A HISTORY OF THE UNIVERSITY OF CALIFORNIA PSYCHOLOGY DEPARTMENT AT BERKELEY

Joan D. Grold, Berkeley, 1961

Introduction

In the process of tracing the development of the Psychology Department at Berkeley, my original desire for a good grade has gradually receded to the background, and a number of other reasons have arisen to take its place. Perhaps this has occurred because of an increasing realization on my part of the importance of a history such as this—an importance which goes even deeper than a simple desire to know the past of one's institution of learning. Its significance lies rather in the fact that it is difficult for both students and faculty to appreciate the Department's present status unless they can see the process of growth which has culminated in its accomplishments today. For the faculty a history seen through a student's eyes (plus the observant eyes of Jean Macfarlane!) should be of interest if only for the fact that it may point up the problems that growth has produced in the widening of a student-faculty bond, and the need that the students, both graduates and undergraduates, have for a close identification with their faculty. On the other hand, for the students a record of the Department's history should make it easier to understand situations that exist now, whether they be current research and trends or ideological controversies. Unless one can appreciate the facts of inevitable growth and development, it is difficult to have as much pride in the current accomplishments of the Department as is desired. It would seem, then, that knowing what one is a part of inevitably results in becoming more a part of it.

Psychology began at the University 68 years ago in the form of an Elementary Psychology course. Since 1915 there have been 249 doctorates given, 57 of whom have been women. From 1896 when there were two courses offered, there has been an increase in 1961 to 72 courses and from one professor of psychology to a faculty of 35. If one can forget for a moment that the primary task of the historian is a collection of facts, it will become obvious that this information is not particularly significant unless it is coupled with sidelights and anecdotal accounts that nonetheless are part of the development of any institution, large or small. One must, however, realize that memories accumulated from those connected with the Department since its early days have perhaps been heightened or minimized with the passage of time. Nevertheless, they point up more vividly personalities and occurrences that otherwise would hold little significance for those who are the so-called newcomers to the group. With these facts in mind, then, and with much affection, which I am afraid also should not be manifested by an historian, this paper was written.

1888-1898

The Beginning

The first psychology course at the University of California began under the guidance and control of the Philosophy Department in 1888. Situated on the northwest side of campus (where the T-3 building now stands) was the Philosophy Building, a product of wood, green paint, and sand-insulated walls. Here in the Fall Semester of 1888, George Howison, Mills Professor of Philosophy and Chairman of the Department, began a course entitled Propaedeutic to Philosophy, which consisted of empirical psychology and formal logic, both inductive and deductive. Attending this course was an undergraduate, George Stratton, who as a senior under Howison appeared slightly interested in this "new" field of psychology.

George Stratton was born in Oakland, California, in 1865, and he continued living in the area until his graduation in 1888. During his undergraduate

years Stratton seriously considered entering the ministry, but under the influence of Howison turned more and more to philosophy.[1] Following his graduation, Stratton went to Ventura, California, where as a teacher and later principal of the high school he met his wife Alice Miller. In 1893 Stratton returned to the University and with Professor Howison began the first psychology course, Elementary Psychology, which in true William James' fashion included "the general nature and classification of the facts of consciousness and their relations to neural physiology." By the end of this year there was a growing realization between Stratton and Howison of the need for a Psychological Laboratory, similar to others being started in the United States at that time. Thus, Howison instigated the idea to allow Stratton to study in Leipzig at Wundt's laboratory with the express purpose of preparing him to set up such a laboratory at Berkeley. In addition, the Department authorized Stratton to obtain the unbelievable sum of three thousand dollars for purchase of instruments and apparatus for the new laboratory. In 1894 Stratton and his wife went to Harvard to study under Münsterberg for the summer and then on to Leipzig. Stratton returned to Berkeley in 1896, after obtaining his Ph.D. and the "brass instruments" needed to begin the Psychological Laboratory.

By 1896 in the United States 19 Psychological Laboratories had been established, most of which had similarly been influenced by Wundt, for his students were, by this time, spread throughout the country. The Laboratory under Stratton, then, began in Wundtian style with the aid of such apparatus as the pneumatic sphymograph, the reaction key, rotation apparatus, Galton's whistle, a cylindrical resonator, a Hipo chronoscope, and an electric sound hammer. In the same year Stratton published his classic study, "Vision without Inversion of the Retinal Image,"[2] where he shows the adaptations necessary when the retinal image is not inverted. In later years one would know when Stratton was working on problems of this nature, for in his walks he usually carried an umbrella to prevent the sun from influencing his experimental procedure.

Two courses were offered by Stratton in this first year, both of which were connected with the Laboratory. One of the courses was described as "demonstration experiments, developing the settled results of modern psychology"; and the other, less optimistically, was simply a higher course in the Psychological Laboratory. During the following year (1897) Stratton and Howison added four more courses: General Psychology, with lectures on the "contents, form, variation, and interrelation of the characteristic mental processes and on the development of consciousness"; and Introductory Experimental Psychology, on the use of apparatus; and for graduate students a Psychological Conference, and two Psychological Laboratory classes for individual investigation and original research. Thus, by 1898 Stratton had introduced a wide variety of ideas to students of philosophy and had given psychology a definite place, however unwanted it was, in the Philosophy Department at Berkeley.

1900-1910

In the first years of the 1900's the Psychological Laboratory continued under Stratton's supervision; and the Philosophy Department gained among its students three undergraduates, Edward K. Strong, Warner Brown, and Knight

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[1]Perhaps Howison's effect on Stratton is best expressed in the preface of Stratton's Experimental Psychology and Its Bearings Upon Culture (1914), where he says, " . . . But I owe most of all to my teacher and friend, Professor Howison, to whom I should have been glad to dedicate affectionately this book were I not so fully conscious of its shortcomings."

[2]Psychol. Rev., 1897, 4, 341-360, 463-481.

Dunlap, all of whom became assistants to Stratton at one time or another. Dunlap remained an assistant for the four years from 1902-1906; and in 1903 he began a course, Psychology of Sensation, for the study of "the physiological and psychological action, both normal and abnormal, of the various senses." In his last years he also added Historical Investigations in Psychology, with subjects changing from year to year. The subject for that year (1906) was "Current Mysticism and Its Roots in Earlier Western Mysticism." Meanwhile, Frank Wrinch had been added in 1903 as an instructor in Experimental Psychology; and in 1904 he and Dunlap were left in charge, for Stratton was invited to Johns Hopkins University to begin there a similar laboratory. Dunlap joined him there in 1906, the same year that the second student, Warner Brown, also left Berkeley with a Master's Degree and went to Columbia to obtain a Ph.D. under Woodworth. Strong remained in Berkeley until 1909, when he, too, went to Columbia. Thus, by 1907 only Wrinch was left teaching the three undergraduate courses already mentioned plus a course in the Psychology of Aesthetics. However, in 1908 Stratton returned as President of the American Psychological Association and brought back with him Warner Brown, who unknowingly began at that time a 44-year stay at Berkeley.

Warner Brown was born in Georgia in 1882, and was informally educated until his entrance to the University. He received his Bachelor's Degree in 1904 and his Master's two years later, and in 1908 he returned with a Ph.D. from Columbia. Brown began then to take over a few of the elementary courses in the Department, particularly those in experimental psychology. In 1909 he added two courses as introductions to Psychological Experiment with demonstrations and discussion in the first part of the course of "Sensation, Emotion, Perception; with especial reference to psychological analysis"; and in the second part discussion of "Time-perception, Movement, Memory; with especial reference to methods of measurement." With Stratton's relinquishing these courses to Brown, he gained the freedom he needed to add a wider variety of courses; and so in that year he began teaching a course in Applied Psychology, where he lectured on the "bearing of certain results of modern psychology upon the work of the lawyer, the physician, the teacher, and the minister." In addition to the faculty for the year 1909 was Morton Prince (later beginning in 1927 the Harvard Psychological Clinic), who gave the first lecture in Abnormal Psychology on the "mental physiology underlying the pathology of the mind; mental dissociations, syntheses, special pathology; methods of examination and treatment of mental abnormality." Thus, by 1910 eight psychology courses in experimental, abnormal (it was discontinued the following year), and applied were added to the Philosophy Department.

1913-1918

In the next few years the Department stayed relatively the same. Students taking introductory courses were introduced particularly to William James, and students of the Laboratory were immersed in Wundtian-type experiments. To keep abreast with new developments, novel apparatus was constantly being acquired, and by 1915 the Department had included such equipment as the tachistoscope, the Jastrow memory apparatus, the Wundt sound interpreter, a mirror rotator for hypnotizing, and Stratton's pseudoscope.

In 1913 a young woman with an M.D. from the University of Michigan, Olga Bridgman, came to Warner Brown and expressed the desire to obtain a doctorate in psychology at Berkeley, whereupon Brown immediately asked in return if there was anything wrong with her M.D. degree! After only this slight skepticism Olga Bridgman was admitted as a graduate student and in 1915, with a thesis on the study of abnormal children "with special reference to the problems of dependency and delinquency," she became the first to receive her Ph.D. in psychology at Berkeley. Olga Bridgman came to Berkeley already fairly proficient in psychological matters, for she had, besides her degree, three years of institutional work with delinquent and defective girls in

Illinois. Her choice of Berkeley as a graduate school resulted from the enticements of individual research, no examination or course requirements, and a single instructor with whom she could plan her program. Thus in 1913 Bridgman was introduced to such novelties as Brown's Experimental Psychology 106, William James' Principles of Psychology, the use of the Hipp chronoscope, and a weekly evening seminar at the Stratton's, where current research was debated while Mrs. Stratton served tea to the faculty and graduate students. That year Brown added two new courses—one, the Phases of Medical Psychology, which discussed experimentation affecting the physician, including a discussion of "bodily movements, fatigue, habituation, physiological expression of emotion, association tests, and other mental tests"; the other, a course in Experiments in Memory and Association, a field of particular interest to Brown.

By 1915 Bridgman had already placed her mark upon the Department, and clinical psychology saw one of its earliest starts in any American university. Because of her medical training, Bridgman divided her time between the Psychology Department and the University Medical School, where she started the Children's Psychiatric Clinic. When she offered her first course in 1925 entitled the Abnormal Psychology of Childhood, it consisted of a "study of the phases of mental abnormality in children; with methods of testing and treatment." Here Bridgman taught approximately 25 students the various aspects of abnormal and clinical psychology with particular emphasis on testing and objective techniques rather than on preparation for jobs (there were, of course, none to be had anyway). It was primarily through Bridgman's realization that clinical psychology should be as objective as possible that a tradition stressing this began in the Department and remained so as the area widened and developed. In this same year, too, the first Social Psychology course, given by Assistant Professor Adams of Philosophy, introduced the application of that area to "ethical, political, and economic problems." Arthur Gates (known later for his contributions to educational psychology) was added to the Department as Assistant in Psychology upon receipt of his Master's Degree.

In 1917 World War I had reached the campus. That year Stratton left Berkeley to become a captain in the aviation section of the Army, where along with Dunlap he screened Air Force candidates. Stratton's position in the war led him to shift his interest considerably, for articles such as "Human Nature and War" (Scientific Monthly, 1926) and books such as Anger: Its Religious and Moral Significance (1923) began appearing. Meanwhile, in the Department Brown and Bridgman still remained, with Bridgman substituting for Stratton and Jean Walker (Macfarlane), a graduate student in the early war years, substituting for Bridgman.

1918-1921

The "Rat" Era

Had the members of the Philosophy Department prior to 1918 been at all clairvoyant, they would have felt kindlier toward their psychologists, for in 1918 the arrival of Edward Tolman brought them a new psychology and the beginning of the "Age of the Rats." The Massachusetts born (1886) Edward Chase Tolman received his Bachelor of Science Degree at Massachusetts Institute of Technology in Electro-chemistry and entered Harvard as a graduate in philosophy and psychology. There he was introduced to philosophy by Perry and to psychology by Yerkes, who first presented to him Watson's ideas of behaviorism. Out of these influences and those of Munsterberg and Langfield, there began to emerge a negative response to the rigidity of Watson's system and the development of ideas which later became formulated into his theory of "Purposive Behaviorism." After being graduated from Harvard, Tolman and his wife went to Northwestern University, where after a year he was dismissed from the staff on the "grounds of war retrenchment and unsuccessful teaching" (Tolman,

____). The latter reason he attributed to shyness and inexperience plus a compulsion for research and writing; the former, to pacifist leanings. Whatever the case, it proved fortunate for the Tolmans and for the Berkeley Department[3]

Tolman, then, in 1918 was offered a salary of $1500.00 from the University, three hundred dollars more than he had received from Northwestern, and the chance to prove himself by suggesting a new course to the Department. Still under the influence of Yerkes' course and Watson's text, Tolman, acquired some rats from the anatomy department and began his course in Animal Psychology, giving lectures on "sensation, perception, and attention in animals and their methods of learning." He took over the attic in the Philosophy Building as a laboratory and there began the first formulations of his theory.

At its simplest level Tolman's Behaviorism emphasized primarily the complexity of behavior and the importance of the organism in relation to his environment. He chose the use of rats as a means of studying behavior, for he felt that only through such a study could one ultimately understand the more complex forms of life. However, as Tolman's theory developed through the years, he became increasingly aware of the need for a broader area of study. As he once stated, "I have always been obsessed by a need for a single comprehensive theory for the whole of psychology. I have also always wanted to be something more than a mere learning or rat psychologist." Consequently, Tolman more and more stressed the importance of studying various areas which could be incorporated within his theory, whether it be Gestalt psychology or Freudian psychoanalysis. At the same time he broadened his formulations to include the concept of intervening variables—that is, cognitions, insights, purposes, and such; and then proceeded to find methods for inferring these phenomena from experimental data.

At the end of this school year the University, overcome perhaps by the intrusion of rats, decided to move the building from its position nearer to the edge of campus (the corner of LeRoy and Hearst). Much to the surprise of the movers, they found the walls filled with sand for insulation and thus not as easy a project as they had anticipated. During this same year the Psychology Department saw much broadening in a course taught by Brown. His course, the first in Education Psychology, included such varied interests as "the process of learning, acquisition of habits and skills, association, memory, imitation, reasoning, emotion, tendencies to action, and individual differences." In the following two years a course in Advertising was added under Brown and an Advanced General Psychology course by Tolman, the latter discussing the relation of mind and body and of consciousness and its object, and such systems as structuralism, functionalism, and behaviorism. Tolman also presented an Introduction to Measurement and a course in Animal Behavior which for the first time allowed undergraduate students to conduct individual investigations on "sensations, instincts, and learning." It was no doubt courses such as the latter which prompted one of his students to say, " . . . He lovingly hoodwinked each one of us into believing, at one time or another, that we ourselves had contributed to his own creations" (Krech, In Memoriam, p. 9).

1922-1929

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[3]In describing his life in Berkeley, Tolman once said, "Whatever my increasing psychological maturity—and there has been some—I like to credit most of it to the social, intellectual, and physical virtues of Berkeley plus an extraordinarily happy marriage" (Tolman,).

Psychology Stands Alone

By 1922 Psychology was moving farther and farther away from its mother science, philosophy, due primarily to the use of animal psychology in the Department. Only Stratton had maintained even a partial connection, for his philosophical bent showed up often in his work. Bridgman, however, had a medical background, and Brown was, of course, fundamentally an experimentalist. In 1922, when Jean Macfarlane received the second doctorate given by the Department, on delinquency in defective girls, Philosophy was in the process of handing over the building to the psychologists. Before the decision was made, however, the two factions held themselves fairly aloof from one another; and it took an abrupt break for them to regain their formal amiability.

During the next few years the Department began to put its new freedom into use. In 1922 Tolman published his article, "A New Formula for Behaviorism" (Psychological Review, 1922). In the following year the Department acquired Cupid and Psyche, two experimental monkeys who very quickly found their way around the building and ultimately around the rest of the campus. Their aid to the Department was not only as excellent subjects, but also it has been said that during the Berkeley fire of 1923 Psyche was on the roof with the graduate students, beating off the embers with a blanket!

The Psychology Department was still broadening its base. Warner Brown added a course, Contemporary Psychology (1923) with readings and discussion of monograph and journal publications; and Bridgman initiated a third Clinical Psychology course which made possible practice and mental testing in various places such as Juvenile Court, hospitals, and clinics. That year Raymond Franzen came to the staff, and in 1924 he taught the first Child Psychology course in the Department. Although Franzen remained at Berkeley for only two and one half years, he brought with him a new interest in statistics, which was particularly exciting to Tolman and his students. Previously, the methods employed were those of traditional psychophysics; but Franzen, under Thorndike's influence, introduced novel methods that could be used in the learning experiments. However, this enthusiasm for statistics was not universal in the Department, mainly because of its radical deviation from traditional method, and partly no doubt because of Franzen and his volatile personality. Nevertheless, with the support of Tolman and others the "new" psychometrics was accepted and incorporated into their psychology, and as a result later led to the beginnings of an area of individual differences.

In 1924 Jean Macfarlane returned to Berkeley and joined the staff after spending two years at the Boston Psychopathic Hospital, one year at Boston's State Department of Mental Diseases, and a year as Lecturer at Wellesley College. Jean Walker Macfarlane was born and raised in Selma, California, "a highly structured town where customs and values were very obvious and where everyone knew everyone." She was educated at Berkeley, receiving her A.B. in philosophy and economics in 1917. During her graduate training in psychology (with minors in physiology and sociology), she worked half-time in pediatrics, at Juvenile Court, and in a well-baby clinic. In 1922 Macfarlane received her degree and went to the Boston Psychopathic Hospital "with its passionate organicists, situationalists, and Freudians" (Macfarlane, 1961). On her return to the University Macfarlane began teaching at the Medical School and along with Bridgman proceeded to establish firmly a clinical-abnormal tradi-

tion at Berkeley. At the same time she easily slipped into the position of mediator, organizer of parties and committees, and general "Mother Confessor" of the Department[4]

Nineteen twenty-four also marked the arrival of "Major" (Mrs. Theodore Meuller) who as secretary for 20 years was the Department's second "mother" and their best organizer. She had already made her place in the group when the fourth doctorate was given to Virginia Graham (all had thus far been women). The Department slowly began acquiring more and more students; however, it was still small and closely knit. Campus life in the words of one graduate student was described thusly:

> In the years from 1925 to 1929 there was no Life Sciences Building. The R.O.T.C. still used the flat below Boalt Hall as a drill field . . . The campus to us as teaching fellows had three important locations: Home in the old green Psych building, Wheeler Auditorium with Warner Brown's Psych 1A lectures, and a basement room in Haviland where we had our Psych 1A quiz sections. The rest of the campus was vague ground for this clear-cut figure . . . . Each of us knew what the others were doing . . . Of course psychology was much simpler then. The clinical psychologist needed only one tool, Terman's 1916 revision of the Binet. We hadn't heard of projective techniques. We were well acquainted with means and standard deviations; diff over sigma diff was our ultimate criterion, and we weren't worried about analysis of variance or small sampling techniques . . . Freud and similar sources of contamination were safely locked in Case O of the University Library and could only be obtained with a permit signed by a faculty member . . . We had just discovered latent learning but knew nothing of goal gradients or the necessity of rigorous Hullian proof . . . ." (Merle Hugh Elliott)

During these years, too, Tolman and his wife began their annual tradition of inviting those graduate students with no family nearby to Thanksgiving dinner and afterwards to the nearby schoolyard for a baseball game. In these years it was rare to find a married graduate student, so their time was spent mostly in the laboratory and with each other. In the green psychology building was a shop on the second floor where apparatus and equipment were built, and there at four o'clock in the afternoon the faculty and graduate students gathered over coffee and tea for exciting discussions of current research in their various fields.

In 1925 Tolman became interested in breeding strains of rats, and the following year turned the experiment over to Robert Tryon, who with a minor in genetics had the best training for the project. There, then, began one of the longest experiments of this kind ever conducted, for an average of 56 rats

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[4]Jean Macfarlane retires in July, 1961, after 37 years on the staff. As Research Psychologist at the Institute of Human Development in Berkeley, she is perhaps best known for her work on the Berkeley Child Guidance Study, a longitudinal study of a cross-section sample from birth to age 18, and of her follow-up studies. She has been on the Board of Directors of the A.P.A. on the Policy and Planning Board, President of the Western Psychological Association, Consulting Editor of the Psychological Bulletin, a member of the Editors of the Child Development Series, and has held numerous other positions. However, these are only somewhat indicative of her talents, for unfortunately they neglect to show all that she has given of herself to the Department—to both her students and her colleagues.

were run through a maze per day for almost 20 years.[5] This genetic experiment, the first of its kind, yielded two strains of rats, "maze-bright" and "maze-dull," and showed conclusively the inheritance of learning. For the first time, too, new apparatus and objective techniques were used which enabled the psychologist to conduct the study without touching the rats. These studies in heredity then scored a number of firsts within the Department and also for psychology in general.

The addition of a course entitled Introduction to Psychological Measurement and the Use of Statistics, discussing the measurement of traits and abilities, no doubt incorporated many of the new ideas introduced by Franzen and by the work in Tolman's laboratory. The following year (1926) Ernest Wever was added to the Department as Instructor, and gave the first Physiological Psychology course which included "a survey of the factors which condition action and of the physiological phenomena underlying experience." Wever left, however, in the next year.

By 1927 eighteen undergraduates and two graduate courses, including a Psychological Seminar by the staff, were being given. Tolman, conscious of current trends in American Psychology, added to his Advanced General Psychology the systems Gestalt psychology and associationism. The arrival of Harold Jones this same year resulted in the beginning of a child development program, since he had been invited to Berkeley as Assistant Professor of Psychology and Director of Research at the newly formed Institute of Child Welfare.

Harold Jones was born in 1894 in New Jersey, took his early training at Massachusetts Agricultural College and Amherst College in biology. From 1919 to 1923 Jones did graduate work at Columbia under Woodworth and there met [and later married] Mary Cover, who was at the time working on a study of children's fears. He became interested in her work with children and when in 1927 he was invited to participate in the establishment of the Institute, he accepted and came to Berkeley. Thus Jones began a new program of developmental psychology in the Department (the child psychology course by Franzen had been discontinued), and in 1928 he offered as his first course Research Techniques in Child Psychology.

Nineteen twenty-eight marked another first in the Department, for Robert Tryon, as a research fellow for the year, began his Psychology of Individual Differences, introducing the subjects of: "nature versus nurture; techniques to ascertain causes of individual differences; hereditary transmissions of mental traits; effects of sex, age, training; social and racial factors in ability; interrelation between mental traits; theories of Thorndike, Spearman, Thomson, etc." Tryon, then, who received his Ph.D. that same year, brought the areas of genetics and individual differences into psychology at Berkeley at an exceptionally early time.

In 1929 a new instructor in psychology, C. W. Brown, entered the Department immediately after receiving his doctorate from the University of Chicago. He was given an office "the size of a closet" connected to the "lab" and to which an entrance necessitated stepping over Warner Brown's human foot maze, which took up the entire space of the laboratory. "C. W." began to extend the Department's studies in psychological measurement and at the same time took over the physiological psychology that had previously been taught by Wever.

With the year 1929 came an increase in Ph.D. degrees, for four were given that year, bringing the total to fourteen. Nine had thus far been in the field of animal psychology and four in the abnormal-clinical area. Compared to other universities at this time Berkeley was lagging somewhat

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[5]R. C. Tryon, Genetic differences in maze learning ability in rats. Yearbk. Nat. Soc. Stud. Educ., 1940, 39, Part I, 111-119.

behind in the number of degrees awarded. When in 1928 there had been ten doctorates given in the Department, Columbia had given 71; Chicago, 48; Pennsylvanis, 25; and Princeton, nine. However, Berkeley was not lagging in its curricula, nor would it seem that the members of the Department in any way regretted their smallness. Rather, it gave them the chance to know immediately and at first hand the research of their associates and to become intimately involved with the problems of others, regardless of the particular area. Small size was, no doubt, a blessing.

1929-1935

The Depression Years

The campus community was affected by the Depression gradually; however, within the Department the most immediate realization was that the more "practical" areas of psychology had more job opportunities. Thus, regardless of interest, in many cases graduates of those years began to shift to other areas, some permanently and others for only a short period. During the later years of the Depression men were brought into the Department for various jobs under the Works Project Administration and the National Youth Administration. These programs were most beneficial to those professors who had been given extra men to urn their rats through the mazes and handle their statistical data. For others, however, it was also something of a hazard. For example, at the Institute of Child Welfare 90 people were added under the W.P.A. plan, so that it was filled to a fairly uncomfortable capacity. Although attempts were made to place men in positions similar to their training, many were thrust into unusual and different situations. For instance, one young man, a musician, became one of the best statisticians the Institute had ever employed and was hired by the Kaiser Foundation after the war with a substantial increase in pay.

In 1930 the Psychology Department said a sad farewell to the old green building and with painstaking care moved equipment, rats, and professors to the new Life Sciences Building. The enthusiasm for their new home did not, however, smother rumors such as the one that the building was constructed by the Engineering Department in such a way that they could save enough money to build their own new building! Nevertheless, each of the professors was given an office and an experiment room in the basement, the animal laboratory was allotted a large portion of the fifth floor, and a new "shop" became the meeting place.

Meanwhile, C. W. Brown had broadened the Physiological Psychology course to include in it the "functional characteristics of the central nervous system, nerve-muscle and reflex arc conduction, facilitation and inhibition, cerebral localization," and "the relationship between vital activities and mental activities, emotional responses, work, and fatigue; effects of drugs, sleep, fasting." Two doctorates were given during 1930: one, the first in child development, to H. H. Hsiao (now practicing in Chungking, China); and the other to Howard Gilhousen (Chairman of the Department at U.C.L.A. from 1955-1959, and one of the fun-loving graduate students while at Berkeley).

Herman Adler, M.D., entered the Department in 1931 as the first Professor of Psychiatry at a time when there were approximately 15 graduate students. Among those who were unusually conspicuous were I. Krechevsy (David Krech), Edwin Ghiselli, Calvin S. Hall, and Egerton Ballachey. These and their classmates had available to them many stimulating courses; for example, Tolman's seminar, where he often sat at his desk with his knees folded under his chin, exciting to hear and at times excited enough himself to shout "this is hot stuff!" or the general seminar attended by all graduate students whose

papers were presented weekly by faculty member or student concerning new research with discussion of its defects and possibilities afterward. These were dynamic years!

The following year, 1932, Tolman's well-known publication, Purposive Behavior in Animals and Man, was released, giving an account of the development thus far of his theory and work in the laboratory. Jones proposed the first actual course in Developmental Psychology, which included "the development of motor function, perception, emotional processes, social behavior, and language." Tolman once again extended his Advanced General Psychology in order to discuss ". . . nature of the primary and secondary drives; the theories concerning drives found in animal psychology, experimental psychology, child psychology, social psychology, abnormal psychology, and philosophy." And by this time, with Tryon and C. W. Brown on the staff, there were three more new courses in measurement.

For the school year 1933-1934 Calvin Hall, along with A. G. Bayroff, was added to the Department. He remained only long enough, however, to teach a year of Social Psychology. Six degrees were given during the year. Among them were David Krech, whose thesis was entitled "Studies of the Pre-solution Behavior of the Rat in Sensory-Discrimination Learning," and Charles Honzik, whose research on maze learning in rats was hampered at first by an allergy to rats, although fortunately not enough prevent him from getting his doctorate!

In 1935 George Stratton became Professor Emeritus, although this did not prevent his daily visits to the office. Harold Jones was made Director of the Institute of Child Welfare, replacing Dr. Herbert Stolz, who had been its head since the beginning. Two new doctorates were awarded, bringing the total to 29, with 15 of those presented in the last five years. Consequently, the Department by 1935 had grown mainly in breadth, with new areas rapidly forming and the number of graduates increasing markedly. Only the number of professors remained fairly constant, largely a result, no doubt, of the Depression years.

1936-1940

The next few years showed the same expansion of the Department, coinciding, of course, with a similar increase in universities throughout the United States. During these years testing techniques were making rapid strides, as were statistics and motivation theory. All of these areas were early recognized as important to the Berkeley staff. Macfarlane introduced a course in Clinical Techniques, which considered various "types of clinical devices for measurement, interview, and observation"; and Bridgman presented for the first time a Mental Deficiency course which offered "mental deficiency and abnormality in children, including a consideration of tests used in clinical examination." Five degrees were given in 1936, among whom were Edwin Ghiselli, the first doctorate in physiological psychology; Catherine Landreth (Professor of Home Economics and previously Director of the University Nursery School); Marjorie Honzik (presently Associate Research Psychologist at the Institute of Human Development and lecturer at Mills College in Berkeley); and Zing Yang Kuo (Presently in Kowloon, Hongkong), who received his degree in absentia after having already achieved some renown as a psychologist.

A graduate program had by this time become organized whereby the student was given the comprehensive examinations, seven of which had to be passed before he could take his oral or public examinations. (For many years the orals were truly public; and accordingly, their dates were faithfully reported in the Berkeley Gazette). The student was also required to take twelve units and attend without credit the general seminar where current research was reported. Thus, the student had a great deal of freedom with which to study and conduct his investigations, for according to Warner Brown, "a graduate

student should be permitted to hang himself at his leisure!" There were few graduates in LSB, for many were training at the Institute of Child Welfare at the same time. Those fortunate enough to be Teaching Assistants made approximately six hundred dollars per year. Although it did not seem to them quite enough on which to live, each was consoled knowing his fellow graduate was in no better situation.

The following year (1937) Edward Tolman was elected President of the American Psychological Association, and Egon Brunswik joined the faculty as an Assistant Professor. Brunswick was born in Budapest in 1903 and educated in Vienna, where he first studied engineering and then psychology at the University of Vienna. In 1927 he received his Ph.D. from the University and became an assistant at Karl Bühler's Psychologisches Institut. In 1931 Brunswik went to Ankera, Turkey, and established their first Psychological Laboratory, returning then to the University of Vienna, where he became Privatodozent in 1934. During this time Brunswik met Tolman, who was visiting Vienna, and was persuaded to come to Berkeley as a Rockefeller fellow in 1936. By the following year, when he finally joined the staff, he had married Else Frenkel, whom he had known in Vienna. Brunswik's interests were influenced a great deal by his experience in Vienna, but at the same time were not greatly removed from problems in current American psychology such as perception and cognition. He brought to Berkeley, however, a new European orientation of Gestalt psychology at a time when it was still being introduced in the country. His first course, accordingly, was entitled Recent Experimental Psychology in Europe, and consisted of "demonstrations and discussion with particular emphasis upon perception; Gestalt psychology; object constancy; eidetic imagery, and personality types." Brunswik was the first in the Department to stress the problems in perception in conjunction with Gestalt psychology, and his students were subsequently faced with completely new ideas. According to both Richard Crutchfield, his first Teaching Assistant, and Rheem Jarrett, his second, the only disadvantages of the course for the students were understanding his German-accented English and for his assistants, a constant setting up and dismantling elaborate demonstrations that he never quite reached in his lectures.

Nevertheless, Brunswik pointed out a number of new suggestions to the Department—in the area of perception, for the need of well-designed research, and as to the importance of history of psychology. In the fields of perception and learning Brunswik was fundamentally a functionalist. He thought of learning as an adjustment to the changing environment, and of percepts as "probabilistic achievements" built upon changing cues. He stressed the idea that in behavior there are different probabilities of success, for example, in obtaining a goal or discriminating. In his discussions on research Brunswik introduced the idea of "ecological validity," the incomplete accuracy of cues representing properties of perceived objects and the probable validity of different classes of "means-objects" leading to certain classes of goals. In his course in the History of Psychology (1938), when discussing "perception, thinking, emotion, behavior, personality, physiological psychology, and the methods of psychology traced from their beginnings to the present time," he advocated the separation of content and method while at the same time emphasizing the necessity for unity in science.

In the year of Brunswik's arrival (1937) five doctorates were given, among whom were Edward Barnhart (now professor in Berkeley's Speech Department), and Ruth Tolman, the wife of Edward Tolman's brother. The number of courses had increased to 25 undergraduates, including a new Survey of Psychology by Warner Brown and a research course and Seminar for graduates. However, the following year the graduate program was slightly revised os that nine specific courses were added, one in each area: abnormal, physiological, experimental, perception, clinical, developmental, individual differences, animal, and readings in German psychology. Thus, with the graduate program's steadily increasing number of students, it out of necessity became more

restricted than it had been in previous years. Although the student gained a greater variety of courses, he lost much of the kind of freedom that had attracted graduates since Olga Bridgman in 1913.

By 1938 there had been 43 degrees awarded. In the nine previous years the Department had given 34 degrees; Columbia University, 116; University of Iowa, 120; and Stanford, 29. During the year four men received doctorates: John Gardner (presently President of the Carnegie Corporation), Carlton Goodlett (presently Editor of the only Negro newspaper in San Francisco), Richard Crutchfield, whose first course in psychology had been in his first year of graduate school, and Franklin Henry (Professor in the Berkeley Department of Physical Education).

After spending one year at Cornell and two years at the University of Maryland, Edwin Ghiselli in 1939 returned to Berkeley relatively unaffected by Eastern influences other than a shift from physiological to applied psychology. As the Department's ninth faculty member, he proceeded to broaden this area which Stratton had started in 1909. Whereas Stratton had stressed the effects of psychology upon the various professions, Ghiselli's undergraduate course changed to the study of "marketing (advertising, market research, selling); industrial production (time and motion studies, work conditions); and personnel (vocational selection, job satisfaction, motivation, training, and fatigue)." It was not until the following year, however, that he added three new applied courses and thus gave the students as wide a variety of courses in the area as was possible with one professor. The new courses included an Introduction to Applied Psychology, the Psychological Aspects of Advertising, Selling and Market Research, and Personnel and Industrial Psychology. He also added in 1941 a course in Occupational Counseling and Classification Techniques.

In this same year Erik Erikson joined the staff of the Institute of Child Welfare and was Lecturer in the graduate school. He taught a course, Psychoanalysis of Childhood and Problems, the first of its kind in the Department. (He later was also associated with the Institute of Personality Assessment and Research.) The following year (1940) the area received a further impetus by the arrival of R. Nevitt Sanford as Assistant Professor of Clinical Psychology. Sanford received his doctorate from Harvard University in 1934 in personality development and psychoanalysis, and before Berkeley he was Psychologist in the Massachusetts Prison System (1932-1935) and Research Psychologist in the Harvard Growth of School Children Study (1935-1940).[6] Finding that the personality area had the Department's approval, Sanford presented upon his arrival a "survey of recent thought in the field of personality with emphasis on dynamic and genetic problems." The next year he had on the schedule the supplementary course Experimental Dynamic Psychology, including discussion of "conflict, frustration, substitution, idealization, distortion of perception and of memory, etc." At the time when "personality" was first appearing and applied psychology was getting under way, out of the seven doctorates given three were in the child development area and three in the abnormal-clinical area. It would seem that interests were heading away from the "experimental" sphere, or at least its leaders were slowly having to admit that these other areas might actually exist!

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[6]Sanford, known particularly for his classic studies of the Authoritarian Personality, spent half-time from 1952 to 1958 as Coordinator of the Mellon Foundation at Vassar College and in 1961 wa chosen the Director of a study of alcoholism.

1941-1945

The War Years

World War II necessitated a reorganization in the Department, although it was a gradual one, since professors were not called to immediate duty; nor were all the effects instanteously noticeable. During the five-year period from 1941 to 1945 the number of courses was reduced considerably, particularly in the graduate school; and in 1943 there began a year-round program which continued for two years. Five men on the faculty (one was half-time) were on war leave, thus leaving only half the staff to handle the teaching. In the University and on other campuses the Army Specialized Training Program (ASTP) was established. This was an accelerated program for the purpose of quickly getting trained clinical psychologists into the army with specific jobs such as interviewing and selection. In two twelve-week sessions the professors still remaining on the staff taught these men condensed courses from eight in the morning until five each afternoon.

In 1941 this program had not yet begun, nor had any professors yet left. There were four graduates that year, of whom one was George Kuznets (who later joined the Agricultural Economics Department at Berkeley) and another, Read Tuddenham. Additions to the Department were few in the first part of the '40's, and only James Hamilton, who had received his degree six years earlier, was added to the staff in 1941.

The effect of the war was becoming apparent in the Department by 1942. Tolman published his book, Drives Toward War, and Brunswik included in his Perception course ". . . military problems, e.g., camouflage and its detection, colorblindness, observation of distance, testing visual analysis in aviators . . . ." Ghiselli and C. W. Brown left the Department to take part in an aviation psychology program, where they selected navigators and pilots for the Air Corps. (Brown later went to Tampa, Florida, to assist in assembling bombing crews.) Only one doctorate was given during the year; and 1943 showed little or no change. Three doctorates were given, and Rheem Jarrett returned to Berkeley as a lecturer after a year at Stanford. In 1944 Sanford became Co-Director of the Institute of Public Opinion, "Major" retired, and Maggie Tooley came to take her place. During the spring of that year Jane Hamilton (Ranzoni) was added as Lecturer, and in the fall Alex Sherriffs came as Lecturer in clinical psychology. (Currently Sherriffs is Professor and Vice-Chancellor of the University.) Robert Harris, M.D., became lecturer in the Department and Chief Psychologist at Langley Porter Clinic. Two degrees were given, bringing the total to only eight since the United States' entrance into the war.

Meanwhile, outside of the Department an Officers Selection Service, for assessing men as wartime officers, was being considered on the basis of proposals of the planning staff, which had been headed by Robert Tryon since 1942. Among those on Tryon's staff during the war who were connected in some way with Berkeley were John Gardner (Ph.D., '38), James Hamilton (Ph.D., '35), and David Krech (Ph.D., '33). In 1944 Tryon and Hamilton left officially for "civilian war work" as the program got under way. In the last years of the war Egerton Ballachey (Ph.D., '34), Nevitt Sanford and Edward Tolman were also called into the study. It seemed that there was no question that any psychologist, even those far removed for assessment interests, could do this job! Meanwhile, in 1944 Henry Murray, who headed the program after James Hamilton, brought Donald MacKinnon from Bryn Mawr College to direct Station S, the largest selection center, for the next two years. During the years that the men from Berkeley were with the program, those such as Tolman and Tryon became increasingly impressed with its operations. Thus, the men discussed the idea of continuing the plan at Berkeley. Consequently, three years later MacKinnon was invited to Berkeley as Professor, and the assessment program gradually developed into the Institute of Personality Assessment and Research

(1949). As a result one of the direct outgrowths of the war years was the establishment of IPAR and, furthermore, its valuable research in personality study and assessment. Equally important was the effect of the O.S.S. program upon the interests and theories of men connected with it. James Hamilton, who received his doctorate in animal psychology, became a practicing psychiatrist; John Gardner, with a degree in the experimental area, ultimately became President of the Carnegie Corporation; and Edward Tolman moved slowly into broader areas of study.

1945-1949

The Aftermath

With the year 1945 there came a gradual return to normality. Else Frenkel-Brunswik, Egon Brunswik's wife, was added as Lecturer, having already been on the staff of the Institute of Child Welfare for six years and senior staff member of the Berkeley Public Opinion Study for one year. Robert Tryon returned to revise his course in Individual Differences, and it became separated into the Measurement of Traits and Differential Psychology. Jones' course in Developmental Psychology was also changed to Child Psychology. Two doctorates were given that year.

Although in 1945 it appeared that the Department was once again settling down, the war years had, nevertheless, produced more than a mere interruption in its continuous development. Much research had come to a standstill, courses either were condensed or stopped, and the Department was managed by a limited number. Those returning from wartime positions, many of an administrative nature, had the difficulty of readjusting to campus routine and the functioning of a larger department. With the end of the war came, too, a sudden wave of excitement over the possibilities of applying psychology to the treatment of patients. At the same time there arose the feeling that the numerous wartime mental patients could not be taken care of adequately by the insufficient number of psychiatrists in the country. Thus the belief that this was the place for trained clinical psychologists led to a variety of results. There was immediately a large influx of students who during the war had become aware of many possibilities of the field and wanted immediate training. The result was a 600% increase in the number of students. With this growing demand for psychologists there came, too, a realization by the government of the need to subsidize students in order to get them adequately trained. When, under Taft's auspices, the National Mental Health Act was passed for this exact purpose, other agencies added their help also. The Veterans Administration in 1946 introduced their aid to needy students, and, in addition, research grants and more stipends were given under the guidance of the United States Public Health Service. With these and other G.I. benefits there began an abrupt increase in clinical psychology in all universities, causing numerous consequences. Because of the arrival of such well-financed "clinical" students, the Department out of necessity began to expand its courses and faculty to handle the influx; and consequently many traditions and much of its previous closeness were drowned in the waves of expansion.

In 1946 Mary C. Jones and Nancy Bayley (Reid), both connected with developmental psychology, were added as Lecturers in the Department. Mary Jones, Harold Jones' wife, also received her degree at Columbia with her husband and had since their arrival in Berkeley been affiliated with the Institute of Child Welfare. (She became Professor of Education at Berkeley at a later time.) Nancy Bayley gave a course that year on the Tests and Measurements of Infants and Preschool Children which taught "the most commonly used techniques of measurement of physical, motor, and mental development with the evaluation and interpretation of test scores and measures of infants and young children." She had also been with the Institute for many years before taking on lecturing in the Department; and since 1928 she had been the principle

staff member on the Berkeley Growth Study and remained so until her departure in 1954. The study's aim was to assess individuals in regard to their physical, mental, and motor development over a long period of time. In 1946 C. W. Brown taught a course in the Principles of Test Construction; and two doctorates were awarded, one of which was to Benbow Ritchie with his thesis on the "Spatial Learning in Rats."

Nineteen forty-seven showed the first apparent effects of the Department's enlargement. Seven Ph.D.'s were given, as of that time the largest number for a single year; and, of these, three were for the first time given in the area of personality. Thus, 24 degrees had been accumulated since the turn of the forties. Doctorates were given to Rheem Jarrett, who received suddenly an impetus to complete his training after a lapse of a number of years, and Donald Cambell, who as an undergraduate was the Department's first Medalist (the University's best student), receiving only one B in four years and that from Jean Macfarlane! The largest increase was, however, in the number of faculty, for during that year five were included on the teaching staff. Donald MacKinnon came as Professor of Psychology and gave the first course in the Psychology of the Unconscious along with courses in Personality Assessment and the study of Personality in Society and Culture. David Krech returned as Associate Professor after an absence of 14 years during which time he had been Lashley's Research Assistant at the University of Chicago and then on the faculty of Swarthmore College, the home of the "Gestaltists." On his return to Berkeley as "one of the few true general psychologists remaining" he gave a course in Thinking and Learning and a course in Opinions, Beliefs, and Attitudes, ". . . how they function and develop; their role in social behavior; techniques of measuring by polls, mass and field observations, questionnaires, projective material, and interviews." The third addition to the staff was Read Tuddenham (Ph.D., '41) as Assistant Professor, who had meanwhile been in Berkeley at the Institute of Child Welfare from 1938 to 1943. His training there led him to the Personnel Research Section of the Adjutant General's Office for the war and thence to C.B.S. until his return to Berkeley. With his interest in psychometric theory and personality assessment, Tuddenham took over a number of the clinical courses and broadened them accordingly. (In 1949 Tuddenham became consultant to the Veterans Administration and in 1955 the U.S. Army. He also became Research Associate at the Institute of Human Development in 1951.) The fourth and fifth additions to the staff were Hugh Coffey and Catherine Landreth (Ph.D., '36) as Lecturers. Coffey, who received his doctorate in 1938 from the State University of Iowa, gave the first course in group dynamics both at the undergraduate and graduate levels. The course included "ways in which groups may be utilized in the training and therapy of the individual." The course also gave actual experience with group techniques such as "role playing, psychodrama, reality testing as training and therapeutic devices." Coffey's orientation with his added experience in teaching child development at Central Washington College for four years established a partial solution to the need for trained clinical psychologists. This same trend was particularly prevalent in those graduate courses added during the year, such as Case Histories, Projected Methods, Thematic Apperception, and in the following year, Advanced Group Dynamics and Group Therapy, Advanced Clinical Diagnostic Testing, and the Rorschach Method. Consequently, by this time the Department, willingly or not, was acquiring in a full-scale program the wide variety of courses and professors necessary to answer the country's appeal for clinicians.

This direction continued in 1948, for the four degrees awarded were either in the areas of abnormal-clinical, personality, or social. By the end of the year Berkeley had awarded a total of 78 doctorates, placing the University in fourteenth place out of 68 colleges. During those same 65 years Columbia had given 344 degrees; Iowa, 269; and Chicago, 196. However, in the ten preceding years both Chicago and Berkeley had given 33. Egerton Ballachey (Ph.D., '34) returned as Associate Clinical Professor after instructing at Michigan State College. From receiving his doctorate with a thesis on "An

Analysis of 'Cognitive' Factors in Maze Transfer in the White Rat," Ballachey shifted his interest during his years away enough to teach, as his first course in the graduate school, Social Psychology of the Interview. Audrey Schumacher also entered the Department as Lecturer in the areas of personality theory and psychotherapy. (She remained at Berkeley until 1957, when she moved to the University of Florida.) Meanwhile, Krech, displaying his wide variety of interests, added a course in Propaganda, which incorporated the "theory of suggestion, imitation, and propaganda, the function of speech . . .; analysis of current propaganda techniques and objectives."

Nineteen forty-nine came, and those who had watched the Department gradually gain its "New Look," witnessed the greatest manifestation of the expansion thus far. During the year eleven doctorates were presented, three of which were in the animal or experimental areas; nine were added to the faculty; and the number of courses was increased to 52 (both graduate and undergraduate). In this year, also, the Institute of Personality Assessment and Research under the directorship of Donald MacKinnon was finally established. Mason Haire with a Ph.D. from Harvard in 1942 and his Associate Professor at the Massachusetts Institute of Technology for the three preceding years, came to the industrial area previously handled primarily by Ghiselli. (Haire is presently half-time at the Institute of Industrial Relations.) Ralph Canter, with a doctorate from Ohio State University in 1949, came as Instructor in the same area and began a course of Human Relations in Industry. (Canter is presently President of the System Development Corporation.) John McKee arrived from the State University of Iowa to spend half-time at the Institute of Child Welfare and half-time in the Department's developmental area. Richard Crutchfield came as a visiting Associate Professor from Swarthmore College, coming back as Professor and Associate Director at IPAR in 1953. Finally, there were three added Lecturers, Harrison Gough, Herbert Hyman, and Theodore Sarbin. Gough (now on the staff of IPAR and originator of the well-known California Personality Inventory) came from the University of Minnesota, where he received his doctorate the same year to add to the personality area; and Theodore Sarbin, with a Ph.D. from Ohio State University (1941), five years of private practice, and two years as Clinical Psychologist for the Veterans Administration, entered also the clinical-personality area.

These numerous additions to the Department could not help but affect even the courses of pre-war professors. For example, Tolman and Crutchfield incorporated in their Advanced General Psychology course the "basic psychical processes of motivation, perception, learning, thinking, and emotion, as exhibited in behavior and consciousness, and as modified by differences in capacity and in individual and social experiences." Alex Sherriffs began a course in Personal and Social Adjustment (Psych. 33), and in the graduate program such courses were added as Constitutional Psychology by Tuddenham, Methodology of the Social Survey by Ballachey and Tryon, and Personality and Perception by MacKinnon and Frenkel-Brunswik.

The advantageous aspects of this expansion were unfortunately not appreciated by all, nor would even the clinical supporters admit that all aspects of this increase were particularly advantageous. Inevitably, the fear arose among many that with such an accelerated speed of expansion standards would become less exact. The worry of "professionalism" in an academic atmosphere coupled with the belief that there was only one true area of psychology (the psychologist's own) produced unavoidable alienation. With the staff increasing from eleven in 1940 to 25 in 1949 and with the arisal of the "passionate partialists," the knowledge of another's area became difficult to obtain; and as each field developed independently, tolerance lessened accordingly.

1949-1950

"The Year of the Oath"

In 1949 there came a crisis of which everyone in the University was aware—the loyalty oath. In May of that year the faculty was asked by the Regents to swear to an additional oath which in its later revised form stated, ". . . that I am not a member of the Communist Party, or under any oath, or a party to any agreement, or under any commitment that is in conflict with my obligations under this oath." The oath was undesirable to the majority of the faculty for many reasons; some for the fear of losing academic freedom, and others, for personal reasons. Shortly after the oath was first presented to the faculty, Edward Tolman rose in an Academic Senate meeting and stated he would not sign; and with this the controversy began. Those who would not sign from the Department were Hugh Coffey, Nevitt Sanford and Edward Tolman. These and the other non-signers became the Group for Academic Freedom with Tolman as Chairman. In August, 1950, the non-signers were dismissed from the University after an individual hearing before the faculty committee on Privilege and Tenure. Feelings ran high during the period. Those whose sympathy was with the non-signers organized a committee to give financial aid to the group. A number of the members of the Group for Academic Freedom retained a lawyer and began a long, drawn-out suit against the Regents. Finally, in 1953 the State Supreme Court declared the Oath unconstitutional, and all non-signers were reinstated with full back pay. Perhaps the sentiments of the group were best expressed in the legal-like diploma bestowed upon Tolman in August, 1950, for his work in the controversy, which stated:

> "By the authority of all liberty loving people given to us in sacred trust during our fight at the University of California, in recognition of his meritorious achievements, has conferred the degree of Doctor of Academic Freedom upon EDWARD C. TOLMAN, Chairman of the group . . . he has been a tower of strength and never-failing inspiration . . ."

1950-1954

The Controversy did not, however, halt the flow of arriving students and faculty. To retain organization within the Department a plan of operation on a democratic basis was conceived with the hope that each area would be given an equal voice. Nor were the staff's spirits dampened enough to prevent presentation of such entertainment as "Tom Swift and His Dandy Personality Adjustor," the story of a "typical" graduate student. Meanwhile, not really to anyone's surprise, 20 degrees were awarded in 1950. Berkeley consequently was one of those universities which produced Ph.D.'s most rapidly after the war, along with Michigan, Illinois, New York, and the four West Coast universities. Of those 20 doctorates the greatest number was given to the abnormal-clinical area, with the rest divided among experimental, animal, child development, physiological, personality, and social areas. A much needed revision of the graduate thesis program took place under the instigation of Richard Crutchfield. A Thesis Advisory Committee was initiated which was chaired by the student's thesis sponsor and enabled the graduate to discuss his ideas before becoming involved in his research. The majority of 1950 additions to the faculty, oddly enough, were not in the clinical areas, for the staff realized, no doubt, this might be a partial solution to the problem caused by the growth of the clinical area. Three Assistant Professors were added: Leo Postman, Mark Rosenzweig, and Benbow Ritchie (Ph.D., '46), all in the learning or perception areas. Postman, who had received his Ph.D. from Harvard in 1946, came after teaching there and at Indiana University to instruct in Advanced General Psychology and Learning. Rosenzweig also received his Ph.D. from Harvard (1949), and was Research Associate at the Psycho-acoustics Laboratory before coming to Berkeley. His first course was

Physiological Psychology, and in the following year he gave the Psychology of Speech and Communication, a "broad examination of research and theories of communication, including the physical nature of speech sounds, psychophysics of perception, physiological mechanisms of speech and audition, communication, development of speech in children, and individual differences in speech." Ritchie returned to Berkeley from Swarthmore College to teach Thinking and the courses in Animal Psychology handled by Tolman before his dismissal. A fourth addition to the area of learning during the year was Donald Riley, as Lecturer. After receiving his doctorate from Ohio State University, he came immediately to Berkeley, where he taught in his first year, Experimental Psychology. The only addition not in this area was Shirley Hecht, who received her degree from the Department that year and remained as Instructor for three years until she moved to Cowell Memorial Hospital as Clinical Psychologist.

Brunswik during this time had broadened his course in Perception to include "the perception of form and objects in three-dimensional space; interaction of cognition and motivation; and on first impressions from photographs and other reduced social contact." Tryon and Ballachey gave an Experimental Social Psychology course, and two more industrial courses were added by Ghiselli and Haire.

In 1951, 16 more doctorates were awarded, and Tolman published his Collected Papers. The next year Stratton at 87 published his book, Man—Creator or Destroyer, and Warner Brown retired after 44 years at the University. Sixteen of these years Brown had been Chairman, and his administrative capabilities for a long while had kept the Department, and its individualistic faculty, well in hand. By 1953 Tolman had been reinstated, Richard Cutler had come from the University of Michigan for a year and then returned, Carl Rogers was Visiting Professor from the University of Chicago, and Brunswik had organized and was participating in the Berkeley Conference for the Unity of Science. Of the twelve doctorates awarded in 1952, none was in the animal, experimental, or physiological areas; and out of the 27 given in 1953 only two were connected with animal or experimental. Thus, the same trend was continuing with 49 theses out of 74 in the years since 1950 related to areas other than animal, experimental, physiological, or statistical.

One cannot, however, assume that research in other areas had been neglected during the early fifties. Before this period there had been a relatively distant association with other sciences such as anthropology, sociology, and chemistry. Ironically, in these years areas were drawn closer to outside fields, perhaps because of the growing separation within psychology itself. For example, in 1953 Krech, Rosenzweig, and Bennett began a program using rats to study the effects of variation of such chemicals as acetylcholine on adaptive behavior. By utilizing descendants of Tryon's original strains of "maze-bright" and "maze-dull" animals, their research led them to one of the first manifestations of physical change in the brain as a consequence of modification of experience.

Nineteen fifty-four brought the retirement of Edward Tolman after 36 years of teaching and Olga Bridgman after 39 years; both became emerited. Tolman's work did not, of course, stop until his death; nor has Olga Bridgman's. The Department lost, with Bridgman's retirement, one of its best teachers. Her classes were always filled to capacity, for her manner of lecturing was such that a student, oddly enough, could not help but learn.

Also in 1954 Frank Barron, after receiving his doctorate from Berkeley became a Lecturer and the following year a research psychologist in personality assessment and psychotherapy. Rosenzweig, meanwhile, had widened the course in Physiological Psychology to include a "survey of relations between behavior and biological processes; coordination of behavior; anatomy and physiology of the nervous system; sensory processes; perceptual dynamics; neural and hormonal processes and motivations; changes in the organization of

the nervous system in motivation and learning." This was something of a change from the first course in 1926 which surveyed "factors which condition action and the physiological phenomena underlying experience." At the same time, Tryon, returning enthusiastically from an A.P.A. meeting, where cluster analysis methods and the use of the computer in psychology were discussed, added to his Differential Psychology the "introduction to factor and cluster analysis of individual and group differences." Aware of the computer's possibilities for the field, Tryon suggested that the Department invite from the University of Illinois Charles Wrigley, who had presented the report at the meeting and whose university was the first to own a computer, to visit in 1955. When Wrigley arrived, he brought with him Jack Neuhaus as an assistant; and Wrigley with Neuhaus gave instructions on the use of the I.B.M. #701 and taught Advanced Statistical Methods. Wrigley left in 1957; however, Neuhaus remained and ultimately became head of the Programming Center at Berkeley. Thus, the behavioral scientists, and psychologists in particular, began to utilize in their work an instrument which had originally been the baby of the physicists.

1955-1959

The latter years of the decade showed a continuation of the same trends; however, if one can assess at such close range, it would seem that the accelerated expansion of the post-war years was gradually leveling off. This period of five years was marked, too, by a series of unfortunate deaths, primarily of those who had been the Department's earliest members. With their deaths there came a termination of many of those traditions which had been prevalent in the pre-war days but had already faded considerably.

In 1955 Egon Brunswik died at the age of 52. His untimely death came at a time when his doctrines were becoming widely received in the country. For the Department there had been a deep respect for his extraordinary intellect and his generous personality. Brunswik had always given his students stimulating courses, not only in perception but in methodology and history as well. To his colleagues his contributions were immeasurable.

In 1954 there had been 19 doctorates given; and in 1955, 13, with nine in the experimental area out of the aggregate 32. It would seem, then, that interests were still headed in the same direction.

In 1956 the Department lost one of its oldest and dearest members, Warner Brown. To Brown was given an exceptional title—"The Conscience of the Department," but Brown was, it seems, an exception in many ways. In 44 years he published relatively little (about 30 works) but did a considerable amount of research. He was extremely rational and rigorously scientific, so much so with his own work that he often left unpublished excellent studies which did not meet his standards. He somehow bound the Department into a single unit, perhaps with his rationality. What he contributed is probably best expressed by those friends who wrote of him:

> "The psychologist with the scythe-like mind—who cuts quickly to the essentials of problems and scatters the irrelevants which slow so many of us down to our snail-like pace. In this, a constant reminder of the one I call 'my professor.'"
> (C. W. Brown)

> "My big moment of the year was when you asked me to come to your office to discuss my future. I said I wanted to be a professor, and you asked if there were money in my family. I didn't see what bearing that had on my becoming a professor. After

> nearly twenty years of living on a faculty salary I realize what a sage question you asked a callow youth."
>
> (Calvin Hall)

Warner Brown's articles in areas such as perception, memory, and maze-learning; his role in the Department's beginnings; and his reputation of excellent teaching stand now as a tribute.

During that same year nine degrees were awarded, six of which, surprisingly, were connected primarily with learning and behavior. Four men were added to the staff: Paul Mussen as an assistant professor came from Yale University with an emphasis on personality development; Gerald McClearn as Assistant Professor from Allegheny College, whose experience was mainly in behavior genetics and learning; Lyman Porter, who came as Instructor to teach industrial and social psychology; and Lewis Petrinovich (presently at San Francisco State College). Thus, an attempt was made to keep the professors as equally balanced in each area as possible.

Nineteen fifty-seven brought the third loss to the Department—George Stratton—and with him went a great part of its old tradition. Stratton, as the first Professor of Psychology, had represented, as one student expressed it, "the Grand Tradition, the generation of pioneering American psychologists." Stratton, with his background in theology and a European influence, although small, had indeed exemplified a gentleman of "the old school," dignified, kind, aristocratic in appearance, and interested enough in his students to write a personal note to those who were outstanding in his classes. Stratton, whose office in the old building had been furnished with wall-to-wall carpeting, paintings, and vases, had always held the theory that environment had a large effect on experimentation and thus should be as pleasing as possible! In his later years he diverged somewhat from the strict experimental approach he had instigated and turned particularly to studies of social psychology. In the last years of his life his interests broadened even further to center on questions of international conduct, and he was vitally interested in the United States and its foreign policies. Stratton was, then, not narrowly confined to any particular aspect of psychology, for his philosophical and theological influences showed themselves even in the very last years of his life. Stratton's contributions were many, as were his honors. He had been President of the American Psychological Association, a member of the National Research Council, Chairman of the Division of Anthropology and Psychology, and held many other positions. To him the Department owed its excellent foundation and its early expansion into various areas.

Out of the 16 doctorates awarded this year, 1957, only six were connected with the clinical area, and those who felt perhaps that psychology had found its sense were sadly disappointed when, in the following year, out of the eight degrees given seven were in clinical areas. In 1957 three more came to the Department: Jack Block, who had been a research psychologist at the U.C. Medical School from 1950 to 1954 and had been Associate Research Psychologist at IPAR for the five preceding years; Richard Lazarus, who had been the Director of Clark University's Clinical Training Program and who emphasized in his work particularly psychological areas and cognitive processes; and Gilbert French, who had been at the California Institute of Technology before his arrival in Berkeley to teach psychological measurements and physiological psychology. McClearn added the first Comparative Psychology course which surveyed "the determinants of animal behavior at the various phyletic levels, including an analysis of: the role of stimulation and neural integration, instincts and habits, and drives and incentives." Ritchie also added another course in animal behavior entitled, Animal Learning and Problem Solving, a survey "of conditions under which habits are acquired or lost, as well as an analysis of the ways in which old habits are integrated in the solution of new problems."

The following two years brought the deaths of two more faculty, Else Frenkel-Brunswik (1958) and Edward Tolman (1959). Frenkel-Brunswik had been Lecturer in the Department for fourteen years, although never Professor because of the rule against nepotism. Besides her position at the Institute of Child Welfare she had been Psychologist and Psychotherapist at Cowell Memorial Hospital since 1947, Associate Research Psychologist at the Institute of Industrial Relations since 1953, and a Fellow of the Center for Advanced Study in the Behavioral Sciences at Stanford in 1954 and 1955. Frenkel-Brunswik, an energetic, creative woman, vitally interested in her work and those around her, died unfortunately the year before she was to have accepted a professorship in the Department.

With the death of Tolman came the end of an era. Tolman's name had become one of the most widely known in the field, and his ideas and concepts had become familiar to all psychologist. He was given such honors as election to President of the American Psychological Association (1937), membership in the National Academy of Sciences (1937) and the American Academy of Arts and Sciences (1949), honorary Doctor of Science degrees from Yale University and McGill University, and honorary L.L.D. from Berkeley (1959), and honorary memberships in the British Psychological Society (1954) and the Societé Francaise de Psychologie (1959). For the Department, however, he was loved and respected mainly for other reasons. By fighting for the introduction of fields other than his own, such as statistics, individual differences, psychoanalysis, and personality assessment, he quickened the development of the Department. His greatest contributions were nonetheless as a teacher. As his influences were described by one of his students:

> "We who came to Tolman as students, came hobbling in a tangle of fuzzy abstractions we mistook for ideas. Tolman created from this ragged tangle a new world of ideas for each of us . . . Tolman taught each of us, in the end,m how to construct ideas from our own observations of the behavior of animals and men. Largely because he taught us to construct these ideas from our own observations, Tolman was a teacher without disciples . . . But although Tolman had no disciples, he has today hundreds of men and women who are still his students."
>
> (Benbow Ritchie)

By 1959 four more men had joined the faculty. The previous year Frank Beach relinquished the Sterling Professorship at Yale to join his University of Chicago colleagues at Berkeley. As past Chairman of the Department of Animal Behavior at the American Museum of Natural History, Beach continued in the Berkeley Department his classic studies in species-specific behavior. M. Brewster Smith came in the fall of 1959 from New York University also as a full professor. Smith, before his arrival, had received his degrees from Harvard in 1947 and had become Professor and Department Chairman at Vassar College teaching social psychology. During this same year David Krech became Research Professor and Mark Rosenzweig, Associate Research Professor at the Institute of Basic Research in Science. Joseph Speisman, who had received his Bachelor Degree in 1951 from Berkeley, returned as Assistant Professor in clinical psychology, and in the next year (1959) Tom Cornsweet with a Ph.D. in 1955 from Brown University came from Yale as Assistant Professor to teach perception.

1960-1961

The end of the school year 1960-61 marked the Department's sixty-eighth year of growth. In that year, two years after the Institute of Child Welfare had broadened its scope of research so that it had changed to the Institute of Human Development, Harold Jones, its Director, died during a trip in Europe. Jones had brought the Institute to its present position, not merely because of

his unique foresight and planning but because of his particularly warm personality that made him a source of inspiration and constant support to his co-workers. In 1960 three were added to the staff: William Meredith, who received his degree from the University of Washington in 1958, remained there for two years as the Director of the Counseling Center and came to Berkeley to teach particularly in the area of measurement; Edward Sampson, with a Ph.D. from the University of Michigan (1960), came to teach Social Psychology; and Joseph Mendelsohn, with a degree from Michigan also in 1959, came to instruct in the clinical area.

These last three brought the total of permanent staff members to 35, seven of which were halftime members. This faculty, which had increased by 24 since the war, handled 39 undergraduate and 33 graduate courses. The 12 doctorates awarded in 1960 and the four thus far in 1961 have brought the total to 249 in the 51 years since Olga Bridgman received the first degree. Out of these 249, 170 have been awarded in the years since 1950, that is, 68%of the total.

In 1961 the Department says farewell to its second home, LSB; and after a readjustment of certain biases, joins the Education Department in their new building (near Spruce and Hearst Streets). The older faculty cannot help but feel some nostalgia about the movie. Some (ten) have themselves been graduate students here, and others have watched their students take over courses they themselves once taught. They have watched the Teaching Assistants move from poker to chess to darts, and the number of graduates grow from approximately 15 in the late twenties to 167 in the early sixties. They have seen, unfortunately, the gatherings in "the shop" grow and divide ultimately into discussions in the coffee shop for students and in the staff room for faculty. The newer faculty has an advantage, it seems, over the older, for without comparisons they cannot make the same kind of judgment as to the virtues of unavoidable growth. However, the growth that all can appreciate began with the Department's "brass instrument" psychology, its early clinical beginnings, the period of rat psychology, the new study of individual differences and statistics, and finally the recent expansion in clinical psychology. In the later years enlargement in these areas has been aided by similar advances in other fields—drugs, electronic apparatus, and computers—and consequently has brought about a closer affiliation with other sciences.

Berkeley's Department is not, of course, unique. What is unique is its particular combination of professors, interests, and students, who have contributed in all areas a great variety of new ideas. And it is particularly the accumulated contribution year after year by individuals, of which this Department has many. If one must make value judgments of the virtues of expansion, then it is possible to say that growth such as has been in Berkeley is the inevitable result of a strong and productive Department.

1893-1961

Courses Taught for First Time

1893-94	Elementary Psychology (Howison and Stratton)	
1896-97	Psych. Laboratory (Stratton)	
	Experimental Psych. (Stratton)	
1897-98	General Psych. (Stratton)	
	Introduction Exp. Psych. (Stratton)	
	Psychological Conference (Stratton)	Gr.
	Elem. & Advanced Psych. Lab. (Stratton)	Gr.
1902-03	History of Psych. (Montague)	
1903-04	Psych. of Sensation (Dunlap)	
1905-06	Psych. of Aesthetics (Wrinch)	
1906-07	Historical Investigations in Psych. (Dunlap)	
1908-09	Psych. Seminar (Stratton)	
1909-10	Applied Psych. (Stratton)	
	Introduction to Psych. Exp. (Brown)	
	Lab. Practice (Brown)	
	Advanced General Psych. (Brown)	
	Abnormal Psych. (Prince)	
1911-12	Psych. Exp. (Stratton & Brown)	
	Lab. Exercises (Brown)	
1913-14	Phases of Medical Psych. (Brown)	
	Exp. in Memory Association (Brown)	
1915-16	Social Psych. (Adams)	
	Abnormal Psych. of Childhood (Bridgman)	
1917-18	Theory of Consciousness (Lewis)	Gr.
1918-19	Educational Psych. (Brown)	
	Animal Psych. (Tolman)	
1919-20	Advertising (Brown)	
	Introduction to Measurement (Tolman)	
1920-21	Exp. in Animal Behavior (Tolman)	
	Honors Course (Staff)	
1921-22	Clinical Psych. (Bridgman)	
	Psych. of International Relations (Stratton)	
1922-23	Thesis for Master's Degree (Staff)	
1923-24	Contemporary Psych. (Brown)	
	Abnormal Psych. (Macfarlane)	
1924-25	Intro to Psych. Measurement & Use of Statistics (_____)	
	Physiological Psych. (Wever)	

1927-28 Psych. Seminar (Staff) Gr.

1929-30 General Research Techniques in Child Psych. (Jones)
Psych. of Individual Differences (Tryon)

1931-32 Psych. Measurements (C. W. Brown)

1932-33 Advanced Techniques in Psych. Measurement (C. W. Brown)
Developmental Psych. (Jones)
Lab. in Child Psych.

1936-37 Mental Deficiency (Bridgman)
Clinical Techniques (Macfarlane)

1937-38 Recent Exp. Psych. in Europe (Brunswik)
Survey of Psych. (C. W. Brown)

1938-39 Psych. of Motivation (Tolman)
Perception (Brunswik)

1939-40 Psychoanalysis of Childhood & Problems (Erikson)

1940-41 Personality (Sanford)
Intro. to Applied Psych. (Ghiselli)
Advanced Clinical Psych. (Macfarlane)
Psych. Aspects of Advertising, Selling & Market Research (Ghiselli)
Personnel & Industrial Psych. (Ghiselli)

1941-42 Exp. Dynamic Psych. (Sanford)
Occupational Counseling & Classification Techniques (Ghiselli)

1942-43 Problems & Methods in the Study of Adolescent Devel. (Jones)

1944-45 Schools in Modern Psych. (Brunswik)

1945-46 Measurement of Traits (Tryon)
Differential Psych. (Tryon)

1946-47 Principles of Test Construction (C. W. Brown)
Tests & Measurements of Infants & Preschool Children (Bailey)

1947-48 Thinking & Learning (Krech)
Opinions, Beliefs & Attitudes (Krech)
Group Dynamics (Coffey)
Psych. of Unconscious (MacKinnon)
Personality of Assessment (MacKinnon)
Personality in Society & Culture (MacKinnon)
Case Histories (_____)
Projective Methods (Harris, Hamilton)
Medical Psych. (Harris)
Thematic Apperception (Sanford)

1948-49 Propaganda (Krech)
Social Psych. of Interview (Ballachey)
Advanced Group Dynamics & Group Therapy (Coffey)
Advanced Clinical Diagnostic Testing (Harris & Sanford)
Rorschach Method (Ranzoni & Harris)

1949-50 Personal & Social Adjustment (Sherriffs)
Methods of Psych. (C. W. Brown, W. Brown, Brunswik & Jarrett)
Introduction to Clinical Methods (Tuddenham)
Human Relations in Industry (Canter)
Seminar in Dynamic Psych. (Erikson)
Seminar in Constitutional Psych. (Tuddenham)
Nature of Psych. Change (Sherriffs)
Methodology of the Social Survey (Ballachey & Tryon)
Personality & Perception (MacKInnon & Frenkel-Brunswik)

1950-51 Thinking (Ritchie)
Exp. Social Psych. (Ballachey & Tryon)
Individual Appraisal & Occupational Analysis (Ghiselli)
Attitudes & Perception in the Industrial Society (Harris)
Development of Complex Behavior in Children (McKee)
Social Psych. of Behavior Disorders (Ballachey)
Psychoanalytic Approach to Personality & Culture (Erikson)
Psych. of Human Relations (Canter)

1951-52 Survey of General Psych. (Postman, Haire & Ritchie)
Psych. of Speech & Communication (Rosenzweig)

1952-53 Representative Design of Psych. Exp. (Brunswik)

1955-56 The Psych. Test (C. W. Brown)

1956-57 Advanced Statistical Methods (Wrigley)
Theory of Mental Measurements (Ghiselli)

1957-58 Comparative Psych. (McClearn)
Animal Learning & Problem Solving (Ritchie)

1958-59 Seminar in Psych. of Human Relations (Porter)

1959-60 Honors Seminar (Krech & Brown)

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