PSYCHOLOGY AT INDIANA UNIVERSITY:
A CENTENNIAL REVIEW AND COMPENDIUM

1888

1988

William Lowe Bryan in 1903

PSYCHOLOGY AT INDIANA UNIVERSITY:
A CENTENNIAL REVIEW AND COMPENDIUM

edited by

Eliot Hearst and James H. Capshew

INDIANA UNIVERSITY DEPARTMENT OF PSYCHOLOGY, 1988

TABLE OF CONTENTS

Preface

In April 1988 hundreds of psychologists gathered in Bloomington, Indiana to celebrate the centennial of the laboratory established by William Lowe Bryan. Most of the visitors had been undergraduate or graduate students, faculty members, or research associates at Indiana University's Department of Psychology between the 1930s and 1980s. The guests, from as nearby as Indianapolis and as far away as England and Australia, joined with current faculty and students in a program that included discussions and reminiscences about the major subject-matter areas in psychology and about different periods in the department's history.

The structure of the sessions at the celebration was informal, to encourage participation and interaction. The gathering was much more a reunion than a scientific conference, and there were no plans to publish the "proceedings" of the friendly but sometimes heated interchanges that would occur. However, we wanted a memento of our centennial and this monograph is the permanent product. It presents a panorama of psychology at Indiana University, in the form of an analytic yet readable historical narrative by James Capshew, together with a collection of lists containing facts about former and present faculty, chairmen, clinic directors, graduate degree recipients, and William Lowe Bryan himself. We welcome corrections and additions for future printings of this monograph.

Although we compiled a directory of current addresses for most of our alumni, faculty, and other people connected with the department, space limitations made it impossible to include the directory in this monograph. Anyone desiring a directory can write us for a free copy.

Many colleagues and friends helped in amassing pertinent material and in preparing this little volume for publication. The most important were: James Capshew, a former undergraduate student of mine who is now an independent scholar with a PhD in the History and Sociology of Science from the University of Pennsylvania. He is currently a member of the History faculty at the University of Maryland and also teaches in the Psychology Department at American University in Washington, D.C. Jim did much more than just write the narrative history that constitutes the main part of this monograph;

Dexter Gormley, my research assistant for many years, who supervised the technical production of this monograph and checked numerous facts. He managed to combine in an attractive and efficient way the information, written text, figures, and photographs from several different word-processing programs and from other sources that varied greatly in quality and mode of presentation; Harriet Kenny, the department's administrative assistant since 1975, who handled all her other duties with devotion and cheerfulness while she searched through numerous files and records for us, watched our budget, and provided encouragement. Other people at Indiana University, inside and outside the Psychology Department, contributed significantly to this final product; among them are Vicki Blackwell, Alexander Buchwald, Joyce Chubatow-Yates, James Dinsmoor, Douglas Ellson, Kenneth Heller, Jim Hull, Ronald Kettner, Lisa Kurz, Sue Lavender, Morton Lowengrub, Susan Morgan, Conrad Mueller, Coy Robbins, Anya Royce, Melissa Schmidt, and Dale Sengelaub. We enjoyed receiving the letters and packets containing old photographs, unfamiliar (and even familiar) anecdotes, and updated vitae that many correspondents sent us.

On behalf of the other members of the centennial committee (Jack Bates, Jim Capshew, Jim Craig, and Harriet Kenny), as well as everyone associated with Indiana Psychology for the past 20 years, I am pleased to dedicate this monograph to Irving J. Saltzman, whose continuous years of service as departmental chair -- starting in 1969 and presumably ending in 1989 -- establish a record that we are willing to bet will never be broken. The record itself is not so important; what matters are his fairness, openness, and dedication to the department, qualities that he already possessed on his arrival in Bloomington as a young assistant professor in 1948. Were we not celebrating the Bryan centennial, we could still justify 1988 as a special year, Irv's 40th anniversary in the department.

Eliot Hearst

THE LEGACY OF THE LABORATORY (1888-1988): A HISTORY OF THE DEPARTMENT OF PSYCHOLOGY AT INDIANA UNIVERSITY*

James H. Capshew

*This paper is dedicated to Herman B Wells, who showed me the magic of history in life. I am indebted to many people for contributing information, comments, and other assistance. I would like to thank especially Eliot Hearst, as well as Richard C. Atkinson, Richard N. Berry, Alexander M. Buchwald, David Carrico, Dorothy Collins, James A. Dinsmoor, Douglas G. Ellson, Dexter Gormley, Joel Greenspoon, George A. Heise, Kenneth Heller, Ernest R. Hilgard, Margaret Intons-Peterson, Harriet Kenny, Dolores Lahrman, Alejandra Laszlo, Conrad G. Mueller, Coy D. Robbins, Irving J. Saltzman, and Laura White.

Table of Contents

1 Introduction

The Indiana University Psychological Laboratory, organized in 1888, was the first research and teaching laboratory devoted to experimental psychology in the Midwest, and the second such facility established in the United States.[1] This laboratory served as the matrix for the development of scientific psychology as an academic discipline at Indiana, and provided the nucleus for the Department of Psychology. The department, like American psychology generally, has evolved considerably during the past century, both intellectually and institutionally. The early general-purpose laboratory has grown into several specialized laboratories that pursue investigations in a variety of fields, and the department conducts a multifaceted program of research, teaching, and service activities. Despite significant changes in scale and operation, however, laboratory research has remained the vital center of psychology at Indiana University for the past hundred years.

This paper explores the origins and development of the Department of Psychology. In January 1888 the original laboratory was established by William Lowe Bryan, a young philosophy professor who had been inspired to pursue the new psychology as a way of reconciling traditional religious and philosophical concerns with the increasingly powerful authority of science. In addition to an intellectual agenda, psychology provided Bryan a route for academic advancement within the university, which was entering a new era as it adapted to the demands of modern higher education. For the first few years, the psychological laboratory was as much a symbol of Bryan's commitment to the promise of science as it was a place to perform research.

Equipped with a PhD completed under G. Stanley Hall at Clark University, Bryan had turned himself into a full-fledged psychologist by the early 1890s. After his return to Indiana, Bryan transformed the laboratory into a scientific workshop dedicated to original research and the training of students. He wanted the laboratory to serve the practical needs of the university, and he stressed the role of experimental psychology in addressing

---

1. The first American psychological laboratory was started by G. Stanley Hall at Johns Hopkins University in 1883; it lapsed for several years after Hall left for the presidency of Clark University in 1888. Chronologically, the Indiana laboratory was next, followed by several others, including Wisconsin and Pennsylvania; by 1900 there were over 40 in the U.S. Despite Penn folklore, James M. Cattell did not begin a laboratory at the University of Pennsylvania until 1889. See Philip J. Pauly, "G. Stanley Hall and His Successors: A History of the First Half-Century of Psychology at Johns Hopkins," in S.H. Hulse & B.F. Green, Jr., eds., One Hundred Years of Psychological Research in America: G. Stanley Hall and the Johns Hopkins Tradition, (Baltimore: Johns Hopkins University Press, 1986), 21-51; Ernest R. Hilgard, Psychology in America: A Historical Survey, (San Diego: Harcourt Brace Jovanovich, 1987), 31-34; James H. Capshew & Eliot Hearst, "Psychology at Indiana University: From Bryan to Skinner," Psychological Record, 1980, 30, 319-342, on 319 note 1.

educational issues - particularly scientific pedagogy. As a consequence, investigations of learning emerged as the key motif in the psychology program as it came to dominate the affairs of the Department of Philosophy, where the laboratory was located. Through the 1890s Bryan and his colleagues directed a host of bachelor's and master's degree students who went on to professional careers in psychology and in education. By 1902, when Bryan embarked on his 35-year term as president of the university, he had recruited a small staff of psychologists to continue the program. For the next two decades undergraduate teaching and public service took much faculty time, and department members played important roles in establishing the School of Education at Indiana University. Throughout its first thirty years, the laboratory provided a focus for the ideals - if not always the activities - of Indiana psychologists. As one historian has observed:

> The esoteric laboratory provided its practitioners with a scientific passport to professional autonomy, an entering wedge into an academic world that offered status, security, and financial support for pursuits that often bore little substantive relation to experimental endeavor. ...For most psychologists the laboratory represented not the workshop where they spent their professional lives but the seminary in which they were originally trained.[2]

Between the First and Second World Wars the psychology program continued to have a strong utilitarian thrust, but the foundations of an autonomous research enterprise were also being laid. After World War I the psychology faculty grew substantially; there was a total of eight by the early 1930s. Unlike before, many of these new faculty members did not have strong roots in Indiana. Beginning in the 1920s the rudiments of a doctoral program were assembled, and by the end of that decade the psychology program had attained complete administrative independence from philosophy. By 1931 the Department of Psychology included a nucleus of productive scientists on its faculty, and research and graduate education were increasingly emphasized. The department developed notable strengths in the areas of animal conditioning, clinical psychology, and psychophysiology, each of which had its own specialized laboratory facilities. At the start of World War II pure as well as applied research was flourishing at Indiana, and the department was poised on the edge of far-reaching changes.

Along with the entire university, the psychology department entered a new era after the Second World War. Already in the midst

---

2. John M. O'Donnell, The Origins of Behaviorism: American Psychology, 1870-1920, (New York: New York University Press, 1985), 7-8.

of a renaissance under the administration of Herman B Wells, who had become president in 1937, Indiana University grew dramatically after the war, and research and graduate education were strongly supported. In the psychology department, scientific ideals came to dominate every aspect of the program, and applied research became less important. A host of new young faculty members arrived, who broadened and strengthened research in both experimental and clinical areas. The topic of learning continued to provide a focus for the department, but a variety of theoretical viewpoints coexisted, all sharing an overarching commitment to methodological rigor. By the early 1950s the Indiana psychology department was one of the country's leading academic centers for experimental psychology, and for the first time in its history was a major producer of PhDs. Growth continued through the 1950s and into the 1960s as the department expanded into new fields, notably mathematical modeling and sensory psychology, while also strengthening the mainstays of animal learning, physiological psychology, and clinical psychology. By the early 1970s the department matured into essentially its present form. Faculty size reached a steady state of around 40 members, and PhD production leveled off. The program came to encompass the major areas of animal behavior, cognitive/mathematical, sensory, physiological, developmental, social, and clinical. Although specialization continued, rigorous research training remained the hallmark of the graduate program for both experimental and clinical students. Today the department enjoys a secure reputation as an important scientific institution in psychology, and as it begins its second century, the legacy of the laboratory endures.

2 A Hoosier pioneer: William Lowe Bryan

The origins of psychology at Indiana University can be traced directly to William Lowe Bryan (1860-1955), a native of Bloomington and an alumnus of the university. Born on a nearby farm in 1860, Bryan was the eldest son in a Presbyterian minister's family. Evidently close to his religious parents, Bryan grew up in the rural community surrounding the town. Perhaps the most notable feature distinguishing Bloomington from other small towns in southern Indiana was the presence of the state university, chartered in 1820. Though it was small and backward in many ways, Indiana University afforded the region some cultural prominence in addition to real educational opportunities for the area's residents.

2.1 Between philosophy and science

Educated in local schools, Bryan entered the Indiana University Preparatory Department in 1876, and matriculated into the university the following year. During his undergraduate career Bryan came under the influence of David Starr Jordan (1851-1931), professor of natural sciences since 1879. Imbued with the research ideal imparted by his mentor at Harvard, Louis Agassiz, Jordan was a dynamic model of the new professional scientist. His specialty was ichthyology, but he ranged over the entire spectrum of natural history. He led students on long field trips around the country and overseas, and accumulated large collections of biological specimens for laboratory study. Inspiring through exhortation and by example, Jordan convinced many Indiana students to pursue scientific careers.

Among the promising students Jordan singled out for attention was Bryan, who was already well-known on campus for his oratorical and editorial activities. He had helped revive the Indiana Student newspaper in 1882, and was a popular public speaker. As an undergraduate, Bryan was a member of the small Specialists' Club organized by Jordan to encourage students to pursue careers in academic disciplines.[3]

Bryan received his bachelor's degree in 1884 upon completion of the ancient classics curriculum, one of the three courses of study available to undergraduates. The other two were in modern classics and in science. There was much overlap among the three curricula, and during Bryan's undergraduate years, all juniors were required to take a course in psychology that was based on the textbook Elements of Intellectual Science by longtime Yale president Noah Porter.[4] Porter was one of the leading representatives of the Scottish common-sense school of psychology that was widely taught in American colleges after the Civil War. Introspective and non-experimental, this type of psychology drew from the tradition of associationism and was intended to inculcate Christian morals.[5] At Indiana, the psychology course was probably taught by the president, Lemuel Moss, who also held the title of Professor of Mental, Moral, and Political Philosophy.[6] A Baptist minister, Moss was hired in 1875 as the sixth in an unbroken line of "preacher presidents" dating back to the start of the university.

After graduation, Bryan was hired as an English instructor in the preparatory department.[7] Within a few months, he received an

---

3. James A. Woodburn, History of Indiana University, 1820-1902, (Bloomington: Indiana University, 1940), 326, 338, 376, 459-460.
4. Noah Porter, Elements of Intellectual Science, (New York: Scribner's, 1871). See Lewis C. Carson, "Development of the Course of Instruction," in S.B. Harding, ed., Indiana University, 1820-1904, (Bloomington: Indiana University, 1904), 35-193, on 58-61.
5. See R.C. Davis, "American Psychology, 1800-1885," Psychological Review, 1936, 43, 471-493.
6. Indiana University Catalog, 1883-84.
7. Woodburn, History of Indiana University, 327.

unexpected opportunity to join the regular faculty. In early November 1884, president Moss and the junior professor of Greek, Katherine Graydon, resigned after being caught up in a scandal. Evidently Moss, who was married, and Graydon, who was single, had established a romantic relationship. Six students, aided by the janitor, had spied on the couple through a hole they bored in the ceiling of the Greek classroom and then had reported their observations to the board of trustees. The incident was widely publicized in some sensational newspaper stories. Bryan, who was still editor of the Indiana Student, refused to comment on the situation beyond affirming his faith in the actions of the board of trustees. Before long, he was hired as a replacement for Graydon, and taught Greek and English.[8]

Ultimately, the Moss scandal benefited Bryan even further. It encouraged the Indiana University trustees to look beyond the ranks of the clergy for a new president, and they decided to appoint David Starr Jordan to the post. Already well known in the state for his research and public speaking, Jordan was the first scientist to become president of an American college or university.[9]

2.2 The influence of Jordan

On the first day of 1885, when Jordan became president, Indiana University consisted of 150 students and a dozen faculty members. Almost an equal number of pupils were enrolled in the preparatory department, which served as a high school for the Bloomington area.[10] Jordan's election signaled the beginning of a new era for Indiana University. Like other educational reformers of the day, Jordan looked to science as the new cornerstone of college instruction. He introduced the elective system and revamped the curriculum to emphasize scientific subjects.

Jordan maintained that "the highest function of the real university is that of instruction by investigation."[11] Because they provided the means for students to acquire knowledge actively through research, laboratories played a key role in his plans. The laboratory was also seen as a common meeting ground for faculty

---

8. Thomas D. Clark, Indiana University, Midwestern Pioneer, Volume I, (Bloomington: Indiana University Press, 1970), 142-145. Bryan's official title for 1884-85 was Instructor in English. Indiana University Catalog, 1884-85.

9. Jordan's background prepared him well to become an educational reformer. He was among the first students at Cornell University, where Andrew D. White presided over an institution dedicated to practical higher education. He continued his studies in natural history at Harvard under Louis Agassiz. In 1874 he was recruited to teach high school in Indianapolis, and the following year he was elected professor of biology at Northwestern Christian University, which was soon afterwards renamed Butler University. Jordan taught at Butler for four years, and became acquainted with notable Indianapolis residents such as Benjamin Harrison and James Whitcomb Riley. In 1879 Jordan was chosen to succeed Richard Owen, who was retiring to New Harmony, as professor of natural sciences at Indiana University. On Jordan's role at Indiana University, see Clark, Midwestern Pioneer, I, 202ff. See also Jordan's autobiography, The Days of a Man, (New York: World, 1922).

10. Woodburn, History of Indiana University, 373.

11. Quoted in William A. Rawles, "Historical Sketch," in Harding, ed., Indiana University, 1820-1904, 1-32, on 21. See also Larry Owens, "Pure and Sound Government: Laboratories, Playing Fields, and Gymnasia in the Nineteenth-Century Search for Order," Isis, 1985, 76, 182-194.

and students, a place where they could cooperatively pursue shared goals according to their abilities.

Jordan coupled his curricular reforms with the cultivation of promising alumni for faculty positions. Although the university was often able to attract good faculty members from Eastern institutions, its rural location sometimes made it difficult to retain them. Furthermore, the university could not afford to compete in salaries with schools that were better endowed. Realizing these handicaps, Jordan sought to build the faculty from within. Promising undergraduates were encouraged to pursue graduate study, in the hope that the most outstanding could be persuaded to return as faculty members. Around 100 master's degrees were awarded during Jordan's tenure, along with a few honorary doctorates.[12] Many of those who received master's degrees from Indiana then continued their education in prestigious doctoral programs at Eastern universities.

Bryan was among the crop of junior faculty whom Jordan was cultivating. Soon after becoming president, Jordan promoted Bryan to acting professor of philosophy, to replace former president Moss. At the same time Bryan began working on his master's degree. In 1886 he earned one of the first advanced degrees awarded by Indiana University, for a master's thesis entitled "The Polar Logic of Heraclitus," and was promoted to associate professor. Although his thesis dealt with classical Greek philosophy, Bryan's interests had already shifted toward a new intellectual horizon - experimental psychology.

This "new psychology" was distinguished from earlier philosophical studies by its emphasis on empirical investigation. Laboratory techniques borrowed from other disciplines such as physiology promised to revolutionize the study of human nature, transforming it into a science. Various German universities were at the forefront of this emerging discipline, and American intellectuals such as William James were making positive reports of recent developments.[13]

By 1886 Bryan decided he needed more than "a few books and journals" for guidance. He turned down a scholarship to study at Johns Hopkins University, where G. Stanley Hall had begun the first psychological laboratory in the country, and went to Germany instead. Upon his arrival in Europe he met another American student, James M. Cattell, and struck up a long friendship. He served as an experimental subject for Hermann Ebbinghaus at the University of Berlin in some studies of memory, and learned how to use various pieces of laboratory equipment. During his stay he also attended lectures of other prominent scholars, including Friedrich Paulson,

---

12. No doctorates were awarded between 1893 and the organization of the Graduate School in 1904. Carson, "Development of the Course of Instruction," 161-166.
13. The best synthetic history of this period is O'Donnell, The Origins of Behaviorism.

Eduard Zeller, and Emil Dubois-Reymond. Returning to Indiana in the summer of 1887, Bryan was promoted to full professor.[14]

After his experience with Ebbinghaus, Bryan was eager to start experimenting on his own. Throughout the fall semester he made plans for a laboratory, and requested funds to purchase a Hipp chronoscope. One of the "brass instruments" in widespread use at the time, the Hipp chronoscope could measure and record the extremely short time intervals obtained in human reaction-time experiments. Bryan convinced the administration to grant approximately $100 for the purchase of a Hipp chronoscope, even though, he said, "the trustees could not imagine what I would do with it."[15]

2.3 Starting a laboratory, 1888

In January 1888 Bryan opened the Indiana University Psychological Laboratory, the second such laboratory in the United States (and the oldest one in continuous existence).[16] Armed with the Hipp chronoscope, Bryan began performing original research as well as laboratory demonstrations for his classes. Within a few months Bryan reported preliminary results from a set of reaction time experiments at a meeting of the Indiana Academy of Science, a statewide learned society formed a few years earlier. He also used this occasion to present his plans for additional work in experimental psychology at Indiana University.[17]

Bryan's early research focused on the relation between intensity of sound stimuli and speed of reaction times. He continued research in this area for about three years, and concluded that below a certain stimulus level, which varies among individuals, reaction time varies inversely with intensity of the stimulus. Above this level, increased intensity of the stimulus does not change the reaction time.[18]

Although he was engaged in some experimental research, Bryan's major responsibility was teaching. As the sole faculty

---

14. W.L. Bryan, "Adventure in Psychology: 1885-1902," (Bloomington: Privately printed, 1948), 1; "Bryan Symposium Commemorates 50 Years of Psychology at IU," Indiana Alumni Magazine, 1939 (May), 2, 5-8, on 6. On Cattell's experiences as a student in Europe see Michael M. Sokal, ed., An Education in Psychology: James McKeen Cattell's Journal and Letters from Germany and England, 1880-1888, (Cambridge: MIT Press, 1981).
15. This was a substantial investment, equal to the entire 1888-89 budget for the Zoology Department. Woodburn, History of Indiana University, 399.
16. The Indiana laboratory merits this distinction because the Hopkins laboratory remained closed for several years after 1888. See Pauly, "G. Stanley Hall and His Successors."
17. The titles of Bryan's papers at the 1888 meeting were: "Investigations in Physiological Time" and "Outline of Work in Physiological Psychology," Proceedings of the Indiana Academy of Science for 1885-91, 1891, 16. Jordan played a leading role in founding the Indiana Academy of Science in 1885. See William Allen Daily & Fay Kenoyer Daily, History of the Indiana Academy of Science, 1885-1984, (Indianapolis: Indiana Academy of Science, 1984).
18. Michael M. Sokal, "APA's First Publication: Proceedings of the American Psychological Association, 1892-93," American Psychologist, 1973, 28, 277-292, on 283. Bryan also reported these and other studies at Indiana Academy of Science meetings in 1889 and 1890; for titles of his papers see Proceedings of the Indiana Academy of Science for 1885-91, 1891, 16.

member in the Department of Philosophy, he reoriented the curriculum toward psychology. Traditional philosophical subjects were not ignored, but were studied in relation to new theoretical and empirical trends in psychology. By 1890 undergraduate work was organized around the "Theory of Cognition and Method of Science." Under this broad rubric, students studied elementary psychology and the history of theories of cognition. Advanced undergraduates and graduate students studied the current literature in physiological (i.e., experimental) psychology, and carried out research "in reaction time, estimation of distance by the skin, successive association, and illusions of apperception."[19]

During his first years as a university professor Bryan's views on education matured and crystallized. Never abandoning his strong Christian faith, he acquired an equally fervent belief in the power of scientific investigation as a way to shed light on the problems of human existence, whether in the realm of philosophy or education. He became opposed to the idealist educators led by the Hegelian William T. Harris. Bryan argued that they were "unwittingly poisoning education in Indiana" by leading psychology "strenuously away from contact with the truth in things." He suggested that the Harris group used facts only to illustrate their doctrines, not to revise or improve them.[20] Bryan integrated his scientific views with his religious convictions in two distinct, yet complementary ways. First, he used the teachings of Jesus to suggest appropriate models of behaving that led to what he considered the self-evident achievements of civilization. Thus, he believed, Christian values had been validated through their use. In a larger sense, he saw little direct overlap between materialism and Christianity. They dealt with different spheres of action - respectively, the public and personal. Science could only approach, not displace, religion.

2.4 Graduate study at Clark University

Bryan was acutely aware of his intellectual isolation in the Midwest. Out of step with popular trends in educational theory, he nurtured the new psychology in the supportive scientific atmosphere of Indiana University. He kept abreast of current developments by reading the work of various authors, including William James, G. Stanley Hall, and George T. Ladd, who were among the most prominent expositors of the new psychology. However, by January 1891 Bryan decided he needed additional first-hand contact with leading centers of research, either in the East or in Europe, and arranged a leave of absence. Although he was greatly influenced by

---

19. W.L. Bryan, "Psychology at Indiana University," American Journal of Psychology, 1890, 3, 283-284; W.O. Krohn, "Facilities in Experimental Psychology in the Colleges and Universities of the United States," Report of the U.S. Commissioner of Education, 1890-91, 1139-1151, on 1145.
20. Bryan to Hall, 31 January 1891; G. Stanley Hall Papers, Clark University Archives, Worcester, Mass./Folder "Bryan."

the writings of William James, Bryan looked first to G. Stanley Hall as a potential mentor. Of the leading American psychologists, Hall was the most successful in setting up productive doctoral programs in the new field, first at Johns Hopkins and then at Clark University.

In a long letter to Hall, Bryan explained his reasons for wanting to study at Clark. Pointing out the utter lack of trained psychologists in the Hoosier state, Bryan noted that Indiana University was ripe for the development of scientific psychology. After giving an account of his differences with the educational Hegelians, he briefly mentioned his experimental research. Bryan summarized his hopes by stating:

> If God lets me live, I hope to have here a place where students may come into contact with real work & the real workers, & there through some chance of working out their own intellectual & spiritual salvation.[21]

Hall evidently found Bryan's criticisms of his philosophical colleagues rather harsh, prompting Bryan to assure him that he only hoped "to see here something better than they offer" while including "as much as possible of their philosophical breadth & ethical motive."[22]

While Bryan corresponded with Hall during the first months of 1891, Jordan was recruited to become the first president of Stanford University. When he went to California in the summer he took many of the Indiana faculty with him. Evidently he did not ask Bryan to come, perhaps because of the budding psychologist's plans for advanced study. Whatever the case, Bryan reacted to the university's upheaval by seeking a fellowship to study at Clark.[23] In his application to Hall, Bryan explained why he had not yet published anything on his psychological research:

> Whatever infertility you may judge this to indicate I hope you will concede something to rigid self-criticism & to the resolution not to add anything to the oppressive list of works which are either not accurate enough or not general enough to deserve the time of busy people to read.[24]

Bryan won the fellowship, and arrived at Clark in the fall of 1891 accompanied by his wife, Charlotte Lowe Bryan.[25] He was soon

---

21. Bryan to Hall, 31 January 1891; Hall Papers/Bryan.
22. Bryan to Hall, 11 February 1891; Hall Papers/Bryan.
23. Looking back, Bryan said "meanwhile in 1891 I saw what I must do.... I must lay aside everything but intensive study under the best conditions. I found those conditions at Clark University." Bryan, "Adventure in Psychology," 2.
24. Bryan to Hall, 6 April 1891; Hall Papers/Bryan.
25. Charlotte Lowe (1867-1948), an Indianapolis native, graduated from Indiana University in 1888, and received a master's degree in Greek in 1889, shortly before marrying William Bryan. He changed his middle name from Julian to Lowe in her honor. For his tributes to her, see William Lowe Bryan & Charlotte Bryan, Last Words, (Bloomington: Privately printed, 1951), 1-9.

immersed in a heady atmosphere of research and creative activity, and participated in the famous Monday evening seminars held in Hall's home where faculty and students would discuss their research and vigorously debate current issues in psychology. Aided by his graduate advisors and his wife, Bryan soon started doing research, including a study of "eye and ear mindedness" among children that measured the relative strengths of association of the visual and auditory modalities.[26]

Soon after he had arrived at Clark, Bryan received an offer from Jordan to teach philosophy at Stanford, at a substantial increase over his Indiana salary. Despite its temptations, Bryan rejected the offer, electing to remain on his chosen course in psychology. Raising the salary, Jordan repeated the offer, assuring Bryan that he would be able to work in the planned psychological laboratory. Again Bryan declined.[27]

2.4.1 Doctoral research

For his doctoral dissertation Bryan studied the development of voluntary motor ability in children. In the rationale for his experiments, he viewed the study of muscular movements as a sort of "grammar of will" that reflected cognitive activity. He claimed "that all, even the highest, immediate manifestations of the mind are muscular motions."[28] Bryan tested almost 800 children, ranging in age from 5 to 16 years, on maximum rates of rhythmically repeated movements. The movements were measured by means of a telegraph key connected to a counter and timer for recording rates. Using restraints to isolate various muscle groups, Bryan gathered data from the muscles involved in the joints of the shoulder, elbow, wrist, and the forefinger. The results consisted primarily of tabulations of rates. Bryan found little difference in maximum rates between girls and boys, and small individual variation in maximum rates. In girls aged 12 to 16 and boys aged 13 to 16 there was an acceleration with age, followed by a decline and then a recovery of rate. Bryan attributed this to physical changes during adolescent maturation. Also studying the precision of voluntary movement, he reported large variations among individuals. Bryan received his PhD in December 1892, the second doctorate in psychology granted by Clark University.[29]

The thrust of Bryan's research at Clark was quite different from that of his previous investigations. His early experiments at Indiana followed the model of Wilhelm Wundt's at Leipzig. Concerned with relatively simple processes such as reaction times,

---

26. William L. Bryan, "Eye and Ear Mindedness," Proceedings International Congress of Education, 1893, (New York: Little, 1894), 779-781.
27. Bryan, "Adventure in Psychology," 2-3.
28. William L. Bryan, "On the Development of Voluntary Motor Ability," American Journal of Psychology, 1892, 5, 125-204, on 134.
29. A year earlier Herbert Nichols had obtained the first. See Louis N. Wilson, "List of Degrees Granted at Clark University and Clark College, 1889-1920," Publications of Clark University Library, 1920, 6, 1-76.

those experiments were often collaborative in the sense that Bryan and his students served as both experimenters and subjects. In contrast, his research style at Clark was much more impersonal, using large groups of schoolchildren as subjects. One historian has characterized this as the "Clark model," noting that "experimental subjects played an anonymous role, experimenter-subject contacts were relatively brief, and the experimenter was interested in the aggregate data to be obtained from many subjects."[30]

During his doctoral examination at Clark, Bryan encountered directly Hall's "mixed bag of science and spirit" when he was asked to state his deepest beliefs to the jury.[31] There is no record of his reply, but Bryan was sufficiently disturbed to write Hall a personal note afterwards, saying

> I beg you not to think from anything I said or failed to say at my examination that there are no "things which I believe in & wish to teach to everybody"; still less that I am moved mainly by scientific & in a slight degree by ethical motives in my work. If no set of doctrines which I can summarize, there is at least a spirit which I would have & give. And I do pray most of all for the Spirit of Life. --But these things cannot be said.[32]

Bryan's reaction displayed his deeply religious character as well as his desire to keep ethical and empirical issues separated.

2.4.2 The founding of the APA

During Bryan's stay, Hall was busy making plans to organize a formal professional society for psychologists. Hall's attempts to make Clark a preeminent center of advanced study and research had been thwarted by a lack of funds and by William Rainey Harper's success in luring away more than half of its faculty to the new University of Chicago. Seeking a national institutional base, Hall presided over the formation of the American Psychological Association in July 1892. Bryan was one of the dozen or so scholars who attended the organizational meeting, and became one of the association's 26 original members.[33] Bryan was among the few participants at the meeting who gave reports on their research; he described the progress of his dissertation on children's motor abilities.[34] Later that year in December, the first annual meeting of the

---

30. Kurt Danziger, "The Origins of the Psychological Experiment as a Social Institution," American Psychologist, 1985, 40, 133-140, on 137.
31. Dorothy Ross, G. Stanley Hall: The Psychologist as Prophet, (Chicago: University of Chicago Press, 1972), 269.
32. Bryan to Hall, 7 February 1893; Hall Papers/Bryan.
33. For a discussion of the founding meeting see O'Donnell, The Origins of Behaviorism, 143-146.
34. Remembering the occasion, Bryan stated: "The meeting was very informal. For example, my 'paper' could only have been a brief report of 'The Development of Voluntary Motor Ability'.... Other papers at the meeting

APA was held with 18 in attendance. At that time Bryan reported on his earlier studies of sound stimuli and reaction times.[35]

3 Shaping an indigenous style

Through the 1890s experimental psychology flourished at Indiana. Bryan built a successful academic enterprise by making the program relevant to the university's educational mission. Already a recognized leader on campus, Bryan used psychology as a vehicle to further his professional ambitions as an educator. A key element of Bryan's strategy was to make experimental psychology the basis for the emerging discipline of scientific pedagogy. The new pedagogy, like the new psychology, was an effort to transform a humanistic field into a scientific subject, and it derived much of its appeal from the increasing importance of higher education in American life.

At Indiana University, Bryan had close interactions with Richard G. Boone (1849-1923), professor of pedagogics from 1886 to 1893. Boone had been appointed by Jordan, and charged with the task of developing the field of pedagogy within the philosophy department. His efforts were allied with Bryan's in psychology, and students aiming for jobs in education often took coursework in both areas. In fact, the two professors' expertise overlapped sufficiently that they taught each other's courses upon occasion. Boone, who had studied under G. Stanley Hall at Johns Hopkins University in 1887-88, became known as a historian and policy analyst of education.[36]

After earning his PhD, Bryan returned to Indiana University in January 1893. The scientific spririt fostered by Jordan pervaded the university, and Bryan found ample support for his plans. Among his first tasks was to expand the five-year-old laboratory, buying new equipment and arranging to add to the faculty. In conjunction with other faculty members, Bryan developed cooperative coursework in biology, sociology, and pedagogy. He also received practical laboratory assistance from the chemistry and physics departments. Pleased with his progress, Bryan wrote to Hall saying "I find the possible services of Psychology to other sciences recognized with such heartiness & unanimity as would have seemed incredible a few years ago."[37] Within the year Bryan also gained an expanded role in administrative affairs. He was appointed vice-president of the university in 1893 by president Joseph Swain, another of Jordan's scientific protégés.

---

were of like informality." W. Dennis & E.G. Boring, "The Founding of the APA," American Psychologist, 1952, 7, 95-97, on 96.

35. Sokal, "APA's First Publication," 283.
36. June R. Gilstad, "100 Years of Teaching," Indiana Alumni Magazine, 1986 (Oct), 49, (2), 12-13, 29.
37. Bryan to Hall, 7 February 1893; Hall Papers/Bryan.

Like Jordan, Bryan depended on local Hoosier talent to fill the ranks of both faculty and students, and he adopted the practice of promoting promising younger scholars from within. Among Bryan's first appointments was Ernest H. Lindley (1869-1940), who was hired as an instructor in the fall of 1893. Lindley, the scion of a prominent Southern Indiana family (his great-grandfather was one of the original trustees of Indiana University), had received his bachelor's degree from Indiana University earlier that spring. In 1894 the faculty grew to three members with the addition of John A. Bergström (1867-1910) as assistant professor of psychology and pedagogy. Originally from Sweden, Bergström had just completed his PhD in psychology at Clark. As Boone's replacement in pedagogy, his selection indicated the close relationship Bryan was seeking to foster between the fields. Furthermore, Bergström's fluency in German and his talent in designing and building experimental apparatus added important skills to the psychology program that complemented the strengths of Bryan and Lindley, and he soon assumed the role of technical director of the laboratory.

3.1 Pedagogy and the child study movement

Among the topics that occupied department members was child study, an effort to reform pedagogy on the basis of a scientific analysis of children's mental development. Championed by G. Stanley Hall, the child-study movement flourished in the 1890s as a loose alliance of educators, philosophers, and psychologists. Hall's wideranging pronouncements concerning the psychological development of children found a receptive audience in these circles, and many of his students shared his concern with pedagogy, even if they disagreed with his speculative ideas on genetic (i.e, developmental) psychology.

As he became involved in the movement, Bryan's dissertation research proved to be a valuable credential. Although he did no further empirical research in genetic psychology, he encouraged his students to study the topic, and he became a prominent promoter of child study to educators and to the public.[38] Like Hall and others, Bryan believed that psychological research and educational reform were inseparable, and that laboratory science could play an important role in improving pedagogy. He was careful, however, not to define psychology exclusively in terms of experimentation or to overstate its potential contributions. In "A Plea for Special Child Study" at the 1893 International Congress of Education, Bryan expressed a blend of optimism and caution:

---

38. In 1895 Bryan claimed that half of the work in the Indiana University psychology laboratory was related to child study. William L. Bryan, "Report on Work in Child Study in Indiana," Proceedings of the National Education Association, 1895, 905-906.

> We promise a science of conscious life. As other sciences have traced the development of the physical world, we promise to supplement this by giving the natural history of conscious life from its darkest beginning to the highest achievements of man. But we shall be false to all our promise, and we shall turn the confidence and sympathy which has endowed chairs and built laboratories, into derision and rejection, if we confine our science to a little round of test in the laboratory.[39]

Bryan became the first secretary of the National Association for the Study of Children in 1893, the first president of the Child-Study Section of the National Education Association in 1894, and an officer in other related organizations.[40] Although the child-study movement faded by the turn of the century without producing many enduring scientific results, it left behind an important legacy of involvement with practical educational issues for psychologists like Bryan.[41] In the ensuing years, Indiana psychologists built on this legacy by developing a program in clinical psychology oriented around children's educational problems, and by shaping the university's programs in education in other ways.

3.2 The telegraphy paradigm

In formulating his research plans, Bryan combined natural history and experimentation. Like other psychologists of his generation, he searched for ways to bring common psychological phenomena into the laboratory. For example, in one of his first letters to Hall, Bryan related an anecdote told to him by a postal clerk. The clerk said that he often would find the correct pigeon hole and grab the right letter for a postal patron before consciously recognizing the face of the person. Bryan was interested in this "highly complex adaptive reaction" and considered sending out a questionnaire to determine its extent and characteristics.[42] Although he never followed up this particular case, he continued to draw ideas from these kinds of commonplace observations.

Even though Bryan set the overall agenda for the psychology program, specific research investigations often grew out of the interests that students brought with them to the laboratory. For instance, shortly after returning from Clark, Bryan took advantage of an unexpected opportunity to conduct some naturalistic research via

---

39. W.L. Bryan, "A Plea for Special Child Study," Proceedings of the International Congress of Education, 1893, (New York: Little, 1894), 778.
40. Manfred Wolfe Deputy, The Philosophical Ideas and Related Achievements of William Lowe Bryan, (Doctoral dissertation, Indiana University, 1947).
41. See Leila Zenderland, "Education, Evangelism, and the Origins of Clinical Psychology: The 'Child-Study' Legacy," Journal of the History of the Behavioral Sciences, forthcoming.
42. Bryan to Hall, 11 February 1891; Hall Papers/Bryan.

an unusual student. Noble Harter, a former railroad telegrapher, entered Indiana University as a junior in the spring of 1893. Bryan recognized the abilities of this mature student, who was two years older than himself, and they embarked on a series of studies of the skills involved in telegraphy.[43]

Precise quantitative measurement was the hallmark of the new psychology, and the study of telegraphy promised to be nearly ideal in that regard. Much equipment in the psychological laboratory had been directly appropriated from devices in the workplace, such as the telegraph key and various types of timers and counters. Furthermore, as Bryan and Harter noted:

> The telegraphic language is singularly well adapted to the experimental study of many problems in physiology, psychology, and even philology. ...on the one hand, no language used by man can be so completely translated into exactly measurable symbols; while, on the other hand, the manifold personal differences in the operators are shown by investigation to be represented in those symbols.[44]

Thus telegraphy was a strategic research choice, combining methodological rigor with practical significance.

In their first study, Bryan and Harter tested 16 telegraph operators of varying competence for speed and accuracy in sending a message by Morse Code. Then novice telegraphers were tested weekly on their rates of sending and receiving, and learning curves were drawn from the results. The receiving curves showed periods of no improvement - plateaus - which occurred below the level of mastery, whereas the sending curves did not.

In further investigations, Bryan and Harter extended their conclusions. This time, a novice telegrapher was tested weekly on the rate of receiving the following: (a) letters not making words, (b) letters making words, but not making sentences, and (c) letters making words and making sentences. The results showed a gradual leveling off of the rates on the first two tasks. On the third, a plateau appeared before mastery was eventually attained. These findings were consistent with the anecdotal reports of telegraph operators who said they progressed from learning letters, to words, and finally sentences.

Bryan and Harter concluded that the acquisition curve for receiving messages could best be explained by the learning of a hierarchy of habits. That is, one level of skill becomes automatic and then progress is made to the next level until mastery on it is reached,

---

43. Harter (1858-1907) received his BA in 1895 and MA in 1896. After graduation he became a city school superintendent, first in Warsaw, Indiana and then in California.
44. W.L. Bryan & N. Harter, "Studies in the Physiology and Psychology of the Telegraphic Language," Psychological Review, 1897, 4, 27-53, on 35-36.

and so on. In the case of telegraphy, letter-habits, then word-habits, and finally sentence-habits were presumably acquired. The concept of a hierarchy of habits also helped Bryan and Harter explain the plateau phase in the learning curve. In their words:

> A plateau in the curve means that the lower-order habits are approaching their maximum development, but are not yet sufficiently automatic to leave the attention free to attack the higher-order habits. The length of the plateau is a measure of the difficulty of making the lower-order habits sufficiently automatic.[45]

Bryan and Harter discussed other learning situations in which hierarchies of habits might be present, and pursued the implications of their research for the facilitation of skill learning. Bryan's practical philosophy came through clearly in the final paragraph of their article:

> [The learner] must systematize the work to be done and must acquire a system of automatic habits corresponding to the system of tasks. When he has done this he is a master of the situation in his field. He can, if he chooses, deal accurately with minute details. He can swiftly overlook great areas with an accurate sense of what the details involved amount to - indeed, with far greater justice to details than is possible for one who knows nothing else. Finally, his whole array of habits is swiftly obedient to serve in the solution of new problems. Automatism is not genius, but it is the hands and feet of genius.[46]

Throughout the 1890s Bryan fostered this combination of common-sense theorizing and methodical experimentation among his colleagues and students. The telegraphy studies served as an exemplar for Indiana researchers as they sought to establish psychology on a solid empirical base in the university laboratory. The Bryan and Harter research eventually became a landmark in psychology; their learning curves are among the first in the literature and have been widely cited.[47]

---

45. W.L. Bryan & N. Harter, "Studies in the Telegraphic Language: The Acquisition of a Hierarchy of Habits," Psychological Review, 1899, 6 345-375, on 357. There is much contemporary interest in automatization; see R.M. Shiffrin, "Attention," in R.C. Atkinson, R.J. Herrnstein, G. Lindzey, & R.D. Luce, eds., Stevens' Handbook of Experimental Psychology, 2nd ed., (New York: Wiley, in press.)
46. Ibid., 375.
47. See, for example, Robert S. Woodworth, Experimental Psychology, (New York: Holt, 1938); and Hilgard, Psychology in America. In a survey conducted in 1943, nearly 50 years after the experiments, the Bryan and Harter articles were ranked among the most important ever published in the Psychological Review; Herbert S. Langfeld, "Fifty Volumes of the Psychological Review," Psychological Review, 1943, 50, 143-155.

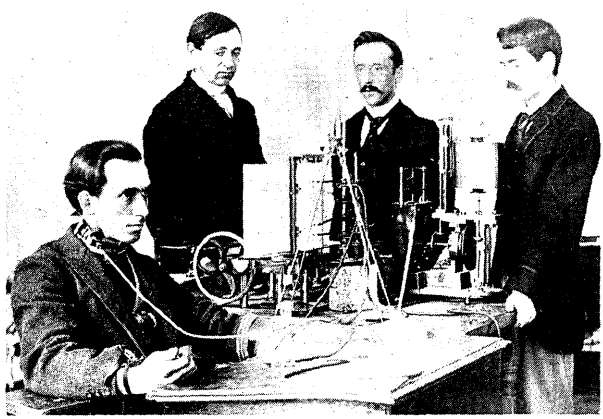
3.3 Cultivating local opportunities

Like Jordan before him, Bryan depended almost exclusively on local talent to build his program. Promising undergraduates were groomed for faculty positions by sending them off to graduate school in the East. Lindley, for instance, completed a master's degree at Indiana in 1894, and then went off to Clark University for his doctorate, which he received in 1897. Upon his return he was made an associate professor. A number of other students obtained their bachelor's or master's degrees before going elsewhere to pursue graduate study and professional careers in psychology or related fields. By the turn of the century, Indiana had developed a reputation for training significant numbers of undergraduates who later became PhDs in psychology, with a record that was reportedly second only to Harvard up to 1902.[48]

From the 1890s until the First World War, Clark University was the prime destination for Indiana students seeking psychology doctorates. Beginning with Bryan, over two dozen undergraduate alumni studied psychology and pedagogy under Hall and his colleagues, and nearly all obtained their doctorates (see table). A few, like Lindley, returned to permanent faculty positions in Bloomington; others came back for temporary appointments. Many went on to teaching or administrative posts in secondary or higher education, further solidifying psychology's ties with this field. Indeed, psychology majors contributed significantly to Indiana University's growing reputation during this period as the "mother of college presidents."[49]

---

48. Bryan, "Adventure in Psychology," 3.
49. Thomas D. Clark, Indiana University, Midwestern Pioneer, Volume II, (Bloomington: Indiana University Press, 1973), 313.



Indiana University psychologists and their scientific apparatus in the 1890s. Left to right: James P. Porter, William L. Bryan, John A. Bergstrom, and Clark Wissler

Indiana Students at Clark University

Name	Indiana Degree[+]		Clark
	BA	MA	PhD
William Lowe Bryan	1884	1886	1892
Oscar Chrisman	1888	1893	1892-94*
Fletcher B. Dresslar	1889	1892	1894
Eugene W. Bohannon	1890	1892	1912
Frank Drew	1890	1891	1895
Edwin D. Starbuck	1890		1897
Elmer B. Bryan	1893		1899-1900*
Ernest H. Lindley	1893	1894	1897
Albert H. Yoder	1893		1893-94*
Willis L. Gard	1896	1907	1908
Edward Conradi	1897	1898	1904
James P. Porter	1898	1901	1905
Norman Triplett		1898	1900
Sanford Bell	1899	1900	1901-03*
William F. Book	1900		1906
Andrew J. Kinnaman	1900	1901	1902
John F. Bobbitt	1901		1909
Lewis M. Terman	1902	1903	1905
Jesse H. White	1903	1904	1908
Burchard W. DeBusk	1904		1915
George A. Hutchinson	1906	1908	1910
Rudolph Archer	1908		1910
Leroy W. Sackett		1908	1910
Emmanuel Anastassoff		1910	1910-11, 1919-20*
William T. Sanger		1910	1915

[+]Not all were in psychology.

*Attended as a graduate student, but did not receive degree.

Among the students who went to Clark University for graduate study was Edward Conradi, who received his master's degree from

Indiana in 1898. For his thesis he collaborated with Bergström in translating a major German textbook in the field of school hygiene.[50] An eclectic application of "the principles of architecture, sanitary engineering, psychology, pedagogy, and preventative medicine upon the physical conditions of school life," school hygiene had strong roots in Germany, where the Zeitschrift fur Schulgesundheitspflege [Journal of School Hygiene] had been published since 1888.[51] The book's chapters ranged from ventilation and cleaning to the nervous system, and provided yet another illustration of the way in which psychological concerns could penetrate into the realm of education. Conradi went on to obtain his doctorate from Clark in 1904, and served as president of Florida State College for Women (now Florida State University) from 1909-41.

Another undergraduate who went on to graduate work in psychology was Clark Wissler. Born in rural eastern Indiana, he entered Indiana University in 1893 when the psychology program was expanding. After receiving his BA in 1897, he was hired as an instructor of psychology and education at Ohio State University. He taught there for two years while working on a master's degree from Indiana. Evidently he established Ohio State's first psychological laboratory during his stay there.[52] With an MA (1899) from Indiana, Wissler went to Columbia University to work with James M. Cattell, under whose supervision he conducted his famous doctoral research that showed little correlation between mental and physical tests.[53] Turning to anthropology, he eventually became a leading authority on American Indian culture.

3.3.1 The "first" social psychology experiment

Following Bryan's naturalistic approach, master's candidate Norman Triplett noted that bicycle racers tended to ride consistently faster when paced by a motorcycle, according to official race records. Deciding to investigate further, Triplett set up a laboratory experiment. Using children aged 10 to 12 as subjects, he had them wind modified fishing reels as fast as they could, first alone and then in the presence of their cohorts. Half of his 40 subjects exceeded their solitary rates during the group test, a quarter were unaffected, and a quarter went slower, showing a loss of motor control through over-excitement. Triplett concluded that

> The bodily presence of another contestant participating simultaneously in the race serves to liberate latent

---

50. Ludwig Kotelmann, School Hygiene, (Syracuse, NY: C.W. Bardeen, 1899).
51. Ibid.
52. Frank S. Murray & Frederick B. Rowe, "Psychology Laboratories in the United States Prior to 1900," Teaching of Psychology, 1979, 6, 19-21.
53. See Michael M. Sokal, "James McKeen Cattell and Mental Anthropometry: Nineteenth-Century Science and Reform and the Origins of Psychological Testing," in M.M. Sokal, ed., Psychological Testing and American Society, 1890-1930, (New Brunswick: Rutgers University Press, 1987), 21-45, esp. 37-38.

> energy not ordinarily available. ...The sight of the movements of the pacemakers or leading competitors, and the idea of higher speed furnished by this or other means, are probably in themselves dynamogenic factors of some consequence.[54]

Thus, he argued, the group situation contributed measurably to individual effort and achievement.

Triplett's research provides another good example of the Indiana style. Inspired by a commonplace observation, it addressed an important psychological topic - the influence of other people. Using simple apparatus, quantitative data were obtained and analyzed in light of other evidence, both empirical and anecdotal. Then relatively straightforward conclusions were drawn that were pertinent to social influence in daily life, such as the interaction of children in the classroom.

This study remained little known until Floyd Allport discussed it in his early textbook Social Psychology in 1924. He reinterpreted Triplett's results by distinguishing two types of group influence on individual behavior: social facilitation and rivalry. The first factor accounted for the increasing rates in the presence of others for the majority of the children, while the second explained the poorer performance of the slower group because of over-stimulation through competition.[55] Thirty years later Gordon Allport published an influential review of the history of social psychology and credited Triplett with conducting the first laboratory experiment in the area.[56] Allport's claim was picked up and repeated by other authors, until by the 1970s it was entrenched in the social psychology textbook literature. One recent writer went so far as to cite Triplett's publication date of 1897 [sic] "as marking the founding of experimental social psychology."[57]

Like the Bryan and Harter studies, Triplett's experiment has come to be viewed as a discrete starting point for a continuing line of inquiry in modern American psychology. Without attempting to understand Triplett's scientific intentions or the context of his research, Gordon Allport and his adherents have created an origin myth for social psychology.[58] Origin myths in psychology, as Franz Samelson has pointed out, serve to create a comforting illusion of continuous intellectual progress. Present day preoccupations are

---

54. Norman Triplett, "The Dynamogenic Factors in Pacemaking and Competition," American Journal of Psychology, 1898, 9, 507-533, on 533.
55. Floyd H. Allport, Social Psychology, (Boston: Houghton Mifflin, 1924), 262, 280.
56. Gordon W. Allport, "The Historical Background of Modern Social Psychology," in G. Lindzey, ed., Handbook of Social Psychology, (Reading, Mass.: Addison-Wesley, 1954), 3-56, on 46.
57. William S. Sahakian, History and Systems of Social Psychology, 2nd ed., (Washington: Hemisphere, 1982), 2.
58. The following discussion draws on Hilary Haines & Graham M. Vaughan, "Was 1898 a 'Great Date' in the History of Experimental Social Psychology?", Journal of the History of the Behavioral Sciences, 1979, 15, 323-332.

shown to have precursors and antecedents, thus justifying contemporary professional agendas.[59]

Until it was integrated into the psychological literature by Floyd Allport in the 1920s, Triplett's work did not occupy a unique place in the history of psychology. In fact, his article was classified under the topic of "Will," not "Individual and Social" in Baldwin's Dictionary of Psychology in 1908. Furthermore, the wish to identify a "first" experiment is intellectually misleading. Disciplines almost always have complex origins, and attempts to fix definite starting dates for such endeavors are matters of convenience as well as judgment, viz, the reinterpretation of Wundt's "founding" of experimental psychology. Of course, Triplett's work has some relevance to the development of experimental social psychology, but the claim that it marks the founding of the field is questionable.[60]

After receiving his master's degree from Indiana in 1898, Triplett went to Clark University and earned his PhD in 1900. He spent the remainder of his career teaching psychology and child study at Kansas State Teachers College.

3.3.2 Arthur Griffith: Arithmetical prodigy

In the summer of 1899 Lindley met Arthur Griffith, a 19-year-old arithmetical prodigy, and convinced him to come to Indiana University for scientific observation. Like the telegraphers Bryan had studied, Griffith possessed a definite cognitive skill for manipulating discrete bits of data. Although his abilities were uncommon and seemed to involve some natural talent, Lindley and Bryan believed that the capacities were amenable to empirical study.

For five months Griffith cooperated with the psychologists as they analyzed his methods of rapid calculation. He seemed to be average in intelligence, and had started developing his techniques at age 12. Griffith excelled primarily in multiplication and was somewhat less capable in division, addition, and subtraction. Although he could partially explain his methods, he did not understand the general mathematical operations underlying his solution of the problems. He did not know algebra and was uninterested in learning it. Griffith's ability was due to his large memory of numbers and his shortcuts for manipulating them. As Lindley reported:

> He has a multiplication table complete to 130 - and partial to almost 1,000. He knows, therefore, the squares of all numbers to 130 and is master of the cubes to 100, fourth powers to 20; fifth powers of numbers between 985 and 1,000, besides those of

---

59. Franz Samelson, "History, Origin Myth, and Ideology: Comte's 'Discovery' of Social Psychology," Journal for the Theory of Social Behaviour, 1974, 4, 217-231.
60. Haines & Vaughan, "Was 1898 a 'Great Date'?."

> many other numbers; 33 powers of 2 and 5; is thoroughly acquainted with every prime and composite below 1,500, and can instantly give the factors of the latter. This factoring enables him often to bring operations within the range of his multiplication table. He also knows by what number a given prime must be multiplied in order to make it approximate a multiple of 100. He has in memory all the tricks by which one can tell how squares and cubes must end - and so on. He remembers the number of feet in a mile, seconds in a year, and the like.[61]

Lindley and Bryan measured Griffith's speed and range of calculation, and described his shortcuts in detail. The methods were translated into algebraic notation by Indiana University mathematicians, but Griffith showed little interest in these formulas.

In December 1899 Griffith accompanied Lindley and Bryan to the American Psychological Association meeting in New Haven, Connecticut and demonstrated his abilities to audiences there.[62] After a few months, Giffith became concerned that his methods would be published and thereby interfere with his plans to exploit them for financial gain. He left Indiana and began earning his livelihood on the vaudeville circuit. The full results of the study were not published until forty years later, when Bryan incorporated them into a monograph that attempted to relate all of his research on human skill learning under the rubric "On the Psychology of Learning a Life Occupation."[63]

3.4 A decade of achievement

By 1899 Indiana had produced more than a dozen undergraduates who were to continue in the new psychology. The psychology program was comprehensive, including a broad introductory course and more specialized courses in the following areas:

- Experimental psychology. Study of sensation and perception, memory, attention, suggestion, and individual differences.
- Educational and genetic (developmental) psychology.
- Neurology and embryology.
- Mind and body. Conditions of mental activity such as influence of blood circulation, respiration, fatigue, drugs, sleep, and hypnotism. Survey of claims of "psychic research."

---

61. E.H. Lindley, "The Case of A.G., Lightning Calculator," in W.L. Bryan, E.H. Lindley, & N. Harter, "On the Psychology of Learning a Life Occupation," Indiana University Publications, Science Series, 1941, #11, 24-29, on 28-29. The paper was originally presented at the 1899 APA meeting.
62. E.H. Lindley & W.L. Bryan, "An Arithmetical Prodigy", Psychological Review, 1900, 7, 135. [Abstract].
63. Griffith died in 1911. Bryan, Lindley, & Harter, "On the Psychology of Learning a Life Occupation," 11-65. See also Steven B. Smith, The Great Mental Calculators: The Psychology, Methods, and Lives of Calculating Prodigies, (New York: Columbia University Press, 1983), 276-282.

- Morbid psychology. Outline of mental diseases and conditions of mental health, including psychology of degeneracy, idiocy, and imbecility.
- Comparative psychology. Consciousness in man and animals. Development of instincts, habits, and intelligence. Observation and interpretation of animal activities.
- Seminary for current literature.[64]

The psychological laboratory comprised five rooms, and was supplied with water, gas, electric light and power. It contained an impressive array of apparatus:

For the senses: Zwaardemaker Olfactometer, Verdin Esthesiometer, Frey Hair, test weights for psychophysic law... color mixers... Wheatstone stereoscopes... charts for the study of visual space perception, Galton bar... set of forks for highest audible tones ... Helmholtz resonators....

For reaction time experiments: the Hipp chronoscope and a pendulum chronoscope of special design (made in department)....

For graphic work: the Marey and Ludwig kymographs... Kroenecker interrupter... Mosso plethysmograph, pneumographs, Verdin radial and carotid sphygmograph....

For the study of movement, myographs, a tapping machine, and a general ergograph of special design (made in department).

For memory and associations, a machine... for experiments according to the Ebbinghaus method, together with the necessary syllable series, etc.

Miscellaneous: apparatus for testing the competitive instinct (made in department), apparatus for testing the force and direction of movement simultaneously, an incubator, dissecting outfits, dissecting microscope, high-power microscopes.[65]

In less than a decade, the department had produced a substantial amount of research. Laboratory investigations ranged widely across the discipline, from sensory/physiological (e.g., "pain sensitivity") to cognitive (e.g., "imagery of children") topics. Perhaps the largest number of studies dealt with human learning in some form (e.g., "practice curves in learning to read a new language"), including several with a developmental approach (e.g., "the curve of memory for foreign words, from youth to middle life").[66] Despite their diversity, all of these studies drew upon the eclectic, naturalistic tradition instituted by Bryan after his return from Clark in 1893. The Indiana research program was characterized by an emphasis on descriptive fact-finding rather than on the formulation and elaboration of psychological theory. Practical concerns were evident in both the framing of the experiments and in the interpretation of their results.

---

64. "Psychology, Philosophy, and Pedagogy," The Alumnus, 1899 (May), 1 (4), 14-18, on 15-16.
65. Ibid., 16-17
66. Ibid., 17.

Although the Indiana psychologists kept abreast of disciplinary developments elsewhere, their primary goal was to help develop practical knowledge to serve local needs.

Looking back at his work on the psychology of human skill learning, Bryan emphasized the wholistic nature of his approach and methods. He noted that the telegraphy research and the Griffith case study were not concerned with the learning of discrete bits of information, but with "the steps by which one advances toward the mastery of a life occupation."[67] Bryan was not interested in abstract formulations or techniques divorced from everyday experience, but in understanding human behavior in the course of normal life. His experimental designs would be considered "naturalistic" today in the sense that they used a minimal amount of artificial manipulation in order to produce quantifiable data. For Bryan, the complex process involved in mastering an occupation was an important object of study. It was highly relevant to the emerging mission of the university in channelling young people into an increasingly diverse and specialized job market.

3.5 Transition to a new era

By the turn of the century Indiana University was, in the words of its historian, "on the threshold of the future."[68] It had ceased to be the undistinguished rural college of twenty years before, yet it was far from achieving the eminence of its Midwestern neighbors such as the University of Wisconsin or the University of Michigan. The liberal scientific spirit of Jordan had been continued by his successors as president, John M. Coulter and Joseph Swain, who were both among his many protègès. Although still fairly small, the university was growing; from 1885 to 1900 enrollment had increased six-fold, from 156 to 1000 students.

After seven years of sustained work, Bryan traveled to Europe in the summer of 1900 for a year of study. He spent the first half of his sabbatical in France. He attended Pierre Janet's lectures at the University of Paris, and met with him personally to discuss such subjects as sleep and dreams.[69] Bryan also met Alfred Binet, who asked him to explain his methods of measuring children's heads. During his stay, Bryan participated in the Fourth International Congress of Psychology which was held in Paris.[70] Bryan spent the latter half of the year in Wurzburg, Germany, meeting with psychologist Oswald Kulpe. The two men got along well,[71] and Kulpe

---

67. Bryan, "Adventure in Psychology," 4.
68. Clark, Indiana University, Midwestern Pioneer, I, 343.
69. On one occasion in his lectures, Janet mentioned Bryan and Lindley's report on the arithmetical prodigy Arthur Griffith. Deputy, Philosophical Ideas of Bryan, 23.
70. W.L. Bryan, "The Case of Arthur Griffith, Arithmetical Prodigy," in Proceedings and Papers, Fourth International Congress of Psychology, Paris, 1900, (Paris: 1901), 178. [Abstract]
71. Kulpe's personality inspired some cultural observations in Bryan, who wrote to Swain: "Above all I am delighted with Kulpe who is a man after my heart. In France sometimes I got almost discouraged with human

suggested some joint research in psychophysics, which had to be deferred until Bryan returned the following summer. Their experiments dealt with the ability of humans to perceive the separate attributes of sensory impressions. According to Edwin Boring, their findings influenced Edward Titchener to revise his views on "the observational status of the sensation and the attribute."[72]

Before he left Bloomington to work with Kulpe during the summer of 1902, Bryan was elected president of Indiana University. In June president Swain resigned and accepted the presidency of Swarthmore College. Voicing a widespread opinion, he recommended that Bryan replace him. Bryan was an accomplished teacher and administrator on campus, and had gained a national reputation for his psychological research.

Shortly after he was chosen president of Indiana University, Bryan was elected president of the American Psychological Association for 1903. Like every previous APA president, Bryan was a charter member of the organization.[73] By this time the APA was a small, well-established society with a membership of 130. In his presidential address, entitled "Theory and Practice," Bryan gave some insight into his view of the scientist's role in society. He maintained that the relation between theory and practice is always problematic, whether one uses science, philosophy, or common sense for guidance. The demands of life force professionals, such as physicians and psychologists, to give advice in the absence of complete or absolute knowledge. Furthermore, theory itself cannot provide an unambiguous guide for behavior because it can never be comprehensive: "No theory completely embraces all the conditions determining any action."[74] Bryan saw two ways out of this dilemma for the man of knowledge. The first, termed "concrete science," was science firmly anchored in the study of actual behavior or events and with relevance to the conduct of life. Psychology, he thought, was only beginning to move in this direction; its realization as a concrete science lay somewhere in the future. The other alternative was to take the scientist out of the laboratory and into the realm of practical affairs. Thus, he said

> the scholar may at great price become a statesman. When this occurs, whether at court or in a village school, we have at last a solution to the ancient problem of theory and practice.[75]

---

nature [and] I know that Frenchmen feel so, feel that society is going to rot. But in face of the big clear blue honest eyes of a man like Kulpe, I feel that all the men are not dead yet." Bryan to Swain, May 1901; Indiana University Archives.

72. Edwin G. Boring, A History of Experimental Psychology, (New York: Century, 1929), 394.
73. Out of 31 charter members, Bryan was the twelfth and last one who was elected president. See Ernest R. Hilgard, ed., American Psychology in Historical Perspective, (Washington: American Psychological Association, 1978), 4-5.
74. William L. Bryan, "Theory and Practice," Psychological Review, 1904, 11, 71-82, on 73.
75. Ibid., 82.

A valediction to his scientific career, Bryan's address expressed his overarching concern with public service through education.

In charting the course of the growing university, Bryan saw himself engaged in practical psychology on a daily basis. As he formed his new administration, he enthusiastically embraced the ideals expressed by William James in his new book, The Varieties of Religious Experience (1902).[76] Bryan found the role of philosopher increasingly congenial during his long presidency, but he continued to expound on psychological subjects in his speeches and occasional writings (see Appendix E).

3.6 The Lindley years

Bryan's shift to administration spelled the end of his research career, and marked the beginning of a new period for psychology at Indiana. At first the changes seemed minor. Lindley took over as head of the Department of Philosophy, and Bergstrom was promoted to professor of pedagogy and became director of the psychological laboratory. Gradually, however, other changes became apparent. As university enrollments increased, undergraduate teaching became more important. The research program became more applied, oriented mainly toward problems in education and, to a lesser extent, mental health.

Although Bryan continued to influence the direction of psychology at Indiana as president of the university, his role was limited. In personnel decisions he continued to favor Indiana University alumni, and he sought faculty who shared his broad outlook on psychology as a practical endeavor as well as an intellectual discipline. Consequently, for the next 40 years the department was headed by a succession of psychologists who held doctorates from Clark University. There is little evidence that the department received special consideration from the Bryan administration. In fact, Bryan seems to have been careful to avoid even the appearance of favoritism, and tended to let the department justify its own support. Bryan remained on the teaching staff through at least the 1920s, but confined himself to a course in ethics.

Bryan's formal inauguration as president of Indiana University coincided with the dedication of Science Hall in 1903 (renamed Lindley Hall in 1957). The Department of Philosophy was located in the new building along with other science departments. Lindley's forte was teaching and administration rather than research. Faced with the task of leading the psychology enterprise begun by his mentor Bryan, Lindley concentrated on fostering links with education and mental hygiene. Research still revolved around local needs and

---

76. Clark, Indiana University, Midwestern Pioneer, II, 4-5, 8; see also David A. Hollinger, "William James and the Culture of Inquiry," Michigan Quarterly Review, 1981, 20, 264-283; idem, "Inquiry and Uplift: Late Nineteenth-Century American Academics and the Moral Efficacy of Scientific Practice," in T.L. Haskell, ed., The Authority of Experts, (Bloomington: Indiana University Press, 1984), 142-156.

opportunities, but it shifted away from concern with the natural history of normal life toward the solving of individuals' psychological problems. The undergraduate program continued to produce a stream of future psychologists.

The student career of Lewis M. Terman bracketed the change in the department's leadership. A native Hoosier and former rural schoolteacher, Terman attended Indiana University from 1901-03, graduating with both bachelor's and master's degrees. He developed a close relationship with Lindley, whom he called his "chief mentor." In describing the influence of the department he said:

> I got something more important than grades and degrees. In the classes of Bryan, Lindley, and Bergström I became fired with the ambition to become a professor of psychology and contribute something myself to the science. Bryan and Lindley were brilliant and inspiring teachers. Bergström was at first disappointing because of his modesty and lack of personal force, but his solid worth soon became evident. He was not only a wizard with apparatus, but an able experimentalist and scholar.[77]

Despite Bergström's efforts, Terman showed little promise for laboratory work. That, however, did not preclude him from going to Clark for his doctorate, aided by a strong recommendation from Lindley.[78] He received his PhD in 1905, and soon embarked on his pioneering work in mental testing.[79]

Another student who was significantly influenced by Lindley was psychiatrist Edward J. Kempf, a highly original contributor to psychobiological theory. He received his BA in psychology in 1907. According to his autobiographical account:

> My studies in psychology in Indiana University under Professor Ernest K. Lindley, who was a friend of G. Stanley Hall, William James, and Adolf Meyer, decided me to study the medical sciences, particularly physiology and pathology, in order to understand how by natural physiological processes the human organism and its mental abilities evolved from lower forms of life.[80]

---

77. Lewis M. Terman, "Autobiography," in C.A. Murchison, ed., A History of Psychology in Autobiography, II, (Worcester: Clark University Press, 1932), 297-331, on 310.
78. In a letter to Hall, Lindley called Terman "a decidedly brilliant man," saying "I think I have never recommended a man to you, with more confidence than I do Mr. Terman." Lindley to Hall, 13 June 1903; Hall Papers/Terman.
79. See Henry L. Minton, "Lewis M. Terman and Mental Testing: In Search of the Democratic Ideal," in M.M. Sokal, ed., Psychological Testing and American Society, 1890-1930, (New Brunswick: Rutgers University Press, 1987), 95-112.
80. Edward J. Kempf, "Autobiographical Fragment," in D.C. Kempf & J.C. Burnham, eds., Edward J. Kempf: Selected Papers, (Bloomington: Indiana University Press, 1974), 6.

Kempf went on to earn his MD from Western Reserve Medical School, specializing in psychiatry. From 1911 to 1913 he was on the staff of the Central Hospital for the Insane in Indianapolis, where he was able to remain in contact with the department. Lindley encouraged Kempf to report his case studies dealing with the social psychopathology of psychoses to Adolf Meyer at Johns Hopkins University. As a result, Kempf was invited to join the staff of Phipps Psychiatric Clinic. Aided by his wife, who was also a physician, Kempf eventually went into private practice as a psychotherapist and continued his research in psychobiology.

3.7 Connections to education

Indiana University had long served as a training ground for teachers, and had established a chair in pedagogy in 1886 in the Department of Philosophy. The curriculum in pedagogy was closely linked with psychology, and a number of professors had held appointments in both subjects over the years. As the new president, Bryan strongly supported the professionalization of teaching. In 1902 Bergström was placed in charge of pedagogy as well as the psychological laboratory. Two years later he headed an independent Department of Education that was formed out of the pedagogy program that had evolved within the Department of Philosophy over the past fifteen years.

By 1908 the education department had grown into the School of Education, dedicated to improving the professional training of teachers. Prompted by new state certification requirements for teachers, a large demand for courses in education arose. In a related development, pedagogy faculty member Elmer B. Bryan (1865-1934) was appointed principal of the the Philippines Normal School in 1901 under a joint arrangement with Indiana University. By 1903 he had become superintendent of education for the entire Philippines, and employed nearly 800 American teachers. An Indiana alumnus who had done graduate work at Clark University, Elmer Bryan was listed a professor of educational and social psychology from 1903-05, reflecting the fluid administrative and intellectual boundaries between psychology and education.[81]

Academic standards were a major issue during the first years of Bryan's administration as Indiana sought to qualify for membership in the American Association of Universities. Grade inflation was a particular problem. Lindley played a key role in establishing grading policies and guidelines within the university around 1909. Graduate education was another area of concern. Although the university had awarded graduate degrees since 1882, they were largely honorary

---

81. Not related to William Lowe Bryan, Elmer B. Bryan went on to successive tenures as president of Franklin College, Colgate University, and Ohio University. Clark, Midwestern Pioneer, II, 41, 102-105; Gilstad, "100 Years of Teaching."

and the requirements varied widely among departments. As part of his larger plan to diversify and strengthen the university's professional programs, Bryan organized the Graduate School in 1908. The following year Indiana University was admitted to the American Association of Universities.[82]

3.7.1 M.E. Haggerty: From apes to education

In 1908 Bergström accepted an offer to join the Stanford faculty.[83] After his departure, Melvin E. Haggerty (1875-1937) was appointed director of the psychological laboratory. A Hoosier native, Haggerty completed his bachelor's degree at Indiana University in 1902. Returning for graduate study in psychology in 1906, he received his MA the following year. He then enrolled at Harvard for three years, where he became involved in research in comparative psychology under Robert M. Yerkes. Yerkes had studied various species ranging from worms to mice in his quest to trace the evolution of animal intelligence from simpler forms of life to the human species. The lower primates, with their obvious similarities to humans, occupied a key position on his research agenda, but the costs of obtaining and caring for them made such research difficult.[84]

With Yerkes' help, Haggerty was able to conduct some primate research at the New York Zoological Park. During the summer of 1908 he spent nearly 300 hours studying imitation among various primates, including cebus and macacus monkeys, orangutans, and a chimpanzee.[85] He received his PhD from Harvard in 1910.[86] Partly as a result of Haggerty's dissertation research, Yerkes was convinced that he should focus his psychobiological program around primates.[87]

Meanwhile Lindley hoped to bring Haggerty back to Indiana in order to strengthen the department's research program. Lindley admitted to Yerkes that, although his own research output had been meager, "the course of sound psychology in Indiana goes forward not only among teachers but also among the medical men and the ministers."[88] In 1909, Haggerty was appointed an assistant professor of psychology and taught summer school, but he remained on leave until the following year. Although he continued to teach comparative psychology, he was soon forced to abandon his animal research due

---

82. Clark, Midwestern Pioneer, II, 49.
83. He died two years later at the age of 42. His death left an opening at Stanford which was filled by his former student Lewis M. Terman, who remained there for the rest of his career.
84. See James Reed, "Robert M. Yerkes and the Mental Testing Movement," in Sokal, ed., Psychological Testing and American Society, 75-94.
85. Haggerty, "Summary of Investigation on Primates, Conducted in Primates' House, New York Zoological Park, From June 26th to September 3rd, 1908;" Haggerty to Yerkes, 20 July 1908; Robert M. Yerkes Papers/Yale University Archives/New Haven, Conn./Box 23/Folder 412.
86. M.E. Haggerty, "Imitation in Monkeys," Journal of Comparative Neurology and Psychology, 1909, 19, 337-455.
87. Robert M. Yerkes, in C.A. Murchison, ed., A History of Psychology in Autobiography, II, (Worcester: Clark University Press, 1932), 381-407, on 400.
88. Lindley to Yerkes, 6 June 1909; Yerkes Papers/23/413.

to lack of funds and pressure to apply psychology to education and mental hygiene. In his first course in 1909, he taught 18 students with Washburn's recently published textbook, The Animal Mind.[89] The following fall Haggerty instructed seven students in comparative psychology. Beginning with the amoeba and paramecium, the course covered worms, crayfish, chicks, mice, rats, dogs, and - possibly - a monkey.[90] During the same semester he and Lindley inaugurated a course in applied psychology.

Like his predecessor as laboratory director, Haggerty found that much of his effort was taken up in applied research in educational psychology. Shortly after the School of Education was formed in 1908, an "orthogenics clinic" was organized to investigate the behavioral problems of schoolchildren. The facility was patterned after the psychological clinic begun by Lightner Witmer at the University of Pennsylvania in 1896. Haggerty was listed as an instructor for a course in "Orthogenics" first offered by the School of Education in 1910-11. Its purposes were:

> (1) to make a thorough investigation of the literature on defectives and subnormals from current periodicals, reports, and books; and (2) to furnish the student opportunity to do laboratory work in the clinic by actual first hand observations on, and experiments with, different types of defectives.[91]

This course was given until 1916, and apparently a few cases were examined in the orthogenics clinic, including one that was reported by a student in the professional journal The Psychological Clinic.[92]

Haggerty attempted to harness popular interest as well as provide a focus for his wide-ranging activities in educational psychology by organizing the Indiana University Cooperative Bureau of Educational Research in 1913 to provide services to the state school system.[93] In connection with this bureau and the psychological laboratory, he conducted numerous studies concerning educational measurement in children. Among them was an early investigation of sex differences in verbal recall, published in a article co-authored by Edward Kempf.[94]

As Haggerty found his energy drawn into applied areas, he sought to construct a satisfying rationale for his diverse work in

---

89. M.F. Washburn, The Animal Mind, (New York: Macmillan, 1908). Haggerty to Yerkes, 15 August 1909; Yerkes Papers/23/413.
90. For comparison, 28 students were enrolled in experimental human psychology during the same term. Haggerty to Yerkes, 2 November 1910; Yerkes Papers/23/413.
91. Indiana University Catalog, 1911-12, 148
92. Mary Rogers, "A Case from the Indiana University Clinic," Psychological Clinic, 1912, 6, 144-151.
93. Renamed the Bureau of Cooperative Research, the enterprise came under the sponsorship of the School of Education. See Henry L. Smith, "Bureau of Cooperative Research and Field Service," in "The President's Report, 1937-1942," Indiana University Bulletin, 1942, 196-200.
94. M.E. Haggerty & E.J. Kempf, "Suppression and Substitution as a Factor in Sex Differences," American Journal of Psychology, 1913, 24, 414-425.

psychology. In 1912 he wrote to Yerkes that psychology should aim to discover "the fundamental laws of learning."[95] The subject of learning encompassed both the scientific research as well as the practical applications psychologists were engaged in.

In addition to Haggerty's clinically-oriented work offered in the School of Education, Lindley taught a course on "Mental Pathology" in the Department of Philosophy in the 1910s. The course included a field trip to the Central Hospital for the Insane in Indianapolis, evidently arranged by Lindley's former student, psychiatrist Edward Kempf. Lindley was also involved in public efforts to promote mental health as a member of the Indiana Society for Mental Hygiene, a group that was formed around 1914 after a statewide survey of mental health problems and facilities. The Indiana group in turn was associated with the American Society for Mental Hygiene.[96]

One of the last visible traces of Haggerty's research interests in comparative psychology was a popular article in the Atlantic Monthly dealing with the evolution of animal intelligence, published in 1913.[97] Unexpectedly, the following year he was able to return to his earlier interests by serving as an advisor to graduate student Calvin P. Stone. Like so many Indiana University psychology students, Stone was born and educated in Indiana. He obtained both BS (1910) and BA (1913) degrees from Valparaiso University, and had experience as a schoolteacher. Working under Haggerty, he completed his master's degree in 1916 with a thesis on light discrimination in dogs.

After Haggerty went to the University of Minnesota as a professor of educational psychology in 1915, Stone followed and eventually obtained his PhD there under Karl Lashley.[98] Stone was able to continue doing research on animal behavior as a professor at Stanford, whereas Haggerty's transition from animal researcher to applied psychologist was complete.[99]

3.8 Wartime disruption

Lindley, like Bryan before him, moved from psychology into university administration, and left Indiana in 1917 to become president of the University of Idaho.[100] Lindley's departure added to

---

95. Haggerty to Yerkes, 5 October 1912; Yerkes Papers/23/413. See also O'Donnell, The Origins of Behaviorism, 230-231.
96. E.H. Lindley, "Mental Hygiene: Retrospect and Prospect," Proceedings of the Indiana Academy of Science, 1916, 32, 83-88.
97. M.E. Haggerty, "Upon the Threshold of the Mind," Atlantic Monthly, 1913, 112, 245-253.
98. The year after his MA Stone worked as director of psychological research at the Indiana State Reformatory. His graduate career was also interrupted by his service in World War I. After earning his PhD from Minnesota in 1921, he went to Stanford the following year, where he remained for the rest of his career.
99. Haggerty went on to a distinguished career in his adopted field, eventually becoming Dean of the School of Education at Minnesota and serving as a president of the American Educational Research Association.
100. Bryan's older brother Enoch Albert Bryan, a former university president himself (of Vincennes University and of the State College of Washington) was commissioner of education for the State of Idaho from 1916-23. From 1920 to 1940 Lindley served as Chancellor of the University of Kansas, and became well known as an

the disruption already caused by World War I. During his tenure, psychology had continued to play an important part in undergraduate education, and its service roles within the university and the state were expanded. Whatever national reputation the department enjoyed during this period was due to its old experimental tradition combined with its more recent applied work. For nearly three decades the psychology program had continued along the pragmatic course begun by Bryan. With the loss of its senior faculty members, its future direction was less clear.

4 Extending the boundaries of science and service

After Lindley left, undergraduate psychology alumnus William F. Book (1873-1940) was appointed head of the philosophy department. A native Hoosier, Book had received his BA in psychology from Indiana University in 1900 and completed his doctorate under G. Stanley Hall at Clark in 1906. Spending the next six years at the University of Montana, he taught psychology and helped establish an experimental laboratory. He returned to Indiana University in 1912 for one year as a professor of educational psychology before serving as the director of vocational education of the Indiana State Board of Education for the next four years.

Given Bryan's attitudes, Book was a logical choice to chair the department. His possessed the desired credentials from Indiana and Clark, and had demonstrated his ability in applied educational psychology, as both a researcher and an administrator. Furthermore, Book's dissertation research was based directly on the pattern laid down by Bryan in the 1890s. He investigated the learning of typewriting, another occupational skill important in industrial society.[101] Working for the State of Indiana, Book conducted a number of surveys of the intelligence of high school students. Drawing on this background, he published extensively in educational psychology, including some popular treatises such as How to Succeed in College.[102]

Faced with burgeoning enrollments beginning around 1917, Book's immediate task as department head was to rebuild the psychology faculty. He was the only full-time member; two recent master's recipients, Joseph A. Williams and Thomas E. Nicholson, were pressed into service. The ranks were further bolstered by the

---

educational statesman for his role in liberating that university from the governor's direct control. See F.D. Farrell, "Dr. Lindley's Christmas Present," Kansas Historical Quarterly, 1956, 22, 67-77.

101. W.F. Book, "The Psychology of Skill with Special Reference to Its Acquisition in Typewriting," University of Montana Publications in Psychology, 1908, 1, 1-188.

102. W.F. Book, How to Succeed in College, (Baltimore: Warwick & York, 1927).

arrival of Sidney L. Pressey (1888-1980) in 1917 under a special research appointment.

4.1 Postwar reorganization

Fresh from his doctoral research under Robert Yerkes at Harvard, Pressey came to Indiana to conduct research on educational problems in the state. He began by conducting extensive tests on schoolchildren in nearby counties, and created and improved various measurement techniques. In his surveys of Indiana schools, Pressey was interested in determining both general ability and achievement in the basic school subjects of pupils in grades 1 through 12. He developed and administered a number of relatively simple and valid tests, as well as a personality inventory, which received widespread acceptance by educators. Pressey worked at Indiana for four years, publishing over 50 articles and reports on educational psychology. He cultivated a wide array of contacts among educators in the state, further strengthening the department's role in this area.[103]

Book lobbied Bryan and the board of trustees concerning the welfare of the psychology program, and bombarded them with memoranda and statistics. By 1919, he managed to gain approval for the renaming of the department as the Department of Psychology and Philosophy. The change, which gave formal recognition to the long emphasis on psychology within the Department of Philosophy, was evidently justified on the basis of enrollment figures, which indicated that the enrollment in psychology courses was more than twice as large as that in philosophy.[104] Book also capitalized on the testing work performed in the department by printing and selling mental test blanks commercially. In 1920-21 some 100,000 forms were sold, bringing in $625 to the department.[105]

The department also began looking beyond its own alumni for faculty members.[106] The war had ushered in a new era for American psychology. Buoyed by their engagement in practical military problems, psychologists were eager to extend their professional service roles. Book shared this concern, and within two months after the Armistice he submitted a special report to president Bryan on the future of psychology at Indiana. He reviewed the widespread use of

---

103. Pressey's first wife, Luella Cole Pressey, obtained an MA (1919) and a PhD (1920) from Indiana University. She was one of two women who received the first PhDs in psychology ever awarded by the university. Pressey mentions his Indiana career in two similar accounts: Sidney L. Pressey, "Autobiography," in E.G. Boring & G. Lindzey, eds., A History of Psychology in Autobiography, V, (New York: Appleton-Century-Crofts, 1967), 311-339, on 317-320; idem, "Autobiography," in R.J. Havighurst, ed., Leaders in American Education, (Seventieth Yearbook of the National Society for the Study of Education, Part II), (Chicago: NSSE, 1971), 231-265, on 236-241.
104. The figures reported by Book for psychology and philosophy, respectively, were: 1917-18: 394 & 163; 1918-19: 648 & 316; 1919-20: 1010 & 286; 1920-21: 528 & 154; W.F. Book, "[Report to Board of Trustees]," 20 March 1920; idem, 1921; Indiana University Archives.
105. Book, "[Report to the Board of Trustees]," 1921.
106. Bergström, hired in 1894, had been the only non-alumni faculty member appointed before Pressey in 1917.

mental tests for classifying personnel, and was optimistic about the extension of these methods during peacetime in order to "conserve and rightly use all kinds and grades of human talents."[107] He noted the increasing importance of cooperative research and the creation of National Research Council as a coordinating organization. Like many of his colleagues, Book embraced the belief that psychological research could make basic contributions to the scientific solution of social problems. Issues of individual motivation and national morale had been raised by the war, and Book suggested that the "study of the cohering factors in our society" confronted psychologists with a major task.[108]

Practically, Book's plans were constrained by institutional realities. The university could commit resources to psychology only insofar as the demands of the teaching program warranted. Beyond that, the department could hardly expect to attract funds from governmental and philanthropic sources without highly visible graduate training or research programs. Thus Book's strategy for improving the department depended chiefly upon hiring promising faculty members and aiding their development in whatever way possible. By judiciously extending and carefully balancing the department's teaching, research, and service roles, Book was able to slowly build a solid, well-rounded program over the next 15 years.

4.2 Harry D. Kitson and vocational guidance

Book's broad concerns were at least partly addressed by the appointment of Harry D. Kitson, a specialist in vocational psychology, as an associate professor in 1919. Like Pressey, Kitson (1886-1959) had no previous connection with Indiana University, having been employed as an instructor at the University of Chicago since receiving his PhD there in 1915.

Upon arriving at Indiana, Kitson embarked on an ambitious program of research and publication in the area of vocational adjustment. Drawing together diverse threads from personnel management, the vocational guidance movement, and experimental psychology, Kitson attempted to define the field of vocational psychology and the central role that psychologists should play in it. He championed the experimental approach to the study of occupations pioneered by Bryan over two decades earlier. Both Bryan and Book supported Kitson's research, which resulted in the systematic textbook The Psychology of Vocational Adjustment, published in 1925.[109] Among his other activities, he and Edgar L. Yeager (b.1898), a newly appointed instructor in the department, published a series of vocational information bulletins in cooperation

---

107. William F. Book, "Special Report to the President," 10 January 1919, 1-11, on 6; Indiana University Archives.
108. Ibid., 8.
109. H.D. Kitson, The Psychology of Vocational Adjustment, (Philadelphia: Lippincott, 1925).

with the Indianapolis Chamber of Commerce.[110] After six productive years at Indiana, Kitson went to Teachers College of Columbia University as a professor of education. He was there for the rest of his career; he also served as longtime editor of Occupations, the journal of the Vocational Guidance Association.

4.3 J.R. Kantor: A systematic mind

One of Kitson's fellow graduate students at Chicago was J. Robert Kantor (1888-1984). He received his PhD in 1917, and taught for a few years at the University of Minnesota and at the University of Chicago. Learning about an opening on the Indiana faculty from Kitson, Kantor was hired in 1920. Like Pressey and Kitson, Kantor had no prior connection with the university.

Kantor's interests were primarily theoretical and systematic, presenting a strong contrast to the department's traditional empirical and practical thrust. At Chicago, a leading center of American functional psychology, Kantor had concentrated on psychology's philosophical foundations, and had written his thesis on "The Functional Nature of the Philosophical Categories."[111] When he came to Indiana, Kantor had already published a number of papers and was working on a major treatise.

Kantor was strongly committed to constructing a comprehensive philosophy of science for psychology. He vigorously criticized current theories of the mind, castigating them as "spookology" rather than psychology. (He later said "my point was to demolish both structuralism and functionalism.")[112] He believed that this effort took precedence over experimental work since it provided an intellectual context for such empirical study. Kantor's first attempt at providing a naturalistic framework for psychology resulted in a two-volume book, Principles of Psychology (1924-26).[113] Consciously echoing the titles of earlier works by Herbert Spencer (1883) and William James (1890), Kantor's book presented a system of "organismic psychology" which stressed the interactions between biological organisms and their physical environment. Like many of his contemporaries, he viewed stimulus and response as fundamental concepts, but he analyzed them in wholistic terms.

Following this major work, Kantor elaborated his system through studies of special areas in psychology, such as social psychology and the psychology of language, and philosophical problems. He found Indiana a congenial place to work, and received the security of a full professorship in 1923. Although other department members had made significant scientific contributions in

---

110. W.F. Book, "Report to the Dean of the Graduate School," 1927; Indiana University Archives.
111. J.R. Kantor, The Functional Nature of the Philosophical Categories, (PhD dissertation, University of Chicago, 1917).
112. J.R. Kantor, personal communication, 4 May 1978.
113. J.R. Kantor, Principles of Psychology, (New York: Knopf, 1924-26).

the past, Kantor was the first Indiana University psychologist to consistently pursue independent research without addressing local, applied interests that extended beyond his teaching duties. Like Bryan, Kantor was in many respects a philosopher, and they both shared an abiding faith in the spirit of naturalism. But the two men had different goals. Bryan valued philosophy for its moral values, and viewed their application as a route to the good life. In contrast, Kantor saw philosophy as an analytic tool to be used in building a rigorous logical foundation for psychology. He was more concerned about general propositions rather than with specific cases, and focused on systematic description rather than ethical prescription.

Kantor had a challenging teaching style, and one undergraduate student's recollection of a course taught by him in the early 1920s suggests the difference between Kantor's and Bryan's approaches. One semester, Kantor happened to substitute for Bryan in "Ethics," a course that had been taught by Bryan for decades. The student reported that Kantor jettisoned the standard syllabus and "opened the course by asking the students what they believed to be right and wrong and why they believed it. We never got past that question in the entire semester."[114] After describing some of the spirited debate encouraged by Kantor, the student called the course the high point of his undergraduate and graduate education. In his words:

> It seemed to me that that teacher ... shattered a crust that had lain like a blanket over my thinking. I took from it not only a new respect for evidence but a new conception of evidence, a readiness I had not had before to look at the ground on which I stood, and a new sense of how to probe into my foundations and scrutinize them.[115]

4.4 Starting the psychological clinic, 1922

By 1921 Book's efforts to improve the department were starting to pay off, and he boasted privately to president Bryan that "more articles and pages were published from the I.U. laboratory than any other university in the country."[116] Whether the statement was strictly true or not, the department did have a productive trio of researchers and writers in Pressey, Kitson, and Kantor, and was beginning to put together a PhD program. The department's pride

---

114. The student was Charles S. Hyneman, BA 1923, later a well-known political scientist, president of the American Political Science Association, and Indiana faculty member. Charles S. Hyneman, "Some Crucial Learning Experiences: A Personal View," in R.H. Connery, ed., Teaching Political Science, (Durham, N.C.: Duke University Press, 1965), 217-237, on 221.
115. Ibid., 223.
116. Book to Bryan, 2 February 1921; Indiana University Archives.

was showing in other ways as well. For the first time in many years, the university catalog for 1920-21 mentioned the department's laboratory, claiming it "was the second psychological laboratory to be established in the United States, and is one of the best equipped laboratories in the country."[117]

A year after his general report on the postwar future of psychology at Indiana, Book followed up with a specific proposal to establish a "child welfare research station" at the university.[118] In presenting his idea, Book told the board of trustees: "A psychological clinic for deficient and abnormal children should be developed here at the University and at Indianapolis, and students definitely trained for dealing with this group of problems."[119] The University of Iowa had established the first child welfare research station a few years earlier in an effort to improve the lot of children. Patterned after the agricultural research station, the child welfare center emphasized research, teaching, and dissemination of information. Throughout the 1920s a number of state universities created child development institutes with the aid of funds from Laura Spelman Rockefeller Memorial foundation. Child psychology occupied a key position in this interdisciplinary effort, and grew rapidly with the aid of popular support and foundation money.[120]

Although the trustees rejected Book's plan for a child welfare research station, they did approve the opening of the Indiana University Psychological Clinic in 1922. Herman H. Young (1887-1931), a clinical psychologist trained under Lightner Witmer at the University of Pennsylvania, was recruited as director. His wife, Mary Hoover Young (1891-1933), who was also a clinical psychologist, was hired as his assistant. Within a few months a satellite clinic was started at the Robert Long Hospital in Indianapolis. (When the James Whitcomb Riley Hospital for Children in Indianapolis opened in 1924, the unit was transferred to that facility.)

Begun as a laboratory and training facility for students in clinical psychology, the clinic was also to serve the state in the diagnosis and treatment of individuals with psychological problems. Although services were available to all ages, in practice the clinic dealt mainly with children. Because it had authority only to issue advice and recommendations, the clinic depended on existing community institutions - the home, the school, the court, and charitable groups - for treatment. As part of its effort to foster good communication with local agencies, the clinic established a graduate Fellowship in Clinical Psychology sponsored by the Bloomington Local Council of Women.

---

117. Indiana University Catalog, 1920-21, 139.
118. W.F. Book, "Department of Psychology and Philosophy Report to the I.U. Board of Trustees, 1920-21"; Indiana University Archives.
119. Ibid.
120. See Robert R. Sears, "Your Ancients Revisited: A History of Child Development," in E.M. Hetherington, ed., Review of Child Development Research, 1975, 1, 1-70, esp. 16-21.

The development of detailed and accurate case histories of clinic clients was the overriding concern of the program. Observations, psychological tests, teacher's ratings, and personal and medical history were all included in constructing a case file. Diagnosis provided the basis for treatment recommendations. In the Bloomington clinic's first three years, 244 children were examined. Most of these were elementary school students; more than half of them had been referred to the clinic by their teacher or other school official. A majority of the cases clustered around problems caused by borderline mental ability, and treatment recommendations correspondingly centered on special education classes.[121] Throughout the 1920s the clinic caseload at Bloomington averaged 86 cases per year. The total at Indianapolis was considerably larger, averaging 372 per year, probably due in part to the policy during the first few years of routinely examining every patient in the children's ward.[122]

4.5 The Department of Psychology, 1929

In 1929 the Department of Psychology and Philosophy was split into two separate departments, giving formal recognition to the growth and diversification in psychology over the preceding decade. For the 1929-30 academic year the university catalog listed only two faculty members (in addition to Bryan) in philosophy, whereas psychology boasted eight. The psychology department offered a total of 70 courses (41 undergraduate, 29 graduate) compared to 27 (17 undergraduate, 10 graduate) for philosophy.[123]

During the 1920s the rudiments of a PhD program in psychology emerged in the department. Although Indiana University had established a Graduate School in 1908, the first PhDs in psychology were not awarded until 1920. By the end of the 1920s, 14 doctorates had been granted, with dissertations falling into four major areas - clinical, education and testing, learning, and comparative. Nearly a third of the recipients had been employed in teaching or research positions in the department. The PhD program was built on a flourishing master's program. During the decade, 28 MAs had been awarded; nearly half were to continuing doctoral students.

The department continued to be a major source of undergraduates headed for other doctoral programs in psychology. The importance of Indiana as a supplier of undergraduates destined to become professional psychologists was quantified in a study of American Psychological Association members and associates in

---

121. Herman H. Young & Lettie Wadsworth, "Psychological Clinic, Indiana University: Report of the First Three Years' Work at Bloomington Branch, September, 1922 to August, 1925," Indiana University News-Letter, 1925, 13 (11), 1-8.
122. C.M. Louttit, "The Indiana University Psychological Clinics," Psychological Record, 1937, 1, 449-458, on 450-451.
123. Indiana University Catalog, 1929-30.

1928. Although only one of the 616 respondents held an Indiana University PhD, 22 had obtained their bachelor's degrees there. This total was second only to Harvard, which accounted for 23 undergraduate degrees. The study also revealed that Indiana had three undergraduate alumni on its psychology faculty, more than any other American university.[124] However, as American psychology expanded in the 1920s, Indiana became less prominent as a baccalaureate source of psychology doctorates.[125]

First Row—Prof. Kantor, Prof. Nicholson, Prof. Book, Furlow, Ashbaucher, Schnabel.

Second Row—Prof. Kitson, Williams, Prof. Elkin, Campbell, Dykes, Cook, Caylor.

Third Row—Blubaugh, Wylie, Balliet, Mrs. Young, Collins, Golay, Yeager.

Back Row—Mason, Lane, Sleath, Sinclair, Mottier, Funkhouser, King.

Faculty and students:Indiana University Psychology Club 1923

Among the students who passed through the psychology department on their way to other careers was Lee Norvelle, who later led efforts to establish speech and theater programs at Indiana University. After a delayed start in school, Norvelle transferred to Indiana in 1920 for his senior year in college. He worked closely with Book in analyzing data on learning incentives gathered from tests of some 3,000 high school seniors throughout the state. Book was seeking practical ways to motivate students to advance beyond the

---

124. Samuel W. Fernberger, "Statistical Analyses of the Members and Associates of the American Psychological Association, Inc. in 1928: A Cross Section of American Professional Psychology," Psychological Review, 1928, 35, 447-465, on 451, 454.

125. L.R. Harmon, "Production of Psychology Doctorates," American Psychologist, 1964, 19, 629-633.

learning plateaus that had first been observed by Bryan and Harter in their study of telegraphers.[126]

Norvelle proved to be an able assistant, and Book urged him to consider a career in the department, encouraging him to take a master's degree before going on to Clark for a doctorate in psychology. But Norvelle had other plans. He wanted to teach speech and theater in a college, and was able to obtain a position at the University of Iowa from 1921-25. He returned to Indiana University in 1925 as a member of the English department, and began working part-time on his PhD in psychology, which he completed in 1931. He remained at Indiana for the rest of his career, and was intimately involved in the evolution of the departments of Speech Communication, Theatre and Drama, Speech and Hearing Science, and Radio and Television. For Norvelle, Book and the psychology department provided the professional training he desired for his chosen career.[127]

4.6 Developing experimental research

In addition to the Youngs' clinical work and Kantor's theoretical studies, the department expanded its experimental program starting in the mid-1920s. In 1925, George S. Snoddy (1882-1947), former department head at the University of Utah, came to Indiana as a professor. A 1915 Clark PhD, he had conducted research on human learning and tested the intelligence of Utah schoolchildren. At Indiana he devised experiments using a star-shaped design that subjects traced while looking in a mirror. From his results, Snoddy proposed a theory of learning that identified two processes in the attainment of skill. The first, called primary growth, concerned learning that was improved by relatively long periods between trials. Secondary growth was next, and was enhanced by the reduction of time between trials. In sum, optimum learning would occur with spaced practice at first, and then massed practice. He considered the two processes antagonistic to each other, and interpreted the learning curve plateau as their area of greatest interference.[128] However, Snoddy's theory engendered criticism and was not widely accepted.[129]

4.7 Winthrop N. Kellogg: The complete empiricist

Among the Indiana undergraduates who went elsewhere to gain their doctorates in psychology during the 1920s was Winthrop N.

---

126. W.F. Book & L. Norvelle, "The Will to Learn, an Experimental Study of Incentives," Journal of Genetic Psychology, 1922, 29, 305-362.
127. Lee Norvelle, The Road Taken, (Bloomington: Indiana University Foundation, 1980), 159 ff.
128. George S. Snoddy, Evidence for Two Opposed Processes in Mental Growth, (Lancaster, Pa.: Science Press, 1935).
129. L.R. Dore & E.R. Hilgard, "Spaced Practice as a Test of Snoddy's Two Processes on Mental Growth," Journal of Experimental Psychology, 1938, 23, 359-374.

Kellogg. Kellogg (1898-1972) received his bachelor's degree at Indiana University in 1922, and then went to Columbia for graduate work. He finished his PhD in 1929 there and was soon hired by Indiana. Interested in experimental psychology, especially psychophysics, Kellogg had also done research concerning the correlation of intelligence with physical factors. In addition, he was adept at designing and building his own experimental apparatus.

Soon after his arrival Kellogg began to formulate a plan for an ambitious project dealing with the comparative psychology of primates. In an article, "Humanizing the Ape," he argued for comparative developmental studies of humans and infra-human primates.[130] In order to determine the relative influence of nature and nuture on behavior, he proposed to raise a baby chimpanzee simultaneously with his own infant son Donald. Bryan supported Kellogg's plan, and provided a strong letter of recommendation when Kellogg attempted to obtain a young chimp from the Philadelphia Zoological Society in 1930. Unsuccessful, Kellogg turned to Robert Yerkes, head of the Yale Laboratories of Comparative Psychobiology, for advice.[131]

Taking Kellogg under his wing, Yerkes helped shape his research strategy. Kellogg decided to apply for a Social Science Research Council fellowship to work at the Yale Anthropoid Station in Florida in order to prepare for his project, which he estimated would take five years. He was anxious to start as soon as possible, while his son was still quite young and before he and his wife Luella had additional children. Although he was only beginning to gain experience with handling primates by keeping a couple of macacus rhesus monkeys in his house, Kellogg was confident that he and his wife were up to the task of living with a chimpanzee.[132]

As the fellowship application deadline approached at the end of 1930, Yerkes tried to temper Kellogg's enthusiasm by suggesting that he use the fellowship to gain more experience with apes and to see if his larger plan was feasible. In his research proposal, Kellogg was explicit about his interest in raising an ape and a human child together in order to test the environmental thesis. As he put it:

> In spite of a great deal of theorizing upon the effect of environmental as against hereditary influences, no controlled experiment of this type has yet been completed to discover by actual trial just how far the ape would develop in such surroundings. ...Although this animal by all measures is to be regarded as the organism closest to man both morphologically and psychologically, the inclination has been to compare the

---

130. W.N. Kellogg, "Humanizing the Ape," Psychological Review, 1931, 38, 160-176.
131. Kellogg to Yerkes, 17 September 1930; Yerkes Papers/28/535.
132. Yerkes to Kellogg, 15 November 1930; Kellogg to Yerkes, 15 November 1930; Yerkes Papers/28/535.

> behavior of a young or adolescent ape with that of a young or adolescent human, to the obvious advantage of the latter, without considering the serious possibility that his difference may be due in large measure to the effect of years of divergent training upon both organisms.[133]

After Kellogg was awarded the SSRC fellowship in 1931, Yerkes advised him to "keep entirely quiet about [the] special inquiry" so as not to arouse unwelcome publicity.[134] Yerkes was sensitive to the opinions of his patrons, and tried to avoid controversy and the appearance of sensationalism. A few weeks later Kellogg's article on "Humanizing the Ape" appeared in print, prompting Yerkes to criticize Kellogg for offending some comparative researchers with his remarks. Kellogg replied graciously, saying that he realized his early statements about testing the environmental thesis were overenthusiastic. Evidently he also accepted Yerkes's bland restatement of the study's objective as "an attempt to discover how an infant great ape will respond to a typically human environment."[135]

Kellogg's article was discovered by a New York news agency, which pursued the story. Apparently Kellogg managed not to disclose the research plans he had made in the year after writing the speculative piece, and kept the Yale connection unmentioned. Apologizing for his unintended gaffe, he wrote to Yerkes offering to resign the fellowship if Yerkes wanted him to. Yerkes brushed off the incident, telling Kellogg not to worry about it.[136]

The Kellogg family moved to Florida in the summer of 1931, setting up their household near the Yale Anthropoid Station located in Orange Park. Soon after arriving Kellogg was surprised and dismayed to discover that some other researchers at the station were conducting a developmental study of an infant chimpanzee. Evidently, Yerkes had neglected to tell Kellogg that another postdoctoral fellow, Carlyle Jacobsen, and his colleagues had been studying the animal since its birth nearly a year before. The infant - named Alpha because it was the first ever born in the colony - had spent a considerable amount of time being cared for by the Jacobsen's in their home, although they had made no explicit attempt to "humanize the ape."[137]

The Kelloggs were hardly settled before an infant chimpanzee - a female named Gua - became available and joined the family.

---

133. W.N. Kellogg, "Detailed Statement of Proposed Research," [November 1930]; Yerkes Papers/28/535.
134. Yerkes to Kellogg, 5 March 1931. Yerkes wrote a strong recommendation to the SSRC fellowship committee concerning Kellogg: Yerkes, "Application of W.N. Kellogg for Social Science Research Fellowship," 8 December 1930; Yerkes Papers/28/535.
135. Yerkes to Kellogg, 23 March 1931; Kellogg to Yerkes, 9 April 1931; Yerkes Papers/28/535.
136. Kellogg to Yerkes, 20 April 1931; Yerkes to Kellogg, 24 April 1931; Yerkes Papers/28/535.
137. This information was provided by Ernest R. Hilgard, who spent the summer of 1931 at the Orange Park station. E.R. Hilgard, personal communication, 9 September 1987. See Carlyle F. Jacobsen, Marion M. Jacobsen, & Joseph G. Yoshioka, "Development of an Infant Chimpanzee During Her First Year," Comparative Psychology Monographs, 1932, 9, #41.

When the study began in July, Donald and Gua were 10 months and 7 1/2 months old respectively. The two were treated as nearly alike as possible, being dressed, bathed, fed, and taught in a similar manner. A variety of tests and measurements were made of their development on a regular basis, and recorded in a scientific diary.

Donald Kellogg and Gua

By October the experiment was already taking its toll on Kellogg and his wife. He wrote to Yerkes:

> To be with any one organism, continuously hour after hour, during every waking minute, for days, months - and if we presume the continuation of the experiment - possibly years, is a nerve racking proposition whether this organism be animal or human.[138]

Gua's strength was already a problem, and Kellogg predicted the study could last only six or eight more months.[139]

As expected, Gua matured physically much faster than Donald. She also learned other behavior more quickly as well, such

---

138. Kellogg to Yerkes, 23 October 1931;Yerkes Papers/28/535.
139. Kellogg to Yerkes, 1 October 1931; Yerkes Papers/28/535.

as eating with a spoon, drinking from a glass, and going to the toilet. She was highly affectionate, and seemed more dependent on human company and approval than Donald, crying pitifully when left alone. Both Donald and Gua would respond to simple directions to make gestures and to manipulate objects. Despite Gua's progress in acquiring behavior common among humans, her development was not up to Kellogg's earlier expectations. In particular, she made no apparent effort to speak or reproduce human utterances.[140]

After nine months of work, the study ended in the spring of 1932. Gua stayed at Orange Park and the Kelloggs returned to Bloomington.[141] Soon Kellogg reported some of the results at the annual meeting of the Midwestern Psychological Association, and began writing a book in collaboration with his wife. The book, entitled The Ape and the Child, was published in 1933.[142] Well-written and engaging, the book described the research in a semi-popular style. Not surprisingly, the news media picked up the story, and articles appeared in the New York Times and the Science News Letter.[143]

Yerkes reacted angrily to the publication of The Ape and the Child, feeling that Kellogg had not consulted him sufficiently about it. The causes of Yerkes's violent reaction are somewhat obscure, but he apparently objected to some of the conclusions. It was characteristic of him to withdraw support from students and colleagues when they did not meet his expectations, even if they had been unstated. Kellogg considered himself an independent investigator, and had offered to send data and reports to Yerkes for his comments. Yerkes wanted more. He had a proprietary interest in all research done at the Orange Park station, and wanted to exercise editorial control. Yerkes brought his concerns to the station's advisory board, explaining that the book would not be included in the publications list of the laboratories. Without specifying his criticisms, he said: "Omission of the report in the laboratory list therefore implies official disapproval." Then Yerkes communicated his censure to the head of the Social Science Research Council.[144]

Throughout the rest of his Indiana career Kellogg continued his comparative research, but conducted it in the laboratory. He published what was apparently first experimental study of learning by snakes in 1936, a description of maze learning by water snakes.[145] In

---

140. On the basis of expert opinion, including Yerkes's, Kellogg had hoped the primate could be taught to communicate vocally. See Robert M. Yerkes & Blanche W. Learned, Chimpanzee Intelligence and Its Vocal Expression, (Baltimore: Williams & Wilkins, 1925); Robert M. Yerkes & Ada W. Yerkes, The Great Apes: A Study of Anthropoid Life, (New Haven: Yale University Press, 1929), esp. Ch. 24.
141. Ernest Hilgard recalled that Gua had difficulty adjusting to a non-human environment, and she died not long after the experiment. E.R. Hilgard, personal communication, 9 September 1987.
142. W.N. & L.C. Kellogg, The Ape and the Child, (New York: McGraw-Hill, 1933).
143. New York Times, 14 May 1932; Marjorie Van de Water, "An Ape For a Baby Sister," Science News Letter, 26 August 1933, 133-135.
144. Kellogg to Yerkes, 7 March 1933; Yerkes to Kellogg, 19 May 1933; Yerkes to Robert T. Crane, SSRC, 23 October 1933; Yerkes Papers/28/536.
145. W.N. Kellogg & W.B. Pomeroy, "Maze Learning in Water Snakes," Journal of Comparative Psychology, 1936, 21, 275-295. Wardell Pomeroy received his BA (1935) and MA (1941) in psychology at Indiana

the late 1930s Kellogg obtained funds to build a laboratory for research on conditioned behavior in dogs.[146] With the aid of faculty colleagues and graduate students he established an extensive experimental program to investigate the physiological and conditioned responses of decorticated dogs. The lab proved to be an excellent training ground for students, who could work on a discrete problem within a well-defined research paradigm.[147]

4.8 Roland C. Davis and psychophysiology

Roland C. Davis (1902-1961), another Columbia PhD (1930), joined the faculty in 1931. An inventive technician and able experimentalist, he pioneered the study of physiological psychology in the department. He sought to understand the relation between behavioral responses and patterns of sympathetic nervous system activity, and made important contributions to the measurement and interpretation of bioelectrical events in humans. While at Columbia, he began investigations of the galvanic skin response by reviewing the literature and clarifying the major issues in its study. For the next thirty years he devised instrumental techniques for measuring and recording muscular tension, muscle action potentials, circulatory changes, and other psychophysiological responses.[148]

With the specialized laboratories of Davis and Kellogg, the department was gaining the capability to conduct advanced research. The laboratories, along with the clinic, also provided the means to train increased numbers of graduate students.

4.9 C.M. Louttit and applied psychology

In 1931 Herman Young, the director of the psychological clinic, caught pneumonia and died at the age of 43, leaving a major gap in the department faculty. He was soon replaced by Chauncey McKinley Louttit (1901-1956), who had been teaching for a year at Ohio University.[149] Louttit had been trained in comparative psychology, earning his PhD under Robert Yerkes at Yale in 1928. Since graduation, however, he had been steered in the direction of applied psychology. His experiences before coming to Indiana Univesity illustrate the difficulties of launching a research career in psychology during the Depression, and provide important background for his activities in the department.

University, and later became a major collaborator with Alfred Kinsey at the Institute for Sex Research at Indiana University.

146. W.N. Kellogg, "The Indiana Conditioning Laboratory," American Journal of Psychology, 1938, 51, 174-176.
147. James Deese, "In Memoriam: Winthrop Niles Kellogg, 1898-1972," Psychological Record, 1973, 23, 423-425; Ludy T. Benjamin & Darryl Bruce, "From Bottle-Fed Chimp to Bottlenose Dolphin: A Contemporary Appraisal of Winthrop Kellogg," Psychological Record, 1982, 32, 461-482.
148. William K. Estes, "Roland Clark Davis: 1902-1961," American Journal of Psychology, 1961, 74, 633-636.
149. Ohio University psychologist James P. Porter, an Indiana alumnus and close colleague of William Book, probably aided in the job negotiations.

Louttit's first paid employment in psychology foreshadowed his later career. After receiving his bachelor's degree from Hobart College in 1925 Louttit became an assistant to Stanley D. Porteus, director of research at the Vineland Training School for the Feebleminded, located in New Jersey. Armed with a strong recommendation from Porteus, Louttit obtained a graduate assistantship from Yerkes, who had recently moved to Yale University. Yerkes had funding from the National Research Council's Committee for Research in Problems of Sex and was searching for a student to "devote a few years, if not his life, to the study of fundamental problems of sex."[150]

Louttit was one of the first graduate students recruited to Yale's new Institute of Psychology (a forerunner of the Institute of Human Relations), a research and graduate training center established with major funding from the Rockefeller Foundation. Yerkes, finally gaining institutional support for his ambitious research program in comparative psychology, set Louttit to work on the sexual behavior of the guinea pig. His dissertation, completed in 1928, was published as a monograph in the Journal of Comparative Psychology, which Yerkes edited.[151] Louttit also demonstrated a flair for library research, publishing the massive "Bibliography of Bibliographies in Psychology: 1900-1927" with the encouragement of his advisor.[152]

Louttit landed his first job, at the University of Hawaii, through Porteus, who had become director of its Psychological Clinic. He was soon disappointed in the position, which consisted of routine testing of school children rather than research, and felt intellectually isolated. Partly out of loyalty to Porteus he decided to stay for two years and then go somewhere "more scientific." Trying to make the best of the situation, Louttit confided to a graduate school friend:

> I realize the experience gained here will not be valueless, especially on the clinical side. I am not interested in clinical work, but the knowledge may come in handy.[153]

Louttit's professional involvement with applied psychology apparently displeased his scientific mentor Yerkes, and they maintained a distant, if cordial relationship.[154] The Depression, beginning in his

---

150. Porteus to Yerkes, 15 July 1925; Yerkes to Porteus, 20 July 1925; Chauncey McKinley Louttit Papers, Yale University Archives, New Haven, Conn./Box 16/Binder 1-1.
151. C.M. Louttit, "Reproductive Behavior of the Guinea Pig: I. The Normal Mating Behavior," Journal of Comparative Psychology, 1927, 7, 247-263; "II. The Ontogenesis of the Reproductive Behavior Pattern," ibid., 1929, 9, 293-304; "III. Modification of the Behavior Pattern," ibid., 1929, 9, 305-315. He also worked with Institute member Raymond Dodge on reflexes; see R. Dodge & C.M. Louttit, "Modification of the Pattern of the Guinea Pig's Reflex Response to Noise," Journal of Comparative Psychology, 1926, 6, 267-285.
152. C.M. Louttit, "A Bibliography of Bibliographies in Psychology: 1900-1927," National Research Council Bulletin, 1928, #65, 1-108.
153. Louttit to Harold C. Bingham, 29 December 1928; Louttit Papers/11/208.
154. By 1930 Louttit was not listing Yerkes as a reference on his job applications. Yerkes had similar reactions to a number of other students, most of whom were not continuing his type of research program. See Louttit to H.C. Bingham, 7 October 1932; Louttit Papers/16/1932.

second year in the islands, added to the job-hunting problems caused by slow communication with the mainland. He was able to secure a one-year appointment at Ohio University for the 1930-31 academic year, and taught a variety of courses in psychology there.

Louttit's employment prospects for the following year were dim until he heard of the opening at Indiana University caused by Young's death. There was no question about accepting the offered position, but Louttit was ambivalent about staying in applied psychology, musing to a friend: "I would like to go someplace where I could go on with some animal work.... But the Fates seem to decree otherwise."[155] At Indiana Louttit's energies continued to be channeled into applied work, but he found new scope and support for his professional activities.

Upon arriving at Indiana University, Louttit found a small but thriving Psychological Clinic, now nearly a decade old. In addition to directing the clinic, he was reponsible for the budding graduate training program in clinical psychology. Despite his misgivings about being an applied psychologist, Louttit turned his organizational and expository skills toward systematizing the field of clinical psychology. In order to rationalize the process of diagnosis in the clinic, he developed a standard 12-page form to record the client's personal history and examination results. Louttit marketed the copyrighted form as the "Indiana Psychodiagnostic Blank," and used the proceeds to help support the clinic.[156]

Concerned by the lack of agreement over the definition, scope, and role of clinical psychology, Louttit wrote a systematic textbook entitled Clinical Psychology: A Handbook of Children's Behavior Problems.[157] Published in 1936, the book was an important contribution to this rapidly maturing field. Louttit synthesized the empirical literature using an elaborate classification scheme based on behavioristic concepts. His theoretical approach owed much to Kantor's influence.[158] For Louttit, clinical psychology was a field of applied psychology, drawing upon the basic science of psychology as well as parts of medicine, education, and sociology.[159]

Louttit coupled his research and writing in clinical psychology with efforts to organize applied psychologists into effective professional groups. He helped start the Indiana Association of Clinical Psychologists (now the Indiana Psychological Association) in 1935. Although membership remained small, it provided an institutional locus for professionalizing activities. The Indiana Association of Clinical Psychologists was only one of a number of state and local associations of applied psychologists established in

---

155. Louttit to Donald Adams, 27 May 1931; Louttit Papers/16/1931.
156. C.M. Louttit, "A Blank for History Taking in Psychological Clinics," Journal of Applied Psychology, 1934, 18, 737-748; C.M. Louttit & W.B. Waskom, "The Indiana Psychodiagnostic Blank," Indiana University Psychological Clinics, Publication Series II, 1934, #7.
157. C.M. Louttit, Clinical Psychology: A Handbook of Children's Behavior Problems, (New York: Harper, 1936).
158. Ibid., 4 note 2.
159. C.M. Louttit, "The Nature of Clinical Psychology," Psychological Bulletin, 1939, 36, 361-389.

the 1930s to promote non-academic service roles. In 1937 these geographically dispersed groups gave rise to a national organization, the American Association for Applied Psychology, which provided an alternative to the complacency of the APA concerning nonacademic professional issues. Louttit was a leading figure in the AAAP, and served as its president in 1942-43, shortly before it was amalgamated with the APA. An articulate spokesman for the interests of applied psychologists, Louttit performed yeoman service as executive secretary of the AAAP and as a member of various committees, and was responsible for the preparation of a biographical directory of AAAP members.[160] Largely through Louttit's efforts, Indiana became known as an important center for applied psychology in the United States.[161]

4.10 Currents of change

In 1934 Book retired as department chair. He had overseen the rebuilding of the psychology program after World War I, and guided its expansion into new areas of research and practice. The department had branched out from its earlier focus on human skill learning into aspects of animal conditioning and physiological psychology. The clinical program had been restructured as well, and integrated more fully into the department. While continuing to fulfill its mission in undergraduate education, the department now had a diverse and productive faculty along with a small graduate program. Kellogg, Davis, and Louttit constituted a solid core of young researchers, which was augmented in 1935 by the arrival of Merrill F. Roff (1909-1986), a specialist in psychological measurement. Whether or not they agreed with his ideas, Kantor's theorizing helped to reinforce behavioristic attitudes and critical thinking among department members.

Another Clark PhD (1911), Edmund S. Conklin (1884-1942), replaced Book as head of the department. Unlike his predecessors, however, Conklin was neither born nor educated in Indiana. Before coming to Indiana he had spent 23 years at the University of Oregon, where he had established a psychological laboratory.[162] Conklin was noted for his skills in administration and textbook writing. After coming to Indiana he wrote books on educational psychology and on adolescence; he had already published volumes on abnormal psychology and on the psychology of religion.[163] He continued to

---

160. C.M. Louttit, ed., Directory of Applied Psychologists, (Bloomington, Ind.: American Association for Applied Psychology, 1941; 2nd ed., 1943).
161. In a 1940 survey of the field Indiana was listed among eight institutions with strong applied programs. Ralph Berdie, "The Field of Applied Psychology," Journal of Applied Psychology, 1940, 24, 553-575, on 569.
162. E.S. Conklin, "The New Psychological Laboratory of the University of Oregon," American Journal of Psychology, 1926, 37, 155.
163. E.S. Conklin, Principles of Abnormal Psychology, (New York: Holt, 1927); The Psychology of Religious Adjustment, (New York: Holt, 1929); Principles of Adolescent Psychology, (New York: Holt, 1935); E.S. Conklin & F.S. Freeman, Introductory Psychology for Students of Education, (New York: Holt, 1939).

embrace G. Stanley Hall's eclectic and humanistic view of psychology, and was a popular public speaker.

Conklin had been chair for three years when William Lowe Bryan retired in 1937, after serving as president of the university for 35 years. He was succeeded by the young Dean of the Business School, Herman B Wells (1902-). A dynamic educator, Wells embarked immediately on a major effort to revitalize Indiana University and lead it into the front ranks of American research universities.[164] Compared to some other departments, psychology was in excellent shape, with a young and productive faculty.

Among the initiatives supported by the department was a new psychological journal, the Psychological Record, launched in 1937 by Kantor and Louttit. Kantor was editor; Louttit served as managing editor. It was published by the Principia Press, a nonprofit corporation formed by a group of Indiana professors in 1931 to facilitate scholarly publication, primarily their own.[165] The Psychological Record was a cooperative journal in which authors subsidized the cost of printing. It aimed to provide "immediate publication at least possible expense" by printing individual articles upon acceptance and then binding them together to form issues.[166] The journal covered the entire field of psychology, and relied on a board of editors to evaluate manuscripts in various specialties. Among the members of the first editorial board were Conklin, J.P. Guilford, and B.F. Skinner.

In the fall of 1939 the department hosted the Bryan Symposium to commemorate 50 years of psychology at Indiana University. Dozens of psychologists, alumni, and friends attended the one-day meeting, including John Dewey, Elmer Culler, and John McGeoch. The highlight of the program was the evening banquet that featured Bryan reminiscing about his early years in psychology. Recalling his first meeting with G. Stanley Hall in the late 1880s in Indianapolis, Bryan remembered Hall asking him "How in the world did you, away out here, get started in the study of modern psychology?" Unable to recollect his precise response, Bryan recounted the influence of Jordan, Ebbinghaus, James, and Hall in encouraging his interest in the new field. He vividly described how Jordan "laid his mind" on young students like himself, and "with a combination of inspiration and demand... led many men to undertake the life of a scholar."[167]

As the Bryan Symposium celebrated a half-century of progress, Indiana psychology was poised on the edge of far-reaching

---

164. On the Wells administration, see Thomas D. Clark, Indiana University, Midwestern Pioneer, Volume III, (Bloomington: Indiana University Press, 1977). See also Herman B Wells, Being Lucky: Reminiscences and Reflections, (Bloomington: Indiana University Press, 1980).
165. Kantor was a major force behind the Principia Press. He probably suggested its name, drawn from Newton's Principia Mathematica, and he published a number of books under its imprimatur.
166. "Editorial Statement," Psychological Record, 1937, 1, 2.
167. "Bryan Symposium Commemorates 50 Years of Psychology at I.U.," Indiana Alumni Magazine, 1939, 2 (2), 5-8, on 6.

changes. On the local level, the new university administration was inaugurating significant reforms. Overshadowing this was the start of the Second World War and the first phases of American mobilization. At the symposium, however, the participants were looking back, not toward the uncertain future, and they could see a solid record of achievement. Since Bryan's first solitary efforts, the psychology faculty had grown to eight members, and hundreds of alumni held degrees from the program. Indiana psychologists had made notable contributions to the research literature and to the provision of practical services. The department was also providing leadership in organizational affairs: Conklin was president of the Midwestern Psychological Association for 1938-39, and Louttit was was active in the American Association for Applied Psychology. The feeling of continuity was underscored by the presence of Bryan, now nearly 80 years old but still in robust health.

4.11 Interregnum: The war years, 1941-45

The first Indiana psychologist to enter war work was Louttit. Shortly after the Bryan Symposium he attended a roundtable on "Possible Psychological Contributions in a National Emergency" held at the 1939 meeting of the AAAP where a Navy officer mentioned potential interest in a psychological unit in the Bureau of Medicine and Surgery. Louttit became interested in a commission, and applied for one in June 1940. His slow promotion at Indiana - he became an associate professor in 1938 after seven years - had not kept pace with his increasing professional prominence, and contributed to his desire to join the military. In October 1940 he was commissioned as a Lieutenant Commander and assigned to the Bureau of Medicine and Surgery, becoming the Navy's first psychologist.[168]

Louttit's departure was only the first in a series of faculty leaves that disrupted the department. Less than a year after the Pearl Harbor attack of 7 December 1941, Conklin died. Kantor stepped in as acting chair for the remainder of the war. A steady stream of visiting professors and graduate students filled in as temporary replacements on the teaching staff.

As they coped with the national emergency, department members were also planning for the postwar period. The Wells administration wanted to hire a prominent research psychologist as the new chair. A consensus emerged that the successful candidate should be starred in American Men of Science as an indicator of professional standing.[169] Only two psychology faculty members -

168. Louttit to W.R. Miles, 25 June 1940; Louttit Papers/1/13. Reflecting on his motivation to join the service, Louttit said: "Frankly I had gotten rather fed up with teaching and universities some time ago. The chance at this Navy work meant a break, and I have been able to get pretty much away from old thinking." Louttit to D. Fryer, 13 February 1941; Louttit Papers/6/83.

169. As Louttit wrote to a friend: "They seem entirely committed to getting someone from outside and Wells apparently insists they should try to get a starred man." Louttit to H. Allen, 15 September 1944; Louttit Papers/13/229.

Bryan and Lindley - had ever been starred in American Men of Science, and they had received that distinction nearly 40 years before, in the first edition (1903).[170] Wartime conditions made the search even more difficult. The demands of government agencies and military services had created a shortage of psychologists in the university, and competition became keen to attract and retain faculty.[171]

5 Postwar renaissance

After World War II ended in 1945 the Department of Psychology was faced with the task of rebuilding. Wartime had disrupted the normal work of the department, drawing many students and faculty members into national service, and causing the Psychological Record to suspend publication.[172] The department had lost nearly half of its faculty during the preceding five years, including chair Conklin, clinic director Louttit, and assistant professor Roff.[173] Of the senior faculty only Kantor, Kellogg, and Davis remained. As acting chair, Kantor was busy recruiting a new permanent chair, and was able to attract B.F. Skinner to the position.

5.1 Assembling a faculty

As early as 1940 Kantor had approached B.F. Skinner (1904-) at the University of Minnesota about coming to Indiana. The two met a few years before, and Skinner had been an associate editor of the Psychological Record since 1937. In late 1944 Skinner had agreed to become chair of the department starting the following fall. After seven years at Minnesota, Skinner was ready for a change. On top of a promotion to full professor, Indiana offered him a substantially

---

170. In addition to Bryan and Lindley, four other IU graduates - Starbuck, Terman, Stone, Wissler - had been starred over the years. In the first seven editions of American Men of Science (1903-1943), only 132 psychologists had been starred. By comparison, in 1943 APA membership stood at nearly 3,500. For an exhaustive analysis see S.S. Visher, Scientists Starred 1903-1943 in "American Men of Science", (Baltimore: Johns Hopkins Press, 1947).

171. See James H. Capshew, Psychology on the March: American Psychologists and World War II, (PhD dissertation, University of Pennsylvania, 1986).

172. The journal was revived in 1956 by Kantor's former students; see Irvin S. Wolf, "The Psychological Record from 1937 to 1976," Psychological Record, 1976, 26, 2.

173. Roff remained in government employment immediately following the war, and officially resigned from Indiana University in 1947 when he went to the University of Minnesota. Louttit resigned in 1945, and became director of the psychological clinic at Ohio State University for a year. Following that, he held a succession of teaching and administrative posts in various universities until his untimely death in 1956. He edited Psychological Abstracts from 1947-56, and in 1952 served as the chairman of the committee that produced the first APA Publication Manual. See Karl M. Dallenbach, "Chauncey McKinley Louttit: 1901-1956," American Journal of Psychology, 1956, 69, 682-685; Jerry W. Carter, Jr., "C.M. Louttit, Psychologist," Science, 1956, 124, 526-527.

increased salary, research support, and closer proximity to other institutions.[174]

Skinner was full of plans for improving the department. He wanted to put the separate facilities for Kellogg's conditioning laboratory and the psychological clinic under the same roof as the rest of the department in Science Hall. An expanded shop and better animal quarters were high priorities as well. He expressed concern over the introductory psychology course, which had gained a reputation as an easy way to satisfy a university science requirement, and suggested bringing in Fred S. Keller to revamp and teach the course. This change, however, was too radical and was rejected.[175]

Within months after his arrival Skinner was reporting back to his former department chair at Minnesota how "extraordinarily friendly and cooperative" his Indiana colleagues were, and how enjoyable the social life of Bloomington was.[176] During his first year Skinner taught graduate courses on "Verbal Behavior," "Seminar in the Practical Control of Behavior," and "Experimental Analysis of Behavior." [177] In the latter course there were no assigned readings. Instead, students were required to keep an exhaustive notebook of their research and ideas, and to discuss them in class.

Skinner raised his younger daughter in the "baby-tender" he had designed for infants. He described the value of this crib in an article in the Ladies Home Journal that appeared shortly after he arrived at Indiana. The title of the piece - "Baby in a Box" - was unfortunate, since it conjured up associations with devices used in animal experiments.[178]

Skinner was only one of several new faculty members hired after the war. Also arriving in 1945 were Douglas G. Ellson (1913-) and Delton C. Beier (1915-1969), both of whom had been employed in contract research on gunfire control at the University of Wisconsin during the war. The projects were sponsored by the Applied Psychology Panel of the National Defense Research Committee, part of the wartime science establishment.[179] Ellson, who received his PhD in 1939 under Clark Hull at Yale, specialized in the area of learning theory and its applications. Beier, a clinical psychologist, was hired to replace Louttit as Director of the Psychological Clinic. Both men had gained experience in test design and evaluation during the war. In 1946 Skinner's former student William K. Estes (1919-) was hired as an instructor after completing a stint in the Army. The same year William S. Verplanck (1916-) joined the faculty, fresh from

---

174. In his autobiography, Skinner noted concerns over professional advancement that influenced his decision. B.F. Skinner, The Shaping of a Behaviorist, (New York: Knopf, 1979), 285-296.
175. Skinner to Kantor, 5 November 1944; B.F. Skinner Papers, Harvard University Archives, Cambridge, Mass./1/Correspondence 1928-48/4. Skinner, Shaping of a Behaviorist, 285.
176. Skinner to R.M. Elliott, 7 November 1945; Skinner Papers/1/Correspondence 1928-48/4.
177. Indiana University Catalog, 1945-46, 114.
178. B.F. Skinner, "Baby in a Box," Ladies Home Journal, 1945 (October), 30-31, 135-136, 138.
179. See Charles W. Bray, Psychology and Military Proficiency: A History of the Applied Psychology Panel of the National Defense Research Committee, (Princeton: Princeton University Press, 1948).

his wartime service in the Navy, and became Skinner's administrative assistant.

The university continued to hire new faculty in order to cope with sharply rising student enrollments, and the department roster grew to more than a dozen members by 1948 with the addition of E. Kuno Beller (1919-), Richard N. Berry (1918-), Sidney W. Bijou (1908-), Cletus J. Burke (1917-1973), Mary J. Collier (1920-), William O. Jenkins (1916-), Leo J. Postman (1918-), and Irving J. Saltzman (1923-).

5.2 A new start for the clinical program

One major facet of the department's postwar renaissance was the revitalization of the clinical area. Like other institutions in the American psychology community, the Indiana department was responding to the new salience of applied psychology engendered by wartime professional service. Perhaps the most urgent challenge facing the profession was an unprecedented demand for clincial psychologists. Taking the lead, the American Psychological Association organized a Committee on Graduate and Professional Training to make recommendations and to accredit clinical training programs. The basic thrust of their recommendations was to graft clinical training onto the existing structure of graduate education in experimental psychology.[180] The notion of the "scientist-practitioner" soon emerged as the guiding model for clinical training in the United States, and was officially endorsed by the APA in 1949 at the Conference on Graduate Education in Clinical Psychology held in Boulder, Colorado, which was attended by Beier as director of the Indiana clinic.[181]

The Committee on Graduate and Professional Training was also charged with the task of accreditation, and its representatives visited the Indiana program and gave official approval for 1946-47, starting the department's continuous record of APA accreditation for clinical training. With this rating, students could be employed as interns in the Veterans Administration Training Program in Clinical Psychology. The first graduate student trainees were placed in Indianapolis VA facilities in 1947-48.[182]

As the new director of the psychological clinic, Beier was busy revamping its operation, recruiting new faculty, teaching and supervising students, and redefining the clinical curriculum. In 1949 the clinical faculty consisted of Beier, Collier, Beller, Bertram D. Cohen (1923-), and John J. Conger (1921-).

---

180. American Psychological Association Committee on Training in Clinical Psychology, "Recommended Graduate Training Program in Clinical Psychology," American Psychologist, 1947, 2, 539-558.
181. Victor C. Raimy, ed., Training in Clinical Psychology, (New York: Prentice-Hall, 1950).
182. Coy D. Robbins, "History of the [Indiana University] Psychological Clinic, 1922-1980," unpublished paper, 1980, 30.

As the clinical program expanded along with the rest of the university, space limitations became severe. Since the late 1930s the Psychological Clinic had been housed alongside the Reading Clinic and the Speech and Hearing Clinic in Alpha Hall, a large wooden structure on Third Street that was originally a women's dormitory. In 1947, after Alpha Hall was condemned in order to make way for the new biology building (Jordan Hall), the clinic was moved to a leftover World War II barracks located near the university auditorium. These "temporary" quarters served for more than a decade, giving rise to horror stories about the lack of either thermal or sound insulation.[183]

5.3 The Kantor-Skinner seminar

The influx of new people into the department had important and exciting intellectual consequences. Among the most notable was a graduate seminar on "Theory Construction in Psychology" held during the fall semester of 1946. Jointly led by Kantor and Skinner, the course attracted several young faculty members as well as graduate students. A number of the graduate students had come to Indiana before the war and were advocates of Kantor's approach, and a few had come more recently to study with Skinner. Some of the seminar participants, such as Ellson and Verplanck, had a background in Hull's system, whereas others held less developed views. Whatever the case, the topic was exciting and important, and it generated controversy and discussion.[184]

Making little attempt to reconcile their different approaches, Skinner and Kantor presented their well-articulated scientific systems. Their interaction in the seminar was apparently cordial, if rather formal. As one participant noted later, the "seminar produced more fireworks among the students than between the professors."[185]

One of the major points of contention between the Skinnerians and the Kantorians was over the relative importance of controlled laboratory experimentation and attempts to address real human problems. Up to this point, Skinner was only beginning to extrapolate his laboratory-generated principles to problems of human behavior. His first major effort in this direction was Walden Two, written in 1945 at Minnesota but not published until three years later.[186] Skinner's wartime work on "Project Pigeon" also contributed to his desire to derive practical techniques from his animal

---

183. Robbins, "History of the Psychological Clinic," 13, 31-32.
184. For a partial breakdown of the participants see Parker E. Lichtenstein, "Discussion: 'Contextual Interactionists'," Psychological Record, 1973, 23, 325-333, on 331-332. See also William S. Verplanck, "Preface," in N.W. Smith, P.T. Mountjoy, & D.H. Ruben, eds., Reassessment in Psychology: The Interbehavioral Alternative, (Washington: University Press of America, 1983), xi-xxii.
185. Paul R. Fuller, "Professors Kantor and Skinner - The 'Grand Alliance' of the 40's," Psychological Record, 1973, 23, 318-324, on 321.
186. B.F. Skinner, Walden Two, (New York: Macmillan, 1948). He had also drafted parts of the manuscript that was later published as Verbal Behavior in 1957.

research.[187] Like Skinner himself, his students preferred to do empirical, descriptive studies of operant behavior in rats and pigeons.

The Kantorians approached behavior from a broader, more philosophical framework. In the two decades following his Principles of Psychology (1924-26), Kantor had refined and extended his ideas. Retaining his concern over the reciprocal influences of the organism and its environment, he coined the term "interbehaviorism" for his system to distinguish it from other "organismic" psychologies. Kantor's students were oriented more toward conceptual issues than toward laboratory work. Although the seminar did little to resolve the differences between its two leaders, it was important in stimulating many of the participants to seriously consider the merits of each approach, because the course highlighted basic issues involved in any approach to a science of behavior.[188]

5.4 Behaviorism applied

Although the ideological battles between the Kantorians and the Skinnerians were heated, among graduate students theoretical concerns generally took a backseat to more pressing considerations of research design and data analysis. A number of students, however, tried to incorporate ideas from both in studying aspects of human behavior. Paul R. Fuller, a graduate student in clinical psychology from 1947-52, published a paper on "Operant Conditioning of a Vegetative Human Organism" (1949) that offered a novel application of behavioral principles.[189] When Fuller tried to apply similar principles to regular clients, he met resistance from psychiatrists and orthodox psychologists, many of whom preferred to use psychodynamic rather than behavioral terms. Fuller recalled that

> the clinic director was shocked: "You can't treat a child like you do your rats and pigeons!" I could and I did.[190]

Other Indiana graduate students did research in the same vein. As part of his doctoral dissertation in clinical psychology, Joel Greenspoon explored the use of auditory feedback in reinforcing

---

187. B.F. Skinner, "Pigeons in a Pelican," American Psychologist, 1960, 15, 28-37.

188. The Kantor-Skinner seminar has had important intellectual consequences, especially by heightening the visibility of Kantor's views and their relationship to radical behaviorism and the experimental analysis of behavior. Among the many commentaries and analyses concerning the subject are: W.N. Schoenfeld, "J.R. Kantor's Objective Psychology of Grammar and Psychology and Logic: A Retrospective Appreciation," Journal of the Experimental Analysis of Behavior, 1969, 12, 329-347; J.R. Kantor, "An Analysis of the Experimental Analysis of Behavior (TEAB)," idem, 1970, 13, 101-108; Noel W. Smith & Candace E. Ray, "A Citation Study of the Interbehavioral Field Psychology of J.R. Kantor," Revista Mexicana de Analisis de la Conducta, 1981, 7, 117-134; Edward K. Morris, "Some Relationships between Interbehavioral Psychology and Radical Behaviorism," Behaviorism, 1982, 10, 187-216; Linda J. Parrott, "J.R. Kantor's Contributions to Psychology and Philosophy: A Guide to Further Study," Behavior Analyst, 1984, 7, 169-181. See also Paul T. Mountjoy & Jay D. Hanson, "Jacob Robert Kantor (1888-1984)," American Psychologist, 1986, 41, 1296-1297.

189. Paul R. Fuller, "Operant Conditioning of a Vegetative Human Organism," American Journal of Psychology, 1949, 62, 587-590.

190. Fuller, "Professors Kantor and Skinner," 323.

verbal behavior. After he had difficulties in applying Carl Rogers' nondirective approach in a clinical situation, he resorted to laboratory investigations using Skinner's operant conditioning procedures. There was little research that pertained to the conditioning of verbal behavior, and Greenspoon tried several methods before finding a satisfactory way to reinforce a desired response in undergraduate subjects. Finally he discovered the simple yet powerful technique of uttering sounds like "uh-huh" whenever the subject emitted the desired verbal behavior, such as saying a plural noun. Greenspoon's investigation, published in 1955, was influential in encouraging psychologists to use operant conditioning to study verbal behavior.[191]

Fuller and Greenspoon were among the first of a large number of behavioral researchers trained in the department after the war, and their research exemplified the close connections that existed between the clinical and experimental components of the graduate training program. Whether they pursued careers in basic or applied areas, Indiana graduates usually possessed a distinctive focus on behavioral research. By the late 1960s Indiana was considered among the most important institutions connected with the applied behavior analysis movement in American psychology.[192]

5.5 Conference on the Experimental Analysis of Behavior

In order to bring together the small community of operant researchers, Skinner and Fred Keller of Columbia organized a Conference on the Experimental Analysis of Behavior, held in June 1947 in Bloomington.[193] Nearly all of the 20-odd participants were either from Indiana or from Columbia. Although Skinner was the acknowledged leader of the group, he was viewed, as one participant put it, "more as an especially shrewd and resourceful member of our expedition into the unknown - primus inter pares - than as an authority whose thoughts were to be treasured because of their origin."[194]

---

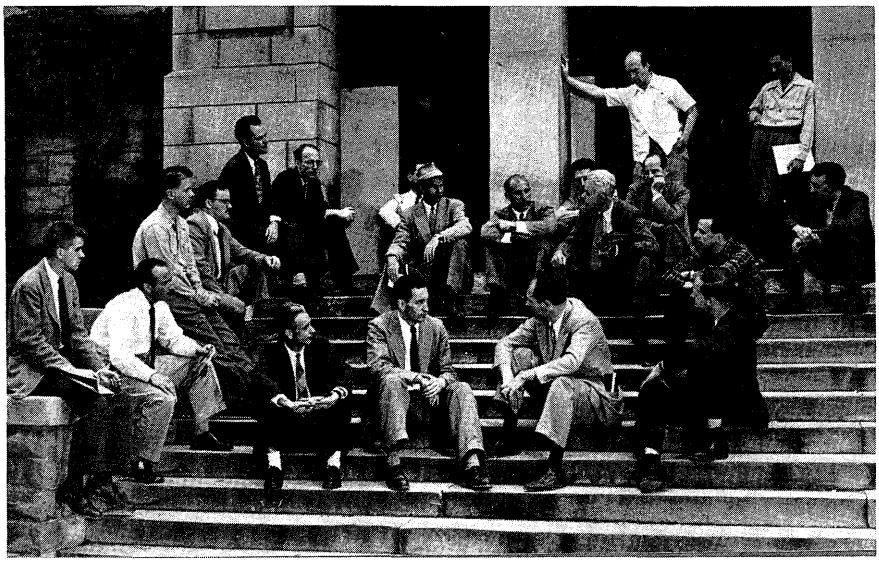
191. Joel Greenspoon, "The Reinforcing Effect of Two Spoken Sounds on the Frequency of Two Responses," American Journal of Psychology, 1955, 68, 409-416. Based on its citation record, the article was chosen as a "Citation Classic" and Greenspoon wrote a brief description of its genesis; see Current Contents: Social and Behavioral Sciences, 1982, 14 (21), 20. J. Greenspoon, personal communication, 26 February 1988.
192. Fuller, "Professors Kantor and Skinner," 323-324. For an overview of the networks linking applied behavior analysts, see Kenneth Goodall, "Shapers at Work," Psychology Today, 1972 (November), 6 (6), 53-63, 132-138. One Indiana faculty member of the late 1940s, Sidney Bijou, had a delayed reaction to the influence of Kantor and Skinner. A clinical psychologist, Bijou had received his PhD in 1941 from the University of Iowa. He spent the war years in the Aviation Psychology Program of the Army Air Forces, and was recommended to Skinner as a clinician with an experimental orientation. When he came to Indiana in 1946 Bijou maintained a Hullian perspective on emotional drives that he had acquired as a student of Kenneth Spence at Iowa. After only a year and a half Bijou moved to the University of Washington, where he established a research program in child development. Faced with this task, he concluded "that the most promising path lay in using Skinner's experimental theory and methodology and Kantor's philosophy of science." Leonard Krasner, "An Interview with Sidney W. Bijou," in B.C. Etzel, J.M. LeBlanc, & D.M. Baer, eds., New Developments in Behavioral Research: Theory, Methods, and Application, (Hillsdale, NJ: Lawrence Erlbaum Associates, 1977), 587-599, on 590.
193. This account relies on James A. Dinsmoor, "A Visit to Bloomington: The First Conference on the Experimental Analysis of Behavior," Journal of the Experimental Analysis of Behavior, 1987, 48, 441-445.
194. Ibid., 444.

Faculty and graduate students presented informal reports on their current research and engaged in discussion. Skinner demonstrated the shaping of key pecking behavior in the pigeon, a novel experimental animal that he had begun to use during his wartime research. Among the topics covered were negative reinforcement, discrimination, response interaction, and emotion. Most of the experiments used nonhuman subjects, but a couple of the studies involved humans.[195]

After the conference in 1947 an occasional newsletter was begun to promote continued interchange between members of the group and other interested people. Estes was in charge of mimeographing and mailing the informal publication, which continued to be produced for a number of years. A second conference was held a year later, also at Indiana, shortly before Skinner moved to Harvard. In 1949 the meeting was moved to Columbia, where the third annual conference attracted over 40 individuals. Such large attendance made it difficult to continue the informal format, and the conferences came to an end.[196]

---

195. Ibid., 444-445.
196. Fred S. Keller, "A Fire in Schermerhorn Extension," Behavior Analyst, 1986, 9, 139-146, on 145.



Participants in the First Conference on the Experimental Analysis of Behavior, held at Indiana University in 1947.

Sitting, clockwise from lower left: Dinsmoor, Klein, Ellson, Daniel, Skinner, Estes, Frick (obstructed), Anderson, Jenkins, Craig, Keller (speaking), Hill, Wyckoff, Lloyd, Hefferline, Schoenfeld, Musgrave. The three in the upper right are: (standing) Verplanck and Wolin, (sitting) Beier.

6 Psychology comes of age

The momentum generated during the first few years following World War II propelled the psychology department into the front ranks during the 1950s. A steady stream of young, ambitious faculty members contributed to the department's growing reputation in research and trained a swelling tide of talented graduate students. Funds for research and graduate training were plentiful, benefiting both clinical and experimental areas within the department. In addition to subsidizing graduate training in clinical psychology, the U.S. Public Health Service also supported basic research in the department. For instance, in 1947 Kellogg received the first research grant ever awarded by the National Institute of Mental Health, for a study of the role of the nervous system in learning.[197]

In 1947 Skinner gave the William James Lectures at Harvard, and during his stay was invited to join the faculty. He decided to accept, lured away by the prospect of returning to his alma mater after a decade in the Midwest. During his short stint as Indiana chairman he had discovered an aversion to administration, even though the department had prospered under his leadership. Skinner resigned from Indiana University in 1948, and left a department that was thriving, due in part to his own efforts but also to larger forces at the university and in American psychology.

Enrollment at Indiana University was growing rapidly, from under 10,000 in 1945-46 to over 18,000 in 1948-49. Under president Herman B Wells, the university was attracting talented scientists and scholars. For example, after joining the faculty a year before, geneticist Hermann J. Muller received the Nobel Prize in 1946.

American psychologists were also prospering. After a wartime dip, PhD production increased at a record pace. Membership in the American Psychological Association nearly tripled during the 1940s to over 7,200 members by 1950. Rising college enrollments created a strong academic job market, and new employment opportunities outside of the university in government, business, and private practice were expanding.

The Indiana psychology department flourished in this environment. In 1948 Ellson succeeded Skinner as department chair. Ellson took a collegial approach to administration, and conducted much departmental business over morning coffee with Estes, Verplanck, and Burke.

---

197. The award is mentioned in Larry B. Silver & Julius Segal, "Psychology and Mental Health: An Enduring Partnership," American Psychologist, 1984, 39, 804-809, on 804, which cites a $3,000 grant, and in the Indiana Daily Student, 5 March 1947, which gives $6,075 as the amount.

6.1 Scaling up the psychological clinic

In the context of the tremendous overall expansion of clinical psychology in America after World War II, the Indiana University psychological clinic underwent far-reaching changes. It grew significantly in size and scope while remaining an integral part of the department. As the war ended, the clinic caseload started shifting from its traditional source of clients in the Bloomington schools toward the university student population. With burgeoning enrollments and the influx of veterans, service to Indiana University students took precedence over the treatment of local children. The increased caseload, combined with the enlarged clinical training program, spurred the hiring of new staff to fulfill the service functions of the clinic. Shortly after the war, Sylvia Lotman Glaser (1921-) served as a clinician, devoting the bulk of her time to client casework. In 1950 Eldred F. Hardtke (1914-1971), who held an MD degree as well as a PhD in psychology, joined the faculty. He was the first psychiatrist hired by the university, and was associated with the Student Health Service as well as the psychological clinic.

Twelve members of the psychology department (Approximately 1954). Sitting, left to right: James Dinsmoor, Delton Beier, and Richard Berry. Standing, left to right: Arnold Binder, Leon Levy, James Egan, Irving Saltzman, Harry Yamaguchi, Douglas Ellson, Lloyd Peterson, Donald Lauer, and William Estes.

Although the psychological clinic continued to provide diagnostic and therapeutic services, its major focus centered more on graduate training and research. New clinical faculty members were hired largely on the basis of their research ability. This criterion was partly a result of department policy, but also reflected the influence of

the war, which encouraged many psychologists trained as experimentalists to move into applied areas, especially clinical psychology. The result was that interaction between the clinical faculty and the rest of the Indiana department was extremely close, and an enduring relationship based on intellectual collaboration and mutual respect developed. In the early 1950s four new clinic faculty were hired: Harry G. Yamaguchi (1921-), Alexander M. Buchwald (1925-), Arnold M. Binder (1924-), and Leon H. Levy (1925-).

6.2 PhD production escalates

Experimental methodology and research skills were strongly emphasized in the Indiana graduate program. Although students were encouraged to understand theoretical issues in psychology, they were not expected to embrace particular doctrines because they were currently fashionable or endorsed by the faculty. To be sure, the atmosphere was behavioristic, but what united the department was a shared commitment to scientific research rather than an allegiance to a particular theoretical viewpoint. Graduate students flocked to the program, and by the early 1950s Indiana started producing large numbers of PhDs for the first time in its history.

For a decade following World War II the graduate training program conformed to the general pattern laid down years before. All students were expected to master a common core of knowledge in experimental psychology and to develop their laboratory skills before embarking on specialized research for the dissertation. They faced two major examinations. The first, known as the Qualifying Examination, was held at the beginning of the second year of study, and covered the entire field of scientific psychology. It was designed to help identify weak or unqualified candidates early in graduate training and to advise them about their chances of success in the program. The second, called the Preliminary Examination, occurred in the third year. The "prelims" consisted of three sections, each lasting a full day. The first section dealt with questions about "theoretical and systematic psychology and the history of psychology." This section was the special province of Kantor, who vigorously rejected all answers that smacked of "mentalism." The second day was devoted to "experimental psychology, including learning and conditioning, physiological psychology, comparative psychology, and sensory processes and perception." Immediately after the war, the Part III was labeled "special areas" or "special topics," but soon these were listed individually as "tests and measurements, clinical, social and abnormal psychology."[198]

Although the examinations stressed substantive coverage and comprehension of the psychological literature, coursework tended to be oriented toward research methods, particularly during the first

---

198. James A. Dinsmoor, "The Evolution of the Graduate Program," unpublished paper, 19 February 1988, 3.

year, when students were required to take Advanced Statistics (taught by Burke until 1958, and then Binder to 1964) and Advanced Laboratory Methods. Successively supervised mainly by Kellogg (to 1951), Estes (1951-62), and Dinsmoor (1952-70), Advanced Laboratory Methods I immersed students in laboratory research by requiring them to complete one research study in human learning and another using nonhuman subjects. During the 1950s, this requirement usually meant one experiment in the area of mathematical models and one in the area of operant conditioning with rats. Despite the fact that most students were unable to complete their reports by the end of the semester,

> everyone did receive substantial hands-on experience in laboratory work with two species of subject, a series of lectures on experimental design, a minicourse pitched at an appropriately simplistic level on the most basic and most relevant aspects of electric circuitry, and a detailed analysis of both their thinking and their verbal skills, as revealed by their oral and written reports.[199]

In the second semester, students could take either Advanced Laboratory Methods II, working in the sensory and physiological laboratories, or Advanced Laboratory Methods III, oriented toward clinical research.[200]

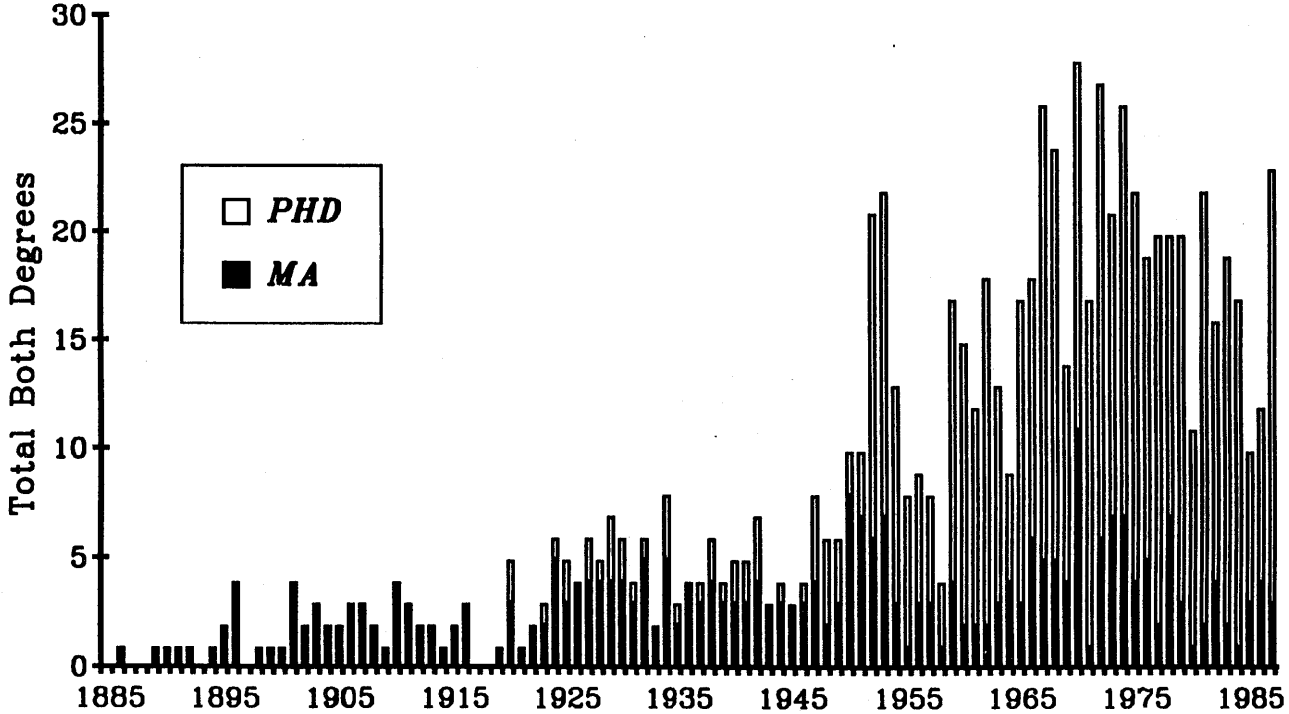
Through the 1950s and into the early 1960s the Qualifying Examination remained as a comprehensive test for all students. The Preliminary Examination, however, began to change in 1954-55, and no longer were all students required to answer the same questions. In Part II, "measurement and clinical" were added to the areas listed under general experimental, and in Part III students were given a choice among three alternative "special area" examinations in learning, sensory and physiological, or clinical psychology.[201]

In the first decade following World War II, the department granted 50 doctorates, almost double the total for the preceding 25 years (see figure). Due to a strong job market, most graduates were able to land good positions. Nearly 80% obtained academic employment, in a wide range of universities and colleges, including a number of prestigious institutions. Ten graduates - 20% of the total - found government jobs in research or clinical work.[202]

---

199. Ibid., 6.
200. Ibid.
201. Ibid., 3
202. D.G. Ellson, "Report on the Graduate Training Program in Psychology," to R. Cleland, Dean, Graduate School, 11 March 1954; Psychology Department Files.

Degrees Awarded by Year
1886 – 1987



6.3 From learning to cognition

Researchers in the experimental analysis of behavior continued to build their scientific networks, and the interaction between the Indiana and Columbia groups continued beyond the end of the Conferences on the Experimental Analysis of Behavior. For instance, Columbia psychologist William N. Schoenfeld spent a semester as a visiting professor at Indiana during 1950-51, and James A. Dinsmoor (1921-) joined the faculty in 1951 after receiving his PhD at Columbia. A number of the former conference participants attended the Dartmouth Conference on Learning Theory in 1950 and helped produce the critical review Modern Learning Theory (1954).[203] For a brief period in the early 1950s the department had an annual exchange of visits with the University of Iowa psychology department. The series revolved around issues in learning theory. The Iowa psychologists (including Kenneth Spence, Gustav Bergmann, and Judson Brown) took a rather formal approach derived from Hull's theory, while the Indiana group emphasized experimental work based mainly on operant conditioning and mathematical models.[204]

By the late 1940s Estes had become deeply interested in constructing mathematical models of learning, which combined his background in the experimental analysis of behavior with mathematical skills he had gained during the war.[205] Joined by a number of coworkers, including Burke and various graduate students, Estes elaborated a statistical learning theory. In it, he proposed that learning proceeded through the sampling of discrete stimuli that became associated with a particular response. Thus an underlying all-or-none process yielded incremental improvement in observed performance.[206] Estes took the middle road in theorizing, eschewing both grand schemes of doubtful testability as well as micro-models of limited applicability. His mid-range models were carefully based on empirical results, and were able to generate testable predictions. Many of the studies used a standard apparatus constructed in the department that was called "the blinking witch" (or less politely, "the winking bitch"), operating as follows:

> A variety of stimulus configurations could be displayed in front of the subject, each produced by selectively lighting a different set or sample within a large array of

---

203. W.K. Estes, S. Koch, K. MacCorquodale, P.E. Meehl, C.G. Mueller, Jr., W.N. Schoenfeld, & W.S. Verplanck, Modern Learning Theory: A Critical Analysis of Five Examples, (New York: Appleton-Century-Crofts, 1954).
204. D.G. Ellson, personal communication, February 1988.
205. Skinner's skepticism about mathematical models comes through in his playful description that Estes "had suffered a curious 'service-connected disability'. On patrol in the South Pacific he had had time to spare and had read mathematics. His brilliant career as an experimentalist soon yielded to mathematical model-building, from which he suffered for many years." Skinner, Shaping of a Behaviorist, 318.
206. William K. Estes, Models of Learning, Memory, and Choice: Selected Papers, (New York: Praeger, 1982), 344-346.

> miniature bulbs. At an abstract or theoretical level, each bulb represented a "stimulus element," and when these samples were generated in accord with the assumptions laid down for a given model, the degree of similarity among successive patterns could be specified in quantitative terms.[207]

Work in mathematical modeling received an additional boost with the arrival of two Stanford-trained PhDs in the mid-1950s, David L. LaBerge (1929-) and Binder in the clinic. In contrast to the prevailing emphasis at Indiana on stimulus-response association, they took a more perceptual approach.

During the 1950s a number of Indiana psychologists moved away from neobehaviorist paradigms toward more cognitive approaches in their research. For instance, Estes, after framing a theoretical-statistical approach for learning, developed and refined his stimulus sampling model. Although this line of research was based on traditional stimulus-response concepts, particularly as illustrated by animal experiments, it went well beyond them by suggesting a role for cognitive processing. In the area of human learning, Lloyd R. Peterson (1922-) and Margaret J. Peterson (later Intons-Peterson) (1930-), who had joined the department in the mid-1950s, conducted an elegant experiment in 1959 that demonstrated the rapidity of memory loss for verbal items when rehearsal was prevented. Although it was indebted to earlier work in verbal learning, their investigation emphasized temporal factors in memory rather than capacity limitations. This study, coming just as the so-called information-processing approach was gaining adherents, became a classic in the literature.[208]

By hiring James P. Egan (1917-) in 1951, the department also began building a program in the area of sensory psychology. An expert in auditory psychophysics, Egan supervised construction of new laboratory facilities, including anechoic and reverberation chambers, in a cluster of buildings on 13th Street. His research helped lay the foundations of signal detection theory, and he was also involved in providing practical advice to the speech and hearing therapy program at the university.

Bryan's death

In 1955 William Lowe Bryan died at home in the President's House on campus, a few days after his 95th birthday. His obituary in the American Journal of Psychology noted that he was the next to the last charter member of the APA to die.[209] Nearly 70 years before he

---

207. Dinsmoor, "Evolution of the Graduate Program," 2.

208. L.R. Peterson & M.J. Peterson, "Short-term Retention of Individual Verbal Items," Journal of Experimental Psychology, 1959, 58, 193-198. See also L. Peterson's review of the experiment in Current Contents: Social and Behavioral Sciences, 1982, 14, (36), 22.

209. Only Lightner Witmer remained; he died the following year. D.G. Ellson, "William Lowe Bryan: 1860-1955," American Journal of Psychology, 1956, 59, 325-327, on 325. Other obituaries included: New

had started the study of experimental psychology at Indiana, and had lived to see it develop into a large and complex enterprise. His own interests had come full circle, returning to the philosophical subjects that had captivated him as an undergraduate. Although one of his last publications was a brief memoir entitled "Adventure in Psychology: 1885-1902" (1948), metaphysical and ethical concerns had dominated his presidency and retirement. In 1940 he published a series of lectures on epistemology entitled Wars of Families of Minds in which he tried to explain how the commitments of different vocational groups to different explanatory modes account for misunderstanding and hostility, and how that might be overcome. A few years later, disturbed by the advent of the atomic bomb, he wrote a short pamphlet called "A Better World or None," an exhortation to embrace Christian values in order to avoid war.[210]

7 Expansion and consolidation

The department had grown substantially during the 1950s, and by the end of the decade there were over 20 faculty members, with nearly a third in the clinical area. Between 1950 and 1959 the department awarded 79 doctorates, nearly double the total for the entire 30 years before. The dominant interests revolved around animal learning and mathematical modeling. In addition to research in those areas, Davis and Egan each maintained active laboratories in physiological and in sensory psychology, and Kantor remained a highly visible presence until his retirement in 1959. One faculty member recalls that "as a department, we ranked ourselves second only to Iowa."[211]

The department continued to play an important role in the professionalization of behavior analysis. In 1959 Kay Dinsmoor, the wife of faculty member James Dinsmoor, was appointed business manager of the Journal of the Experimental Analysis of Behavior, and she used the department as her mailing address.[212] The journal had been started two years earlier under the editorship of Charles B. Ferster, a psychologist at the Indiana University School of Medicine's Institute of Psychiatric Research in Indianapolis from 1957-62.

York Times, 22 November 1955, 35; J.R. Kantor, "W.L. Bryan, Scientist, Philosopher, Educator," Science, 1956, 123, 214.

210. William Lowe Bryan, "Adventure in Psychology: 1885-1902," (Bloomington: Privately printed, 1948), 7 pp.; idem, Wars of Families of Minds, (New Haven: Yale University Press, 1940); idem, "A Better World or None," (Bloomington: Indiana University Foundation, 1947), 12 pp.
211. James A. Dinsmoor, "Historical Trends in Department," unpublished note, 30 November 1987.
212. Kay Dinsmoor, "'Money's the Cheapest Thing We've Got'?" Journal of the Experimental Analysis of Behavior, 1987, 48, 472-475. On other aspects of the journal's history see the rest of the special section "Reminiscences of JEAB," idem, 447-493 and Victor G. Laties, "Society for the Experimental Analysis of Behavior: The First Thirty Years (1957-1987)," idem, 495-512.

Ferster held a PhD from Columbia and had been a coworker of Skinner's at Harvard.[213]

7.1 New faculty, fields, and facilities

In 1959 Roger W. Russell (1914-) was hired as professor and chair of the department. An experienced scientist-administrator, he had served as the executive secretary of the American Psychological Association for the preceding three years and before that had been head of the psychology department at University College, London. His major research interest was in the biochemical basis of behavior, and he made strong efforts to strengthen that area in the department's program. In contrast to Ellson, Russell favored a more directive style of administration.

Russell's efforts were aided by the continuing availability of new faculty slots and ample research funds. In 1959 Russell L. De Valois (1926-), a promising researcher in the neurophysiology of color vision, was hired as an associate professor. With De Valois and Russell joining Egan and Davis, the department now had a strong physiological/sensory area. Unfortunately, in 1961 Davis died. He had almost singlehandedly established the department's reputation in this area before World War II, and had been its leading figure since then. Further additions to the faculty in physiological psychology included Gabriel P. Frommer (1936-).

In the four-year period from 1962-65 four psychologists working in various areas of sensory psychology became associated with the department. William D. Neff (1912-), an established researcher in auditory psychophysics, came to the department in 1963. Two years later he was appointed the first director of the Center for Neural Sciences, an independent interdisciplinary research institute in the university. Among the first scientists recruited to the new center was Conrad G. Mueller (1920-), a specialist in the physiology of vision and former chair of the Columbia psychology department. During the same period the department made junior faculty appointments to S.Lee Guth (1932-) and Donald Robinson (1936-), who worked on the visual and auditory systems, respectively.

In 1964 George A. Heise (1924-) joined the faculty under a National Institute of Mental Health grant in psychopharmacology. He had been a student of Skinner and George Miller at Harvard, and had worked as a research psychologist for Hoffman-LaRoche pharmaceutical company, studying drug effects on animal behavior. The following year Roger Maickel, a pharmacologist, was hired on the grant to perform neurochemical research in the same general area.[214]

---

213. Ferster and Dinsmoor had been friends since graduate school. While Ferster continued his animal research in Indianapolis, he also extended laboratory techniques to human subjects, including a pioneering demonstration of shaping the behavior of autistic children by using tokens for reinforcement. See James A. Dinsmoor, "Charles B. Ferster (1922-1981)," American Psychologist, 1982, 37, 235.

214. G.A. Heise, personal communication, 26 September 1986.

The area of mathematical psychology underwent some important personnel changes in the early 1960s. Estes and Burke, who were largely responsible for the department's national reputation in the area, both left. That loss, however, was offset by the influx of several younger men, including Frank Restle (1927-1980), James G. Greeno (1935-), Joseph L. Zinnes (1930-), Harold Lindman (1937-), and N. John Castellan (1939-) by 1965.

Foundations were also laid for two new areas of specialization - social and developmental psychology. The department's initial appointment in social psychology was Seymour M. Berger (1928-), who was hired in 1959. In the mid-1960s two more social psychologists were added to the roster - Jerome M. Chertkoff (1936-) and Steven J. Sherman (1942-). The developmental area evolved after Robert B. Cairns (1933-) joined the clinical faculty in 1961. His interests gradually moved toward comparative developmental psychology, and he conducted a number of studies on various animal species.

Animal learning and behavior continued to be an important research area in the department throughout the 1960s. Among the many faculty appointments during the period were Isidore Gormezano (1930-) and James Allison (1932-).

Although faculty research interests had become fairly diversified, the psychology of learning still provided a touchstone for the department. As late as 1965, 19 of the 43 faculty members mentioned some form of learning among their "primary areas of activity" for a department brochure.[215]

7.1.1 The Psychology Building

By the time Ellson concluded his term as department chair in 1959, faculty size was approaching two dozen. The department had long outgrown its quarters in Lindley Hall (formerly Science Hall), and plans were starting to made for a new building. Ellson took the lead in determining the design for the new facility, polling the faculty on their wishes and surveying other psychology buildings around the country. A modular system that could accommodate shifting demands for space was decided upon, and the new building was constructed on a $2 million budget.[216] Completed in late 1962, the Psychology Building was dedicated in 1963. In three-quarters of a century the original laboratory containing a single Hipp chronoscope had metamorphosed into multipurpose research facility housing an array of specialized laboratories, each equipped with their own complex apparatus.

For the first time, department members had access to modern shop facilities, which were included as an integral component of the

---

215. Dinsmoor, "The Evolution of the Graduate Program," 2.
216. D.G. Ellson, personal communication, 24 September 1986.

new Psychology Building. Located in the basement, the all-purpose shop could perform a variety of mechanical, electrical, and construction tasks necessary to build, maintain, and modify experimental apparatus. Clete Ellett and then John Waltke were largely responsible for the efficient operation of the shop. Waltke was able to obtain a large amount of useful equipment from federal government surplus programs.[217]

7.2 Local and national recognition

By the mid-1960s the department had achieved recognition both locally and nationally for its outstanding research program. In 1960, Estes became the first faculty member on the Bloomington campus to receive the title of Research Professor.[218] Three years later Neff received the same honor. In ten years the department's expenditures had quadrupled, to nearly $1 million in 1963-64, a total exceeded only by chemistry and history.[219] In a series of widely-publicized studies of American university graduate programs between 1957 and 1969, the Indiana psychology department was consistently ranked among the top dozen or so institutions in the country, receiving high ratings for both the quality of its faculty as well as the effectiveness of its doctoral training.[220]

In 1964-65 the psychology department boasted 40 faculty members at the assistant professor and above, its largest size to date. In less than three years the new Psychology Building had reached its maximum capacity, and steps were taken to control the department's future growth.

7.3 The clinical program in the 1960s

By 1960 the exponential increase in the number of clinic clients had ended, and the caseload dropped down to the more manageable level of approximately 600 per year. The clinical program continued to receive substantial training funds from the U.S. Public Health Service, and the number of graduate students grew from 30 to a peak of 60 in 1965 before stabilizing at around 40.

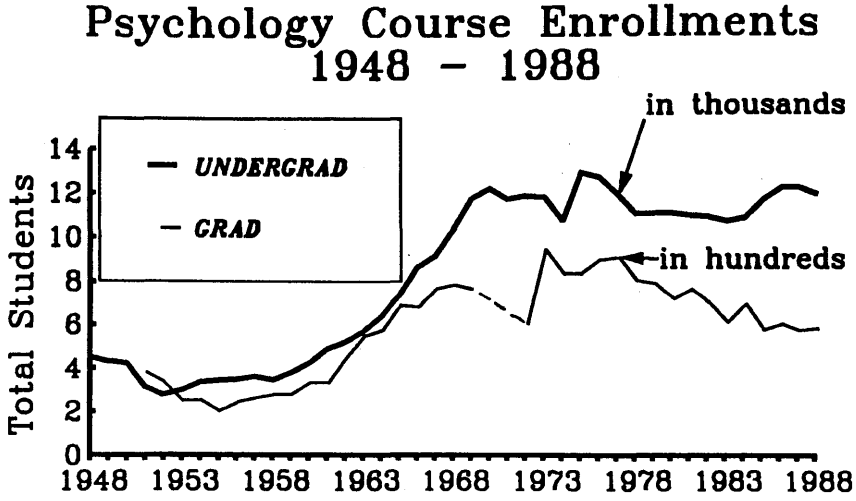
The clinical staff retained an experienced core of faculty, and grew with a number of junior appointments, including Kenneth Heller (1933-), Richard D. Young (1935-), Bruce Denner (1938-), Richard H. Price (1940-), and others.

---

217. D.G. Ellson, personal communication, February 1988.
218. The only other I.U. Research Professor was Joseph Muhler of the School of Dentistry in Indianapolis. "Your University," 1960 (July), 5 (4), 2.
219. York Willbern, William R. Breneman, & George W. Wilson, Growth and Change at Indiana University, (Report of the University Study Committee), (Bloomington: Indiana University, 1966), 161.
220. See Kenneth D. Roose & Charles J. Anderson, A Rating of Graduate Programs, (Washington: American Council on Education, 1970), 66-67, which summarizes the results of earlier surveys, including the Cartter report.

There was a notable change in the composition of the client caseload during the decade. In the mid-1960s clients were almost evenly divided between children (under 18) and adults. Within a few years, the number of children had decreased substantially, due in part to changes in the training program as well as to the increasing availability of other mental health services in the community.

Many of the clinical faculty, particularly Beier and Hardtke, were active in local mental health affairs. For instance, Beier played a major role in developing plans for a mental retardation research center, first proposed in 1963, and Hardtke was instrumental in the formation of the local community mental health center.



7.4 Restructuring graduate training

During the 1960s both undergraduate and graduate enrollment in psychology courses grew at a rapid pace. Undergraduate enrollment nearly tripled over the decade, to almost 12,000 students in 1969. Graduate enrollment, approximately one order of magnitude smaller, experienced a similar rise, from 300 to 800 (see figure).

Increasing specialization accompanied the growth of the department, and by the mid-1960s the department had many interests represented among its faculty. As new areas coalesced, it became more difficult to rely on the psychology of learning to provide a unifying theme.

Among the consequences of this state of affairs was a restructuring of the graduate training program in 1963 and 1964. In the fall of 1963 a course in Advanced General Psychology was added to the first-year curriculum to prepare students for the Qualifying Examination. Covering the entire spectrum of psychology, the

proseminar (or "pro-sem") was designed to provide students with a broad base of knowledge in the discipline, regardless of their eventual area of specialization. It soon became obvious that examinations taken during the proseminar covering its various sections could be substituted for the Qualifying Examination itself. So the next year the old Qualifying Examination was abolished, and its name transferred to what used to be called the Preliminary Examination, taken at the start of the third year. By then the first two days of general coverage had been stripped from the former "prelims," and all that remained was a major and two minors. A 1965 departmental brochure noted that: "The Qualifying Examination is a test of the student's competence in his [sic] area of specialization and it demands a high level of performance and a wide familiarity with the relevant literature." The areas of specialization were listed as "learning, sensory, physiological, mathematical, personality, or clinical."[221] Within a few years coursework was substituted for the minors, and by the end of the 1960s all that remained of the comprehensive examinations was the single Qualifying Examination in the student's major area of specialization prior to starting a dissertation.[222]

During the decade of the 1960s the department continued to grow and diversify. Faculty growth peaked by the mid-1960s, and a modest rate of turnover allowed existing areas to be strengthened and new areas to be established (see figure). By the end of the period the department had built upon its strong postwar base rooted in the psychology of learning, and had developed impressive programs in sensory, cognitive, and mathematical specialties, while remaining a leader in the study of animal learning. Sophisticated empirical research to test specific theoretical notions continued to be the hallmark of the department's research and training programs.

8 Toward steady state

In 1966 Russell became dean of advanced studies at Indiana University, and Conrad Mueller was recruited to serve as chairman, a position he had held previously at Columbia University. After two years, Irving Saltzman, who had been serving as associate chairman, succeeded him as department chair. Saltzman had been a faculty member since the late 1940s, and was familiar with the department's internal culture and its role in the university. Like his predecessor, he was committed to democratic governance by the faculty in departmental affairs.

As a result of a brief period of unusually high faculty turnover in the late 1960s, opportunities were available to make some key

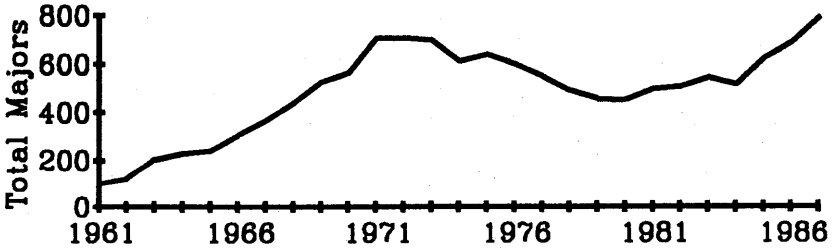
---

221. Quoted in Dinsmoor, "Evolution of the Graduate Program," 4.
222. Ibid.

Most of the psychology department in 1966. Left to right, by rows: (front) Frommer, Denner, Cotler, Hardtke, Beier, Hundt, Berger; (second) Allison, Saltzman, Gough, Price, Robinson, Yamaguchi; (third) Lindman, Stare, Cashdan, Chertkoff, Zinnes, Robbins; (fourth) Vance, Cairns, Peterson, Ost, Dinsmoor, Levy, Russell; (back) Greeno, Castellan, DeValois, Buchwald, Heller, Ellson, Young

appointments. Two professors were hired in 1969, Samuel Komorita (1927-) in social psychology and Richard J. Rose (1935-) in clinical psychology. James C. Craig (1942-) joined the sensory group, extending its coverage to the psychophysics of the skin. During the same period the area of animal learning received a boost with the hiring of William D. Timberlake (1942-) in ethological and comparative studies, and of Eliot Hearst (1932-), who also had broad interests in animal learning as well as the history of psychology. In 1968 Richard M. Shiffrin (1942-) joined the faculty after completing his doctorate at Stanford under Richard Atkinson, one of Estes's Indiana PhDs. His arrival added to the department's already notable reputation in mathematical and cognitive psychology. Psycholinguistics received significant recognition for the first time when David B. Pisoni (1945-) came in 1971.

Undergraduate Psychology Majors 1961 – 1988



Psychology continued to be a popular subject among undergraduates through the 1970s and 1980s. Course enrollments have averaged around 6,000 students each semester since 1971, with 100-level courses accounting for nearly three-fifths of the total.[223] Currently psychology has more undergraduate majors than any other department on campus; it surpassed English in 1987-88 (see figure).

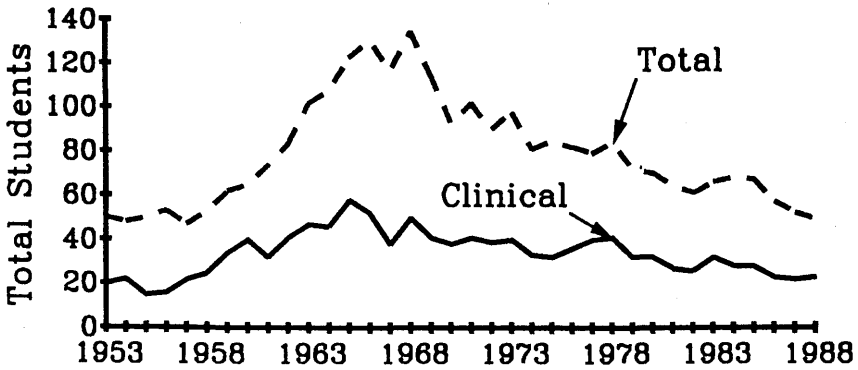
8.1 Specialization in the graduate program

Along with the rest of the academic community, the psychology department entered an era of limited resources in the 1970s. The heady days of expansion were over. Federal research and development funding levels had peaked, and campuses were settling down after a period of political upheaval. In response to tightening budgets, the number of graduate students enrolled in the

223. Harriet Kenny, "Bloomington Campus Psychology Department Enrollment Comparisons," September 1986; Psychology Department Files.

department declined during the 1970s, from approximately 100 to 65 in 1980 (see figure). Doctorate production peaked as well, and began a slow decline.[224]

Psychology Graduate Students 1953 - 1988



By the early 1970s nearly all aspects of graduate training had undergone further specialization, and the shared experience of graduate student cohorts gave way to greater diversity. Over the preceding two decades the role of the comprehensive examination ("prelims" until 1964, "quals" afterwards) in assuring broad knowledge of the field had been taken over by coursework, and the Qualifying Examination had become a test in the student's major area of concentration prior to the dissertation. Even this was further individualized in 1969 with the advent of "specialized quals." Students were required to assemble an Advisory Committee composed of three faculty members and a representative of the outside minor field, and submit an "examination proposal" to them. Based on the proposal, students had to pass a 6-hour written text and a subsequent oral examination in order to be admitted to candidacy for the PhD.[225]

Research training also became more specialized. In the fall of 1970 the required sequence of courses in Advanced Laboratory Methods was dropped, due in part to the decline of learning as a dominant interest among both faculty and incoming students, as well as to difficulties in running such courses. It was replaced by an apprentice program that utilized existing research facilities. Students were now required to conduct a first-year and a second-year research project, each in a faculty laboratory of their choice. Although projects

---

224. "Program Evaluation, Department of Psychology," January 1979, 69; Psychology Department Files.
225. Dinsmoor, "Evolution of the Graduate Program," 5.

were conducted individually, first-year students met together in a course to discuss to discuss their work.[226]

On the substantive side, the proseminar course, Advanced General Psychology, was under pressure as well. It had proved inflexible in accommodating the diverse backgrounds of new students, who arrived with vastly different levels of undergraduate training in each of the areas. In order to provide closer adjustment to individual needs, the proseminar was replaced in 1971 by a series of two-credit "core courses." The selection soon included courses in clinical psychology, developmental-comparative psychology, complex cognitive processes, learning and motivation, physiological psychology, sensory psychology, and social psychology.[227]

By the early 1970s admissions policies came to reflect and to further reinforce specialization in the graduate training program. Traditionally the department had guaranteed continuing financial support through assistantships and fellowships to graduate students in the program, which benefited faculty and students alike. Despite the burgeoning enrollments of the 1960s, the department was able to continue that policy because of the large amount of extramural support obtained by faculty members. But as research funding became tighter, it became increasingly difficult to provide financial support to an unlimited number of students, and by 1973 rationing was required. A quota system was begun to apportion student slots among major areas. Each area - clinical, animal, cognitive, developmental, physiological, sensory, and social - was allotted a specified number of invitations it could offer to prospective students, based on a complex formula devised to equalize the ratios of students to faculty. Faculty committees in each specialty began to process the student applications falling in their own area because "the selection of the best candidates demanded a detailed knowledge of the kind of training that was appropriate for each specialty, the strength of the undergraduate program at different institutions, and the significance of letters written by different individuals." In short, specialized criteria for admission developed in each area.[228]

The department's diversification into standard specialty areas was evident when the old type of "specialized quals" were abandoned in 1977. The self-designed examinations were deemed insufficiently diagnostic of possible weaknesses in the student's coverage of the area, and they made comparisons between students difficult. The department returned to a standardized "general examination" in each major area, and quals covering topics other than traditional academic fields were discouraged. In order to guide students, "general area reading lists" were prepared by groups of faculty members for each major area.[229]

---

226. Ibid., 6-7.
227. Ibid., 7.
228. Ibid., 8.
229. Ibid., 5.

8.2 Clinical developments

In 1969 longtime clinic director Beier died unexpectedly. As Leon Levy assumed the directorship, the clinic was in the midst of redefining its role in the local mental health scene. The outreach efforts of Beier, Hardtke, and others contributed to the proliferation of new facilities for psychological services. Beier's plans for a mental retardation research center had come to fruition with the construction of the Indiana University Developmental Training Center, completed in 1969. The previous year community mental health services were inaugurated for Monroe and its neighboring counties. Other new facilities included the Center for Human Growth, sponsored by the School of Education, and the Middle Way House, begun by the Indiana University Volunteer Students Bureau to treat drug abusers, both opened in 1970.[230]

Other clinical faculty members were engaged in research and consultation concerning community mental health issues. For instance, Levy did research on the therapeutic processes underlying self-help groups and Price developed a practicum in crisis intervention. On the theoretical side, Heller, Price, and Denner explored the paradigm shift involved in community psychology.[231]

Like the rest of the department, the clinic had to cope with decreasing federal funds for training support. Research training continued to be emphasized, and a new element called "on-line service" was introduced into the clinical practicum. Under this system, graduate students were responsible for making case decisions and conducting brief psychotherapy on selected clients, thus gaining valuable first-hand experience.[232]

By the end of the 1970s, a number of new faculty members had joined the clinic, including John E. Bates (1945-), Robert W. Levenson (1946-), Thomas F. Oltmanns (1949-), and Kenneth A. Dodge (1954-). In 1979 Richard M. McFall (1939-) became director of the clinic.

8.3 The pattern of the present

8.3.1 Faculty demographics

Although the number of faculty members has remained steady at about 40 during the 1980s, the balance among the professorial ranks has shifted. In 1987-88 over 75% of department members held the rank of professor, with the remainder unevenly divided between

---

230. Robbins, "History of the Psychological Clinic," 46-50.
231. K. Heller, personal communication, February 1988.
232. Robbins, "History of the Psychological Clinic," 52-59.

associate professor (5%) and assistant professor (17%). This proportion is largely the result of the aging of two major faculty cohorts that arrived during the periods 1947-54 and 1962-71.

Among the most significant developments affecting the department's future is the recent retirement of a large group of senior professors, some with up to four decades of service. Nearly all have spent the major portion of their careers at Indiana University, providing continuity and stability to the department since the 1940s. In 1987 alone, four professors achieved emeritus status, and a few more are likely to in the near future.[233]

The current preponderance of full professors, however, does not mean that the department has stopped attracting young researchers, who have often been promoted rapidly or else lured away to other institutions. In the 1980s, the department's role in nurturing careers was highlighted when four younger faculty members received an APA Distinguished Scientific Award for an Early Career Contribution to Psychology in consecutive years.[234] Within the university, the psychology department has been well-represented among the winners of the Campus Outstanding Young Faculty Award, instituted in 1986 for "excellent and significant" contributions.[235]

8.3.2 Women faculty members

Although the department has always had female graduate students - the first two PhDs ever awarded went to women - efforts to recruit women faculty are fairly recent.[236] The department's commitment over the past several years to hire and retain women faculty members has resulted in a roster for 1987-88 containing 7 women and 35 men. The percentage of women currently on the faculty (17%) is close to the cumulative proportion of women who have served on the faculty during the past century (around 17%). That statistic, however, is a result of recent affirmative action, and reveals little about the historical trends in the hiring of women psychologists at Indiana University. Out of a total of 38 women who have been members of the department faculty, more than two-thirds were hired after 1970. Before World War II, only four women had ever served on the psychology faculty. Each of them had been hired after completing a master's degree in the department. Three earned

---

233. Emeritus professors are: R.N. Berry (1987), J.A. Dinsmoor (1987), D.G. Ellson (1978), C.G. Mueller (1986), W.D. Neff (1983), L.R. Peterson (1987), and H.G. Yamaguchi (1987).
234. The recipients have been Richard N. Aslin (1982, Developmental), Russell H. Fazio (1983, Social), Kenneth A. Dodge (1984, Psychopathological), and Linda B. Smith (1985, Developmental). For the award citations see: [Aslin], "Distinguished Scientific Awards to an Early Career Contribution to Psychology: 1982," American Psychologist, 1983, 38, 50-53; [Fazio], idem, 1984, 39, 281-284; [Dodge], idem, 1985, 40, 305-309; [Smith], idem, 1986, 41, 371-373.
235. Recipients have been: Laura Carstensen (1986), Robert Nosofsky (1987), and Janet Metcalfe (1988).
236. The proportion of female doctorate recipients has been increasing steadily, from 5% during 1940-49 to 41% for 1980-87.

their PhDs after starting to teach at Indiana; two of them also had kinship ties to male faculty members.[237]

During the 1940s three women joined the department. All were associated with the clinic, and each had personal or educational ties to the university.[238] In 1953 Mary Jeffery Collier became the first woman tenured in the department. In the mid-1950s two women joined the department's non-tenured ranks. One, Edith C. Robinson, served as a clinical associate for two years. The other, Margaret Intons-Peterson, arrived in 1954 with her husband, Lloyd Peterson, who had been appointed an instructor in the department. Two years later she gained the title of Research Associate, and over the next 13 years she continued to serve the department in a succession of non-tenure-track positions. In 1969 she became the second woman ever tenured in the department.

Starting in the early 1970s the department stepped up its recruitment of female psychologists. Although 10 new faculty appointments were granted to women between 1970 and 1979 (nearly equal to the total for the preceding 50 years), only three were tenure-track. By 1988 an additional 17 faculty slots had been filled by women. Seven of the positions were tenure-track, and two more were full professorships with tenure. Despite the large number of new appointments, over a decade passed before another woman was granted tenure following Intons-Peterson in 1969. Currently the department has four tenured women faculty members.

---

237. Cecile W. White received her MA in 1915, and was an instructor for 1916-17. Hannah M. Book, the sister of department chair W.F. Book, obtained her MA (1920) and PhD (1929) in the department, and served on the faculty between 1921 and 1937. Gladys M. Dykes was an intructor for 1924-25, between the award of her MA (1923) and PhD (1925). Mary H. Young, the wife of clinic director H.H. Young, held an Indiana master's degree (1918) and a PhD from Pennsylvania (1926), and was on the faculty in 1924-25 and in 1931-32.

238. Mary Shirley held a BA (1922) and Sylvia Lotman Glaser held an MA (1944) from Indiana University. Mary Jeffery Collier's husband was a graduate student in the department, as was Glaser's.

Women Faculty Members

Period	Appointments	Tenure track	Tenured during period
1910-19	1	0	0
1920-29	3	1	0
1930-39	0	0	0
1940-49	3	2	0
1950-59	2	0	1
1960-69	2	0	1
1970-79	10	3	0
1980-88	17	9	3
TOTAL	38	15	5

8.3.3 Recent initiatives

Among the areas that has received special attention in the past decade is developmental psychology. Although some department members such as Cairns and Young had conducted research in developmental psychology as early as the 1960s, a critical mass in the area did not start accumulating until the mid-1970s. Three new PhDs - Jeffrey Alberts (1948-), Richard N. Aslin (1949-), and Linda B. Smith (1951-) - were hired, representing physiological, sensory, and cognitive specializations within developmental psychology. They quickly established active research programs, and soon received national recognition for their promising accomplishments. Although there have been some personnel changes over the years, this "small pocket of excellence" has continued to prosper, and was recently augmented by the arrival of three new faculty members - Susan S. Jones (1948-), Esther Thelen (1941-), and Sheila Jeyifous (1950-). In addition, professor June M. Reinisch (1943-), director of the Kinsey Institute for Sex Research, has research interests in developmental psychology.

Physiological psychology is another area that has been earmarked for development. Under the rubric of behavioral neuroscience, new faculty members have been recruited, and links with the university's interdisciplinary neural sciences program have been revitalized. Among the faculty associated with the area now are Frommer, Heise, George V. Rebec (1949-), Dale Sengelaub (1956-), Ronald Kettner (1950-), and Joseph Steinmetz (1955-).

The close ties between clinical and experimental areas were further strengthened in the early 1980s when the department received a major training grant from the National Institutes of Mental Health.

This renewable grant has been used to support both predoctoral and postdoctoral students for training as clinical scientists, and has involved around 10 faculty members, half from the clinical area and half from developmental, physiological, and social specialties.[239]

Since the 1960s, the department has been trying to achieve a critical mass in the social psychology area. In addition to senior faculty Chertkoff and Sherman, Russell Fazio (1952-) has been a member of the department since 1978. They were joined a few years later by Paget H. Gross (1956-).

Other department specialty areas that have had faculty additions in the recent past include cognitive/mathematical, with Robert M. Nosofsky (1956-) and Janet Metcalfe (1950-), and clinical, with Richard Viken (1954-).

8.3.4 The current graduate program

The department continues to offer seven major areas of graduate specialization: animal learning and behavior, developmental, cognitive/mathematical, social, behavioral neuroscience (physiological), sensory, and clinical. The boundaries between them, however, remain fluid as faculty and students sometimes conduct research pertaining to more than one field. Cross-fertilization is also encouraged by requiring graduate students to take core courses in five of the seven areas.

Rigorous research training endures as the hallmark of graduate training in both experimental and clinical fields. As the 1987-88 department brochure states:

> The graduate program particularly emphasizes training in experimental design, scientific methodology, and the quantitative analysis of scientific data.[240]

In addition to passing two required statistics courses, students must complete two research projects during their first three years.

The total number of full-time graduate students is currently about 50, down more than one third from the levels of the 1970s, resulting in a low graduate student/faculty ratio. Close contact between graduate students and faculty is ensured further by a comprehensive student evaluation process. Upon admission, each graduate student is assigned an advisor. The entire faculty reviews each student's progress at the end of each semester for the first two years. At the conclusion of the second year, the student's advisor presents a summary evaluation to the faculty. Students must then

---

239. K. Heller, personal communication, March 1988.
240. "Indiana University Graduate Training Program [in] Psychology," (Bloomington: Psychology Department, 1987), 8.

pass a qualifying examination during their fifth semester in order to be admitted to candidacy for the PhD degree.

Doctorate production since 1980 has averaged to 13.8 per year, which is practically identical with the overall rate since the initial expansion of the PhD program in the late 1940s and early 1950s.[241]

8.4 Conclusion

Forty years ago president Herman Wells suggested that each department in the university should chronicle its activities and accomplishments, and he called for the writing of department histories. With typical farsightedness, he realized that the heritage of earlier years would be forgotten and lost unless steps were taken to preserve it. Department histories, he believed, were important "to keep the record continuous and green."[242] This history has been a modest effort toward that goal, and represents only one of the many possible accounts of the department that could be written.

Since 1888 tens of thousands of people have come into contact with the department. The bulk of them have been Indiana undergraduates who have either majored in psychology or else taken a course or two. Hundreds of others have been more deeply involved as graduate students; the careers of more than 500 PhD graduates have been significantly shaped by experiences in the department. Over 200 psychologists have been members of the faculty, and have spent portions of their lives engaged in research, teaching, and public service.

These summary statistics, however, only demonstrate that psychology has become a major academic enterprise at Indiana University. Perhaps more important is the research ethos that has developed in the department over the past hundred years. Department members have shared an overarching commitment to scientific psychology, shown by the research accomplishments of both faculty and students and in the rigorous graduate training program. To an unusual extent, the clinic has remained closely integrated with the rest of the department, and has shared its focus on research.

If William Lowe Bryan visited the department today, he might not be able to understand much of the research that is underway. However, he could probably appreciate the scientific attitude that pervades the department, since in the original Indiana laboratory he laid the foundation for this legacy.

---

241. From 1952, when the first wave of postwar graduate students started completing their PhDs, to 1987 the department has awarded an average of 13.4 PhDs per year.
242. Clark, Indiana University, Midwestern Pioneer, III, 89.

Appendix A

Psychology Faculty, 1885-1988

The following chronological list includes the ranks of lecturer, instructor, assistant professor, associate professor, professor, and professor emeritus, as well as acting, visiting, and adjunct appointments; it covers only the Bloomington campus. Before 1929 it includes only faculty members who were definitely identified with the psychology program; their titles often involved some combination of appointments in philosophy, pedagogy, and psychology. The list was compiled from university catalogs and from the files of the Dean of Faculties. For each person, beginning and ending ranks are given along with inclusive dates of service.

1880s

William Lowe Bryan Associate Professor - Professor, 1885-1902; Lecturer & President, 1902-37; President Emeritus, 1937-55
Richard G. Boone Acting Professor, 1886-87

1890s

Fletcher B. Dresslar Instructor, 1892-93
Robert Hessler Instructor, 1893-94
Ernest H. Lindley Instructor - Professor, 1893-1917
John A. Bergstrom Asssistant Professor - Professor, 1894-1908
Frank Drew Instructor, 1895-96
Elmer B. Bryan Assistant Professor - Associate Professor, 1897-1901; Professor, 1903-05

1900s

James P. Porter Instructor, 1900-03; Professor, 1908, 1914 (summers)
Melvin E. Haggerty Assistant Professor - Professor, 1909-16

1910s

William F. Book Professor, 1912-13, 1916-34; Professor Emeritus, 1934-40
John W. Todd Acting Professor, 1915-16
William H. Pyle Acting Professor, 1916-17
Cecile W. White Instructor, 1916-17
Joseph A. Williams Acting Professor, 1917-19
Thomas E. Nicholson Instructor - Associate Professor, 1917-33
Sidney W. Pressey Research Associate & Assistant Professor, 1917-21
Harry D. Kitson Associate Professor - Professor, 1919-25

1920s

J. Robert Kantor Assistant Professor - Professor, 1920-59; Professor Emeritus, 1959-84
Hannah M. Book Instructor - Assistant Professor, 1921-22, 1923-37
Herman H. Young Associate Professor - Professor, 1922-31
Gladys M. Dykes Instructor, 1924-25
Edgar L. Yeager Instructor - Assistant Professor, 1924-46
Mary H. Young Instructor, 1924-25; Assistant Professor, 1931-32
George S. Snoddy Professor, 1925-40
Sumner L. Crawley Assistant Professor, 1926-29
Winthrop N. Kellogg Assistant Professor - Professor, 1929-51

1930s

Roland C. Davis Acting Associate Professor - Professor, 1931-61
Chauncey McKinley Louttit Assistant Professor - Associate Professor, 1931-45
Edmund S. Conklin Professor, 1934-42
Merrill F. Roff Instructor - Assistant Professor, 1935-47

1940s

Robert S. Daniel Instructor, 1940-42
James W. Layman Assistant Professor, 1941-42
Theodore A. Jackson Assistant Professor, 1942-43
Clarence J. Leuba Visiting Professor, 1942
Nicholas H. Pronko Instructor, 1943-45
L. Harold Sharp Acting Assistant Professor, 1943-44
Mary M. Shirley Assistant Professor, 1943-45
J. Bradley Reynolds Instructor, 1944
John H. Rohrer Instructor, 1944
G. Raymond Stone Instructor, 1944-46
Delton C. Beier Assistant Professor - Professor, 1945-69

Douglas G. Ellson Assistant Professor - Professor, 1945-78; Professor Emeritus, 1978-present
David T. Herman Instructor, 1945-47
B. Frederic Skinner Professor, 1945-48
Sidney W. Bijou Assistant Professor, 1946-48
John Bucklew Instructor, 1946
Robert E. Dreher Instructor, 1946-47
William K. Estes Instructor - Research Professor, 1946-62
Sylvia Lotman Glaser Clinician, 1946-47
William O. Jenkins Instructor - Assistant Professor, 1946-48
William S. Verplanck Assistant Professor, 1946-50
Irvin S. Wolf Instructor, 1946-47
Leo J. Postman Assistant Professor, 1947-48
Richard N. Berry Assistant Professor - Professor, 1947-87; Professor Emeritus 1987-present
Mary Jeffery Collier Instructor - Assistant Professor, 1947-54
E. Kuno Beller Instructor - Assistant Professor, 1948-52
Cletus J. Burke Assistant Professor - Professor, 1948-63
Harris E. Hill Instructor, 1948-49
Irving J. Saltzman Assistant Professor - Professor, 1948-present
Bertram D. Cohen Instructor - Assistant Professor, 1949-52
John J. Conger Assistant Professor, 1949-52

1950s

Otis J. Benepe Assistant Professor, 1950-55
Eldred F. Hardtke Associate Professor - Professor, 1950-71
Sumner C. Hayward Instructor, 1950-51
Alfred Libby Instructor, 1950-52
William N. Schoenfeld Visiting Associate Professor, 1950-51
John J. Schwarz Instructor, 1950-51
James A. Dinsmoor Assistant Professor - Professor, 1951-86; Professor Emeritus, 1987-present
James P. Egan Associate Professor - Professor, 1951-68
Donald W. Lauer Assistant Professor - Associate Professor, 1951-82
Harry G. Yamaguchi Assistant Professor - Professor, 1951-87; Professor Emeritus, 1987-present
Alexander M. Buchwald Assistant Professor - Professor, 1952-present
Arnold M. Binder Assistant Professor - Professor, 1953-65
Herbert Gerjuoy Instructor, 1954-57
Leon H. Levy Instructor - Professor, 1954-78
Lloyd R. Peterson Instructor - Professor, 1954-87; Professor Emeritus, 1987-present
Edith C. Robinson Clinical Associate, 1954-56
David L. LaBerge Instructor - Assistant Professor, 1955-58
Margaret J. Intons-Peterson Research Associate - Professor, 1956-present

Mymon Goldstein Assistant Professor, 1957-60
Harry M.B. Hurwitz Visiting Assistant Professor, 1957-58
Coy D. Robbins Psychiatric Social Worker - Chief Psychiatric Social Worker, 1957-85
Isidore Gormezano Instructor - Associate Professor, 1958-66
William H. James Assistant Professor, 1958-62
Lawrence Wheeler, Jr. Lecturer & Research Associate, 1958-60; Instructor, 1962-63
Seymour M. Berger Instructor - Associate Professor, 1959-69
Russell L. DeValois Associate Professor - Professor, 1959-68
Marvin Levine Instructor - Assistant Professor, 1959-65
Roger W. Russell Professor, 1959-67

1960s

Frank Dalziel Lecturer & Research Associate, 1960-62
Donald D. Jensen Assistant Professor - Associate Professor, 1960-69; Visiting Professor, 1976-77
Walter Kintsch Lecturer & Research Fellow, 1960-61
John W.P. Ost Lecturer - Assistant Professor, 1960-69
Gary T. Yonemura Lecturer - Instructor, 1960-62
Robert B. Cairns Assistant Professor - Professor, 1961-73
James G. Greeno Instructor - Professor, 1961-69
Frank Restle Visiting Associate Professor - Professor, 1961-1980
Joseph L. Zinnes Assistant Professor - Associate Professor, 1961-81
Norman Anderson Visiting Associate Professor, 1962-63
Vincent DiLollo Visiting Lecturer, 1962-65
Philip B. Gough Assistant Professor - Associate Professor, 1962-67
S. Lee Guth Lecturer - Professor, 1962-present
Kenneth Heller Assistant Professor - Professor, 1962-present
Boyd R. McCandless Professor, 1962-66
Richard D. Young Instructor - Professor, 1962-present
James Allison Instructor - Professor, 1963-present
William N. Dember Visiting Associate Professor, 1963
William D. Neff Professor - Research Professor, 1963-83; Research Professor Emeritus, 1983-present
Moshe Anisfeld Visiting Assistant Professor, 1964
Jerome M. Chertkoff Assistant Professor - Professor, 1964-present
Gabriel P. Frommer Assistant Professor - Professor, 1964-present
George A. Heise Associate Professor - Professor, 1964-present
Harold R. Lindman Assistant Professor - Associate Professor, 1964-present
Donald E. Robinson Assistant Professor - Professor, 1964-present
Gary E. Stollak Assistant Professor, 1964-66
William B. Vance Assistant Professor, 1964-71
Sheldon Cashdan Assistant Professor, 1965-68
N. John Castellan, Jr. Assistant Professor - Professor, 1965-present
Bruce Denner Assistant Professor - Associate Professor, 1965-71

John J. Furedy Visiting Lecturer, 1965-66; Visiting Assistant Professor, 1966-67
Melvin L. Goldstein Assistant Professor, 1965
Alan G. Hundt Assistant Professor, 1965-69
Conrad G. Mueller Professor, 1965-86; Professor Emeritus, 1986-present
Gordon Stanley Visiting Lecturer, 1965-67
Frederick Stare Assistant Professor, 1965-69
Mark D. Van Slyke Lecturer, 1965
Sheldon Cotler Assistant Professor, 1966-71
Terry Dolan Visiting Assistant Professor, 1966-70
E. Veronica Lenard Clinical Social Worker, 1966-74
Rodney McGinnis Visiting Assistant Professor, 1966-67
Richard H. Price Assistant Professor - Associate Professor, 1966-74
Elizabeth Botha-Antoun Visiting Associate Professor, 1967-70
Steven J. Sherman Assistant Professor - Professor, 1967-present
Eugene Roach Visiting Associate Professor, 1968-70
Robert J. Seltzer Assistant Professor, 1968-73
Richard M. Shiffrin Assistant Professor - Luther Dana Waterman Professor, 1968-present
Constantine Trahiotis Visiting Assistant Professor, 1968-70
Robert Wolosin Assistant Professor, 1968-75
James C. Craig Assistant Professor - Professor, 1969-present
Samuel S. Komorita Professor, 1969-74
Barry S. Markman Visiting Assistant Professor, 1969-72
Raymond C. Mulry Visiting Assistant Professor, 1969-70
Richard J. Rose Associate Professor - Professor, 1969-present
William D. Timberlake Lecturer - Professor, 1969-present

1970s

Stephen J. Bacon Assistant Professor, 1970-75
William A. Gilkey Adjunct Assistant Professor, 1970-present
Eliot S. Hearst Professor - Distinguished Professor, 1970-present
David Stewart Assistant Professor - Associate Professor, 1970-76
Robert Thatcher Visiting Assistant Professor, 1970-71
Lynn D. Devenport Visiting Assistant Professor, 1971-72
John W. Kelsey Assistant Professor, 1971-1978
Phillip A. Mann Associate Professor, 1971-74
David B. Pisoni Assistant Professor - Professor, 1971-present
Paula C. Stone Visiting Assistant Professor, 1971-72
Kathy Bloom Visiting Assistant Professor, 1972-74
John M. Gottman Assistant Professor - Associate Professor, 1972-76
Katherine Olsen Psychiatric Social Worker, 1972-73
John E. Bates Assistant Professor - Professor, 1973-present
Marc Lewis Visiting Assistant Professor, 1973-75
Richard E. Mayer Visiting Assistant Professor, 1973-75
Jeffrey Alberts Assistant Professor - Professor, 1974-present

Frances Cherry Assistant Professor, 1974-77
Bradley Glanville Visiting Lecturer, 1974-75
Robert W. Levenson Assistant Professor - Professor, 1974-87
Richard N. Aslin Assistant Professor - Professor, 1975-84
Mark S. Cary Assistant Professor, 1975-80
Robert Castleberry Visiting Assistant Professor, 1975-77
Richard Colker Visiting Assistant Professor, 1975-77
Christopher L. Cunningham Visiting Assistant Professor, 1975-76
Margaret P. Freese Assistant Professor, 1975-78
Sharon C. Wilsnack Adjunct Assistant Professor, 1975-78
Thomas F. Oltmanns Assistant Professor - Professor, 1976-86
Clark C. Presson Visiting Assistant Professor, 1976-79
David M. Schnarch Visiting Assistant Professor, 1976-77
Laurence R. Barnhill Adjunct Assistant Professor, 1977-present
Michael R. Freese Visiting Assistant Professor, 1977-78
George V. Rebec Assistant Professor - Professor, 1977-present
Robert Remez Visiting Lecturer - Visiting Assistant Professor, 1977-80
Linda B. Smith Assistant Professor - Professor, 1977-present
Mary K. van Reken Visiting Assistant Professor, 1977-78
Laurie Chassin Visiting Assistant Professor, 1978-79
Russell H. Fazio Assistant Professor - Professor, 1978-present
Michael R. Petersen Lecturer - Associate Professor, 1978-85
Kenneth A. Dodge Assistant Professor - Associate Professor, 1979-85
Richard M. McFall Professor, 1979-present
Glenn A. Miller Adjunct Assistant Professor, 1979-80
Cathy Spatz Widom Associate Professor (part-time), 1979-82; Professor (part-time), 1985-present
Dolf Zillman Professor (part-time), 1979-present

1980s

Stephen J. Hanson Visiting Assistant Professor, 1980-82
Janice Juraska Assistant Professor - Associate Professor, 1980-86
Gary A. Lucas Visiting Assistant Professor, 1980-82
Rebecca A. Treiman Assistant Professor - Associate Professor, 1980-84
Karin Ahlm Visiting Lecturer - Visiting Assistant Professor, 1981-85; Visiting Assistant Professor, 1987-present
Judith R. Johnston Assistant Professor (part-time) - Associate Professor (part-time), 1981-present
Eileen C. Schwab Visiting Assistant Professor, 1981-83
Stephen L. Franzoi Visiting Assistant Professor, 1982
June M. Reinisch Professor, 1982-present
Mary M. Smyth Visiting Assistant Professor, 1982-83
Robert Weiskopf Visiting Assistant Professor, 1982; Visiting Assistant Professor - Adjunct Assistant Professor, 1984-present

Laura L. Carstensen Assistant Professor, 1983-87
Loren Wingblade Visiting Assistant Professor, 1983-present
John L. Werner Visiting Assistant Professor, 1983
Patricia Agnew Visiting Assistant Professor, 1984-present
Paget H. Gross Assistant Professor, 1984-present
Susan S. Jones Visiting Assistant Professor - Assistant Professor, 1984-present
Ellen Junn Visiting Assistant Professor, 1984-86
Robert M. Nosofsky Assistant Professor, 1984-present
Paul Sweeney Visiting Assistant Professor, 1984-86
Jack E. Thomas Adjunct Assistant Professor - Visiting Assistant Professor, 1984-87
Karen C. Morgan Visiting Assistant Professor, 1985-87
Rickey L. Morgan Visiting Assistant Professor, 1985-87
Esther Thelen Professor, 1985-present
James Dougan Visiting Assistant Professor, 1986-present
Valeri Farmer-Dougan Visiting Assistant Professor, 1986-present
Donald J. Gawley Visiting Assistant Professor, 1986-present
Sheila W. Jeyifous Assistant Professor, 1986-present
Gary Kidd Assistant Professor (part-time), 1986
Janet Metcalfe Associate Professor, 1986-present
Dale R. Sengelaub Assistant Professor, 1986-present
Richard J. Viken Visiting Assistant Professor - Assistant Professor, 1986-present
Victoria Bedford Visiting Assistant Professor, 1987
Ronald E. Kettner Assistant Professor, 1987-present
David J. Schneider Visiting Professor, 1987-88
Joseph E. Steinmetz Assistant Professor, 1987-present
Charles S. Watson Professor (part-time), 1988-

Appendix B

Department Chairs, 1885-1988

Department of Philosophy, 1885-1919; Department of Psychology and Philosophy, 1919-1929; Department of Psychology, 1929-present

William Lowe Bryan*	1885-1886
Richard G.Boone*	1886-1887
William Lowe Bryan	1887-1902
William B. Elkin*	1891-1892
Ernest H. Lindley	1902-1917
William F. Book	1917-1934
William Lowe Bryan*	1933-1934
Edmund S. Conklin	1934-1942
J. Robert Kantor*	1942-1945
B. Frederic Skinner	1945-1948
J. Robert Kantor*	1947
Douglas G. Ellson	1948-1959
J. Robert Kantor*	1952-1953
Roland C. Davis*	1958-1959
Roger W. Russell	1959-1966
Harry G. Yamaguchi*	1965-1967
Irving J. Saltzman*	1967
Conrad G. Mueller	1967-1969
Irving J. Saltzman	1969-present

*Acting Chair

Appendix C

Psychological Clinic Directors, 1922-1988

Herman H. Young	1922-1931
Mary H. Young*	1931
Chauncey McKinley Louttit	1931-1945
James W. Layman*	1941,1942
Robert S. Daniel*	1942
Theodore A. Jackson*	1942-1943
Mary S. Shirley*	1943-1945
Delton C. Beier	1945-1969
Mary Jeffery Collier*	1952-1953
Eldred F. Hardtke*	1954-1955
Harry G. Yamaguchi*	1957
Leon H. Levy	1969-1978
Alexander M. Buchwald*	1972-1973
Richard D. Young**	1978-1979
Alexander M. Buchwald**	1978-1979
Richard M. McFall	1979-1985
Kenneth Heller	1985-present

*Acting Director **Acting Co-Director

Appendix D
Graduate Degrees, 1886-1987

Until 1919 there was only a Department of Philosophy, from 1919-1929 a Department of Philosophy and Psychology, and from 1929 on separate departments for each discipline. For the period 1886-1919 we have listed degrees in both philosophy and psychology. From then on all degrees are in psychology. If available, the sponsor's name is given in parentheses after the degree awarded.

1886

Bryan, William L. (MA) The Polar Logic of Heraclitus

1889

Mace, William H. (MA) The Organization of Historical Material, Its Products and Processes

1890

Millis, William A. (MA) An Outline of a Theory of Cognition

1891

Wisely, John B. (MA) The Use of Philosophy in the Interpretation of Literature

1892

Dresslar, Fletcher B. (MA) Some Conditions Which Influence the Rate of Voluntary Movements

1894

Lindley, Ernest H. (MA) A Method of Studying Dermal Sensibility, with Preliminary Experiments and Results

1895

Bush, Joseph C. (MA) An Experimental Study of the Memory Period

Chambers, Charles O. (MA) The Visual Perception of Motion

1896

Coffman, Henry N. (MA) A Comparative Study of Theories of Moral Training

Harter, Noble (MA) Experimental Studies in the Physiology and Psychology of Telegraphic Language

Leonard, Zemas B. (MA) St. Augustine's View of the Relation Between Christianity and Greek Philosophy

Sanders, William H. (MA) An Experimental Study of Memory as Influenced by Rate of Study

1898

Triplett, Norman (MA) The Dynamogenic Factor in Pace-making and Competition

1899

Wissler, Clark (MA) Variation in Voluntary Processes

1900

Bell, Sanford (MA) A Study of the Influence of Teachers upon Pupils

1901

Cushman, William J. (MA) School Officers of Indiana and Their Functions

Hamilton, Francis M. (MA) Higher Language Habits

Kinnaman, Andrew J. (MA) A Comparison of Judgments for Weights Lifted with the Hand and Foot

Porter, James P. (MA) Changes in the Endurance, Educability, and Recuperative Power of the Abductor Indicis, with Age

1902

Newland, Robert E. (MA) The Psychology of a Game -- Checkers

Ray, Eithel R. (MA) On the Psychology of Credulity

1903

Cauble, Commodore W. (MA) A Contribution to the Psychology of Confession

Mershon, William W. (MA) A Study of the Relative Value of Direct and Indirect Suggestion in Normal Life

Terman, Lewis M. (MA) A Contribution to the Psychology of Leadership

1904

Price, Claude E. (MA) The Relation of Athletics to Scholarship at Indiana University: A Statistical Study

White, Jesse H. (MA) The Psychology and Pedagogy of Debate

1905

Beck, Frank O. (MA) A Study in the History and Psychology of Prayer

Caldwell, Morley A. (MA) The Gentleman: A Study in Psychology

1906

Batchelor, Arthur D. (MA) A Philosophical Study of Conscience

Eagleson, Preston E. (MA) Emerson's Views Concerning the Education of Man

Newsom, Vida (MA) Proverbs: A Study in Morals and Ethics

l907

Gard, Willis L. (MA) Introspective Study of the Psychology of Reasoning

Haggerty, Melvin E. (MA) A Contribution to the Psychology of Appreciation

Heady, John H. (MA) Pastoral Psychology

1908

Bretwieser, Joseph V. (MA) Ethical Content of Utopias

Hutchinson, George A. (MA) The Problem of the Expansion of Human Energies; A Neurological and Psychological Study

1909

Reed, Homer B. (MA) Health as an Ethical Category

1910

Llewelyn, Edgar J. (MA) The Forms of Stimulus that Favor the Radical and Permanent Expansion of Human Energy

Sanger, William T. (MA) Freud's Psycho-analytic Method: An Experimental and Critical Study of the So-called Subconscious

Todd, John W. (MA) The Influence of Irrelevant Stimuli: An Experimental Study

Williams, Joseph A. (MA) Dissociation and Its Role as Psychophysical Factor in Belief and in the Faith-State

1911

King, John P. (MA) The Distribution of Grades in Indiana University: A Comparative Study

Miller, Wilford S. (MA) The Assimilation of Disparate Sensory Stimuli

Peters, Hirman W. (MA) The Elements of Personality

1912

Foley, Eupha M. (MA) Light Discrimination in the House Sparrow

Knight, Homer G. (MA) The Psychology of Initiation

1913

Fern, Gilbert H. (MA) The Psychology of Intolerence

McCartney, Fred M. (MA) A Comparative Study of the Dreams of the Blind and of the Sighted, with Special Reference to Freud's Theory

1914

Hyslop, George H. (MA) An Analysis of Two Hundred and Twenty-five Dreams of One Person

1915

Fisher, John J. (MA) A Contribution to the Psychology of Prejudice

White, Cecile W. (MA) The Solution of a Series of Puzzles: An Objective Study in the Psychology of Initiative and Invention

1916

Nicholson, Thomas E. (MA) Contribution of the Theory and Practice of Psychoanalysis to the Principles and Methods of Education

Stone, Calvin P. (MA) (M. Haggerty) A Comparative Study of Brightness Discrimination in Dog and in Man

Ziegler, Lloyd H. (MA) An Attempt to Detect Physiological Bases of Mental Efficiency

1919

Pressey, Luella W. (MA) Group Scale of Intelligence for Children in the Primary Grades

1920

Book, Hannah M. (MA) A Study of the Mental Abilities Which Contribute to Success in First-Year Mathematics in High School

Griffith, Ulysses J. (MA) Moral Development of Boys

Hansford, Hazel I. (PhD) The Slack Family: A Mental and Social Survey of a Degenerate Family

Pressey, Luella W. (PhD) The Measurement of Intelligence and School Attainment in the First Three School Grades

Thompson, Hiner J. (MA) (M. Haggerty) The Frequency of Occurrence of Letter Combinations as a Basis of Learning Typewriting

1921

Iske, Louise M. (MA) Free Will in Greek Tragedy and Philosophy

1922

Beard, Alice S. (MA) The Educability of Observation and Report

Chambers, Othniel R. (MA) Study in Observational Learning with Special Reference to the Effect of Suggestion, Sex, Intelligence, Type of Material and Type of Direction Used

1923

Dykes, Gladys M. (MA) An Experimental Study of the Feeling of Assurance

Pan, Shu (MA) An Experimental Study of Retention of Sense Material

Williams, Oscar H. (PhD) (W. Book) A Mental Survey of 2624 Teacher Recruits of a State

1924

Campbell, Oliver C. (MA) A Statistical Study of Industrial Accidents with Special Reference to Psychological Factors

Emery, Earnest W. (MA) Experimental Study of the Relationship between Range and Accuracy in Observation and Report for Individuals of Different Ages

Kindell, William H. (MA) Experimental Study of the Effect on High School Performance of Reporting Pupils' School Grades in Terms of Their Native Mental Endowment

Stockrahm, Roy L. (MA) The Development and Growth in the Strength and Reliability of the Subjective Feeling of Certainty in Observation

Williams, Joseph A. (PhD) The Perception of Form and Maze Learning in Dogs

Yeager, Edgar L. (MA) (H. Kitson) An Objective Method for Studying Personal Traits of Successfully and Less Successfully Adjusted Workers

1925

Allen, Irving (MA) Pictures of Humans in Magazine Advertisements

Ashbaucher, Lorin F. (MA) Age-Grade-Percentile Distribution of Boys, Eight to Twelve, in Bloomington Schools

Daugherty, Dorothy G. (MA) Standardization of Slot Maze A for Ages Eight to Eleven

Dykes, Gladys M. (PhD) (W. Book) The Development of the Capacity to Observe from Ages 8-20

Nicholson, Thomas E. (PhD) Increase and Decline in Speed Control of Voluntary Movements from Ages Six to Eighty-Six

1926

Jackson, Theodore A. (MA) (H. Young) A Study of a Dissected Paragraph Test as an Instrument for Measuring the Intelligence of College Students

Kirlin, Florence K. (MA) A Preliminary Study of Factors that Condition the Academic Success of College Students

White, Persia (MA) (H. Young) Age-Grade-Percentile Distribution for Girls in Regular Grades of Bloomington Public Schools -- Bloomington, Indiana

Whitmer, Carroll A. (MA) Dominant Motives of Students Matriculating at Indiana University in l925

1927

Harter, Richard S. (MA) (W. Book) Cause, Frequency, and Prevention of Mistakes in Learning to Spell

Howell, Edna V. (PhD) (W. Book) A Progressive Design Test: A Test Requiring the Selection of New Elements Added Asymmetrically in Building a Complex Design

Meadows, John L. (MA) (W. Book) Sex Differences Found Among 5,925 High School Seniors on a Group Scale of Intelligence with Reference to Special Abilities

Mumby, Edward W. (MA) Preliminary Experiments with a Special Ability and Efficiency Test for Wrestlers

Smith, Geneva M. (MA) A Preliminary Study of the Causes of Criminal Conduct

Stockrahm, Roy L. (PhD) (W. Book) A Tentative Analysis of Learning to Read with a Study of the Reading Ability of College Freshmen

1928

Bryan, Emory W. (MA) An Analysis of the Psychology Involved in Learning Mechanical Drawing

Fowerbaugh, Clarence C. (MA) Case Studies of College Students

Randolph, Ruby L. (MA) (H. Young) A Study of the 1927 Dissected Paragraph Test of Indiana Trial Tests

Warner, Mary L. (PhD) Illustrating a Case Study Method in Clinical Psychology: H.K., a Pseudo-Successful Deaf Boy of 12, Reared as a Hearing Child

Waskom, Hugh L. (MA) Integration Concept of Personality

1929

Book, Hannah M. (PhD) (G. Snoddy) A Psychophysiological Analysis of Sex Differences

Case, Florence (PhD) (G. Snoddy) A Quantitative Personality Study as an Approach to the Conditions of Mental Health Among College Students

Clevenger, Josephine (MA) Relation of Digit and Learning Spans to School Marks of Eighth and Ninth Grade Children

Harter, Richard S. (PhD) An Experimental Analysis of the Structure of and Individual Differences in Associative Capacity

Price, Benjamin (MA) Role Played by Consciousness in Learning

Templeton, Frank L. (MA) An Attempt to Devise and to Determine the Validity of a New Adult Test

Totten, George L. (MA) (G. Snoddy) Interference and Its Relation to Abnormality

1930

Book, Clara D. (MA) Analysis of Learning to Read Latin

Fowerbaugh, Clarence C. (PhD) (W. Book) Clinical Studies of Paranoia

Graney, Frances M. (MA) (G. Snoddy) Associative Learning in Pre-Adolescents

Krueger, Levi M. (MA) A Group Study of Perceptual Acuity as Capacitance

Kunse, Robert M. (MA) Observations on the Physical and Psychological Development of a Spastic Child

Waskom, Hugh L. (PhD) (G. Snoddy) An Experimental Analysis of Incentive and Forced Application and Their Effect Upon Learning

1931

Lockridge, Elsie S. (MA) (E. Yeager) The Prognostic Significance of the Results of a Composite Test for College Freshmen as Shown by a Critical Study of the Component Scores

Norvelle, Lee R. (PhD) (W. Book) Development and Application of a Method for Measuring the Effectiveness of Instruction in a Basic Speech Course

O'Dell, Helen L. (MA) (G. Snoddy) Sex Differences in Mental Stability

Williams, Beulah G. (MA) The Oral Speech Develoment of a Child Between the Ages of Twelve and Twenty-Four Months

1932

Clay, Bessie V. (MA) (W. Book) Methods Used in Solving New Problems by Twenty-Six Colored College Women: An Experimental Study in Creative Learning

Eagleson, Oran W. (MA) Methods Used in Solving Four New Problems by Thirty-Three Negro College Boys: An Experimental Study in Problem-Solving Learning

Livingston, William A. (MA) (R. Davis) Psychogalvanic Reflex and the Extent of Association

Pflasterer, Paul J. (MA) The Speech Development of the Child

Simmons, Persia W. (PhD) (W. Book) Statistical Analysis of the Performances of l024 Children Five to Eight Years of Age on the Witmer Formboard

Tullis, George H. (MA) The Use of a Composite Critical Score in Predicting Success or Failure in High School Freshman Algebra

1933

Hetherington, Virginia A. (MA) The Problem of Rehabilitation in Post-Encephalitis

Winslow, Frances E. (MA) Instability in Family Life

1934

Brower, Harriet (MA) (E. Yeager) A Study of the Effect of Certain Personality Traits on Scholastic Achievement at Various Ability Levels

Carter, Jerry W. (MA) (J. Kantor) An Experimental Study of the Stimulus-Function

Clites, Myron S. (PhD) (R. Davis) Successful and Unsuccessful Problem Solving in Relation to Certain Somatic Activities

Poole, Virginia N. (MA) The Constancy of the I.Q. in 230 Clinical Cases

Reece, Clara A. (MA) (W. Book) Analytical Study of the Learner's Task in Mastering History in the Intermediate Grades

Rosenstein, Juda L. (PhD) (W. Kellogg) An Objective Study of Attention and Memory Spans

Smith, Johnnie R. (PhD) (W. Book) An Analytical Study of the Factors Involved in Learning to Appreciate Literature

White, Rose E. (MA) (W. Kellogg) A Maze Test of Dunlap's Learning Theory

1935

Davis, Gertrude A. (MA) (C. Louttit) The Behavioral Effects of Congenital Syphilis: A Review of the Literature

Eagleson, Oran W. (PhD) (R. Davis) Comparative Studies of White and Negro Subjects in Learning to Discriminate Visual Magnitude

Ives, Mabel (MA) (C. Louttit) A Comparison of Binet Examining As Done by Special Class Teachers and Trained Clinical Psychologists

1936

Abel, James W. (MA) (G. Snoddy) An Investigation of the Comparative Efficiency of the Two Hands in Mirror-Tracing

Craig, David R. (MA) (R. Davis) An Investigation of Basic Skin Resistance Levels During Sleep Under Differing Conditions

Humphreys, Lloyd G. (MA) (C. Louttit) Perception of Drawings of Familiar Objects

Schroeder, Paul M. (MA) (J. Kantor) The Effect of Church School Teaching on the Moral Attitudes of High School Students and Adults

1937

Ball, Richard S. (MA) (C. Louttit) The Predictability of Occupational Level from Intelligence

Briones, Ignacio T. (MA) (J. Kantor) Experimental Comparison of Two Forms of Linguistic Learning

Engle, Thelburn L. (PhD) (C. Louttit) A Study of the Effects of School Acceleration upon the Personality and Social Adjustments of High School and University Students

Shaw, William A. (MA) (R. Davis) The Distribution of Muscular Action Potentials during Imaging

1938

Briones, Ignacio T. (PhD) (G. Somers and J. Kantor) A Study on the Efficiency of Linguistic Learning

Carter, Jerry W. (PhD) (J. Kantor) An Experimental Study of Psychological Stimulus-Response

Daniel, Robert S. (MA) (R. Davis) The Distribution of Muscular Action Potentials During Maze Learning

Payne, Bryan (MA) (G. Snoddy) Interference and the Concept of Stability

Snyder, Dorrice (MA) (C. Louttit) The Correlation between the Hurdle Jump as a Measure of General Motor Maturity and Handwriting

Woods, Florence E. (MA) (C. Louttit) A Comparison of Porteus Maze Performance with that of the Stanford Binet, Witmer Form Board, and Witmer Cylinder

1939

Bucklew, John (MA) (E. Conklin) Marital Dominance: Its Effect on the Personality of the Child

Kammerer, Robert C. (PhD) (C. Louttit) An Exploratory Psychological Study of Crippled Children

Watson, Ruth E. (MA) (C. Louttit) The Social Maturity of Entering First Grade Children

Wolf, Irvin S. (MA) (W. Kellogg) An Experimental Study of Behavior Modifications during Conditioning of Dogs

1940

Brown, Kenneth B. (MA) (C. Louttit) Administration of the Morgan Mental Test at the Indiana State Prison

Brundage, Everett G. (PhD) (W. Kellogg) Laterality and Conditioning in Dogs

Mann, Sara L. (MA) (C. Louttit) A Comparison of the Behavior of School Children in Two Types of Communities

McCann, Willis H. (PhD) (E. Conklin) Nostalgia: A Descriptive and Comparative Study

Walker, Edward L. (MA) (W. Kellogg) A Comparison of the Conditioned Respiratory Response and the Conditioned Flexion Response in Dogs

1941

Daniel, Robert S. (PhD) (R. Davis) The Relation of Muscular Tension to Bilateral Transfer

Headlee, Charles R. (MA) (W. Kellogg) Modifications of the Conditioned Response under Nembutal

Pomeroy, Wardell B. (MA) (C. Louttit) Personality Factors in Superior Felons

Pronko, Nicholas H. (MA) (W. Kellogg) An Analysis of the Postural Variables in Conditioning by Means of the Shock-Shock Technique

Rotter, Julian B. (PhD) (C. Louttit) A Study of the Basis for Individual Differences in a Level of Aspiration Situation

1942

Barrett, Irving A. (MA) (M. Roff) A Study of Sex Differences in a Level of Aspiration Situation

Bowles, J. W. (MA) (J. Kantor) An Evaluation of the Kent Oral Test for Emergency Use in Clinics

Bucklew, John (PhD) (J. Kantor) An Exploratory Study in the Psychology of Speech Reception

Payne, Bryan (PhD) (E. Conklin) A Study of Dementia Praecox Cases Learning the Mirror-Vision Coordination

Rotter, Clara B. (MA) (R. Davis) The Relation of Sibling Isolation and Socio-Economic Status to Reading and Arithmetic Achievement

Sherman, Arthur W. (MA) (E. Conklin) A Study of the Emancipation Status of Older Adolescents

Strother, George B. (PhD) (R. Davis) Muscular Tension in Interpretive Reading

1943

Davidson, William M. (MA) (R. Davis) A Factor Analysis of Speed, Level, and Power in Certain Intelligence Tests

Lundin, Robert W. (MA) (J. Kantor and R. Davis) Some New Tests of Musical Ability

Shaffer, Rose N. (MA) (R. Davis and C. Louttit) A Study in Serial Testing

1944

Bakanofsky, David (MA) (L. Sharp) An Investigation of Vacillation Rate and Intelligence in Adult Males

Lehndorff, Annemarie (MA) (J. Kantor) Comparisons of Children's Language Reactions in Two Situations

Lotman, Sylvia S. (MA) (M. Shirley) An Evaluation of Test Scores, Behavior during Test Performance, and an Interview in Selecting Radio Assembly Workers

Pronko, Nicholas H. (PhD) (J. Kantor) An Exploratory Investigation of Language by Means of Oscillographic and Reaction Time Techniques

1945

Feinberg, Mortimer (MA) (W. Kellogg) An Experimental Investigation of the Crossed Extension Reflex in Conditioning

Gould, Bernice (MA) (M. Shirley) Effects of Success and Failure on Children's Behavior Towards Identical Solvable and Unsolvable Problems

Urmston, Robert E. (MA) (R. Davis) Cortical Activity and Peripheral Movement in Conditioning

1946

Deese, James E. (MA) (W.Kellogg) Conditioning in Spinal Dogs

Dumas, Lenore R. (MA) (D. Beier) A Study of Differences between Veteran and Non-Veteran Male College Students in a Level of Aspiration Situation

Spooner, Alice (MA) (W. Kellogg) An Experimental Investigation of Forward, Simultaneous, and Backward Conditioning

Stone, G. Raymond (PhD) (R. Davis) The Spread of Effect of Negative Incentives in a Modified Thorndikian Situation

l947

Dreher, Robert E. (PhD) (R. Davis) The Relationship between Verbal Reports and Galvanic Skin Responses to Music

Ellson, Elizabeth C. (MA) (W. Verplanck) Two-Point Cutaneous Discrimination

Glaser, Robert (MA) (D. Ellson) The Inconsistency of Response to Test Items

Herman, David T. (PhD) (J. Kantor) An Experimental Study of Hearer Language Behavior

Lundin, Robert W. (PhD) (J. Kantor) The Development and Validation of a Set of Musical Ability Tests

Luria, Zella H. (MA) (W. Verplanck) On A Suggestion-Induced Illusion of Movement

Neu, D. Morgan (MA) (J. Kantor) An Investigation of Some Problems Concerning the Effect of Language upon the Reproduction of Visually Perceived Figures

Topper, Robert C. (PhD) (D. Beier) The Relationship of Membership in a Religious Social Group to Membership in Other Social Groups

1948

Deese, James E. (PhD) (W. Kellogg) The Retroactive Inhibition of a Conditioned Response as a Function of Extinction during Interpolated Conditioning

Hill, Harris E. (PhD) (J. Kantor) Behavioral, Electromyographic, and Electroencephalographic Investigations of Response Disorganization

Lichtenstein, Parker E. (PhD) (W. Kellogg) Effects of Prefrontal Lobotomy on the Acquisition, Retention, and Relearning of a Feeding Inhibition in Dogs

Owens, Margaret A. (MA) (D. Beier) Performance of Achieving and Non-Achieving College Freshmen of High Measured Intelligence on the Babcock-Levy Test

Rigby, Wilbur K. (MA) (S. Bijou and W. Jenkins) Approach and Avoidance Gradients and Conflict Behavior in a Predominantly Temporal Situation

Wolf, Irvin S. (PhD) (J. Kantor) An Exploratory Study of Stimulus Variables in Aphasic Behavior

1949

Buss, Arnold H. (MA) (W. Estes) A Comparison of Two Interpretations of Concept Formation

Fuller, Paul R. (MA) (D.Ellson) The Effect of Length of Extinction Period on the Number of Responses Made in Extinction

Glaser, Robert (PhD) (D. Ellson) The Application of the Concepts of Multiple Operation Measurement to the Response Patterns on Psychological Tests

Livingston, William A. (PhD) (R. Davis) Action Potential Measurements from the Arms in the Foreperiod of Reaction Time to Visual Stimuli

McPherson, Marion W. (PhD) (D. Beier) A Survey of Children's Responses to the TautoPhone

Wolin, Burton R. (MA) (B. Skinner) Generalization of a Conditioned Response between Hunger and Thirst Drives in the Pigeon

1950

Coppock, Harold W. (MA) (R. Davis) Conditioning of the GSR: The Effectiveness of Certain Temporal Relationships between CS and Prolonged AC Shock

Coppock, Harold W. (PhD) (W. Estes) An Investigation of Secondary Reinforcing Effect of a Visual Stimulus as a Function of Its Temporal Relation to Shock Termination

Cotton, John W. (MA) (W. Verplanck) The Method of Limits as a Procedure for Determination of Visual Thresholds

Detambel, Marvin H. (MA) (D. Ellson) A Re-Analysis of Humphreys' "Acquisition and Extinction of Verbal Expectations"

Fink, John B. (MA) (R. Davis) Generalization of a Muscle Action Potential Response to Tonal Duration

Hovorka, Edward J. (MA) (W. Kellogg) A Study of Stimulus Generalization in Human Operant Behavior

Hubbard, Wilbur R. (MA) (C. Burke and I. Saltzman) The Secondary Reinforcement of a Simple Discrimination in Human Beings

Van Liere, Donald W. (PhD) (R. Davis) Characteristics of the Muscle Tension Response to Paired Tones (A Study in the Conditioning Paradigm)

Wheeler, Lawrence (MA) (D. Ellson) Resonance in the Human Operator

Wyckoff, L. Benjamin (MA) (W. Estes) Resistance to Extinction of a Lever Pressing Response in White Rats as a Function of Number of Reinforcements

1951

Brackmann, John F. (MA) (R.Berry) The Relation of the Step Interval to Two Measures of Response

Collier, George (PhD) (W. Estes and W. Verplanck) An Investigation of the Poisson Frequency of Seeing Function and of Some Possible Variables Governing the Independence of Successive Responses for Behavior at the Visual Threshold

Dawson, Herbert E. (MA) (R. Davis) Effects of Ligation and Sectioning of the Vasa Efferentia upon Running-Wheel Activity of Aged Albino Rats

Gelber, Beatrice T. (MA) (R. Davis and W. Kellogg) Investigations of the Behavior of Paramecium Aurelia:
I. Modification of Behavior After Training with Reinforcement

Guttman, Norman (PhD) (W. Estes) Conditioning, Extinction, Secondary Reinforcement, and Periodic Reinforcement of the Bar-Pressing Response in Relation to the Concentration of Sucrose Used as Reinforcing Agent

Haralson, John V. (PhD) (R. Davis and C. Burke) The Effect of Drive Level on the Conditioning and Extinction of a Response in Fish (Tilapia macrocephala)

Haralson, Sally A. (MA) (M. Collier) A Study of the Reliability of the Transcendence Index as a Measure of the Thematic Apperception Test

Mountjoy, Marjorie P. (MA) (J. Kantor) An Investigation of the Relationship between Motivation, Learning, and Psychometric Rating

Rosenberg, Seymour (MA) (E. Beller) The Extinction of the GSR to Verbal CS by Various Types of "Experimental Therapy"

Snell, Angela D. (MA) (D. Ellson) Effect of Instructions on Certain Aspects of the Content of the Thematic Apperception Test

1952

Ball, Richard S. (PhD) (D. Beier) Reinforcement Conditioning of Verbal Behavior by Verbal and Non-Verbal Stimuli in a Situation Resembling a Clinical Interview

Berger, Andrew (MA) (A.Libby) The Effect of Cocaine Hydrochloride on Maze Learning in the Albino Rat

Bowles, J.W. (PhD) (J. Kantor) A Muscular Action Potential Study of "Conflict"

Buss, Arnold H. (PhD) (W. Estes) Some Determinants of Rigidity in the Learning of Successive Discriminations

Camp, Bonnie W. (MA) (B. Cohen) An Investigation of Personal Insight, Social Insight and Adjustment in Children

Campbell, Sam L. (MA) (I. Saltzman) Resistance to Extinction as a Function of Number of Shock Termination Reinforcements

Cotton, John W. (PhD) (C. Burke) The Relationship between Running Time in a Straight Runway and Length of the Period of Food Deprivation

Fuller, Paul R. (PhD) (A. Libby) An Investigation of Some of the Physiological and Psychological Effects of Sub-Shock Doses of Insulin

Greenspoon, Joel (PhD) (D. Beier) The Effect of Verbal and Non-Verbal Stimuli on the Frequency of Members of Two Verbal Response Classes

Hovorka, Edward J. (PhD) (W. Estes) Frequency of Responding as a Function of the Intensity of Electro-Convulsive Shock Following the Response

Kahn, Arthur (PhD) (R. Davis) Two Experiments on the Inhibition of the Drinking Response of the Albino Rat

Kanfer, Frederick H. (MA) (C. Burke) A Study of Response Latency in a Verbal Choice Discrimination

Likely, Fred A. (PhD) (C. Burke) Relative Resistance to Extinction of Aperiodic and Continuous Reinforcement Separately and in Combination

Luria, Zella H. (PhD) (R. Davis) The Specific Hunger for Thiamine Hydrochloride in Normal and Thiamine Deficient White Rats

Neimark, Edith D. (MA) (W. Estes) The Acquisition and Extinction of a Discrimination Based upon Two Intensities of the Thirst Drive

Patton, Rollin M. (MA) (R. Davis) Absolute Strength of Responses and Amount of Conflict

Rosenberg, Seymour (PhD) (B. Cohen) Avoidance Conditioning of a Verbal Response with Simultaneous Observations of the GSR

Silverman, Robert E. (PhD) (B. Cohen) The Effects of Shock Threat on the Responses to Relevant and Incidental Stimuli

Taffel, Charles (PhD) (D. Beier) Conditioning of Verbal Behavior in an Institutionalized Population and its Relation to "Anxiety Level"

Wolin, Burton R. (PhD) (W. Estes) Generalization of Response from an Aversive Motivation to a Second Aversive Motivation and to an Approach Motivation

Wyckoff, L. Benjamin (PhD) (C. Burke) The Role of Observing Responses in Discrimination Learning

1953

Atkinson, Rita L. (MA) (J. Egan) The Effect of Practice with Equivalent Lists on the Characteristics of the Rote Serial-Position Phenomenon

Brackmann, John F. (PhD) (R. Davis) The Role of Muscle Potentials in Transfer of Training

Cockrell, John T. (PhD) (W. Estes) Operant Behavior of White Rats in Relation to the Concentration of a Non-Nutritive Sweet Substance Used as Reinforcement

Cohen, Ira S. (PhD) (H. Yamaguchi) The Effects of Setting and Level of Anxiety on the Acquisition and Extinction of a Key-Press Response

Dawson, Herbert E. (PhD) (R. Davis) Concurrent Conditioning of Autonomic Processes in Humans

Detambel, Marvin H. (PhD) (D. Ellson) The Role of "Stimulus Overlap" and "Stimulus Sample Size" in Discrimination Learning

Fahmy, Sumaya A. (PhD) (C. Burke) Conditioning and Extinction of a Referential Verbal Response Class in a Situation Resembling a Clinical Diagnostic Interview

Fink, John B. (PhD) (R. Davis) The Development and Loss of a Muscle Tension Set to an Incidental Stimulus

Garlington, Warren K. (PhD) (H. Yamaguchi) An Experimental Study of Conflict Behavior as a Function of a "Reinforcing" Stimulus

Gelber, Beatrice T. (PhD) (R. Davis) Muscular Tension in the Learning and Unlearning of a Simple Choice Response

Hafner, A. Jack (MA) (H. Yamaguchi) The Influence of Overt Verbalization on Problem Solving

Homme, Angela S. (PhD) (H. Yamaguchi) Rate of Reconditioning as a Function of Amount of Extinction

Homme, Lloyd E. (PhD) (W. Estes) Spontaneous Recovery from Extinction in Relation to Number of Reinforcements, Spacing of Acquisition, and Duration of Initial Extinction Period

Jones, Jesse R. (MA) (H. Yamaguchi) Concept Formation as a Function of Number and Pattern of Reinforcement

Kanfer, Frederick H. (PhD) (B. Cohen and I. Saltzman) The Effect of Partial Reinforcement on Acquisition and Extinction of a Class of Verbal Responses

Lohmann, Joan J. (MA) (H. Yamaguchi) Concept Formation as a Function of Number of Reinforcements and Stimulus Properties

Miller, James D. (MA) (R. Davis) Differential Muscle Tension during a Delayed Response

Mountjoy, Paul T. (MA) (J. Kantor) The Effect of Time of Exposure and Intertrial Interval upon the Rate of "Destruction" of the Muller-Lyer Illusion

Neimark, Edith D. (PhD) (W. Estes) Effects of Type of Non-Reinforcement and Number of Alternative Responses in Two Verbal Conditioning Situations

Patton, Rollin M. (PhD) (R. Davis) The Effect of Induced Tension Upon Muscular Activity During Simple Voluntary Movement

Schoeffler, Max S. (MA) (O.Benepe) Decrement of Leg Withdrawal Response in a Dog as a Function of Shock Duration

Simon, Stanford H. (PhD) (H. Yamaguchi) Response-Mediated Generalization as a Function of l) the Number of Pairings of the Mediating Response with the Mediated Response and 2) an External Stimulus Contingent on the Mediating Response

l954

Bishop, Clayton K. (PhD) (W. Estes) Summation and Generalization of Response Strength in Relation to Hunger and Thirst Drives

Camp, Bonnie W. (PhD) (A. Buchwald) The Formation and Recall of Associations as a Function of Syllable Familiarity and Frequency of Pairing

Carterette, Edward C. (MA) (J. Egan) Perstimulatory Auditory Adaptation for Continuous and Interrupted Noises

Doehring, Donald (PhD) (R. Davis) The Conditioning of Muscle Action Potential Responses Resulting from Passive Hand Movement

Hammer, Morton (PhD) (H. Yamaguchi) Common and Unique Elements in Human Discrimination Learning

Hellyer, Sydney (PhD) (C. Burke) The Duration of the Consummatory Response as a Variable in Amount of Reinforcement Studies

Hughes, Lawson (MA) (W. Estes) T-Maze Responding in Relation to Volume and Concentration of Saccharin Solution Used as Reinforcement

Klein, Sandor (PhD) (C. Burke) Conditioning and Extinction of Operant Verbal Behavior in Neuropsychiatric Hospital Patients

Ratner, Stanley C. (PhD) (I. Saltzman) Effect of Extinction of Dipper Approaching on Extinction of Dipper Approaching and Bar Pressing

Schoeffler, Max S. (PhD) (W. Estes) Probability of Response to Compounds of Discriminated Stimuli

Straughan, James H. (PhD) (W. Estes) An Application of Statistical Learning Theory to an Escape Learning Situation Using Human Subjects

Thwing, Edward J. (MA) (J. Egan) High-Pass Frequency Distortion as an Aid in Discrimination of Simultaneous Messages

Weinstock, Solomon (PhD) (J. Kantor) Acquisition and Extinction of a Partially Reinforced Running Response at a 24 Hour Intertrial Interval

1955

Atkinson, Richard C. (PhD) (C. Burke) An Analysis of Rote Serial Position Effects in Terms of a Statistical Model

Barnes, Gerald W. (PhD) (C. Burke and D. Lauer) Conditioned Stimulus Intensity and Temporal Factors in Classical Conditioning

Boltuck, Charles J. (PhD) (R. Berry) Effect of Delay of Reinforcement on Acquisition and Extinction Measures

Grossberg, John M. (MA) (H. Yamaguchi) Sensitization and Adaptation in an Experimental Test of Acquired Fear Drive

Hafner, A. Jack (PhD) (H. Yamaguchi) An Investigation of the Relationship Between Specific Setting Factors and Behavior on the Rorschach

Sarason, Irwin G. (PhD) (H. Yamaguchi) Effect of Anxiety, Motivational Instructions, and Failure on Serial Learning

Simon, Walter B. (PhD) (A. Binder) The Effect of "Placement" and of "Emphasis" on the First Response to a Reversible Figure

Thwing, Edward J. (PhD) (J. Egan) The Spread of Perstimulatory Fatigue of a Pure Tone to Neighboring Frequencies

1956

Bodemer, Ottmar A. (PhD) (H. Yamaguchi) Two Simultaneous Measures of Anxiety Under Different Levels of Task Stress

Brody, Arthur L. (PhD) (W. Estes) Statistical Learning Theory Applied to an Instrumental Avoidance Situation with Human Subjects

Elkin, Irene (MA) (A. Binder) An Investigation of the Effect of Response Availability on Visual Recognition Thresholds

Frankmann, Judith P. (MA) (W. Estes) The Effect of Amount of Interpolated Learning and Time Interval before Test on Retroactive Inhibition in Rats

Grossberg, John M. (PhD) (H. Yamaguchi) The Effect of Reinforcement Schedule and Response Class on Verbal Conditioning

Sarason, Barbara R. (PhD) (H. Yamaguchi) The Effects of Verbally Conditioned Response Classes on Post-Conditioning Tasks

Weinstock, Marianne B. (PhD) (C. Burke) A Factorial Study of Some Variables Affecting Resistance to Extinction Under Partial Reinforcement with Spaced Trials

Wiggins, Jerry S. (PhD) (A. Binder) Associative Reaction Time as a Function of Frequency of S-R Pairing and Number of Response Alternatives

Zusman, Jack (MA) (R. Davis) The Effect of Insulin Coma on Bar Pressing in a Discrimination

1957

Atkinson, Rita L. (PhD) (H. Yamaguchi) Paired-Associate Learning by Schizophenic and Normal Subjects under Conditions of Verbal Reward and Verbal Punishment

Carterette, Edward C. (PhD) (J. Egan) The Confirmation of Messages in Noise: A Study of the Receiver Criterion and the Repetition of Communication Events

Carterette, Teresa (MA) (W. Estes) Terminal Probability of a Position Response as Related to Three Correction Procedures

Gault, Frederick P. (MA) (D. Lauer) Acquisition and Extinction of a "Traumatic" and Non "Traumatic" Avoidance Response in Dogs

McConnell, David (PhD) (W. Estes) Spontaneous Regression and Recovery of a Bar-Pressing Response During a Sequence of Acquisition and Extinction Periods

Miller, James D. (PhD) (J. Egan) On the Relationship between Temporary Hearing Loss and Masking

Mountjoy, Paul T. (PhD) (J. Kantor) The Effects of Exposure Time and Intertrial Interval Upon Rates of Decrement in the Muller-Lyer Illusion

Vahdat, Pari M. (MA) (H. Yamaguchi) Effect of Different Ratios of Stimulus Presentation upon Discrimination Reversal Learning

1958

Campbell, Sam L. (PhD) (J. Dinsmoor) Sequences of Behavior in Shock-Escape Training

Clements, Cooper C. (PhD) (C. Burke) Effects of Correction Conditions and Intertrial Stimulation on Discrimination Learning

Kent, Neil D. (PhD) (R. Davis) Muscle Action Potentials during Verbal Conditioning

Sprague, Robert L. (MA) (A. Binder) Tachistoscopic Recognition Thresholds as a Function of Differential Training

1959

Clarke, Frank R. (PhD) (J. Egan) Confidence Ratings, Second-Choice Responses and Confusion Matrices in Intelligibility Tests

Clements, Jacqulyn S. (PhD) (A. Binder) Selective Recall of Tasks in Relation to Manifest Anxiety, Recall Orientation, and Forewarning of Completion or Incompletion

Curry, Carolyn (MA) (A. Buchwald) The Effects of Verbal Reinforcement Combinations on Learning in Children

Frankmann, Judith P. (PhD) (W. Estes) Discrimination Learning with Single, Compound, and Alternate Stimulus Sets

Frankmann, Raymond W. (PhD) (W. Estes) Effects of Forced Rewarded and Nonrewarded Trials in T Maze Learning

Gault, Frederick P. (PhD) (R. Davis) A Comparison of Somatic Responses in a Discrimination and a Simple Reaction Situation

Ginsberg, Rose (PhD) (C. Burke) Correlated Stimulus Samples in Verbal Conditioning

Hickson, Robert H. (PhD) (W. Estes) Response Probability in a Two-Choice Learning Situation with Varying Probability of Reinforcement

Hughes, Lawson H. (PhD) (J. Dinsmoor) Delay of Shock-Escape Reinforcement

Kelly, Jane A. (MA) (L. Levy) The Discriminability of Concepts Differentiated by Means of the Semantic Differential

Madison, Harry L. (PhD) (C. Burke) A Statistical Learning Analysis of Figural After-Effects

Millward, Richard (MA) (C. Burke) The Discriminative Aspects of Stimulation from the Reinforcers in a Verbal Conditioning Experiment

Nothman, Siegfried H. (PhD) (H. Yamaguchi) The Influence of Response Conditions on Recognition Thresholds for Taboo Words

Rosenzweig, Sanford (PhD) (L. Levy) The Effects of Failure and Success on Evaluation of Self and Others: A Study of Depressed Patients and Normals

Shapiro, Martin M. (PhD) (D. Lauer) Classical Salivary Conditioning in Dogs

Slough, Dewey A. (PhD) (J. Dinsmoor) Duration of Reinforcement and Delay After Reinforcement in the Runway

Yakin, Paul M. (MA) (H. Yamaguchi) The Effect of Delay in the Goal Box after Reward

1960

Alevy, Daniel I. (PhD) (A. Binder) A Comparison of Methods for the Determination of the Discriminability of Letters

Appel, James B. (PhD) (J. Dinsmoor) The Aversive Control of an Operant Discrimination

Carterette, Teresa (PhD) (W. Estes) An Application of Stimulus Sampling Theory to Summated Generalization

Gundy, Richard F. (PhD) (J. Egan) Detection of an Unspecified Signal: A Study in Auditory Discrimination Learning

Johns, Gilbert R. (PhD) (C. Burke) Secondary Reinforcement in a Two-Choice Situation

Kurz, Ronald B. (PhD) (A. Buchwald) A Comparison of the Effects of Three Kinds of Stressors on Human Learning and Performance

Ladioray, Guillermina L. (MA) (H. Yamaguchi) Disinhibition as a Function of Number of Extinction Trials

Marston, Albert R. (PhD) (A. Buchwald) Some Experiments on Stimulus Classification with Implications for Personality Theory

Miller, Marilyn E. (PhD) (C. Burke) The Effect of the Degree of Stimulus Overlap and of Changes in Irrelevant Cues upon Discrimination Learning and Reversal

Millward, Richard (PhD) (C. Burke) A Comparison of Two Learning Models for Two-Choice Conditioning Experiments Involving Nonreinforced Trials

Nunis, Troy (PhD) (C. Burke) Responses to the Reinforcing Stimulus as a Variable in Learning Experiments

Orr, Thomas B. (PhD) (L. Levy) Social Perception in Retardates and Its Modifications Under Stress

Sprague, Robert L. (PhD) (A. Binder) Effects of Visual and Auditory Practice on Tachistoscopic Thresholds

Spreen, Georgia W. (PhD) (A. Binder) Elicitation of Imitative Responses in a Verbal Conditioning Experiment

Urschel, Marlene (MA) (A. Binder) The Effect of Safety Posters on the Rate of Accidents in an Experimental Situation

1961

Anderson, Clint D. (PhD) (J. Egan) A Six-Interval Observation Experiment in Audition

Binford, John R. (PhD) (C. Burke) A Simple Markov Model for a Two-Person Interactive Learning Situation and a Comparison of the Markov Model with a Linear Model of Burke

Feldman, Solomon E. (PhD) (A. Binder) Responses to Ambiguous "Concept-Classes" as a Function of Frequency of Association During Learning

Harrow, Martin (PhD) (A. Buchwald) Factors Involved in the Facilitative Effects of Learning Reversal Shifts

Kegel, Penelope S. (MA) (L. Levy) Anchor Effects in Social Perception as a Function of Extraversion and Temporal Delay

Korwin, Roy (PhD) (I. Saltzman) The Learning and Retention of Material Presented by Means of Multiple-Choice Items

Parrish, John M. (PhD) (L. Levy) Effects of External Control and Ambiguous Information on Generalized Expectancy Changes for Self and Others

Phillips, David (MA) (L. Levy) Trait Centrality and Correlations in Impression Formation

Revusky, Samuel H. (PhD) (J. Dinsmoor) Some Effects of Hunger and Frequency of Reinforcement on Timing

Russell, Ian S. (PhD) (J. Dinsmoor) Analysis of Responding During Operant Discrimination

Shearn, Donald W. (PhD) (R. Davis) Operant Conditioning of Heart Rate

Winograd, Eugene (PhD) (J. Dinsmoor) Two Parameters of Escape Behavior

1962

Abraham, Frederick (PhD) (W. Estes) Response Choice and Speed as a Function of Amount of Shock and Amount of Shock Reduction

Banet, Anthony G. (MA) (L. Levy) Semantic Generalization and Discrimination in the Social Perception of Dyadic Interaction

Bernal, Martha (PhD) (A. Binder) An Experimental Study of Guilt

Birnbrauer, Jay S. (PhD) (A. Binder) The Effects of Stimulus Pretraining on Discrimination Learning in Retarded Children

Brooker, Harvey (PhD) (A. Buchwald) The Effects of Differential Verbal Reinforcement on Schizophrenic and Non-Schizophrenic Hospital Patients

Cole, Michael (PhD) (W. Estes) Search Behavior: A Correction Procedure for Three-Choice Probability Learning

Crothers, Edward (PhD) (W. Estes) All-or-None Paired Associates Learning with Unit and Compound Responses

Filby, Yasuko M. (PhD) (J. Dinsmoor) The Effect of Punishment upon Verbal Behavior

Friedman, Morton P. (PhD) (W. Estes) An Application of Statistical Learning Theory to Component-vs.-Compound Discrimination Learning

Greenberg, Gordon Z. (PhD) (J. Egan) Cueing Signals and Frequency Uncertainty in Auditory Detection

Hopkins, Bill (PhD) (W. Estes and A. Binder) Observing Responses in Discrimination Learning and Recognition

Johns, Marcia D. (PhD) (W. Estes) Transfer of a Pattern-vs-Component Discrimination Following Training in a Probabilistic Situation

Land, Vera F. (MA) (R. Russell) The Effects of Dextro-Amphetamine Sulfate on Gastro-Intestinal Activity

Moore, John W. (PhD) (I. Gormezano) Differential Eyelid Conditioning as a Function of the Frequency and Intensity of Auditory Conditioned Stimuli

Narrol, Harvey G. (PhD) (L. Levy) Anchor Effects in the Social Perception of Medical and Schizophrenic Hospital Patients

Schulman, Arthur I. (PhD) (J. Egan) Detection of an Auditory Sinusoid in an Interval Whose Onset or Duration is Uncertain

Watson, Charles S. (PhD) (J. Egan) Signal Detection and Certain Physical Characteristics of the Stimulus During the Observation Interval

Wheeler, Lawrence (PhD) (D. Ellson) Color Responses to Red Light of Varying Luminance and Purity; A Psychophysical Investigation of Induced Color

1963

Blattner, Keith C. (MA) (L. Levy) The Role of the Perceptual Object in Impression Formation

Bruner, Alfred (PhD) (I. Gormezano) Investigations of the Properties of the Unconditioned Stimulus in Classical Conditioning of the Nictitating Membrane Response in the Albino Rabbit

Casseday, John H. (MA) (I. Gormezano) Effects of Instructional Set and Reinforcement Procedures on the Latency, Percentage, and Form of the Conditioned Eyelid Response

Fedor, Janet H. (MA) (R. Russell) Gastro-Intestinal Reactions to a Noise-Avoidance Task of Long Duration

Fitzgerald, Robert D. (PhD) (D. Lauer) The Effects of Partial Reinforcement on the Classically Conditioned Salivary Response in Dogs

Jacobs, Gerald H. (PhD) (R. DeValois) Responses of Single Neural Units in Squirrel Monkey Lateral Geniculate Nucleus

Keller, Leo (PhD) (F. Restle) Run Structure and the Learning of Periodic Sequences

Larsen, Carolyn C. (PhD) (A. Buchwald) A Comparison of the Effects of Verbal and Non-Verbal Reinforcements on Learning in Children

Lyon, David O. (PhD) (J. Dinsmoor) Conditioned Suppression in Pigeons as a Function of Changing Baseline Behaviors

Schneider, Allen (PhD) (I. Saltzman) The Interpolation of Continuous Reinforcement and the Partial Reinforcement Effect

Sowards, Ann (PhD) (L. Levy) Reinforcement Values and Discrimination of Reinforcement Levels in Normal and Schizophrenic Groups

Stern, Herbert (PhD) (A. Buchwald) Performance on Psychomotor Tasks as a Function of Extraversion and Neuroticism

Stern, Robert M. (PhD) (R. Russell) Somatic Indices of Level of Activation During Brief Periods of Sensory Deprivation

1964

Colavita, Francis B. (PhD) (J. Ost) The Influence of Postingestional Factors on Classical Conditioning of the Salivary Response in Dogs

Harrington, Allen L. (MA) (L. Peterson) Investigation of Negative Contrast Effects with Repeated Shifts in Reward Amount

Jones, Arthur E. (PhD) (R. DeValois) The Anatomy and Physiology of the Retina and Lateral Geniculate Nucleus of Aotes trivirgatus

Kornreich, Leon B. (MA) (L. Levy) Expectancy and Performance: A Dissonant Result

Miller, Nuran B. (PhD) (R. Russell) Behavioral Consequences of a Pre-Time-Out Stimulus Associated with a Response-Contingent and a Non-Response-Contingent Timeout

Miller, Richard E. (MA) (R. Cairns) The Reinforcer Effectiveness of Novelty

Schneiderman, Neil (PhD) (I. Gormezano) The CS-US Interval Function of the Nictitating Membrane Response of the Rabbit as a Function of Delayed and Trace Conditioning Procedures

Suboski, Milton D. (MA) (J. Dinsmoor) A Comparison of Fixed and Variable Ratio Schedules of Reinforcement

Vahdat, Pari M. (PhD) (H. Yamaguchi) The Relationshp of Age and Intelligence in Probability Learning in Children

1965

Barnhart, Jean E. (MA) (R. Cairns) The Acquisition of Cue Properties by Social and Non-Social Events

Feider, Allen (PhD) (R. Russell) Hunger and Thirst after Drug Application to the Hypothalamus: Anatomical Localization and Similarities to Hunger and Thirst after Food and Water Deprivation

Gollender, Morton (PhD) (R. DeValois) The Effects of Anterior Cingulate Gyrus Ablation on Fear Behavior in the Rat

Groh, Leslie S. (PhD) (D. Beier) The Effects of Two Litter Sizes and Two Levels of Noise during Infancy upon the Adult Behavior of the White Rat

Hayden, Dale L. (MA) (H. Yamaguchi) Rotter's I-E Variable Under Two Conditions of Instructions

Hillner, Kenneth P. (PhD) (F. Restle) The Response Learning Stage and the Mathematical Analysis of Paired-Associate Learning

Holmes, J. Steven (PhD) (L. Levy) The Effects of Selected Therapist Verbal Behaviors on Patient Verbal Activity in Group Therapy

Kelly, Jane A. (PhD) (R. Young) The Effects of Self-Reinforcement on Paired-Associate Learning by Schizophrenic and Normal Subjects

Leitenberg, Harold (PhD) (J. Dinsmoor) Conditioned Acceleration vs. Conditioned Suppression in Pigeons

Loeff, Richard G. (PhD) (R. Young) Differential Discrimination of Conflicting Emotional Messages by Normal, Delinquent, and Schizophrenic Adolescents

MacLean, G. Donald (PhD) (R. Young) Assignment of Words to Classes by Adults and Children

May, Jack G. (PhD) (H. Yamaguchi) A Developmental Study of Imitation

Papsdorf, James D. (PhD) (I. Gormezano) The Effects of Dural KCL Application on Response Suppression During Acquisition and Extinction of the Conditioned Nictitating Membrane Response of the Rabbit

Ress, Fred C. (MA) (M. Levine) The Effect of Previous Sequence Problems on Simple Discrimination Learning

Richter, Martin (PhD) (M. Levine) Memory, Choice, and Stimulus Sequence in Human Discrimination Learning

Taylor, Jerome (PhD) (R. Young) The Effects of Population Density upon Correlates of Emotionality and Learning Efficiency

Zerfas, Philip G. (PhD) (H. Yamaguchi) Effects of Induced Expectancies and Therapist Activity upon Patient Behavior in Group Psychotherapy

1966

Beez, W. Victor (MA) (K. Heller) The Effects of Expectation and Activity upon the Perception of Time

DaPolito, Frank J. (PhD) (J. Greeno) Proactive Effects with Independent Retrieval of Competing Responses

Finger, Stanley (MA) (G. Frommer) Comparison of Effects of Lesions of Thalamus and Somatosensory Cortex on Roughness Discrimination in the Albino Rat

Jensen, Diana (PhD) (R. Young) The Effects of Delayed Auditory Feedback Stress and Failure Stress on Selected Measures of Speech, Language, and Problem Solving Performance in College Students

Kveim, Kolbjorn B. (PhD) (J. Egan) Muscular and Circulatory Responses: Their Sensitivity Assessed in a Signal Detection Situation

Lacey, Maria I. (MA) (J. Dinsmoor) Effects of Response and Non-Response Contingencies on the Relative Strengths of Conditioned Reinforcers

Lindner, William A. (PhD) (J. Egan) The Detection-Recognition Problem and Its Theoretical Implications

Miller, H. Joseph (PhD) (A. Buchwald) Reliability of Verbal and Motor Measures of Degree of Inclusion with Comparisons of Normal, Reactive and Process Schizophrenic, and Organic Subjects

Resnick, Estelle (PhD) (L. Levy) Imitative Learning as a Function of Model Competence and Probability of Reinforcement for Imitation

Saunders, Frank A. (PhD) (K. Heller) Modification of the Biphasic Cardiac Response to a Brief Muscular Exertion by Induced Success or Failure in a Sidman Avoidance Task

Saunders, Virginia F. (PhD) (G. Heise) The Lability of Central Acetylcholinesterase Activity in the Rat to Behavioral and Environmental Manipulations

Smith, Abby C. (PhD) (I. Gormezano) The Effects of Locus of Application and Intensity of the Unconditioned Stimulus on Conditioning of the Nictitating Membrane and Heart Rate Responses in the Rabbit

Smith, Marius C. (PhD) (I. Gormezano) Classical Conditioning of the Nictitating Membrane Response of the Rabbit as a Function of CS-US Interval and US Intensity

Stolfo, Francis (MA) (L. Peterson) Effect of Spacing Presentations on the Short-Term Retention of Paired Associates

Suboski, Milton D. (PhD) (I. Gormezano) An Investigation of Stimulus Selection Processes in Human Eyelid Conditioning

Treffts, Jeanne (MA) (K. Heller) Problem Admission and Experimental Evaluation as Determinants of Interview Behavior

Warburton, David M. (MA) (R. Russell) The Effect of 8-Azaguanine on Continuous Avoidance Behavior

Worrall, Norman (PhD) (R. Russell and G. Heise) A Special Case of Semantic Conditioning and Some Effects of d-Amphetamine

1967

Abramov, Israel (PhD) (R. DeValois) A Model of the Response Patterns of Single Cells in the Macaque Lateral Geniculate Nucleus

Alvarez, Anne A. (MA) (A. Buchwald) The Sensitivity of Chronic Schizophrenics and Normals to Personal Reinforcement and Impersonal Information on a Paired-Associate Learning Task

Broskowski, Anthony (PhD) (R. Young) The Effects of Reciprocity Relationships on the Bargaining Behavior of the Dyad

Burrs, Virginia (PhD) (R. Young) The Influence of Peer Reactions on Children's Humor Preferences: An Observational Learning Approach

Chumbley, James I. (PhD) (F. Restle) The Memorization and Manipulation of Sets of Hypotheses in Concept Learning

Emmerich, David S. (PhD) (J. Egan) Receiver Operating Characteristics Determined under Several Interaural Conditions of Listening

Fleener, Don E. (PhD) (R. Cairns) Attachment Formation in Human Infants

Fowler, Michael (MA) (R. Young) The Effect of Knowledge of Stimulus Contingencies and UCS Strength on the Classically Conditioned GSR: An Analog to Insight in Psychotherapy

Harrington, Allen L. (PhD) (J. Greeno) Effects of Component Emphasis on Stimulus Selection in Paired-Associate Learning

Hull, Elaine M. (PhD) (R. DeValois) Corticofugal Influence in the Macaque Lateral Geniculate Nucleus

Khanum, Mahmuda (MA) (R. Russell) Anorexigenic Effects of Dextro-Amphetamine on the Eating Behavior of Desalivated and Normal Rats

Khavari, Khalil A. (PhD) (R. Russell) Modification of Behavior Following Pharmacologically-Induced Changes in Adrenergic and Cholinergic Systems Via Central and Peripheral Routes

Kornreich, L. Berell (PhD) (R. Young) Strategy Selection and Information Processing in Human Discrimination Learning

Luertgert, Mary J. (PhD) (R. Young) Generalized Effects of Social Reinforcement on Paired-Associate Learning by Grade-School Achievers and Underachievers

Lux, Kenneth (PhD) (P. Gough) The Learning and Transfer of Biconditional Concepts

McFadden, Dennis (PhD) (J. Egan) Masking-Level Differences Determined with and without Interaural Disparities in Masker Intensity

Mead, William R. (PhD) (R. DeValois) Analysis of the Receptive Field Organization of Macaque Lateral Geniculate Nucleus Cells

Miller, Arthur G. (PhD) (L. Levy) Some Determinants of Cognitive Complexity

Polson, Peter G. (PhD) (J. Greeno and F. Restle) A Quantitative Study of the Concept Identification and Paired-Associates Learning Processes in the Hull Paradigm

Rohrman, Nicholas L. (PhD) (P. Gough) The Role of Syntactic Structure in the Recall of Sentences

Rosenfeld, Jerome B. (PhD) (P. Gough) Information Processing: Encoding and Decoding

Smith, Richard F. (PhD) (J. Dinsmoor) Behavioral Events Other Than Key Striking Which Are Counted as Responses During Pigeon Pecking

Steiner, Theodore E. (PhD) (F. Restle) Learning with Compound Stimuli

Stites, Joan C. (MA) (B. Denner) Responses to Transgression in 7 and 11 Year Old Children

Warburton, David M. (PhD) (R. Russell) Some Behavioral Effects of Central Cholinergic Stimulation with Special Reference to the Hippocampus

Wiehe, Richard E. (MA) (J. Greeno) The Effect of Trial Length and Possible Interference Variables on the Learning Parameter in a One-Trial Paired-Associate Experiment

1968

Bartels, Betty L. (MA) (R. Price) Schizophrenic Communication: Association or Selection Deficit

Berman, Joan R. (MA) (K. Heller) The Effect of Creativity on Interview Speech Behavior

Blashfield, Roger (MA) (R. Price) Effect of Incentive on Short-Term Memory

Coatney, Richard (MA) (L. Peterson) The Effect of Instructions Concerning Order on the Efficiency of Recall

Davis, John D. (PhD) (K. Heller) The Interview as Arena: A Model for Interviewee Strategies in Standardized Interviews

Davis, Marcia L. (PhD) (R. Young) Effects of Direct Reinforcement, Instructional Set, and Modeling on the Acquisition and Maintenance of Self-Reinforcement Patterns in Children

Duke, Marshall (PhD) (R. Young) Effects of a Noxious Auditory Stimulus on Reaction Time Performance and Metanephrine-Normetanephrine Excretion in Chronic Schizophrenics, Normals, and Non-Psychotic Patients

Finger, Stanley (PhD) (G. Frommer) Cortical and Thalamic Contributions to Temperature Discrimination, Pain Responsivity, and Thermoregulation in the Rat

Flint, Garry A. (PhD) (J. Dinsmoor) Unconditioned Responses and Bar Holding in Escape Training

Frankel, A. Steven (PhD) (A. Buchwald) Effects of Drive on Hierarchically Organized Responses

Gibson, Joseph H. (PhD) (K. Heller) Information Seeking Behavior as a Function of Internal-External Control and Success Level

Jacobson, Edward A. (PhD) (K. Heller) A Comparison of the Effects of Instructions and Models upon Interview Behavior of High-Dependent and Low-Dependent Subjects

James, Carlton T. (PhD) (J. Greeno) A Consideration and Rejection of the Associative Theory of Interference and Forgetting

James, Linda H. (PhD) (L. Peterson) Serial Learning of Visual Nonsense Shapes as a Function of Instructions Controlling Labeling

Johnson, Donald L. (PhD) (R. Young) Differential Persuasibility of Children in Clinic and Nonclinic Families

Jwaideh, Alice R. (PhD) (J. Dinsmoor) Stimulus Functions in Chained Fixed-Ratio Schedules of Reinforcement

Kaufman, Barbara H. (PhD) (S. Berger) Inconsistent Reinforcement History and Modes of Observational Learning: A Study of the Culturally Deprived Child

Klepinger, Bruce (PhD) (R. Young) Population Size: Its Effects on Behavior and Stress-Responsive Physiological Systems

Marlatt, G. Alan (PhD) (K. Heller) Vicarious and Direct Reinforcement Control of Verbal Behavior in an Interview Setting

Miller, Paul H. (PhD) (A. Buchwald) The Effects of Mixed Positive and Negative Outcomes on Choice Behavior in Sociopathic and Non-Sociopathic Populations

Polson, Martha C. (PhD) (R. DeValois) Spectral Sensitivity and Color Vision in the Tupaia glis

Proctor, Stewart (PhD) (R. Young) The Role of Duration of Exposure to Items and Pretreatment Training in a Systematic Desensitization Analog

Richardson, Warren (MA) (R. Berry) Peripheral Effects in the Judgment of Lifted Weights

Steinmeyer, Charles H. (PhD) (L. Levy) The Relationship Between Schizophrenia and Attention in the Visual Field

1969

Alexander, Mary B. (MA) (D. Ellson) A Comparison of the Recall and Anticipation Methods of Paired-Associate Learning

Boles, John (PhD) (R. DeValois) Responses of Single Cells in the Macaque Lateral Geniculate Nucleus to White Light

Collins, Robert (PhD) (R. Young) The Effect of Delaying the Unconditioned Stimulus in the Conditioning Treatment for Enuresis

Gagnon, Yvette (MA) (R. Berry) Influence of a Passive Observer on Arousal Level and Habituation to Tones in Introverts and Extraverts

Gillman, Clifford B. (PhD) (N. Castellan) The Effects of Interstimulus Interval and Feedback on the Time Order Effect in Judgments of Numerousness and Line Length

Gordon, Robert B. (PhD) (A. Buchwald) Thought Disorder in Schizophenia

Kahler, Richard A. (PhD) (A. Buchwald) Anxiety and Choice Behavior in Psychopathic and Nonpsychopathic Criminals

Lawson, Robert (MA) (L. Peterson) The Effects of Free Recall Pretraining of Similar Stimuli on Later Paired-Associate List Learning

Lenzer, Irmingard I. (PhD) (G. Frommer) Effects of Food Deprivation and Female Sex Hormone on Electrical Self-Stimulation Behavior and Average Evoked Potential in the Hypothalamus and Limbic System of Female Rats

Lilie, Daniel R. (PhD) (J. Dinsmoor) The Effects of Detainment on Two Types of Extinction of the Free Operant Avoidance Response

Merryman, Coleman T. (PhD) (F. Restle) Effects of Strategies on Associative Symmetry

Merryman, Sandra S. (PhD) (L. Peterson) Concurrent Rehearsal in Short-Term Retention

Stern, Warren C. (PhD) (G. Heise) Behavioral and Biochemical Aspects of Rapid Eye Movement Sleep Deprivation in the Rat

Warren, Vera L. (MA) (R. Cairns) Social Reinforcement: Drive Reducing or Informational?

1970

Alexander, A. Barney (PhD) (R. Price) Effects of Anxiety Level, Relaxation and Type of Stimulus Presentation Procedure on the Elimination of a Specific Fear

Bailey, John M. (PhD) (R. Price) Response Disorganization and Breadth of Observation in Acute and Chronic Schizophrenics, Normals Under High Drive, and Normal Controls

Bennett, Lynn A. (MA) (R. Price) The Effects of Hypnotic Regression on Memory: A Role Playing Analysis

Berecz, John M. (PhD) (R. Young) The Modification of Smoking Behavior Through Self-Administered Punishment of Imagined Behavior

Burnside, Billy L. (MA) (F. Restle) A Memory Model for Time Estimation

Casseday, John (PhD) (W. Neff) Auditory Localization: The Role of the Brainstem Auditory Pathways of the Cat

Elliott, Ronald D. (PhD) (R. Price) Effects of Impression Management and Task Requirements on Schizophrenic Performance

Fernald, Charles D. (PhD) (L. Peterson and R. Young) An Experimental Investigation of Young Children's Active and Passive Knowledge of Grammar

Fernald, Sue E. (MA) (D. Ellson) The Problem of Non-Reading Components in Reading Readiness Tests

Godwin, William F. (PhD) (F. Restle) Subgroup Pressures in Small-Group Consensus Processes

Hill, Rachel T. (PhD) (J. Dinsmoor) The Effect of Blackout Duration on the Amount of Behavioral Contrast in Pigeons

House, William C. (PhD) (L. Levy) Effects of the Perceived Origins of a Personality Characteristic on the Degree of Perceived Change of the Characteristic

Lambert, Warren (MA) (L. Levy) Sensation Seeking and Short Term Sensory Isolation

Mellgren, Roger L. (PhD) (J. Allison) Positive Contrast in the Runway as a Function of the Number of Preshift Trials

Milakovich, Judith T. (MA) (R. Cairns) Factors Influencing Aggressive Behavior In Mice

Monahan, John T. (MA) (R. Young) The Effects of Delay on the Modification of Rule-Breaking Behavior by Self-Instruction

Pierce, Stephen A. (MA) (R. Wolosin) Obesity and Weight Loss

Potts, George R. (MA) (F. Restle) Spacing of Item Repetitions in Verbal Learning Paradigms

Predazzi, Anna M. (MA) (R. Price) The Influence of the Stigma of Mental Illness and Situational Factors in Person Perception

Pritchard, David A. (MA) (S. Sherman) Rule-Flexibility: A Developmental Study

Romsted, Jean E. (PhD) (R. Cairns) Communication Effectiveness in Young Children: An Experimental Analysis of Practice and Listener Feedback Effects

Rose, James D. (PhD) (G. Frommer) Changes in Evoked Potentials and Behavioral Responses to Trigeminal Nerve Shock Due to Septal Lesions and Stimulation in the Rat

Schnur, Paul (PhD) (J. Allison) Selective Attention in Compound Classical Conditioning

Viemeister, Neal F. (PhD) (D. Robinson) Auditory Discrimination of Intensity, Internal Noise, and Temporal Processing

Volckmann, David B. (PhD) (J. Ost) Magnitude, Direction, and Absolute Level of Noise Intensity Change as a Conditioned Stimulus in Classical Eyelid Conditioning

Volckmann, Jean P. (PhD) (R. Young) The Development of Open Field Activity and Plasma Corticosterone Elevation in Rats Handled during Early Infancy

Wolff, Ronald P. (MA) (L. Peterson) Retroactive Inhibition as a Function of Temporal Placement of Acoustically Similar Material

Yost, William A. (PhD) (D. Robinson) Tone-on-Tone Binaural Masking

1971

Brown, Eric (PhD) (F. Restle) Abstraction and Hierarchical Organization in the Learning of Periodic Sequences

Chezik, Donald (PhD) (A. Buchwald) Complexity Preference and Reaction to Threatening Information

Halgren, Carl R. (PhD) (G. Heise) Latent Inhibition: Associative or Nonassociative?

Hill, Robert E. (PhD) (J. Dinsmoor) Eating in the Rat to a Flavor Stimulus Signalling Food Deprivation

Hussain, Martha S. (PhD) (A. Buchwald and S. Cotler) A Comparison of Treatment Methods for Underachieving Elementary Students

Ksir, Charles (PhD) (G. Heise) Use of Delayed-Response Procedures in Analyzing Effects of Anticholinergic Drugs on Memory

Lawrence, Charles (PhD) (J. Dinsmoor) Generalization Along the Dimension of Sound Intensity in Pigeons

Leonard, William C. (PhD) (L. Peterson) Distribution of Practice Effects in Paired-Associate Recall

Lindner, Rhoda C. (PhD) (L. Levy) Congruity, Balance, and Information Integration in Personality Impressions

Ludel, Jacqueline (PhD) (C. Mueller) Behavioral Responses to Visual Stimulation in the Scallop (Aequipecten irradians)

Marx, Thomas (PhD) (A. Buchwald) The Effects of a Cognitive Variable and a Motivational Variable Upon Performance of Schizophrenic and Nonschizophrenic Psychiatric Patients

McConnell, Stephen C. (MA) (S. Cotler) Achievement Level and Other Individual Difference Factors in Relation to Intentional and Incidental Learning in Elementary School Children

Morrice, D. James (PhD) (R. Young) Controlled Observations of the Mother-Son Interactions of "Conduct Disorder", "Personality Disorder" and "No Problem" Boys

Packard, Martin (PhD) (L. Levy) A Study of the Process of Emotional Attribution: Changing Fear to Anger by Labeling Arousal

Potts, George R. (PhD) (F. Restle) A Cognitive Approach to the Encoding of Meaningful Verbal Material

Te Vault, R. Kent (PhD) (W. Vance) The Visual Responses of the Crayfish: A Behavioral Assessment

White, Susan R. (PhD) (G. Heise) Interactions between Effects of Cholinergic Blocking Agents amd Hippocampal Lesions on Alternation Performance

1972

Ackil, James E. (PhD) (G. Frommer) The Role of Environmental Stimuli Associated with Electrical Stimulation of the Hypothalamus in Determining Behavior

Bailey, Melinda M. (PhD) (K. Heller) Vocal and Verbal Communication of Emotion by Parents of Schizophrenic and Nonpsychotic, Disturbed Adolescents and Young Adults

Bennett, Lynn A. (PhD) (R. Price) Perceived Similarity: An Influence on the Attribution of Mental Illness?

Blanken, Gary E. (MA) (R. Price) Two Studies Concerning the Role of Memory in Schizophrenic Overinclusion

Blashfield, Roger K. (PhD) (R. Price) An Evaluation of the DSM-II Classification of Schizophrenia

Dudgeon, Thomas B. (PhD) (K. Heller) The Effect of Status and Task Manipulations on the Interview Responsivity of Sensitizing and Repressing Juvenile Delinquents

Hemenway, Judith A. (MA) (R. Cairns) Effects of Reinforcement Schedules and Instructional Set in a Social Reinforcement Situation

House, Patricia S. (MA) (S. Bacon) Effects of Hostility Arousal on Production and Appreciation of Humor in a Social Communication Situation

Lodge, Howard R. (PhD) (S. Guth) Implications of a Zone Color Vision Model for Spectral Sensitivity of Normals, Protanopic, and Deuteranopic Subjects as Measured by Several Psychophysical Techniques

Marrocco, Richard T. (PhD) (S. Guth) Maintained Discharge Characteristics and Receptive Field Organization of Optic Tract Fibers and Lateral Geniculate Nucleus Cells in the Monkey

Monahan, John T. (PhD) (K. Heller) Self-Attribution and the Maintenance of Behavior Change

Nery, Victor W. (PhD) (J. Chertkoff) The Interdependence of Threats, Penalties, Predictability and Credibility in Social Conflict

Ohmori, Akio (MA) (L. Levy) An Attention Distraction of Retardates on the Stroop Color-Word Test

Palmer, Richard J. (PhD) (K. Heller) The Effects of Food Cue Prominence and Concern About Weight on the Eating Behavior of Obese and Normally Weighted Humans

Paris, Scott G. (PhD) (R. Cairns) Propositional Logical Thinking and Comprehension of Language Connectives: A Developmental Analysis

Peterson, Gail B. (PhD) (E. Hearst) Autoshaping in the Rat: Conditioned Approach and Contact Behavior Toward Signals of Food or Brain-Stimulation Reinforcement

Polen, Steven J. (MA) (F. Restle) Negation and Meaningfulness Effects in Processing Simple and Compound Logical Statements

Pritchard, David A. (PhD) (S. Sherman) Social Judgment and the Leveling-Sharpening Principle

Scholz, Karl W. (PhD) (F. Restle) A Cognitive Approach to the Storage and Retrieval of Structured Verbal Material

Sweetland, John P. (PhD) (R. Price) "Illusory Correlation" and the Estimation of "Dangerous Behavior"

Sweetland, Marilyn (PhD) (R. Price) The Influence of the Ascription Mental Illness on the Development of Interpersonal Interactions

Tewel, Eva B. (MA) (R. Young) The Byrne Repression-Sensitization Scale and Psychotherapy Preferences

Towns, Lex C. (PhD) (D. Stewart) Visual Discrimination in the Rabbit Before and After Visual Cortex Ablation

Wakeford, Onslow S. (PhD) (D. Robinson) Binaural Processing in the Cat: Lateralization and Detection

Wasserman, Edward A. (PhD) (E. Hearst) Auto-Shaping: The Selection and Direction of Behavior by Predictive Stimuli

Wilcove, W. Gregg (PhD) (G. Frommer) The Effect of the Oral Environment on Ingestive Behavior Through The Process of Gustatory Adaptation

Wilson, Elvie H. (PhD) (J. Dinsmoor) Reinstatement of Extinguished Avoidance in the Rat: Feeling States as US-Specific Mediators

1973

Blakeslee, Edward A. (PhD) (D. Robinson) Comparison of Detectability and Discriminability of Tones of Different Durations under Homophasic and Antiphasic Conditions

Bouffard, Dennis L. (PhD) (K. Heller) A Comparison of Response Acquisition and Desensitization Approaches to Assertion Training

Brown, Gregory G. (MA) (M. Peterson) The Encoding of Words and Pictures

Cohen, Eli (MA) (J. Zinnes) An Experimental and Theoretical Comparison of First Choice and Ranking Choice Models

DeFonso, Lenore E. (PhD) (A. Buchwald) Two Psycholinguistic Studies of Language Difficulty in Schizophrenics

DeValois, Karen K. (PhD) (S. Guth) Phase and Color-Specific Adaptation

Einsiedel, Albert A. (PhD) (R. Cairns) The Development and Modification of Object Preferences in Domestic White Leghorn Chicks (Gallus gallus)

Franklin, Stanley R. (MA) (E. Hearst) Negative Correlations Between a Signal and Food: Variations in Rate of Food Presentation in the Signal's Absence

Lambert, Warren (PhD) (L. Levy) Methods of Threat Reduction: An Experiment in the Prevention of Stress

Lauber, Martha M. (MA) (R. Young) The Effect of Prestige of Model on Avoidant Behavior

Lauer, Joan B. (PhD) (G. Frommer) Effects of Unilateral Cortical Spreading Depression upon Performance of a Lateralized Sensory Discrimination in the Albino Rat

Lee, EunJee (MA) (R. Young) A Comparison of Dependency Between Normally Achieving and Underachieving Elementary Students

Levison, Moshe J. (PhD) (J. Allison) Pavlovian and Instrumental Contingencies in the Acquisition and Maintenance of the Conditioned Nictitating Membrane Response in Rabbits

Milech, Dan (PhD) (H. Lindman) Task-Free Transfer: The Similarity of Serial Patterns Which Can Be Encoded Hierarchically

Powers, Walter F. (PhD) (R. Price) Personality and Behavioral Attributes Associated with Persuasive Effectiveness

Quilty, Robert F. (PhD) (R. Cairns) Modeling as a Dyadic Interchange Strategy

Silver, Robert J. (PhD) (K. Heller) Effects of Relative Interviewer Status and Interviewer Program upon Subject Self-Disclosure in Standardized Interviews

Snyder, Rita E. (PhD) (J. Craig) Vibrotactile Masking: A Comparison of Psychophysical Procedures

Till, Amnon (MA) (R. Wolosin) Stability and Change of a Dyadic Role Structure

Youngblood, William C. (MA) (J. Chertkoff) The Effect of Feedback Schedules on Behavior in the Prisoner's Dilemma

Zagorski, Michael A. (PhD) (H. Lindman) A Topological Test of Metric Models of Stimulus Similarity

1974

Bank, Steve (MA) (J. Gottman) The Commodity Behavior Exchange Model: A Behavioral Communications Approach to the Systematic Assessment of Distressed and Non-Distressed Marriages

Berrio, Margaret (PhD) (R. Young) Social Class Differences in Kindergarten Children's Responses to Social Influence

Birt, Dorwin (PhD) (D. Stewart) Reorganization within the Visual System of Rabbit Following Neonatal Striatectomy

Browne, Michael (PhD) (J. Dinsmoor and E. Hearst) Autoshaping and the Role of Primary Reinforcement and Overt Movements in the Acquisition of Stimulus-Stimulus Relations

Chait, Herschel (PhD) (A. Buchwald) Stress and Task Performance: A Comparison of Physical and Psychological Stressors

Delbaum, Andrew (PhD) (A. Buchwald) The Effect of Intragroup Distance on Self-Disclosure

Durding, Bruce M. (PhD) (R. Shiffrin) The Organization of Spatial and Temporal Context in Human Memory

Edgell, Stephen E. (PhD) (N. Castellan) Configural Information Processing in Decision Making

Forshee, Jerry C. (MA) (F. Restle) Addition and Subtraction: One Cognitive Process or Two?

Glass, Carol R. (MA) (J. Gottman) Response Acquisition and Cognitive Self-Statement Modification Approaches to Dating Behavior Training

Gordon, David (PhD) (K. Heller) Some Limiting Conditions for the Theory of Psychological Reactance: The Function of Meaningfulness of Task and Personality

Griggs, Richard (PhD) (F. Restle) Logical Errors in Comprehending Set Inclusion Relations in Meaningful Text

Hall, William M. (PhD) (R. Cairns) Observational and Interactive Determinants of Aggressive Behavior in Boys

Hammerle, Gordon (PhD) (R. Wolosin) The Effects of Attitude Measurement and Behavior Salience on the Persistence of Attitude Change in the Forced-Compliance Situation

Levy, Sandra E. (PhD) (R. Price) Schizophrenic Symptomatology: Reaction or Strategy? A Study of Contextual Antecedents

McIntosh, J. William (PhD) (J. Allison) Response Deprivation Theory of Instrumental Responding Tested with a Freely Available Response: A Motivational Interpretation

Miller, Kathleen D. (MA) (S. Sherman) Effects of Predictions on Subsequent Behavior in Forced Compliance

Novaco, Raymond W. (PhD) (L. Levy) A Treatment Program for the Management of Anger Through Cognitive and Relaxation Controls

Rudisill, John R. (PhD) (K. Heller) Self-Disclosure and Adjustment

Scheid, Katharine O. (MA) (L. Peterson) Auditory and Semantic Encoding in Verbal Recall by Young Children

Scholz, Susan D. (PhD) (R. Cairns) The Effects of Brief Separations Upon Maternal Behavior and Infant Development in rattus norvegicus

Shmurak, Steven H. (PhD) (J. Gottman) Design and Evaluation of Three Dating Behavior Training Programs Utilizing Response Acquisition and Cognitive Self-Statement Modification Techniques

Slive, Arnold B. (PhD) (R. Price) An Analysis of the Relative Effects of Personality and Role on Behavior in a Psychotherapy Analogue Situation

Tash, Jeffrey B. (MA) (D. Pisoni) Selective Adaptation of Auditory Feature Detectors in Speech Perception

Weiskopf, Robert (PhD) (K. Heller) Repression-Sensitization, Role Taking Ability, and Adjustment

Yoppi, D. Bruce (MA) (J. Gottman) Commodity Behavior Exchange Models as a Means of Assessing Dysfunctional Communication in the Marital Dyad

1975

Berman, Leonard N. (MA) (S. Sherman) Cognitive Dissonance as a Function of the Relationship Between Deliverer amd Receiver of a Counter-Attitudinal Message

Burnside, Billy L. (PhD) (R. Shiffrin) Where or When: Temporal-Contextual Information in Human Memory

Cann, Arnie (PhD) (S. Sherman) The Effects of Performing a Small Consonant Behavior on Subsequent Attitudes and Behaviors

Cohen, Carolyn (MA) (L. Peterson) The Effect of Forward and Backward List Learning on Serial Order Recall

Coyne, James (PhD) (R. Young) Depression and the Response of Others

Esser, James (PhD) (J. Chertkoff) Effects of Prior Success or Failure on Subsequent Bargaining

Flowers, Matie L. (PhD) (J. Chertkoff) A Laboratory Study of Some Implications of Janis' Groupthink Hypothesis

Geisler, Wilson S. (PhD) (R. Shiffrin and S. Guth) Visual Adaptation and Inhibition

Grantham, D. Wesley (PhD) (D. Robinson) The Role of Time-Varying Cues in Monaural and Binaural Detection of Tones

Green, Barry G. (PhD) (J. Craig) Signal Duration and Vibrotactile Sensitivity: Effects of Vibration Frequency and Masking

Harrison, Sandra M. (MA) (G. Heise) Strain Differences in Inbred Mice on Go/No Go Tasks

Hill, John T. (PhD) (R. Rose) The Effect of Instructional Set on the Subjective Experience of Thermal Stimulation

Johnson, James L. (PhD) (R. Young) A Time-Series Analysis of the Effects of Therapy on Family Interaction

Lea, James Y. (PhD) (C. Mueller) Visual Orienting Behavior of the Praying Mantis

Meagher, Robert B. (PhD) (K. Heller) "A" and "B" Therapists Interacting with Neurotic and Schizophrenic Patients: A Behavioral Study

Monahan, Linda C. (PhD) (R. Cairns) Mother-Infant and Stranger-Infant Interaction: An Ethological Investigation

Mynatt, Barbee T. (PhD) (L. Peterson) Reaction Times with Bisensory Presentation: Implications for Theories of Attention and Speech Perception

Mynatt, Clifford (PhD) (S. Sherman) The Diffusion of Responsibility Hypothesis: A Theoretical Analysis and an Empirical Test

Schneider, Walter (PhD) (R. Shiffrin) Selective Attention, Memory Scanning and Visual Search: Three Components of One Process

Shaffer, William O. (PhD) (R. Shiffrin) Verifying Sentences against Previous Knowledge: Linguistic and Number Comparison Effects

Till, Amnon (PhD) (J. Chertkoff) An Interpersonal Accommodation Approach to the Study of Leadership in a Dyad

Weinberg, Michael (MA) (R. Rose) A Test of Quay's Theory of Psychopathy Using the Activity Preference Questionnaire

1976

Berman, Leonard N. (PhD) (S. Sherman) Contingency, Probability of Success, Ability Feedback, and Knowledge of Reward Attainment as Factors Affecting Intrinsic Motivation

Christoph, Greg R. (PhD) (G. Heise) Proactive Interference and Spatial Alternation Performance in Rats: A Behavioral and Psychopharmacological Analysis

Coker, Dana R. (PhD) (J. Bates) Gender Concepts in Preschool Children

Glass, Carol R. (PhD) (L. Levy) The Effects of Perceived Psychophysiological Self-Control on Self-Perceptions, Mood State, Performance Expectations, and Future Self-Control Behavior

Golden, Gail A. (MA) (F. Cherry) Sex Differences in Academic Performance Following Anticipated Publicity

Gross, Gayle H. (MA) (J. Alberts and D. Robertshaw)
The Effects of Normoxic Prenatal Low Pressure Exposure on Gestation and Development in Artificially Estrus-Synchronized Female Hamsters

Hammerle, Judith R. (PhD) (K. Heller) Low Self-Esteem and Attribution of Responsibility as Predictors of Performance after Success

Karpicke, John (PhD) (E. Hearst) A Competing-Response Analysis of Positive Conditioned Suppression

Lynn, Steven J. (PhD) (K. Heller) An Experimental Test of the Reciprocity Norm, Social Attraction, and Normative Standard Theories of Self-Disclosure Reciprocity

Markman, Howard J. (MA) (J. Gottman) A Description of Verbal and Non-Verbal Communication in Distressed and Non-Distresed Marital Dyads

McDermott, Walter F. (PhD) (J. Gottman) Weight Reduction Through Imagery Therapies: An Outcome Study

Morgavan, Cheryl B. (PhD) (R. Young) Efects of the Degree of Children's Obesity and Compliant vs. Non-Compliant Behavior on Adult's Evaluations and Reinforcement of the Children

Notarius, Clifford I. (MA) (J. Gottman) A Behavioral Competency Assessment of Communication in Distressed and Non-Distressed Marital Dyads

Patterson, Richard B. (PhD) (K. Heller) High vs. Low Problem Admitters' Reactions to Variations in Psychotherapists' Verbal and Nonverbal Behavior

Picek, James S. (PhD) (S. Sherman) Effects of Reward Uncertainty and Ability Information on Attributions of Intrinsic Motivation

Rawlings, Leslie H. (PhD) (A. Buchwald) Depressive Affect and Learned Helplessness: A Failure to Confirm a Cognitive Hypothesis

Robinson, Susan (MA) (R. Levenson) Sex-Role Stereotyping in Clinical Judgments

Sawusch, James R. (PhD) (D. Pisoni) The Structure and Flow of Information in Speech Perception: Evidence from Selective Adaptation of Stop Consonants

Smolen, Robert C. (PhD) (A. Buchwald) Expectancies, Mood, and Performance of Depressed and Nondepressed Psychiatric Patients on Chance and Skill Tasks: A Test of the Learned Helplessness Model of Depression

1977

Bank, Steve (PhD) (R. Young) The Effects of a Self-Control Treatment Emphasis on the Maintenance of Decreased Anxiety

Brennan, Patricia P. (MA) (F. Cherry) Audience Effects on In-Role and Out-of-Role Behavior of Solo Women

Cochran, Gloria M. (PhD) (R. Young) Normal and Preclinical Boys' Predictions of Parental and Peer Evaluations

Corrick, George (PhD) (C. Mueller) The Early Stages of Dark Adaptation in the Lateral Eye of Limulus polyphemus

Decker, James (MA) (L. Peterson) Some Observations on the Significance of the Stimulus Suffix Effect

Golden, Gail A. (PhD) (M. Peterson) The Effects of Therapist and Client Gender on Process in Psychotherapy

Gonso, Jonni L. (PhD) (R. Young) The Effect of Parental Divorce on Children

Hoyman, Lee (PhD) (G. Frommer) Disruptive Effects of Microinjections of Adrenergic Blockers into the Lateral Hypothalamus on a Tactile Discrimination in the Rat

Huff, James E. (PhD) (S. Guth) Chromatic Spatial Effects on Visual Sensitivity

Klein, Jeffrey M. (PhD) (R. Young) The Effect of Overweight, Self Esteem, and Evaluative Feedback on Social Perception

Klorman, Rhonda S. (PhD) (R. Rose) Plethysmographic Responses to Experimental Stress in Acute and Recovered Myocardial Infarction Patients

Lauber, Martha M. (PhD) (R. Young) Adults' Evaluation of Aggressive Behavior in Young Children

Markman, Howard J. (PhD) (J. Gottman) A Behavior Exchange Model Applied to the Longitudinal Study of Couples Planning to Marry

McNabb, Sandra D. (PhD) (R. Aslin) The Effects of Encoding Strategies and Age on the Memory Representation for Sentences Containing Proper Names and Definite Descriptions

Milar, Katharine S. (PhD) (G. Heise) Signal Detection: A Method for Characterization of Drug Effects in Rats

Notarius, Clifford I. (PhD) (R. Levenson) Effects of Emotional Expression on Physiological Response to Stress

Rubin, Mary E. (PhD) (J. Gottman) Differences Between Distressed and Nondistressed Couples in Verbal and Nonverbal Communication Codes

Thomas, Jack E. (PhD) (M. Intons-Peterson) The Effects of Imaginal versus Verbal Mediation in Short and Long-Term Memory: A Test of Verbal Elaborative Accounts of Imagery's Effect

Wingblade, Loren C. (PhD) (G. Frommer) Auditory Temporal Cortex Lesions and Frequency Discriminations in the Rabbit and Cat

Wollert, Richard W. (PhD) (A. Buchwald) The Expectancy Confidence Hypothesis

1978

Agnew, Patricia (PhD) (R. Young) Verbal Mediation, Cognitive Tempo, and Self-Esteem in Normal-active, High-active, and Hyperactive Boys

Aller, Sonia K. (PhD) (M. Peterson) The Acquisition of Relative Clause Constructions in Arabic

Durham, Robert C. (PhD) (A. Buchwald) Behavioral Theories of Depression: A Conceptual Analysis and Empirical Investigation of Some Underlying Assumptions

Freeland Bennett, Claire (MA) (J. Bates) Determinants of Maternal Perceptions of Their Infants' Difficulties

Gorkin, Larry (MA) (S. Sherman) The Effects of Differential Attributions for Success and Failure in Two Distinct Settings and Tasks

Hart, William R. (PhD) (L. Levy) Rheumatoid Arthritis, Depression, and Preceding Life Events: A Study of Event Desirability, Anticipation, Control, and Coping Effectiveness

Haseltine, Eric C. (PhD) (C. Mueller) Infrared and Visual Organization of the Tectum of Boid Snakes

Holmes, Nancy (MA) (R. Rose) Investigation of Blood Pressure Responsivity in Normotensive Twins

Jenkins, Salee A. (PhD) (K. Heller) The Relative Efficacy of Two Treatment Procedures in Modifying Maladaptive Response Systems in the High Test Anxious Student

Klein, Andrea R. (PhD) (R. Young) Hyperactive and Active Boys in the Classroom: A Naturalistic Assessment of Teacher Ratings, Classroom Behaviors, Peer Interactions and Perceptions, and Subtypes of Hyperactives

LaFief, William C. (PhD) (J. Chertkoff) The Effect of Internal and External Determinants of Success and Failure on Level of Aspiration, Attributions of Causality and Bargaining Behavior

Lounsbury, Mary L. (PhD) (J. Bates) Acoustic Properties of and Maternal Reactions to Infant Cries as a Function of Infant Temperament

Maxey, William A. (MA) (G. Frommer) The Effects of Prior Experience with Shock on the Subsequent Gastric Erosions Induced by Inescapable Shock

McGee, Susan (MA) (R. Aslin) The Development of Visual Cliff Avoidance in Human Infants

Merrill, Holly A. (MA) (M. Cary) Nonverbal Aspects of Turn-Taking in Dyadic Conversation

Munchel, Mary E. (PhD) (R. Rose) The Effects of Symptom Expectations and Response Styles on Cognitive and Perceptual-Motor Performance during the Premenstrual Phase

Paarlberg, William T. (MA) (R. Shiffrin) The Effects of Concurrent Inconsistent Training on the Development of Automatic Detection of Characters in a Visual Search Task

Perkins, David V. (PhD) (K. Heller) Manning Theory and the Person-Environment Model of Behavior: An Empirical Evaluation

Schwartz, Robert M. (PhD) (L. Levy) Cognitive Response to Stress: Experimental Study of an Information Processing Model of Intrusive and Repetitive Thought

Woodson, George R. (PhD) (R. Young) Self Perception in Verbal Conditioning

1979

Bottjer, Sarah W. (PhD) (E. Hearst) Extinction and "Disinhibition" of Conditioned Excitation and Inhibition

Brunjes, Peter C. (PhD) (J. Alberts) An Investigation of Early Sensory Development in Normal and Hyperthyroid Rat Pups

Cardwell, Gilbert F. (PhD) (R. Rose) Interpretation of Cognitive Ability Factors Through Analysis of Multivariate Twin Data

Dumais, Susan (PhD) (R. Shiffrin) Perceptual Learning in Automatic Detection: Processes and Mechanisms

Frank, Alan S. (PhD) (D. Robinson) Detection of Diotic and Dichotic Tones Masked by Repeatable Samples of Noise

Goggin, William C. (PhD) (S. Sherman) Prediction as Persuasion and Threat: Interaction of Locus of Control and Locus of Prediction on Compliance and Reactance

Hanish, Richard (PhD) (K. Heller) Variables Predictive of Successful Completion of Group Residence Programs for Court Referred Adolescents

Kawahara, Yoshito (PhD) (G. Frommer) Effects of Stimuli Associated with Septal or Hypothalamic Stimulation on Sidman Avoidance Behaviors in Rats

Knight, Bob G. (PhD) (L. Levy) Modification of Attitudes Toward the Aged: A Cognitive Approach

Kronheim, Jeffrey J. (MA) (R. Young) Subclinical Depression, Expectation of Performance and Actual Performance on an Anagrams Task

Muller, Alexandra A. (MA) (R. Aslin) Methodological Issues in Diagnosing Object Concept Level in Young Infants

Muller, Alexandra A. (PhD) (L. Smith) The Subjective Structure of a "Good" Classification for Adults and Children

Newman, Joseph P. (PhD) (R. Young) The Role of Response Perseveration in the Learning Deficits of Psychopaths

Padgett, Valerie R. (PhD) (L. Levy) The Effects of Processed and Unprocessed Video Feedback as Adjuncts to Marital Therapy

Peden, Blaine F. (PhD) (E. Hearst) Autoshaping and Reward Omission: Stimulus-Reinforcer and Response-Reinforcer Correlations

Riengvadhanasukh, Suvilai (MA) (J. Chertkoff) Altruistic Behaviors Toward Various Nations as a Function of Liking and Perceived Strength

Rosenberg, Harold (PhD) (R. Young) Differences in Coping Skills, Life Events, and Social Support between Relapsed and Non-Relapsed Alcohol Abusers

Squires, Margaret F. (PhD) (J. Bates) Empathic, Nurturant and Abusive Behavior of Normally and Abnormally Reared Girls

Wozny, Mark (PhD) (W. Timberlake) Models and Microeconomics of Performance Under Fixed Ratio Schedules

Yama, Mark F. (PhD) (D. Robinson) Frequency Selectivity of the Monaural and Binaural Hearing Systems

1980

Barnes, Judith L. (MA) (R. Young) A Comparison of Sexual Attitudes and Behaviors of Sex Therapy Applicants vs. Couples Not Seeking Treatment

Benson, Carole (PhD) (K. Heller) Coping and Support Among Daughters of Alcoholics

Benzschawel, Terry (PhD) (S. Guth) Postreceptor Adaptation in Normal and Dichromatic Observers

Butz, Thomas (PhD) (R. Young) Adjustment to Marital Separation in Women

Cook, James (PhD) (K. Heller) Approach-Avoidance and Repression-Sensitization as Predictors of Three Modes of Response to a Laboratory Stressor

Harrer, Margaret N. (PhD) (R. Young) Father-Daughter Incest: A Study of the Mother

Milar, Christopher R. (PhD) (R. Young) Behavioral Correlates of Increased Lead Burden in Children

Muntel, Edward G. (PhD) (R. Young) Variations in Activity Behavior in Teacher-Designated Hyperactive Boys as a Function of Conceptual Tempo, Perceptual-Motor Deficit and Affective State

Newlin, David B. (PhD) (R. Levenson) Cardiovascular Responses of Individuals at Risk for Coronary Heart Disease

Sher, Kenneth J. (PhD) (R. Levenson) Alcohol-Mediated Stress Response Dampening and Risk for Alcoholism

Wierzbicki, Michael (PhD) (A. Buchwald) An Attempt at Negative Mood Induction Through Interaction with Simulated Depressives

198l

Bowe, Craig (PhD) (J. Dinsmoor) Spatial and Temporal Relations in Conditioned Reinforcement and Observing Behavior

Butler, Darrell L. (PhD) (H. Lindman) Predicting the Perception of Three-Dimensional Objects from the Geometrical Information in Drawings

Campos-Domingo, Patricia (MA) (G. Frommer) Tactile Discrimination and Somatosensory Evoked Responses Following Electrical Stimulation of the Midbrain

Chen, Jeaw-mei (PhD) (R. Fazio) Information Processing Following Success/Failure Feedback

Curry, Ronald T. (PhD) (R. Young) Socially Indigenous Help and Normal Social Support in a Retirement Community

deHaas, Patricia A. (PhD) (R. Young) Attention Styles in Teacher-Identified Hyperactive and Normal Girls

Foyle, David C. (PhD) (R. Shiffrin) Automatic Processing and Selective Attention

Frame, Cynthia L. (PhD) (T. Oltmanns) Cognitive and Social Functioning in Schizophrenic and Manic-Depressive Outpatients: A Descriptive Study

Gilkey, Robert H. (PhD) (D. Robinson) Molecular Psychophysics and Models of Auditory Signal Detectability

Gorenstein, Ethan E. (PhD) (R. Rose) Frontal Lobe Functions in Psychopathic Psychiatric Patients

Lilie, Jamie K. (PhD) (R. Young) The Relation Between Employment and Alcohol and Drug Use in Men Over Sixty

Martin, Louise T. (PhD) (J. Alberts) The Relationship Between Neurobehavioral Ontogeny and the Expression of Learning in Rats

Mueller, Kay (PhD) (J. Dinsmoor) The Effect of a Signal for Extinction on the Value of a Signal for Reinforcement in an Observing-Response Procedure

Muller, Paul F. (MA) (N. Castellan) Effects of Base Rates and Number of Cues on Performance in a Probabilistic Judgment Task

Olson, Sheryl L. (PhD) (J. Bates) Mother-Infant Interaction and the Development of Cognitive and Language Competence

Pogue-Geile, Michael F. (PhD) (R. Rose) Vulnerability to Environmental Influences on Psychological Traits: A Twin Methodology

Procidano, Mary E. (PhD) (K. Heller) An Analysis of Social Competence in Schizotypic, Subclinically Depressed, and Subclinically Psychopathic Individuals

Stevens, Sandra S. (PhD) (J. Alberts) Play Behavior in Rattus Norvegicus: Development of Research Methods and an Analysis of Play Deprivation

Stoltenberg, George K. (PhD) (K. Heller) The Effects of Interviewer Handicap on Subject Self-Disclosure

Ward-Hull, Christine I. (PhD) (M. Intons-Peterson) Correlates of Female Juvenile Delinquency

Weisenberger, Janet M. (PhD) (J. Craig) Tactile Pattern Similarity

Williams, Bruce (PhD) (J. Zinnes) Category Structure and Its Effects on Recall of Categorized Lists

1982

Aisenson, Neil (PhD) (J. Bates) Speed of Response and Aggression in 11 to 14 Year Old Boys in Public School and in Residential Treatment

Ancok, Djamaludin (PhD) (J. Chertkoff) Generalization of Retaliation Against Ingroup Versus Outgroup Members

Feustel, Timothy C. (PhD) (R. Shiffrin) The Repetition Effect in Word Identification: Implications for the Semantic-Episodic Distinction

Gillund, Gary (PhD) (R. Shiffrin) Memory Retrieval: A Model Relating Recognition and Recall

Hanna, Thomas E. (PhD) (D. Robinson) The Effect of Signal Phase on Detectability and Its Relationship to the Filtering Properties of the Auditory System

Hanson, Catherine (MA) (L. Smith) Prototype and Exemplar Processing in a Categorization Task

Johnson, Holly (PhD) (R. Young) A Genetic Study of Hyperactivity

Kaplan, Peter S. (PhD) (E. Hearst) Trace Conditioning and Context: Stimulus Selection and Timing Factors

Mannheim, Carole I. (PhD) (R. Young) Post-Divorce Adjustment of School-Aged Children

Matuszewski, John E. (MA) (K. Heller) Development of the College Drinking Inventory: An Analysis of Situation-Specific Response Competence and College Problem Drinking

Mimmack, Peter C. (MA) (D. Pisoni) Sentence-By-Sentence Listening Times for Spoken Passages: Text Structure and Listeners' Goals

Pontecorvo, Michael J. (PhD) (G. Heise) Effects of Proactive Interference on Rats' Continuous Delayed Non-Matching to Sample Performance

Schlundt, David G. (PhD) (R. McFall) An Observational Study of the Behavioral Components of Social Competence: Topic Management, Speaking Turn Regulation, and the Communication of Affect in Heterosexual Dyadic Conversations

Skov, Richard B. (PhD) (S. Sherman) The Effects of Explaining and Predicting Hypothetical Request Responses on Compliance

Spencer, David G. (PhD) (G. Heise) Central Cholinergic Function and Short-Term Memory in the Rat

Spivey, Martha K. (MA) (G. Heise) Differential Behavior in Discrete-Trial Alternation in the Rat as a Result of Training With or Without Correction Trials

1983

Alloway, Kevin D. (PhD) (G. Rebec) Electrophysiological and Neurochemical Correlates of the Behavioral Changes Produced by Long-Term Amphetamine Administration

Cho, Jae H. (PhD) (K. Heller) The Developmental Effects of Residential Mobility on the Quantity and Quality of Friendships Among College-Age Females

Corty, Eric (PhD) (R. McFall) Response Prevention in the Treatment of Cigarette Smoking

Cronk, Randy L. (MA) (S. Sherman) Confirming and Disconfirming Responses to a Label

Ditto, W. Blaine (PhD) (R. Rose) Parental History of Essential Hypertension and Cardiovascular Response to Psychological Stressors

Eason, Barbara J. (PhD) (R. McFall) Social Competence and Problem-Solving Abilities in Anorexic, Bulimic, and Non-Eating Disordered Females: Empirical Development of a Role-Playing Instrument

Gabbay, Frances H. (PhD) (R. Rose) The Effects of Alcohol on Human Electrocortical Activity: A Dose-Response Study

Grossman, Linda M. (PhD) (R. Levenson) Individual Differences in the Tension Reduction Effect of Alcohol: Physiological Correlates of Stress-Induced Drinking

Gruenenfelder, Thomas M. (PhD) (F. Restle and D. Pisoni) Accessing Semantic Features and Logical Relations in Category Verification

Herr, Paul M. (PhD) (R. Fazio) Judgmental and Behavioral Consequences of Category Activation

Holmes, Nancy N. (PhD) (R. Rose) Blood Pressure, Type A Behavior Pattern and Family Environment in Subjects at Risk for Essential Hypertension

Kagan, Deborah L. (PhD) (R. McFall) Effect of Spouse Behavior and Marital Interaction on Weight Loss and Maintenance

King, Cheryl A. (PhD) (R. Young) Children's Judgments of Social Competency

King, Deborah A. (PhD) (K. Heller) Depression and the Response of Others: A Re-evaluation

Lee, Carolyn L. (PhD) (J. Bates) Adult Characteristics and Their Relationship to Teaching/Disciplinary Strategies with Compliant and Noncompliant Children

Rivers, Natalie Y. (MA) (J. Juraska) Plasticity of Hippocampal Dentate Granule Cells as a Function of Environmental Rearing and Gender

Swindle, Ralph W. (PhD) (K. Heller) An Experimental Evaluation of the Social Support Buffering Hypothesis

Weese, G. Daniel (PhD) (G. Frommer) Patterns of Sensorimotor and Tactile Discrimination Deficits Following Unilateral Lesions in the Lateral Hypothalamus, Basal Ganglia, or Somatosensory System in Rats

Wolff, William T. (PhD) (E. Hearst) Discrimination Learning Based on the Presence and Absence of Predictive Stimuli: An Analysis of the Feature Positive Effect

1984

Ahlm, Karin (PhD) (S. Sherman) Visual Imagery and the Encoding and Retrieval of Social Information

Amaral, Thomas M. (PhD) (K. Heller) Selected Functions of Social Support Among a Sample of Managerial and Professional Women

Carrell, Thomas D. (PhD) (D. Pisoni) Contributions of Fundamental Frequency, Formant Spacing, and Glottal Waveform to Talker Identification

Chu, Ling-Ling (PhD) (J. Chertkoff) Effects of Coworker Access, Group Performance, and Anticipation of Future Testing on Attributions of Responsibility

Feldman, Esther (PhD) (K. Dodge) Assessment of Social-Cognitive Skills in Popular, Average, Rejected and Neglected Girls and Boys

Haney, Ruth E. (PhD) (R. Rose) Familial Resemblance of Variables Related to Clinical Eating Disorders

Johnson, James D. (PhD) (J. Chertkoff) The Differential Racial Effects of Exposure to Erotica

Junginger, John A. (PhD) (T. Oltmanns) Assessment of Verbal Hallucinations with EMG and Self-Report Measures

Light, Roger (PhD) (G. Frommer and K. Fitzhugh-Bell) Neuropsychological, Intellectual and Personality Functioning in Phencyclidine Abusing Adolescents and Young Adults

Norris, Jack T. (PhD) (R. Young) Appraisal of Stressful Events: Self-Awareness and Self-Schema Processes

Rudick-Davis, David (PhD) (A. Buchwald) Heterogeneity and Diagnostic Efficiency of Features Within a Disjunctive Criterion for Major Depressive Episode in DSM-III

Salasoo, Aita (PhD) (R. Shiffrin) Building Permanent Memory Codes: Codification and Repetition Effects in Word and Pseudoword Identification

Samson, Maria E. (MA) (J. Alberts) Stimulus Control of Rat Pup Vocalizations

Sawyer, Teresa A. (PhD) (N. Castellan) Algebra Problem-Solving Strategies

Silver, Diane (PhD) (R. Young) Social Skills Deficits in Learning Disabled Adolescents

Walley, Amanda C. (PhD) (L. Smith) Developmental Differences in Spoken Word Identification

Webster Joel C. (PhD) (N. Castellan and L. Smith) Uncertainty and Human Judgment

1985

Barnes-Cochran, Judith (PhD) (R. Young) Sexual Satisfaction, Behaviors and Dysfunction in Alcoholic Women

Fondacaro, Mark R. (PhD) (K. Heller) Attributional Styles in Aggressive Male Adolescents

Frankel, Karen A. (PhD) (J. Bates) The Social Milieu Scale and the Coping Inventory: Development, Validation and Relationship to Depression in Middle School Girls

Hopp, Steven L. (PhD) (G. Frommer) Differential Sensitivity of Japanese Monkeys (Macaca fuscata) to Variations along a Synthetic Vocal Continuum

Konovsky, Mary (MA) (R. Young) Social Drinking and Self-Esteem in Married Couples

Kreiter, Nancy A. (MA) (W. Timberlake) A Comparison of Predatory Behaviors in Two Species of Peromyscus

Lakey, Brian (PhD) (K. Heller) Negative Cognition, Problem Solving Ability, Life Stress and Depressive Symptoms

Mades, Lois L. (PhD) (K. Heller) The Dimensions of Intimacy: The Content and Function of Confidant Relationships Among Older Adults

Oyama, Oliver N. (PhD) (R. Levenson) The Relationship Between Facial Expressions and Autonomic Responding in Emotions

Viscardi, Anthony P. (MA) (G. Heise) The Effects of Scopolamine on Performance in a Paired Discrete Trial Go-No Go Delayed Response Procedure

1986

Anderson, Glenn D. (PhD) (G. Rebec) Mechanism of Action of Clozapine: An Investigation in the Amygdaloid Complex

Clissold, David B. (MA) (G. Heise) The Effects of Physostigmine on Three-Stimulus and Two-Stimulus Operant Serial Reversal Learning

Fassbender, Christoph (MA) (G. Frommer) Ear Asymmetries in the Recognition of Dichotic Melodies as a Function of Musical Aptitude and Musical Experience

Ferguson, Linda J. (MA) (J. Chertkoff) Confidence and Demonstration as Moderators of Expert Power

Gawley, Donald J. (PhD) (W. Timberlake) Local and Molar Mechanisms in Behavior Regulation

Gronlund, Scott D. (PhD) (R. Shiffrin) Multi-Level Storage and Retrieval: An Empirical Investigation and Theoretical Analysis

Kardes, Frank R. (PhD) (R. Fazio) Spontaneous Inference Processes in Advertising: The Effects of Conclusion Omission and Fear of Invalidity on Attitudes and Memory

McDonel, Elizabeth C. (PhD) (R. McFall) Sexual Aggression and Heterosocial Perception: The Relationship Between Decoding Accuracy and Rape Correlates

Meek, Patricia S. (PhD) (R. Levenson) Sex Differences in Alcohol-Mediated Stress Response Dampening

Owren, Michael J. (PhD) (E. Hearst and D. Pisoni) The Acoustic Features of Alarm Callls in Vervet Monkeys (Cercopithecus aethiops): Perspectives on Primate Vocal Behavior and the Evolution of Human Speech

Rizzo, Thomas A. (PhD) (J. Bates) How Children Make Friends in School

Sabet-Sharghi, Janice (MA) (J. Bates) Coercive and Noncoercive Patterns of Interaction in Mother-Infant Dyads: Detection and Longitudinal Development

1987

Angelidou, Eliza (MA) (M. Intons-Peterson) Cultural Differences in the Psychology of Pregnancy

Basse-Tomusk, Allison (PhD) (G. Rebec) The Regulation and Distribution of Ascorbate in the Neostriatrum

Bayles, Kathryn A. (MA) (J. Bates) Individual Differences in Mother-Infant Play and the Development of Competence

Berenbaum, Howard (PhD) (T. Oltmanns) Blunted Affect and Anhedonia in Schizophrenia and Depression

Berg, Bruce G. (PhD) (D. Robinson) Internal Noise in Auditory Decision Tasks

Cronk, Randy L. (PhD) (S. Sherman) Identity Centrality, Publicness of Label, and Publicness of Behavior as Determinants of Behavioral Responses to a Label

Doussard-Roosevelt, Jane A (MA) (L. Smith) The Language Comprehension Task: Its Role in the Study of Natural Language Acquisition and its Effect on the Outcome of Cross-Modal Generalization Studies

Evans, Paul (PhD) (J. Craig) Vibrotactile Masking: Persistence, Integration, and Inhibition

Fisher, Jane E. (PhD) (R. McFall) The Effects of Early and Middle Stage Alzheimer's Disease on Operant Conditionability

Gattuso, Beatrice E. (PhD) (L. Smith) Classification by Dimensions and Reading: A Comparison of the Visual and Auditory Modalities

Goddard, Perilou (PhD) (R. McFall) Development, Validation and Extension of an Inventory for Assessing Heterosocial Decision Skills in College Women

Hirt, Edward R. (PhD) (S. Sherman) Techniques of Reconstructing the Past: Implications for the Accuracy of Memories

Lindsay, Jeffrey S. (PhD) (J. Chertkoff) Decision Strategies of Adult Offenders in Uncertain Situations

Luce, Paul A. (PhD) (D. Pisoni) Neighborhoods of Words in the Mental Lexicon

Melcer, Ted (PhD) (J. Alberts) Recognition of Food by Food-Naive, Weanling Rats

Moore, Kevin E. (PhD) (J. Allison) Decision under Risk in Rats

Murphy, Roberta (PhD) (J. Bates) The Emotional Experiences of Mothers

Resnick, Heidi S. (PhD) (T. Oltmanns) The Heterogeneity of Blunted Affect in Schizophrenia

Sera, Maria (PhD) (L. Smith) The Role of Locations in Object and Event Categories: A Crosslinguistic Study

Shapiro, Cara F. (PhD) (K. Heller) Premenstrual Symptoms and Social Support in an Adult Population

Slowiaczek, Louisa M. (PhD) (D. Pisoni) On the Role of Lexical Stress in Auditory Word Recognition

Takemoto, Mary A. (PhD) (K. Heller) Family Environment, Social Support, Coping, and Acculturation in Japanese Americans

Thiels, Edda (PhD) (J. Alberts) Weaning in the Norway Rat: Decline of Suckling and Its Relation to the Onset of Independent Ingestion

Appendix E

Bibliography of William Lowe Bryan

E.1 Books

Plato the Teacher, (New York: Scribner's, 1897).
With Charlotte Lowe Bryan. Studies in Plato's Republic for Teachers, (New York: Scribner's, 1898).
Wars of Families of Minds, (New Haven: Yale University Press, 1940).

E.2 Papers, Articles, and Monographs

"Investigations in Physiological Time," [1888], Proceedings of the Indiana Academy of Science for 1885-91, 1891, 16. [Title]
"Outline of Work in Physiological Psychology," [1888], Proceedings of the Indiana Academy of Science for 1885-91, 1891, 16. [Title]
"Investigations on Relation between the Intensity of Stimulus and Reaction Time," [1889], Proceedings of the Indiana Academy of Science for 1885-91, 1891, 16. [Title]
"Researches on the Tactual Perception of Distance," [1890], Proceedings of the Indiana Academy of Science for 1885-91, 1891, 16. [Title]
"Description of a New Aesthesiometer," [1890], Proceedings of the Indiana Academy of Science for 1885-91, 1891, 16. [Title]
"Researches on Reaction Time," [1890], Proceedings of the Indiana Academy of Science for 1885-91, 1891, 16. [Title]
"Psychology at Indiana University," American Journal of Psychology, 1890, 3, 283-284.
"On the Development of Voluntary Motor Ability," American Journal of Psychology, 1892, 5, 125-204.
"A Plea for Special Child Study," Proceedings of the International Congress of Education, 1893, 778.

"Eye and Ear Mindedness," Proceedings of the International Congress of Education, 1893, 779-781.
"Suggestions on the Study of Children," Reports of the Commissioner of Education, 1893-94, 450-456.
"Psychological Laboratory of Indiana University," Proceedings of the Indiana Academy of Science, 1894, 42. [Title]
"Review of Recent Experimental Literature," Psychological Review, 1894, 1, 101-107.
"Science and Education," Proceedings of the National Education Association, 1895, 161-165.
"Report on Work in Child Study in Indiana," Proceedings of the National Education Association, 1895, 905-906.
"Suggestions on the Study of Children," Inland Educator, 1895, 1, 21-23, 94-95.
"Scientific and Non-Scientific Methods of Child Study," Proceedings of the National Education Association, 1896, 856-860.
"Hygiene of Motor Development," Proceedings of the National Education Association, 1896, 279-280.
"Report of Special Committee on the Organization of a Committee on School Hygiene," Proceedings of the National Education Association, 1896, 327-328.
With Noble Harter. "Studies in the Physiology and Psychology of the Telegraphic Language," Psychological Review, 1897, 4, 26-53.
With Noble Harter. "Studies in the Telegraphic Language: The Acquisition of a Hierarchy of Habits," Psychological Review, 1899, 6, 345-375.
With Ernest H. Lindley. "An Arithmetical Prodigy," Psychological Review, 1900, 7, 135. [Abstract]
With Ernest H. Lindley. "The Case of Arthur Griffith, Arithmetical Prodigy," Proceedings and Papers, Fourth International Congress of Psychology, Paris, 1900, 178.
With Ernest H. Lindley. "Science in the Daily Press," Science, 1900, 11, 74. [Letter]
"Theory and Practice," Psychological Review, 1904, 11, 71-82.
With Ernest H. Lindley & Noble Harter. "On the Psychology of Learning a Life Occupation," Indiana University Publications, Science Series, 1941, 11, 1-129.

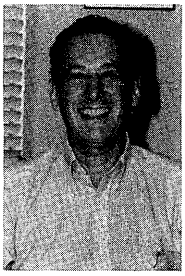
E.3 Addresses, Essays, and Commentary

"Capital in Nerves, A Chapel Sermon," (Bloomington: Indiana University, 1893).
"Faith in Education," Indiana University Bulletin, 1903, 1 (2), 7-12.

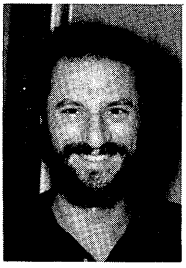
"The Life of the Professor," Transactions and Proceedings of the National Association of State Universities, 1912, 10, 26-34.
"He Knew What Was in Man," (Indianapolis: Bobbs-Merrill, 1913).
The Spirit of Indiana, (Bloomington: Indiana University, 1917).
"Education through Occupations," in B.J. Rees, ed., Modern American Prose Selections, (1920), 68-80.
Paradise, (Bloomington: Indiana University, 1927).
"Introduction," in A Debate on the Theory of Relativity, (Chicago: Open Court, 1927).
"Educational Policies of the United States Government," Educational Review, 1930.
The President's Column, (Bloomington: Indiana University, 1934).
With Charlotte Lowe Bryan. Farewells, (Bloomington: Indiana University, 1938).
"The Measured and the Not-Yet-Measured, the Seer," Indiana University Humanities Series, 1947, #17.
"A Better World or None," (Bloomington: Indiana University Foundation, 1947).
"Adventure in Psychology: 1885-1902," (Bloomington: Privately printed, 1948).
With Charlotte Lowe Bryan. Last Words, (Bloomington: Privately printed, 1951).

Index

THE FACULTY IN 1988

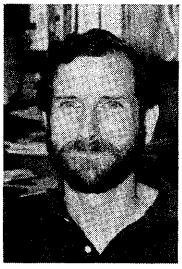


Irving J. Saltzman



Jeffrey Alberts

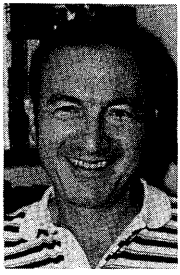
James Allison



John Bates

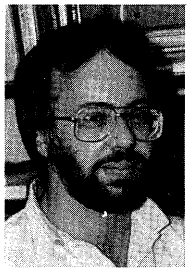
Alexander Buchwald

N. John Castellan

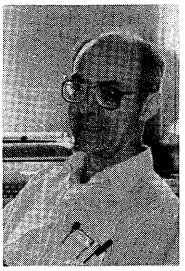


Jerome Chertkoff

James Craig



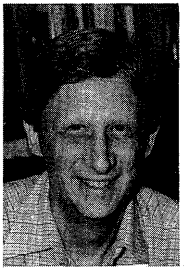
Russell Fazio



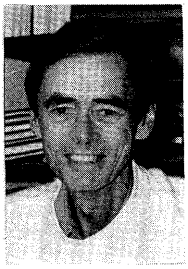
Gabriel Frommer

Paget Gross

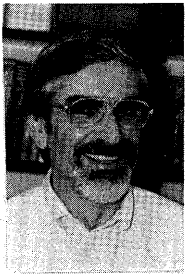
Sherman Guth



Eliot Hearst



George Heise



Kenneth Heller
Director of Clinic

Margaret Intons-Peterson

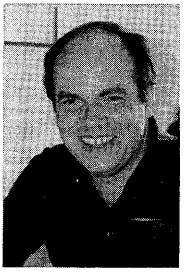
Sheila Jeyifous

Susan Jones

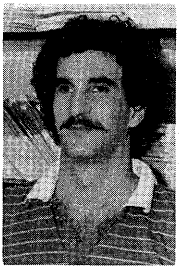
Ronald Kettner

Harold Lindman

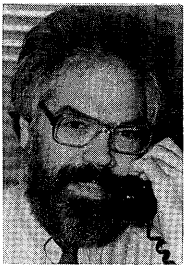
Janet Metcalfe



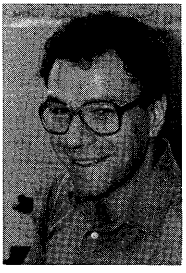
Richard McFall



Robert Nosofsky

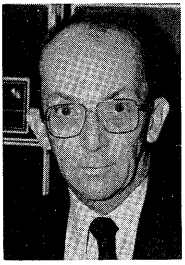


David Pisoni

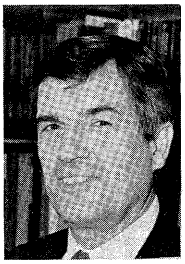


George Rebec

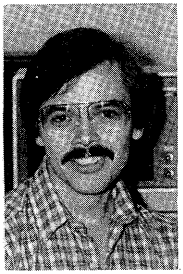
June Reinisch
Director of Kinsey Institute



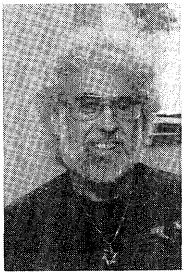
Donald Robinson



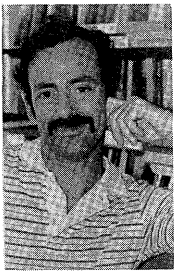
Richard Rose



Dale Sengelaub

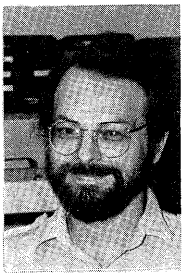


Steven Sherman



Richard Shiffrin

Linda Smith

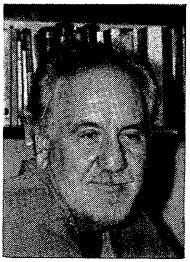


Joseph Steinmetz

Esther Thelan

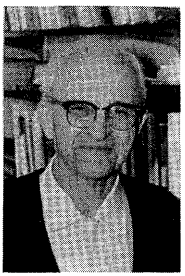
William Timberlake

Richard Viken

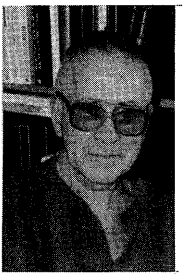


Richard Young

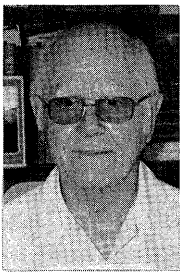
Emeritus Faculty



Richard Berry



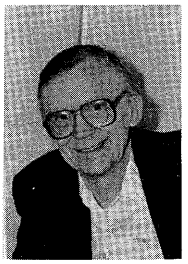
James Dinsmoor



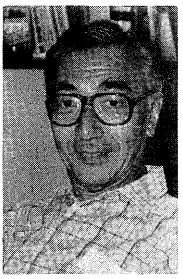
Douglas Ellson

Conrad Mueller

William Neff



Lloyd Peterson



Harry Yamaguchi