titchener (27) makes of the eleventh edition of the *Encyclopedia Britannica*. One is wholly right in regarding encyclopedic compilations as indexes of the advances made in knowledge. The sad limitations of this particular enterprise in psychology, as detailed, become a direct summary of the historical movements which have produced the facts and laws which constitute what should generously be called the currently accepted contents of our science. "There is no article ——" is the recurrent reply coming from his search for treatment of the expected topics. Rand's (20) compilation of representative selections from the writings of forty-three psychologists affords another opportunity to survey the historic background and the age-long interests of psychology. It is worth while noting that Aristotle, James, and Wundt are the three given most space, aggregating one sixth of the volume. Lotze, Fechner, von Helmholtz, and Wundt are the four in Hall's list of six "Founders" mentioned by Rand. Brett (3) presents an extended account of theories from primitive thought to St. Augustine. More technical and comprehensive systematic works showing present results and pointing the way for further activity are those by Lehmann (14) and by Wirth (31). The latter is especially notable, for its inclusion in a larger work on physiology, and its unusual attempt to extend the meaning of "psychophysics" over the whole field of "experimental" psychology. The rapid accumulation of new material in special fields of the

science is best indicated in the impressive revision and expansion of Meumann's *Vorlesungen* (15).

The particular interests of the year have been in the nature of critical reactions towards some of the work of former years. These have been most marked in the attacks on introspection, as a psychological method, the critical testing of tests, and the more secure establishment of the field of applied psychology. If the criticisms are not captious, all methodological questions are strictly fundamental (2). The recent efforts to secure an acceptable theory of introspection, whose issues confessedly involve seriously all analytic and experimental work, are a sign of growth. Dodge (5), for example, finds marked limitations of introspection, and believes it "is only one of the indicators of mental reality." Dunlap (7) is more decisive, and concludes that "there is, as a matter of fact, not the slightest evidence for the reality of 'introspection' as the observation of 'consciousness.' Hence, we must, in default of such evidence, cease the empty assumption of such a process. We might keep the word to apply to the . . . observation of feelings and of kinesthetic and cœnesthetic sensations. . . . It is probably better to banish it for the present from psychological usage." Dugas (6) goes to the other extreme, and upholds the positive, central value of introspection; because, without it not only psychology but all the other mental sciences would directly disappear. All proposed physical, physiological or social tests, with which to replace it in the science, are illegitimate. Meunier (16) appeals to the unique position of psychology among the sciences, from which it is able to oppose their conclusions with its own, and to deal with the very conditions of their methods and results. Titchener (28) admits that introspection does not furnish a psychological system. He also points out that the term is "highly equivocal"; but, he insists that "the introspection of the laboratory must be distinguished from that either of a moralizing common sense or of a rationalizing philosophy." Introspection is a scientific part of descriptive psychology; and although it shows "specific differences" in its procedure, all the forms present a generic likeness.

Two contributions looking towards the systematization and extension of methods may be mentioned. Stern's (26) renewed efforts to establish securely individual psychology as a definite branch of the science, appears in the place of a second edition of his earlier work. His main problem is that of the methods of studying individual differences or "characteristics," which are the data

usually neglected by the parent science. The results of the methods most applicable,—as the test, the questionnaire and the historical, to immediate experiences, acts and dispositions, in their four relations of the variation, the correlation, the psychography and the comparison of characteristics,—are to produce the true psychogram. The recent establishment of psychological laboratories in hospitals for the insane is the occasion for the appearance of Franz's manual (9), which by standardizing the diagnostic value of our science, will peradventure bring to a speedy end the individualizing procedure of clinicians, and also become a forerunner of further extension in the applications of psychology.

A year ago it was necessary to specify the intense interest in tests as one of the leading features of that survey. Again this interest has kept steadily alive, reaching the point of that sort of criticism which we have already indicated as a sign of progress. The test was one of the earliest forms of experimentation which was so concrete as to fill the psychologist's heart with great hopes that, by securing a performance testing some particular capacity, as discrimination, attention, etc., we should be in the fortunate position of indexing a mind with complete confidence. In those years we could not understand what is clear today, why the test should suffer taboo. The current revival of this interest may lead to the result of setting up the test as one of the distinctive achievements of present psychology. The newer tests are readily recognized, in comparison with the old, as simpler, more indefinite, unspecialized, and less discriminative. And today's confidence finds its basis in the collective readings of many tests. In surveying this field with the systematic intent of pointing the way for future activity, Stern (25) introduces a new term, "intelligence quotient," to designate the part of normal intelligence a given child possesses. Squire (24) also notes the importance of securing norms of "standard achievement for the unretarded," and suggests a method of correlating physical, pedagogical and chronological ages to arrive at this result. Hart and Spearman (12) make a methodological and an explanatory appeal to the various correlations observable among many intellectual achievements in the recent type of tests to support their belief in the existence of a common factor which they term "general ability." Wallin (30), by selecting five tests, which "include a few of the mental functions which are basic to intellectual development," and using them in observing some conditions in oral hygiene favorable to mental development, opened up an interesting field, and discovered a variety

of indexes showing an unsuspected amount of average improvement. The value of the tendency to criticize methods, as well as the fact of the coöperative nature of our science, is shown in the second installment of the report of the special Committee of the American Psychological Association, which was prepared by Woodworth and Wells (21).

The third chief characteristic of our year is to be found in the increasing confidence in the scientific validity of "applied" psychology, and in the labors to perfect the procedures in seeking solution for many problems in other sciences and in the art of living. Sometimes this application means only a common-sense use of psychological insight; at other times a direct treatment of particular problems by the psychologist. At the twentieth meeting (1911) of the American Psychological Association, indication of this interest was notably shown in the presidential address, the symposium on psychology and medical education, and the section on educational psychology. The Fifth Congress for Experimental Psychology (Berlin, 1912) was characterized by a special manifestation of interest in the method and results of the applications of psychology, about one third of the forty papers presented being concerned with this field. This branch of the science was taken by Münsterberg as the theme for his Ichabod Spencer lectures early in the year. Meunier's (16) and Stern's (26) views belong no less to this field.

Among the many special interests of the year there are a few that stand out so interestingly as to deserve mention. After the appearance a few years ago of several studies on the psychology of drawing and art, chiefly in child development, interest in this topic seemed to wane. An awakening in this field has come, and we should now not be surprised to see ere long our technical methods applied to its problems (23, 32, 18). Drawing has very special psychological interest, inasmuch as it is an important form of mental expression, and offers a peculiarly constant means of understanding certain mental processes. In his special analysis of memory and ideation processes, Müller (17) promises a worthy achievement, when completed, and reports with unusual care the wonderful memory of a mathematical prodigy. The completion by Klemm of Vold's (29) prolonged study of experimentally stimulated dreams presents material which has permanent value, as contrasted with some results of the current attention paid to these phenomena. Ellwood's (8) critical review of the work of the last twenty years clears up many difficulties in studying social phenomena, and increases the fundamental value

of psychology in all efforts to understand the facts of society. The difficulty of the problems in evolutionary psychology appears no less in the cleverly selected types for study through which Holmes (13) traces the genesis of intelligence, than in the demand of Haggerty (10) that the "descriptive" terms of the past shall yield to the more useful experimental terms of the present, and in which there is an almost threatened divorce of the behaviorist from the psychologist, because the latter's concepts are too limited to exhibit the results of the "experimental analysis" of behavior, which has only begun.

The Psychological Index (19), which has been serviceable in aiding one to detect by numerical indications the ebb and flow of annual interest in the various phases of the science, has happily effected an arrangement with the *Bibliographie* of the *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*, whereby a practically uniform system of classification of references came into adoption this year. This necessitated some radical changes in the distribution of the material, as shown by the following comparison, which also shows in a semi-logical fashion through the selection of rubrics certain progressive changes in the work of recent years. The old order was: general; anatomy and physiology of the nervous system; sensation, conditions and relations of consciousness; cognition; affection; conation and movement; philosophical implications of psychology; sleep, trance and pathology; and genetic, individual, and social psychology. The new order is: general; nervous system—structure and functions, sensation and perception; feeling and emotion; motor phenomena and volition; attention, memory, and thought; attitudes, and intellectual activities; special mental conditions; nervous and mental disorders; individual, racial and social phenomena; mental development in man; and organic evolution and behavior in other species. The former carried out the ten rubrics into sixty-three headings and thirty-seven sub-topics. The latter employs twelve rubrics, seventy-three headings and thirty-eight sub-topics. The *Index for 1911* contains 3,202 titles, only sixteen more than the number in 1910, representing the work of two thousand five hundred and eighty-seven authors. In view of the difficulties of comparing the relative strength of the main topics in the two years, owing to the changed distribution of the material (only three rubrics remain unchanged, a new one is added, and the tenth of the old order is divided into the tenth, eleventh and twelfth of the new) and also to the increase in the material in sense physiology and the tendency to eliminate philosophy, we refer the reader to the following table.

One cannot fail to notice a more equal distribution of material under the new classification.

1910		1911	
No. of Titles	Rubric	No. of Titles	Rubric
712	Genetic, individual and social psychology.	501	Nervous and mental disorders.
587	Sleep, trance and pathology.	440	Sensation and perception.
471	Sensation.	309	Mental development in man.
417	Philosophical implications of psychology.	297	Individual, racial and social phenomena.
292	Anatomy and physiology of the nervous system.	294	Organic evolution.
248	General.	284	Attitudes and intellectual activities.
171	Conation and movement.	270	General.
169	Cognition.	214	Nervous system—structure and functions.
86	Conditions and relations of consciousness.	191	Motor phenomena and volition.
33	Affection.	184	Special mental conditions.
		159	Attention, memory and thought.
		59	Feeling and emotion.
3,186		3,202	

The second year of the specially planned service of the *PSYCHOLOGICAL BULLETIN* to report the literature of psychology again illustrates the great range of activity. Its eleven issues devoted to general and special reviews selected material from 1911 and 1912 reaching an aggregate of over nine hundred references (not excluding duplicates), grouped under sixty-one topics. It is interesting to note, also, that this journal lists forty-four periodicals as regularly or occasionally containing papers on psychology, of which two are Italian, three British, six French, sixteen American, and seventeen German.

The annual record of the doctorates conferred by American universities being kept by *Science* (4) gives indication of a steady gain in the amount of worthy student research in psychology. This year twenty-nine degrees were conferred upon candidates presenting dissertations, twenty-five by these six universities: Columbia (eight), Clark (six), Pennsylvania (four), Cornell (three), Chicago (two), and Johns Hopkins (two). In the fifteen-year period, 1898 to 1912, during which this record has been kept, two hundred and fifty-one degrees have been conferred for work done in psychology. It ranks fourth in the list of twenty sciences aggregating two thousand three hundred and ten degrees, and is preceded by chemistry, physics and

zoölogy. Chemistry is credited with over one fourth, psychology with nearly one ninth of these doctorates. The average number of degrees in psychology conferred annually during the first ten years of the period is 13.5, during the last five years 23, and during the whole period 16.6. Over against this showing of consistent advancement in the scientific welfare of psychology are to be placed the special findings of Ruckmich and Titchener (22). Judging by financial support, by student registration, and by the number of university "hours," they conclude "that psychology, after twenty-five years of growth, does not stand very high on the honor roll among academic subjects" in American colleges and universities. It always "foots the lists." It has also been outdistanced in the academic race with its rivals of equal, or less, age, as political science, education and zoölogy. Indeed, it is not faring as well as its foster mother, philosophy.

A few additions to the list of psychological and allied periodicals have been made during the year. The *Fortschritte der Psychologie und ihrer Anwendungen*, edited by K. Marbe with the assistance of W. Peter, "aims to serve science and practice equally," the program of applications including medicine, natural science, philology, literature, æsthetics, history, pedagogy, jurisprudence, political economy, and philosophy. The *Psische: Rivista di studi psicologici*, edited by R. Assagioli, of Florence, assisted by three directors, having plans more monographic than journalistic, is to appear six times a year, each issue being devoted to a special topic. The *Zeitschrift für pädagogische Psychologie* has begun a series of monographs. The intimate relations of education to psychology give interest to the appearance of the *Archiv für Pädagogik*, edited by Brahn and Döring, the *L'année pédagogique*, edited by Dugas and Cellérier, of Paris, and the *Svenskt Archiv för Pedagogik*, edited by Hammer, of Upsala. The intention of extending psychoanalysis to the whole territory of the mental sciences has led to the new publication, *Imago*, edited by S. Freud. The *Schriften des Vereins für freie psychoanalytische Forschung*, under the direction of A. Adler, of Munich, as the journal of a new organization, indicates that dissensions among the psychoanalysts are making their appearance. The *Studies in Linguistic Psychology*, by R. J. Kellogg, of Decatur, Illinois, hopes to be interesting enough to grow into a journal.

The associational and personal interests of the science have brought it special credit, or shown a widening extension of its influences. The exhibit of apparatus and other material by the German In-

stitute of Applied Psychology at the Fifth Congress of Experimental Psychology was a distinct service. The psychophysical *Sammlung*, founded by Ebbinghaus at Halle a. S., has during the year become a greatly enlarged and equipped Institute for experimental psychology under the direction of F. Krueger, now the German Exchange Professor at Columbia University. The first Conference of the Texas teachers of philosophy and psychology was held at Waco at the very close of last year. The Institute J. J. Rousseau, under the direction of P. Bovet, has been opened at Geneva to meet the demand of teachers for instruction in psychology and pedagogy, and to further the scientific study of education. Renewed applications of our science are a part of the plans for the three-year course of the new *École Supérieure des Sciences Pédologiques et Psychologiques*, privately inaugurated at Brussels, under the direction of Mlle. Ioteyko. The creation of the office of consulting psychologist to the Nutrition Laboratory of the Carnegie Institution, filled by the appointment of R. Dodge, is a tribute to the science as well as an opportunity for approaching new problems and formulating new technique. T. Ziehen has withdrawn from teaching and the direction of the psychiatric and neurological clinic at Berlin to devote his full energy to psychological research in his private laboratory at Wiesbaden. W. Wundt, the "*Altmeister der Psychologie*," attained his eightieth birthday and retired from teaching, surrounded with such grateful honors as to make the joint event one of specific interest to the entire German people. The Wilhelm Wundt Stiftung of seven thousand marks, the material token of the occasion, is devoted by his designation to research in phonetics and acoustics, to aid in the fields of linguistics, music and social psychology.

The year's necrology includes the death of Alfred Fouillée and Hermann Munk. Psychology, as well as ethics and the history of philosophy, has been enriched by the works of the former, who was a prolific writer. His *Psychologie des idées-forces* aided in ushering in the functional point of view, and social psychology received the contributions of his studies on the people of France and of Europe. The death of Munk reminds us of our obligations to his work a generation ago on the functions of nerves and muscles and particularly on the localization of functions in the cerebral cortex.

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GENERAL PROBLEMS; MIND AND BODY

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Prominent among current discussions of the relation of psychology to the other sciences are articles concerning the place of applied psychology among the world's learned professions and concerning the importance of our present stock of psychological information to almost all scientific investigators. Seashore (18) points out the very great demand for applied psychology and describes four fields where the consulting psychologist is especially needed: mental pathology, education, technical crafts and professions, eugenics. The profession of consulting psychologist is then defined. He is a trained expert and his profession is like that of other consulting experts. "He will be a university product in the best sense, and the universities must rise to the recognition of this opportunity for usefulness." Marbe (13) has written a long introductory article for his new periodical showing in much detail the importance of present-day psychology to natural science, medicine, philology, literature, esthetics, history, pedagogy, jurisprudence, economics and philosophy. He closes his article by criticizing the little recognition psychology now receives in the curricula and examinations of German universities and by urging its recognition as a distinct subject, and as a subject essential at least as a minor for candidates in education, law and medicine.