

THE PSYCHOLOGICAL BULLETIN

PSYCHOLOGICAL PROGRESS IN 1907.

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Judged within the close range of its dying hours, the year 1907 does not seem to be conspicuous in the annual achievements of psychology. Sketching its story is a task not unlike that ancient one of making bricks without straw. Activity there has been in research and discussion, and in bringing to completion important projects already known. But no new methods have come in to modify the technique. No new principles have been announced that would change the fundamental points of view of the science. It may even be chronicled that this psychological year has been marked by an absence of general tendencies which have been so noticeable in the onward movement among its predecessors. The angle of individual straws has shown the winds to have been blowing in all directions. This may in part be incidental to the marked falling off in the literary undertakings so characteristic of the science a decade or so ago when the great series of treatises were appearing in America, England, France and Germany.

That modern psychology is still an unsettled science is to be seen in the continued debate as to its real nature and the assumptions upon which its constructive activities are to be based. In his last work,¹ in which he sang his swan song, Möbius reveals, as he thinks, the utter hopelessness of psychology in its struggle to become a science. The only basis of science is the physical. The mental life, made up of thoughts and feelings, is different from nature. The difficulties confronting psychology as a 'physical' explanation of experience are to be removed by a recognition of the central importance of metaphysics and the need for positing the existence of souls in every physical and biological unit. In other words, psychology as a science must yield

Die Hoffnungslosigkeit aller Psychologie, 1907.

to panpsychism. As much as to say that psychology is not 'hopeless,' Miss Calkins raises the query: Psychology: 'What is It about?'¹ In her partially published answer, the double demand is made that metaphysics shall be eliminated from psychology, and that the psychologist shall admit into his thinking the every-day distinction between the psychical and the physical. The advance of psychology is checked partly 'through the common failure to recognize explicitly the real subject-matter of the science and through the underestimate of adequate description' of consciousness. In reasserting that psychology is not a science of consciousness viewed as a biological function, but of 'the functioner,' provision is made for the place of 'the conscious self' as the subject-matter. Stumpf has newly declared that the science is dealing with both mental contents and with mental functions.² In a still more hopeful manner, Kirkpatrick would enrich the science's vocabulary while suggesting its need of a broader basis.³ "Our ideas of a functional psychology must be developed and broadened to include unconscious functioning." He offers the new term 'organosis,' which, including the meanings of neurosis and psychosis, is 'to signify the adaptive functioning of any organism or organ without reference to whether the activity involved is conscious or unconscious, and without reference to whether the organ is nervous or non-nervous.' When the functioning is accompanied by consciousness then psychology may step in as being primarily concerned. The most systematic exposition, if not defense, of the rapidly spreading functional point of view that has yet been made appeared in Angell's presidential address.⁴ One would almost be led to believe that the long observed structural point of view was an abstraction and produced erroneous results. The whole field is parcelled out to the three methods which deal with the psychology of mental operations, mind as mediating between the environment and the needs of the organism, and the significance of the mind-body relationship. Answers to the 'functional' questions of the 'how,' and the 'why' are held to be deeply implicated in the answers to the old 'structural' question of the 'what' of consciousness.

The continued analysis of consciousness to suit the working needs of theoretical and practical psychologists is evident in Pierce's affirma-

¹ *Journ. of Phil., Psych. and Sci. Methods*, December 5, 1907.

² 'Erscheinungen und psychische Functionen,' *Abhandl. d. kgl. preuss. Akad. d. Wiss.*, 1906.

³ 'A Broader Basis for Psychology Necessary,' *Journ. of Phil., Psych. and Sci. Methods*, September 26, 1907.

⁴ 'The Province of Functional Psychology' (before the American Psychological Association, December, 1906), *PSYCH. REV.*, March, 1907.

tive answer to his question,¹ and in Sidis' theory, suggested by certain clinical results.² Pierce regards the phrase 'unconscious cerebration,' much used in the days of Carpenter, as 'necessary' for some explanations. If it means, as he intends, 'cerebration significant for later consciousness, but unaccompanied by present consciousness,' it is supposed to explain such phenomena as mental incubation, suddenly appearing words, and unexpected solutions of problems. To meet, as supposed, the explanatory requirements of clinical psychiatry, Sidis distinguishes the 'hypnoidal' states of consciousness, which lie between the waking and the sleeping states. On this basis is advanced the theory of 'recurrent psychomotor states,' which, having become dissociated, are responsible for phobia, obsessions, etc., because of accumulated nerve energy insufficiently balanced.

Probably the most conspicuous single achievement in the period under review is the 'series of text-books designed to introduce the student to the methods and principles of scientific psychology' by Judd.³ It combines the virtues of constructive psychological theory with the assured technique of experimentation. Produced in the laboratory and designed to contribute to the advance of laboratory instruction, it is probably the best available concrete index to the view that experimental psychology is never an end in itself, but at best is to be regarded only as a scientific and pedagogical means to the end of promoting final psychological theory. The leading principles underlying the 'General Introduction' are the functional view, the genetic method of treatment, emphasis upon the physiological conditions, and the significance of ideation as a unique and final stage of evolution, as stated by the author. In reminding the psychologist that it is his duty not to 'ignore the unique reality of consciousness,' in presenting a new five-fold analysis of consciousness to supersede the old three-fold and two-fold classifications of mental processes, and especially in reinstating the concept of self into the fundamental graces of the science, those principles have gone far in arighting many recent tangential tendencies into the direction of the permanent development of psychology.

Some progress has been made in throwing light upon the obscure region of the neural conditions of consciousness. The long-since rec-

¹"Should we retain the expression 'Unconscious Cerebration' to designate certain processes connected with the mental life?" *Journ. of Phil., Psych. and Sci. Methods*, November 8, 1906.

²'Studies in Psychopathology,' *Boston Med. and Surg. Journ.*, 1907.

³*Psychology: General Introduction*, Vol. I., 1907; *Laboratory Manual of Psychology*, Vol. II., 1907; *Laboratory Equipment for Psychological Experiments*, Vol. III., 1907.

ognized need of more patient investigation and more conclusive thinking about the physiological factors in experience seems at last to be receiving some marked degree of satisfaction. That physiology has immediate significance for psychology has been shown anew by Sherrington, who also contends that 'the main interest of biology must ultimately turn around the cerebrum,' the portion which has acquired dominance over the rest of the nervous system.¹ Campbell has accomplished a much-needed work in presenting the chief histological features of the entire cortex 'millimeter by millimeter.'² Unwilling 'to accept the hypothesis of attention or inhibition as accounting for all the facts which have been gathered relative to the frontal areas, Franz has shown, by experiments on cats and monkeys which had learned certain habits and associations before the operations, that 'the frontal lobes are concerned in normal and daily associational processes and that through them we are enabled to form habits, and, in general, to learn.'³ A most interesting, if not startling, discussion on the cerebral localization of speech has been precipitated by Marie in his 'revision of the aphasia question.'⁴ For nearly half a century the cortical region of the left frontal inferior convolution has been associated with the function of speech. The cortical geography, based mainly on the disorders of speech, assumed special centers for audition, vision and motor images, and sensory and motor aphasia were accordingly analyzed and explained. Marie's denial of the existence of these centers and rejection of these analyses threatens to overturn these ancient functional landmarks. 'Intrinsic' aphasia he regards as due to a 'defect of comprehension and of intellectual elaboration,' dependent in some way upon lesions in the Wernicke zone. In ending his series of studies, McDougall concludes with the theory that the basal conditions of attention are cerebral. While questioning the adequacy of a physiological theory of attention—a mental state which calls for a convergence of energy from many, or all, parts of the brain—he allows the possibility of a 'psychical guidance of physical processes.'⁵

¹ *The Integrative Action of the Nervous System* (Silliman Memorial Lectures at Yale University, 1904), 1906.

² *Histological Studies of the Localization of Cerebral Functions*. Cambridge (Engl.).

³ *On the Functions of the Cerebrum: the Frontal Lobes*, Archives of Psychology, No. 2, 1907.

⁴ 'Revision de la Question de l'aphasia. La troisième circonvolution frontale gauche ne joue aucun rôle spécial dans la fonction du langage,' *Semaine Médicale*, May 23, 1906 (and later articles). See Meyer, PSYCH. BULL., June, 1907; Dercum, *Journ. of Nerv. and Ment. Diseases*, November, 1907.

⁵ 'Physiological Factors of the Attention Process,' *Mind*, 1906.

During the earlier years of the history of our laboratories, chief attention was given to experimental attacks upon the sensory half of human experience. This emphasis may in part have been due to the dominance of the analytical or structural point of view, as well as being the line of least resistance for first developments. With the coming of the genetic method and functionalism, there is, an at least coincidental, increased attention given to the experimental investigation of the motor half of conscious processes. Motor complexes are not only regarded as sensory resultants, but are being more and more looked upon as constitutive elements in the organization of consciousness. This naturally brings one nearer the 'practical' phases of daily experiences, and may result in removing the semi-popular objection to psychological experimentation that in view of the ingenuity and assiduity displayed the worth of the results thus far obtained has not been commensurate to the great labors. There has also been in recent years an unusual organization of experimental results in meeting academic as well as scientific demands, as is evidenced by the several laboratory manuals now available. Experimental psychology seems to be on the verge of taking the next most important step which shall lead into the highly desirable 'inter-laboratory coöperation.' The detailed program of the Institute established a year ago by the German Gesellschaft für experimentelle Psychologie, and the opening session of the 1906 meeting of the American Psychological Association, devoted to an effective discussion of 'Organized Coöperation in Standardizing Psychological Tests' are unmistakable evidences that the era of experimental individualism is rapidly passing. The wide range of inquiry that can be taken by a well organized laboratory may be instanced in the twenty-three investigations reported in the second volume of the *Harvard Psychological Studies* (1906).

There need be no marvel if, as in former years, vision both normal and abnormal continues in its dominant attractiveness to experimentalists. In his review of studies on eye-movements, Herberich holds that a law controlling eye-movements cannot be found; but suggests that their significance in the psycho-physical processes of optical perception would offer a better view of the problem.¹ The studies by Judd² and by Carr³ may lead to a modification of the hitherto pre-

¹ 'Ueberblick über die Geschichte und den gegenwärtigen Stand des psychophysiologischen Problems der Augenbewegungen,' *Zt. f. Psych. u. Phys. d. Sinnesorgane*, Abt. f. Psych., September, 1907.

² 'Eye Movements in Convergence and Divergence,' *PSYCH. REV.*, Mon. Supp., No. 34, 1907.

³ 'Apparent Control of the Position of the Visual Field,' *PSYCH. REV.*, November, 1907; cf. also Carr and Allen, *Ibid.*, July, 1906.

vailing theories of the varying functions of accommodation and convergence in visual perception. In his painstaking report Scripture does not remove from experimental phonetics the unsatisfactory conclusion that sound curves are faithfully reproduced on the gramophone disc.¹ Leuba's suggestion as to the psycho-physical value of the new chemical methods of controlling color stimuli of definite saturation opens up an easy way for securing new determinations of Weber coefficients.²

The higher processes of cognitive consciousness have come in for a measurable share of attention. The recent confusion in the direction of logical and epistemological theories can but be a definite invitation to psychology to enter this region armed with its verifiable methods of analysis. Hoernlé criticises the not uncommon separation of 'image' as psychological from 'meaning' as logical, and holds that 'meaning is inherent in all forms of consciousness.'³ Every idea or image is 'of something.' Levy has shown the limitation of the usual method of studying associational processes. The subject who is expected to express the first word that occurs in response to a given word-stimulus is placed in an artificial attitude, never known in normal daily life where reactions are to words having a purpose or value.⁴ In his attack upon the processes of thinking, Messer advanced the method of approach by closely grading the increasing intricacy of the tests.⁵ 'Meaning' is found to have definite value; and, although visual and motor elements were found to be present as images, yet these were not of decided importance in determining the apprehension of meaning. That underlying agreement may be obscured by an over-insistence upon minor differences — a hindrance to which the psychology of the more complex processes seems prone — is well instanced in Pillsbury's reduction of the current theories of judgment.⁶ Stripping the views that judgment is belief (Brentano), comparison (Marbe), evaluation (Meinong), the ascription of meaning (logic), and meaning ascribed after doubt or conflict (Dewey), of their unimportant features, he discovers that "in the broad outlines

¹ *Researches in Experimental Phonetics: The Study of Speech Curves*, Carnegie Institution, November, 1906.

² *Journ. of Phil., Psych. and Sci. Methods*, March 14, 1907.

³ 'Image, Idea and Meaning,' *Mind*, January, 1907.

⁴ 'Studien über die experimentelle Beeinflussung des Vorstellungsverlaufs,' *Zeitsch. f. Psych.*, 1906.

⁵ 'Experimentell-psychologische Untersuchungen über das Denken,' *Archiv f. d. gesam. Psych.*, 1906.

⁶ 'An Attempt to Harmonize the Current Psychological Theories of Judgment,' *PSYCH. BULL.*, August, 1907.

there is agreement between all the five definitions. In some form or other judgment is the process that an impression undergoes as it enters consciousness, and this interpretation is always due to the attachment of meaning."

The close approach of pragmatism towards psychology compels a modification of the spirit of our former surveys in which we have deliberately kept from straying into the wider fields of current philosophical interests. Recent reconstructions in logic seem to have been largely responsible for the appearance of pragmatism. The eager hope entertained in many quarters that pragmatism was about to organize itself into a believable system has not been encouraged by the results in England, Italy and America, where the invasion has been most marked. When Schiller contends that pragmatism is but the conscious application of a teleological psychology to epistemology, or, is only an account of human knowing, and knowing is always part of a process which sooner or later issues in action, one cannot help surmising that a change of front has taken place.¹ It is rather noteworthy that it is the philosophers, and not the psychologists, as a rule, who have entered the critical lists either for or against pragmatism. One's disappointment with this assiduously prosecuted new tendency is keen when James, who has been our psychological Moses so long, carries the systematization no farther than to leave it 'a mere mode of approach,' and continues the whole movement a mere program for the future.² Papini is more drastic. To him 'pragmatism is really less a philosophy, than a method of doing without philosophy.' "A great many do not yet perceive that there is no such thing as pragmatism, but that there are only pragmatic theories and thinkers who are more or less pragmatic."³ The counteraction against pragmatism offered by the newly extended application of the genetic method by Baldwin in *Thought and Things*, the character of which was noted with the appearance of the first volume a year ago, is unmistakably indicated in its further development of which glimpses have been offered during this year.⁴ It appears in the declaration that the genetic problems of truth will find their solution depending "on these fundamental positions: (1) that truth is a system of objective

¹ *Studies in Humanism*, 1907.

² *Pragmatism, a new Name for some old Ways of Thinking: Popular Lectures on Philosophy*, 1907.

³ *Introduzione al pragmatismo*, 'Leonardo', Feb., 1907 (tr. in *Pop. Sci. Mo.*, October, 1907).

⁴ 'Thought and Language,' 'On Truth,' and 'Logical Community and the Difference of Discernibles,' *PSYCH. REV.*, May, July and November, 1907.

contents set up and acknowledged as under a variety of coefficients of control; (2) that this system is socially derived and socially valid, though rendered by acts of individual judgment; (3) that the whole movement issues in a dualism of self-acknowledging and objects-acknowledged, a dualism from which thought as such cannot free itself."¹

The psychology of feeling received an unusual contribution in Ribot's volume on the passions.² This with his *La Psychologie des Sentiments* (1896) and his *La Logique des Sentiments* (1905) constitutes one of the few trilogies in psychological literature, and gives us probably the most exhaustive treatment of what for a long time has been a neglected and backward section of the science. In distinguishing between emotion as brief and unstable, and passion as prolonged and fixed, Ribot revives an older conception of passion which has been somewhat lost sight of in recent years. Passion is intellectually different from emotion, marked by the predominance of a controlling idea, whence it derives its fixity. This elaboration of an effective theory stands in notable contrast with the present practice of studying particular forms of feeling. In experimental investigations, it seems to be not an easy matter to get away from some sort of a test of the James-Lange theory or the Wundt-Lehmann tridimensional analysis. Shepard, for example, finds that the latter theory has no foundation in organic reactions.³ In giving his clear statement of 'the discordant situation in the psychology of feeling,' Johnston has possibly also given the reason why studies on affection continue to occur with least frequency in the labors to advance the science.⁴ In his analysis of the complex state of religious consciousness, Pratt finds the chief foundation of faith to be an inner emotional experience.⁵ Belief is of three kinds: credulity, intellectual belief, and emotional belief. To each kind there corresponds a characteristic religion. In dealing with the returns of his questionnaire, the effort is to offer a psychological support to such a general view of the religious consciousness as was held, for example, by Schleiermacher.

New problems in individual psychology were suggested in James presidential address before the American Philosophical Association.⁶ He contends that there is more of man than ordinary experimental

¹ 'On Truth,' p. 287.

² *Essai sur les passions*, 1907.

³ 'Organic Changes and Feeling,' *Amer. Journ. of Psych.*, October, 1906.

⁴ 'Feeling Analysis and Experimentation,' *Journ. of Phil., Psych. and Sci. Methods*, April, 1907.

⁵ *The Psychology of Religious Belief*, 1907.

⁶ 'The Energies of Men,' *Philosophical Review*, January, 1907.

psychology reveals. In view of the fact that men constantly live inside their limits of power, it is proposed that new measurements of energy or will power be made in order to build up the practical pathway whereby men may live on higher levels. The practical recipe of DuBois, the recent translation of whose work may entitle it to mention in this connection, bears marked similarity to the program suggested by James.¹ This disciple of the school of Nancy supports the thesis that 'nervousness is a disease preëminently psychic, and psychic disease requires psychic treatment.' The treatment details accordingly an appeal to the subject's reason, gaining self-mastery, and getting command of one's resources.

In addition to some tendencies in the domain of abnormal psychology already mentioned, there is further evidence of some progressive clearing of this obscure ground. Dreyfus, following the statistical method based on some eighty cases, has conclusively changed some of the divisions in psychiatry fixed by Kraepelin.² Melancholia, instead of being, as formerly held, a 'disease entity,' is shown to belong to the manic-depressive group of psychoses. The International 'Symposium on the Subconscious' has crystallized the credos of Münsterberg, Ribot, Jastrow, Janet and Prince, and given us their analyses of the fundamental problems involved.³ Of the five contributors, but one is a confessed believer in the subconscious as a factor in experience; and the majority seem to agree in regarding the subconscious as a product of interpretation and not as an object of observation, and accordingly favor a physiological rather than a psychological explanation of subliminal phenomena.

Comparative psychology is showing signs of increasing healthfulness as a branch of scientific enterprise. It has already made a wide departure from the old-time observation of the naturalist, and is growing more and more insistent upon facts secured from controlled situations. While passing through the elementary stage of determining the sensory and motor elements in the mental life of animals, this branch of psychology is happily young and plastic enough to reap all benefit from the development of functionalism. The publication of the first volume in the 'Animal Behavior Series'⁴ by Yerkes, and Watson's call for a new journal to be devoted to comparative psychology⁵ are unmistakable evidences of the rapid development in this field. The

¹ *The Psychic Treatment of Nervous Disorders*, Engl. tr., 1906.

² *Die Melancholie: ein Zustandsbild des manisch-depressiven Irreseins*, 1907.

³ *Journal of Abnormal Psychology*, April-June, 1907.

⁴ *The Dancing Mouse*, 1907.

⁵ *PSYCHOLOGICAL BULLETIN*, 1907, p. 288.

latter, employing vivisectional methods has repeated and confirmed the admirable work of Small on the acquisition of the maze habit by the white rat.¹ In this definite contribution to the problems and methods, the negative results, showing that visual, auditory, olfactory and cutaneous sensations play no function in the maze behaviors, forces the conclusion that 'the kinæsthetic sensations coupled with the organic probably, and possibly with the static' furnish the guidance necessary. We may ere long be forced to a complete revision of our conceptions of 'mind' as applied to the lower animals.

Some slight modifications in the general classifications adopted by *The Psychological Index* for 1906 do not effect its gross quantitative showing of the fluctuation of interests as compared with the preceding year summarized in the following table.

1905.		1906.	
No. of Titles.	Rubric.	No. of Titles.	Rubric.
482	Higher manifestations of mind.	600	Sleep, trance and pathology.
477	Sleep, trance and pathology.	572	Genetic, individual and social psychology.
473	Genetic, individual and social psychology.	518	Philosophical implications of psychology.
428	Sensation.	383	Sensation.
270	Anatomy and physiology of the nervous system.	344	Anatomy and physiology of the nervous system.
228	General.	275	General.
135	Conation and movement.	163	Conation and movement.
128	Cognition.	158	Cognition.
67	Characters of consciousness.	69	Conditions and relations of consciousness.
39	Affection.	63	Affection.
2,727		3,145	

This classified productiveness shows more than fifteen per cent. increase over that of 1905, but a total that is still less than that of 1904. All the different fields, except sensation, have notable increases. The last five rubrics retain the rank they have held the past three years.

Psychology continues to hold its own as a leading research science in American universities.² It occupies the same rank as that of last year, being third in the class of physics and zoology. In 1907 ten doctor's degrees were conferred in psychology, being slightly less than the average number during each of the past ten years which is 13.4.

¹ 'Kinæsthetic and Organic Sensations: Their Rôle in the Reactions of the White Rat in the Maze,' *PSYCH. REV.*, *Mon. Supp.*, No. 33, 1907.

² 'Doctorates Conferred by American Universities in 1907,' *Science*, August 30, 1907, p. 276.

Progress in the application of the 'clinical' method now fostered at the University of Pennsylvania and Harvard University may encourage the hope of seeing greater socio-economic values placed upon the science in American community life.

The geographical and qualitative expansion of the interests of psychology have been furthered by the establishment of new channels for periodical literature. The supplementary series of special issues conducted by the PSYCHOLOGICAL REVIEW is to be enlarged by the addition of a series of *Philosophical Monographs*, edited by Baldwin. *The Psychological Clinic*, edited by Witmer, in connection with the psychological laboratory of the University of Pennsylvania, is timely evidence that the science is conscious of the practical need of getting into closer touch with everyday life. This journal is born of the 'impulse to seek to establish a comparative psychology, more particularly a child psychology, upon a secure foundation,' and will be the organ of the 'clinical' method. The *Clinic* and the movement behind it may ere long give us the expert practical psychologist, that ideal officer in our educational system desiderated by Royce some years ago. The new *Zeitschrift für Religionspsychologie, Grenzfragen der Theologie und Medicine*, edited by Bresler and Vorbrodt, is to follow the program of the psychology of religion, the anomalies of religion and the development of religion by the 'psychagogics' of practical theology. Psychology is to receive some literary credit in the newly announced *Revue Générale des Sciences Psychiques* and *Rivista di Scienza*. The latter is designed to promote a scientific synthesis, in which psychology is to share with eight other sciences.

In the deaths of Professor C. E. Garman, of Amherst College, Dr. P. J. Möbius, of Leipzig, and M. N. Vaschide, of the Laboratory of Pathological Psychology of the University of Paris, the science lost this year the notable services of a constructive teacher, of a brilliant writer, and of an industrious investigator.