THE PSYCHOLOGICAL BULLETIN

GENERAL REVIEWS AND SUMMARIES

CHILDHOOD

BY DR. THEODATE L. SMITH

Clark University

As a moderately complete bibliography of child study for the years 1911-1912 contains approximately some three thousand titles, the only thing possible in a general summary is to select from this superabundance of material a few of the more representative books and articles, which will serve to illustrate the more important topics, and to indicate the general directions in which the subject has developed during the last two years.

Congresses.—In the Kongress für experimentelle Psychologie (46, 70), held in Berlin in April, 1912, applied psychology, for the first time, held a prominent place in the program, especially along the line of child psychology and its educational applications. At the Erster deutscher Kongress für Jugendbildung und Jugendkunde (7), the chief topics of discussion were vocational schools and the problem of intelligence in relation to school work. Papers on the various aspects of the latter problem were given by Stern, Meumann, Kramer, Deuchler, Petzoldt and Rasopke. These are printed in full by the "Bund für Schulreform" (14). A brief report of the second Russian Congress for Pedagogical Psychology, which was held in 1909, is furnished by Steinhaus (89). The program included the following subjects: psychological foundations of education, psychological foundations of instruction, psychology and pedagogy as subjects of instruction in the middle and high schools, art in the life of the child, psychology in its relation to school, hygiene, and children's literature. At the annual meeting of the British Association for the Advancement

of Science, held in Sheffield (83), the sections of anthropology and education devoted a joint meeting to the subject of mental tests,—in which MacDougall, Spearman, Burt, Otto Gross and Wiersma took part. In both 1911 and 1912, at the annual meeting of the American Psychological Association, an entire session was given to the discussion of mental tests, and in 1912 the program was continued through a second session, and a joint session with the Educational Section of the American Association for the Advancement of Science with the Educational Section was devoted to educational psychology. There were in all seven papers dealing with the character and results of different methods of testing the mental abilities of children and adults. In August, 1911, the first international conference for the study of childhood was held in Brussels (73). The Conference was divided into five sections: (1) General Child Study and Nomenclature, (2) Anthropometry and School Hygiene, (3) Child Psychology (normal and abnormal), (4) Pedagogy of Normal and Abnormal Children, and (5) Sociology of Childhood. Hungary (97) has already held her first congress for child study, and two congresses for experimental pedagogy (55) have taken place in Russia.

Instituts.—The advance along scientific lines is further shown by the various so-called *Instituts* for child study, which are usually university departments. As a general report of scientific child study, the work of Lipman and Stern (14) is one which deserves the gratitude of all students of the subject. Through a system of international coöperation, the authors have collected and systematized in compact and convenient form, information in regard to child study periodicals, associations, *Instituts*, congresses, psychological clinics, and university courses throughout the civilized world. Since progress in this line is now so rapid, it is to be hoped that the good work will be continued and revised at frequent intervals. Several of the newer foundations are of sufficient importance to deserve special mention.

In a contribution to the *Zsch. für päd. Psychologie* Professor Meumann (59) gives a brief sketch of the purpose and proposed methods of the psychological *Institut*, recently established at Hamburg, and a further account is furnished by Hasserodt (34). The need of a center where the diversified and widely scattered contributions to child study, especially in its educational applications, may be brought together has long been felt, and this Professor Meumann hopes to realize as well as the even more fundamental purpose of research. No instruction is given by the *Institut*, the entire time of its members being devoted to research and coöperative work. Four

groups of methods will be applied: psychological experiment, collections of children's work, direct observation, and statistics.

Of special interest are two brief reports by Kretzschmar (48, 49) in regard to child study in the *Institut für Kultur- und Universalgeschichte*, opened in 1909, at the University of Leipzig through the efforts of Professor Lamprecht. Here a special department of genetic child psychology has been established in the interest of anthropology and culture history, and the work of the seminars is jointly carried on by historians, ethnologists and psychologists. The *Institut* possesses a remarkable collection of children's drawings, numbering between 115,000 and 120,000, representing different nations. Among the subjects which have already been taken up by the seminary in comparative research are "Introduction to the fundamental questions and methods of comparative psychology"; "Stages of development of ability and graphic portrayal in children;" "The development of space ideas;" "The influence of the culture *milieu* as exemplified in East Indian and Japanese drawings;" "Mental development in the children of primitive peoples;" "A comparison between graphic and speech development of the child." That a department of comparative child psychology should be established as a part of the first German *Institut* for culture history is in itself a significant fact in the history of child study.

The *Institut* J.-J. Rousseau (9) opened in October, 1912, at Geneva, although primarily for the training of teachers, is unique in having as its basic principle the study of the child. The establishment of the Children's Bureau at Washington as a governmental department marks an important step in the conservation of childhood. Its first work, as announced by its head, Miss Julia Lathrop (16, 52), is the collection of statistics of infant mortality in the United States.

General Treatises.—Among the books dealing with the general psychology of childhood, Stern's *Differentielle Psychologie* (90), is the most important contribution, although it does not deal exclusively with childhood. Sellman's book (82), while making little contribution in the way of new knowledge, summarizes child psychology up to date. Ament's well-known *Seele des Kindes* (3) has been revised and now appears in its third edition. Heller (36) publishes a course of four lectures given before the Committee for the Promotion of Juvenile Protection in Vienna. The first two sketch in outline the psychological development of the normal child, the third discusses the problems of infantilism and feeble-mindedness and the last, which is of special value, deals with hysteria and its complications.

Unger (99) has given an appreciative presentation of Ludwig Strümpell's aims and methods of work in child psychology, with especial reference to its significance for pedagogy. A fourth edition of Claparède's *Psychologie de l'enfant* has appeared, with additions chiefly along the line of experimental pedagogy. About one third of the book is devoted to the discussion of intellectual fatigue. An English translation of this (17) has appeared. A third edition of Groos's *Das Seelenleben des Kindes* (33) has been published, as also a second edition of Gaupp's admirable little book (29). The latter deserves translation into English. Its clearness, brevity and scientific character would make it an excellent text-book for normal schools, for although the first part of the book deals with infancy, by far the larger portion is devoted to the school child. In infant psychology there is a study of unusual value by Dr. Peterson (71), psychologist to the Lying-in Hospital of the City of New York, who observed and tested 1,060 individual babies, among whom were 41 premature children and 25 pairs of twins. Sight, hearing, taste, smell, cutaneous sensibility and power of grasping were tested. Thirst, hunger, organic sensations, and the beginnings of memory, feeling and consciousness were also noted. The summary of conclusions given by the author is regarded as only preliminary. Kirkpatrick's *The Individual in the Making* (45) is a subjective view of child-development, containing many suggestions to parents and teachers. Here, too, should be mentioned the two recent bibliographies of child study (87, 100) compiled at Clark University and the short but carefully selected list compiled by H. C. Warren (102) for the *Zeitschrift für Psychologie*.

Studies of Individual Children.—The second volume of the record kept by Mr. and Mrs. Scupin (81) which covers a period, the fourth to the fifth year, where the dearth of records is even greater than for the earlier years, is of especial value. Another contribution is Martha Silber's (84) *Fragen, Reden und Denken eines Kindes*, as recorded in a daybook kept from the third to the ninth year. Of quite a different order, but interesting as giving a glimpse of the life of a Japanese child, is the autobiography of Yoshio Markino (56) and the record of the fanciful imaginings of a child of three recorded by Nancy Price (74). There is also a recent translation of Otto Ernst's *Roswitha* (25), which is an excellent version of a book whose charm and scientific sympathy will be recalled by all who have read the original delineation of the little daughter of the author.

Mental Tests.—In the literature of child study for the past two

years, the most prominent topic is undoubtedly mental tests. In this field, Stern (91) has done the great service of summarizing a vast amount of literature which will soon be made available to English readers by Whipple's translation now in press. But Stern's work is much more than a mere summary of mental tests, for the author has not only made a digest of the most important literature but has added many criticisms and constructive suggestions for future work. The paper has two chief divisions, the first of which is devoted to single tests and series of tests, particularly those which have been used by psychiatrists; the second and larger division takes up the Binet tests, and reviews the most important literature on the subject, making through this a comparative study of the merits and defects of the system, as shown by the results obtained in different countries and with different languages, by those who have actually used the tests. The work of Bobertag and Chotzen in Germany, Mlle. Descoeudres in Switzerland, Miss Johnson in England, Goddard, and Terman and Childs in the United States, furnish material for comparison, which is valuable, not only as regards agreements in the results, but equally instructive through the variations and disagreements. Most experimenters agree in finding that while collectively for large numbers of children the Binet scale is fairly trustworthy, this does not hold true of the tests for the separate years. In general, the tests for the early years are too easy, and the later tests too difficult. Stern's attitude is, on the whole, an optimistic one, for although in its final revision the individual tests of the Binet-Simon scale may be completely changed, he believes that the fundamental principle of tests for mental age is correct and the revision of the scale should, in Stern's view, be a matter for international coöperation. Each single test should be tested on large numbers of children and should not only be performed by 75 per cent. of the children of the given age, but should show a sharp gradation between the ages immediately above and below, *i. e.*, should be performed by practically all the children a year older and less than half of those a year younger. In grouping the tests for any given year, after a sufficient number of single tests have been satisfactorily worked out, care must be taken to test as many mental functions as possible, and in the further arrangement in series the same principle must be kept in view. Parallel series should be arranged so that when, for any reason, a test is invalidated, another series may be given. The scale should be extended to cover the years up to fifteen, for at present no child over ten can be fairly tested because of the lack of supplementary

tests in the succeeding years. Physiological as well as chronological age should be taken into account in estimating mental age, and both social class and school attainments have been shown to have influence on mental development. A final section of the paper deals with the estimation and testing, with the aid of the correlation method, the finer degrees of intelligence to which the Binet-Simon tests are not applicable. A carefully selected bibliography of 82 titles is appended.

As supplementing Huey's (42) summary of the Binet-Simon tests, it is necessary in this connection to note only a few of the more recent publications.¹ Kuhlmann (51) has used the tests on 1,300 feeble-minded and epileptic children at the State Institution at Faribault, Minn., and, though finding deficiencies and realizing the need of a standardization of the tests, concludes that with all its defects, the accuracy of the Binet-Simon scale is nevertheless greater than that of any other method except prolonged, careful observation by a skilled observer of the individual child. From so careful a worker as Dr. Kuhlmann, this opinion cannot fail to have weight. A previous article by the same writer (50) and a recent discussion and criticism by Clara Schmitt (80) should also be mentioned. Dr. Goddard has continued his work of testing normal children, and has re-tested many cases. As yet only the preliminary report of this, given to the American Psychological Association (62), is available.

Although the Binet-Simon tests occupy by far the most prominent position in the literature of mental tests, several other series and individual tests represent recent work in this field. Miss Squire (96) publishes a series of graded mental tests which were worked out on eighty children in the Chicago School of Education, so that chronological, physiological and psychological ages should be correlated as nearly as possible. A functional basis underlies these tests. Abelson (1), in England, has also devised an interesting series of tests which have been published in the *British Journal of Psychology*. The Healy and Fernald (35) tests, now published in monograph form, are the result of practical work with the children of the Chicago juvenile court, and are very comprehensive in scope. Meumann (60), whose opinion of the Binet-Simon tests is not so favorable as that of the majority of those who have worked with them, has devised a test which, although his main aim was to establish qualitative differences, proved to be quantitatively usable. Pairs of words were so chosen that different relations between them were possible, although only a logical connection made good sense. The tests

¹ See also FREEMAN, this BULLETIN for July, 1913.

were first tried on selected pupils by Meumann himself, and then given to five hundred pupils of the Bürgerschule by Schröbler. Eight different forms of solving the connection appeared, and these corresponded to types of intelligence. Numerous examples, some of which are extremely interesting, are given to illustrate these types. A Japanese experimenter, Dr. Matsumoto (57), made use of a motor test which he considers correlated with mental development. The test consists in picking up beans with both hands, as many beans as possible in thirty seconds. Right and left hands are tested separately. Subjects from 3 to 90 years of age were tested, and a regular increase of motor ability, which reached its highest point between fifteen and nineteen years, was observed. After this age there was a gradual decline. From these results Dr. Matsumoto arrives at a periodical division of life, which contains six instead of the seven classic ages described by Shakespeare.

Feeble-mindedness.—As a study in the heredity of feeble-mindedness, Goddard's *Kallikak Family* (31) is a work of unusual interest, for beginning with a feeble-minded girl in the Vineland institution, he has traced the family for eight generations back. At this point he finds a division of the family into two branches, an abnormal branch starting with the illegitimate child of a feeble-minded girl. The father of the child later married and founded a normal branch of the family, whose members are all of sound mind, and among them are to be reckoned many of brilliant attainments in social and professional life. Of the five hundred and eighty descendants of the feeble-minded girl whose records have been traced, one hundred and fifty-three have been shown to be definitely feeble-minded and only fifty-six are known to have been normal. None have risen above mediocrity. The contrast is the more striking because the two branches of the family have remained in the same state and the broader social environment has been practically the same. Two other studies in heredity (20, 26), made under the auspices of the Eugenics Record Office at Cold Spring Harbor, bring out the heredity character of mental degeneracy, and are valuable studies, though lacking the special interest given to the Kallikak family by the existence of the normal branch of the family for comparison. Such studies as these will do more than anything else to enlighten the public in regard to the social danger of leaving the mental defective unprovided for and at large in the community.

Holmes's *Conservation of the Child* (40) is the most complete presentation of the psychological clinic and its social significance which

has yet appeared in print. While based on data derived from the psychological clinic which was established in the department of psychology at the University of Pennsylvania sixteen years ago, to the author's own experience have been added the conclusions of other workers in the same field. Several systems of mental tests are given and although the book is primarily intended as a guide in clinical psychology, it includes discussions of some of the broader social and educational aspects of mental defectiveness, so that it is of interest to teachers and all those interested in child welfare. The Clinical Classification of Delinquent Children, according to causative pathology, issued as a part of the annual report of the Seattle Juvenile Court (4), and the first annual report of the Gatzert Foundation of the University of Washington (88), likewise furnish items of value for those interested in clinical psychology. Baldwin (6) also contributes to our knowledge of psychological clinics, showing the character of the work done at Vineland and other clinics, and the problems which are presented by mental defectives. Dr. Huey's little volume (41) is a series of clinical studies in the psychology of defectives, made at the State Institution at Lincoln, Ill. Thirty-five border-line cases were studied with Binet tests and others. The careful clinical records of these cases furnish an excellent model for further work in the same line.

Precocity.—Several studies of precocious children have appeared during the last two years. Miss Dolbear (21), in her study, has selected for comparison groups of children of unusual intellectual development, making use of both present-day prodigies and those of earlier date whose lives are now completed. While no dogmatic conclusions are drawn, it is pointed out that in some of these children there appears a serious danger of one-sided and partial development; that both heredity and training seem to have been important factors, and that precocity is by no means always associated with genius, but that, on the contrary, the reverse has often proved true. Addington Bruce (12) has drawn from German sources the almost forgotten case of Karl Witte, whose development offers some points of especial interest. Williams (103) gives a comparison between John Stuart Mill and the son of Dr. Boris Sidis, whose precocious mathematical ability has attracted attention at Harvard. From the psychological laboratory of the University of Rome (19) comes a study of 41 exceptionally intelligent children, selected from 1,488, attending the kindergartens and public schools of Rome, and ranging in age from three to twelve years. As tests of intelligence, the Binet-

Simon scale, Ebbinghaus's combination and memory tests and Bourdin's test for attention were used. General conclusions drawn from this study are, that there is a correlation between physical environment and development of intelligence, and also between physical and mental development. Both mechanical and associative memory were good in all these children. From Japan we have a study by Professor Sakaki (79), of the Imperial University of Tokyo, of so-called abnormally intelligent pupils, in which he classifies these children into six groups, in only one of which he finds the children to be perfectly free from pathological taint, and of stable superiority throughout life. True geniuses are found only in this class, the early development and precocity of the other classes tending either to early decay or one-sided development. Stern's contribution on the "Supernormal Child" (92) is rather a plea for educational provision for gifted children than a study of their development, but is based both upon such study and knowledge of the injustice which they suffer under our current educational systems. Although cast in the form of a novel, Mary Antin's *Promised Land* (5) furnishes us an unusually vivid autobiography of a gifted child and her development, which has a positive psychological value which entitles it to mention.

The Montessori System.—On the distinctively educational side of child study, the Montessori system has, during the past year, held the most prominent place and probably no system has ever suffered more from exploitation than this. But of the flood of literature which has appeared on the subject, only a small proportion is based on any real study of the system or actual observation of the schools. Dr. Montessori's own books are here the chief source of information. While the *Montessori Method of Scientific Pedagogy* (64) contains the chief exposition of the system, the *Anthropological Pedagogy* (63) supplies a background which greatly aids the understanding of the system in its broader aspects. Mrs. Fisher's book (27) is a delightfully written account of an American mother's application of the Montessori principles in her own home. The *Montessori System in Theory and Practice* (86) is a brief statement of the principles of the system, its possible application to American education, its similarities and dissimilarities to the kindergarten. A final chapter, by Miss Kennedy, of Providence, gives the actual experience of an American teacher. The United States Bureau of Education has issued a bulletin on the Montessori System (85), and there is also an exposition and criticism by S. A. Morgan (65),

of Toronto. Here, too, should be mentioned Holmes's introduction to Miss George's translation of the Montessori method, and Gesell's (30) criticism in a supplementary chapter of his *Normal Child and Primary Education*. Among the many contributions to periodical literature are to be noted the paper by Warren (101); and the excellent articles of Ellen Yale Stevens (94, 95), comparing the kindergarten and the Montessori system, a comparison based on actual observation of the Montessori school and kindergarten in Rome as well as on the knowledge of American kindergartens. *A Guide to the Montessori System* (93) by the latter author is an appreciative and helpful presentation of the principles, derived not only from the study of Dr. Montessori's books but from personal contact with the schools and their founder in Rome.

During the years 1911-1912, a number of studies dealing with the child of school age have appeared. Among these must be mentioned Pohlmann's book (72) which is an investigation of the developmental progress in the understanding of the content of the words used by school children, *i. e.*, the relation between the child's speaking vocabulary and the logical meanings connected with it. He finds that children have not always even an approximate understanding of what they verbally express, though the understanding of words used in sentences is nearer their logical content than when such words are isolated. Often words used by children are mere combinations of sounds without meaning and context. The subjects of research were children of the elementary schools, from 5 to 14 years old, and ten groups of words were used to test their knowledge, namely, words indicating (1) concrete sense objects, (2) various sense qualities (except taste), (3) taste-qualities, (4) tools and instruments, (5) materials, (6) nature study concepts, (7) names of relations, (8) social and social-ethical ideas, (9) religious ideas, (10) complex concepts, *e. g.*, curly hair, edible fruits, electric bell, etc. Nearly one third of the book is devoted to the actual definitions given by the children, and the analysis of these furnishes many interesting points in the psychology, not only of speech development but of the thought activity of the child. W. H. Winch (104) has made, in the London elementary schools, a somewhat extensive inquiry into the relation between the age of entering school and school progress, and finds that from the entrance age of three to five, early entrance is no intellectual advantage to the child, either in his infant school work or as regards his later school progress. There seems some reason for supposing that the children entering after five may show some re-

tardation in school progress. As England has no system of public kindergartens, the question of school attendance for children three to five years of age, which to Americans scarcely seems a problem, is a very real one and involves serious considerations. Gesell's book (30) is the joint work of two authors, who have had both practical experience and training in genetic psychology. A brief historical introduction serves to sketch the influences which have led to the conception of the child as a problem to be scientifically studied. Part II. is an outline of the genetic background upon which child study is based. Part III., the pedagogical section, is the core of the book, and discusses in a practical, helpful way the problems of the primary school which occur in the daily program of school work. While dogmatic assertions are conspicuously absent, principles underlying successful teaching of the subjects of the elementary school curriculum are clearly and helpfully given. Part IV. deals with the conservation of child life. Another book dealing with the application of child psychology to school problems is that of Rusk (78). This is based on Meumann's *Vorlesungen zur Einführung in die experimentelle Pädagogik*, and makes accessible in English the gist of Meumann's two volumes. Use has also been made of the results of English investigations and much which has been made available since the publications of Meumann's work has been incorporated.

Sleep.—Osborne (69) has made an extensive investigation of the relation of sleep to weather conditions, food and nutrition, brain development and the emotional life. The paramount importance of the character and amount of sleep to brain development and the rhythmic character of sleep as related to nutrition are specially emphasized. The Study by Andress (2) is of a different character and is based on a record of the sleep habit of 49 normal school students, 26 juniors and 23 seniors, who furnished a total of 1,301 records in response to a questionnaire provided by the author. Results showed an average of over $8\frac{1}{2}$ hours sleep. Dreams were remembered for 44 per cent. of the number of nights' sleep recorded, and 28 per cent. of these dreams were recognized as being reflections of the school work of the previous day, a fact of interest in connection with the Freudian theory of dreams. A third contribution is the study by Terman and Hocking (98) on the sleep of school children. The first section deals with the distribution of sleep according to age, first summarizing the estimates of the need of sleep as given by the various authors who have studied the subject and then carrying out an independent investigation on 2,692 children, between the ages of

6 and 20 years. One of the most striking facts of this investigation is the excess of sleep among these American children as compared with the German children studied by Bernhard, and the English children studied by Ravenhill, which amounts, for most ages, to between an hour and an hour and a half. Better home conditions and more outdoor life are probably important factors in this respect. The second section describes the relation of sleep to intelligence, school success and nervous traits. There was practically no correlation, either positive or negative, between amount of sleep and mental achievements. This was true for every school subject and for every age. Various tentative explanations of this unexpected result are offered. The third section of the paper is a study of the conditions of children's sleep, which includes housing conditions, ventilation, hours of going to bed, and miscellaneous external conditions. Internal conditions, such as improper diet, obstructed breathing, eye strain, nervousness and conditions resulting in night terrors and bad dreams, are also considered, and there is an appendix on the sleep of feeble-minded children. A bibliography of 40 titles completes the study. •

Memory and Association.—Several studies on memory and association have appeared during the last two years, of which Meumann's *Ökonomie und Technik des Gedächtnisses*, translated into English by Professor Baird, is the most important. Hentschel (37) has made a study of immediate retention. The subjects were 31 children, 8–14 years old, in the special classes and 24 normal pupils in the third to the eighth school years, and material used was series of consonants. His conclusions may be summarized as follows: (1) With a low degree of intelligence, there is also, as a rule, a low capacity for immediate retention. (2) This phenomenon is so certain and evident that testing of the memory span should form an integral part of mental tests. (3) Retention of five consonants in a series must be regarded as a normal capability. (4) Pedagogy must take into account the individual differences in memory span and should formulate aims and methods according to them. Another experimental study has been made by Lobsien (53), on the development of the acoustic word memory in school children, 1,281 boys and 1,557 girls, of ages from 7 to 15 years. Lay's material of two-syllabled senseless words was used. Great variation was found in the course of the successive school years; although there is in general a rise of the errors for the succeeding years. The tenth and eleventh years show a plateau in the curve and the errors are greatest here. In general, no sex differences

appear, although in individual cases there are interesting variations. Dr. Goett (32), of the K. Universitäts-Kinderklinik at Munich, publishes the results of an investigation of 52 children, by the method of *Tatbestandsdiagnostik*, used by Jung and his followers. The Rosanoff (76) research of association in children is a careful study of 300 children, ranging in age from four to sixteen, by the Kent-Rosanoff technique. A study of association in feeble-minded and delinquent children by Eastman and Rosanoff (24) leads the authors to the conclusion that "States of arrested mental development present certain fairly characteristic associational tendencies. These tendencies are characterized mainly by failure of reaction, non-specific reactions, and certain types of individual reactions." The association test as thus used is an aid in the diagnosis of feeble-mindedness. A monograph by Braunschhausen (10) presents results of memory tests in the Luxemburg gymnasium. It is prefaced by a chapter on methods of investigating memory, and the conclusions are mainly of a pedagogical nature, as the work is intended especially for teachers.

Æsthetic Development.—Meumann (58) has sketched a program for the psychological investigation of children's drawing, in which he discusses the different problems involved in a thorough psychological procedure. Three chief psychological processes, each of which includes many partial ones, are involved in drawing, and need investigation on the basis of a scientific pedagogy of drawing. These are the activity of the eye, or, more correctly, sight in general; the activity of the hand and arm, or the motor processes involved in drawing; the apperception processes involved in the comprehension of the object to be drawn; the coördination of these different processes. In the latter are to be distinguished (a) the coördination of eye and hand in drawing, *i. e.*, the coördination of optic-sensory and motor processes, (b) the coördination of sight ideas and the hand, (c) the coördination of these processes with the apperceptive factors. Each of these processes is discussed in detail by the author, and a large number of problems for investigation are thereby suggested. W. Jones (44), of the *Psychologischen Institut des Leipziger Lehrvereins*, has contributed a careful experimental study on the development of the color sense in children, the particular point of investigation being the threshold for color saturation for children between the ages of 4 and 14 years. Two boys and two girls of each age, and four adults for comparison, served as subjects of the experiments. Interesting and elaborate conclusions are drawn, but further experiment along these same lines on

larger numbers of children seems desirable. Böhm (8), of Jena, has also investigated the color knowledge of children entering school, but the tests given were in regard to color names rather than actual ability in color discrimination. He found that most of the children entering school were able to name the simple colors, and to a limited extent, some of the mixed colors. Twenty children in the first year of the practice school were tested. Rouma's monograph (77) is the most comprehensive which has appeared since the work of Levinstein and Kerschensteiner. It, however, adds little that is new to their conclusions, and its permanent value is chiefly in the extensive reproductions of children's drawings which are thus made available for further comparative study. Luquet (54) sketches the development in graphic ability and analyzes this from a philosophical point of view. As 1,687 drawings are reproduced, we have again a valuable contribution for comparative study. Kretzschmar (47) discusses the scientific results already obtained from the study of children's drawings, and points out the possibilities which they offer for future investigations in psychology and pedagogy; and Müller (67) publishes a monograph on the æsthetic judgments of children.

Sex.—*Aus dem Seelenleben des Kindes* (43), by Hug-Hellmuth, is a summary of the Freudian contributions to child study. The findings in a few cases of extremely neurotic and abnormal children are used as the basis of a theory which the author then attempts to apply to the normal children studied by Preyer, Stern, Sully, Scupin, Miss Shinn and others. To anyone who has closely studied the normal development of children, the most striking feature of the book is the perversion of normal facts to fit an abnormal theory, and, as a consequence of this, the germ of truth which it contains is almost completely obscured and made to assume a repulsive aspect. Moll's study (61), recently translated into English, though written from a physician's point of view, and dealing extensively with pathological manifestations in children, finds no corroboration of the Freudian hypothesis, even in pathological cases. Though the character of the work is such that its greatest value is for physicians, and those dealing with juvenile delinquents, the final chapter on sex education is of interest and value to all parents and educators, as it deals with the subject from a normal and ethical point of view.

Social Studies.—*The Delinquent Child and the Home* (11) is the record of a research made under the auspices of the Russell Sage Foundation and is an important and valuable contribution to the study of juvenile delinquency. More than 14,000 cases of delinquent

children, brought before the Cork County Juvenile Court, were analyzed, 2,770 girls, and 11,413 boys. Study was made of environment as well as the individual, and the results furnish a basis for the strongest possible plea to the community to aid in removing conditions that annually bring thousands of children before the juvenile court. Clopper (18) also presents a study of the child from a sociological aspect. As Secretary of the Child Labor Committee for the Mississippi Valley, he discusses the form of child labor which has thus far received too little attention from legislators. The conditions, and mental, moral, and physical effects of the street trades are depicted in a condensed but vigorous way, and the facts recorded carry conviction with them.

Interest and Attention.—Nagy (68) presents the results of his observations on a niece and nephew respectively $5\frac{1}{2}$ and $6\frac{1}{2}$ years old, which continued for five years, and after a break of two years, for two years more. These children were taken yearly to a blacksmith's shop, a threshing floor, a nut-gathering and grain-harvesting, and their successive development of interest in the various objects and activities connected with these observations was noted. These records were supplemented by continuous observation of ten boys and ten girls, of ages from 5 to 15, in a summer *Ferienkolonie*, with whom the author made bi-weekly excursions. From this somewhat limited material he finds five stages of interest which he characterizes as follows: (1) sense interests, 1-2 years, (2) subjective interests, 2-7 years, (3) objective interests, 7-10 years, (4) permanent interests, 10-15 years, and (5) a stage of logical interest from 15 years onward. These stages are discussed with considerable detail, especially the third and fourth, in relation to the feelings, memory and logical connections, and pedagogical applications. Numerous illustrations of the various stages are given, but it is certainly desirable that larger numbers of children, in more varied environments, should be studied before general conclusions are shown.

Hoffmann's article (39) is a critique of previous studies on this subject, made by Lobsien, Stern, Walsemann and Wiederkehr, and disputes the validity of results obtained by the question method of determining interest. Three short contributions by Dück (22, 23) deal respectively with the historic, geographical and æsthetic interests of school children. Here, too, should be mentioned two studies of children's ideals, one of American school children, by Hill (38), and one of German children by Richter (75). A study of attention comes from Matora (66), of Japan, who experimented on the effect of practice on

the attention. These experiments were carried on with groups of children and students, laboratory devices for measuring attention in the fields of both sight and hearing being used. Professor Motora reaches the conclusion that for children where mental endowment is not of a high order, there is a beneficial effect through practice, but that other children make no essential progress in periods of the length considered.

Miscellaneous.—Worthy of note are also the following unclassified contributions.

Buchner (13) contributes to a field where little material exists. He presents systematically and in chronological order the observation of the parents on the emotional manifestations of the first year of life. These early rudimentary expressions of the awakening of emotional life are classified under the headings of feelings of pleasantness and unpleasantness, surprise, astonishment, curiosity, fear, anger, elementary æsthetic feelings, inclination and sympathy and senses. Photographic reproductions of these manifestations add to the value of the monograph.

Dr. Carrigan's study (15) is a work of value to all interested in child welfare. The author, who has had practical experience as a lawyer, has brought together in compact and convenient form information which has hitherto been accessible only at the cost of much labor, and has compiled a summary of American Laws relating to child-welfare, which begins with the unborn child and follows out its legal status until it reaches majority.

Fischer's (28) study of laziness is, as the title indicates, analytical in its nature, and the author excludes all cases superficially classified by parents and teachers as laziness but which are really due to causes quite apart from the will, such as physical depression in consequence of anæmia, inhibitions caused by rapid growth, acute illnesses, malnutrition, overlooked sense defects, native poor memory, etc. Nor does he include under laziness cases of weakness of voluntary attention, but restricts it to choice, definite cases in which there is a yielding to the inclination to avoid what is unpleasant, associated with an inner recognition of a duty to be performed. Laziness is thus an habitual weakness of the voluntary attention, combined with an indolent self-indulgent aversion of the unpleasantly toned sensations of a strained attitude and fatigue. The author further distinguishes the form of laziness, the resistance form and the indolence form. The latter is the laziness of the dreamer; the former is often brought about in children by undeserved censure after they have

really made an effort to do their best, and is therefore of pedagogical importance.

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ADOLESCENCE

BY PROFESSOR BIRD T. BALDWIN

Swarthmore College

It is the aim of this *Sammelbericht* to outline the main contributions and tendencies for the past two years within the field of the psychology and pedagogy of adolescence. For purposes of orientation and analysis these contributions may be centered around (1) Physical Growth; (2) Sex Maturation and Instruction; (3) Juvenile Delinquency; (4) The Normal Boy and Girl; (5) Experimental Studies; (6) Educational Tendencies.