

**Creating the Modern Michigan Psychology Department:
The Chairmanship of Donald Marquis
(1945-1957)**

**Robert Pachella
Psychology Department
University of Michigan**

June 22, 2010

This is a draft. Please do not quote. Any corrections, additions, comments, or suggestions would be greatly appreciated.

**CREATING THE MODERN MICHIGAN PSYCHOLOGY DEPARTMENT:
THE CHAIRMANSHIP OF DONALD MARQUIS
(1945-1957)**

Table of Contents

Acknowledgements	4
Preface	5
CREATING THE MODERN MICHIGAN PSYCHOLOGY DEPARTMENT:	6
Introduction	6
Donald G. Marquis (1908-1973).....	9
Marquis During the War Years.....	12
Marquis' Move to Michigan.....	16
The Michigan Department in 1945	18
Marquis Begins the Transformation	21
Theodore Newcomb (1903-1984).....	22
E. Lowell Kelly (1905-1986).....	26
Clinical Psychology.....	30
Early Development of the Clinical Program	30
Clinical Psychology and the Veterans Administration.....	32
Clinical Psychology at Michigan in the '40s and '50s.....	38
Anna S. Elonen (1904-1982).....	43
The Boulder Conference	45
Social Psychology.....	47
The Creation of the Institute for Social Research.....	50
The Program Surveys Division of the USDA	50
The U.S. Strategic Bombing Survey	50
Rensis Likert (1903-1981)	53
The Survey Research Center.....	55

Angus Campbel (1910-1980).....	57
George Katona (1901-1982).....	59
Research Center for Group Dynamics.....	60
Dorwin (Doc) Carwright (1915-2008).....	64
The Joint PhD Program in Social Psychology.....	68
Daniel Katz (1903-1998).....	70
Robert Kahn (1918 --).....	73
Roger Heyns (1918-1995)	75
Helen Peak (1900-1985).....	77
Experimental Psychology	80
Norman R. F. Maier (1900-1977)	81
Edward L. Walker (1914-1997).....	84
John W. Atkinson (1923-2003).....	86
H. Richard Blackwell (1921-1995) and The Vision Research Laboratory	89
Mathew Alpern (1920-1996).....	90
The Development of Signal Detection Theory	93
Wilson P. (Spike) Tanner, Jr. (1912-1977)	95
Arthur W. Melton (1906-1978)	98
Physiological Psychology.....	102
James Olds (1922-1976).....	103
Mathematical Psychology.....	105
Clyde H. Coombs (1912 -- 1988)	106
The Mental Health Research Institute.....	112
James Grier Miller (1916-2002)	119
Education and Psychology.....	120
Wilbert J. McKeachie (1921-)	126
The End of the Reign.....	130
Bibliography	132

Acknowledgements

I would like to acknowledge the many interesting and helpful conversations that I have had during the past year with many of my colleagues about the history of our department. I would like to thank especially Bill McKeachie, George Rosenwald, Donald Brown and Gus Buchtel for their help. Additionally, I was aided by an extended email correspondence with Douglas Creelman, a Michigan PhD from the late 1950s. One small, but extremely important confusion with regard to the history of modern clinical psychology was clarified for me by the historian of psychology (and editor of the journal *History of Psychology*), James Capshew of Indiana University.

Ms Lisa Boehr was also wonderfully helpful in digging through departmental files to obtain pictures and records of past and departed departmental faculty.

Preface

About a year and a half ago, Fall Term 2008, I became embroiled in a dispute with the Development Office of LS&A over a question about the founding date of the Michigan Psychology Department. They marked the founding date as 1910. However, I had the good fortune to have read a wonderful history of our department, written by Al Raphelson in the 1960s, and I knew that the Development Office was wrong. It is not completely clear what date should be taken for our “founding”, but it was clearly not 1910. And, when I confronted the Development Office with the facts from Raphelson’s history, they backed off.

At any rate, this dispute led to the idea of updating Raphelson’s history. Al’s history (in two volumes) covered the history of our department from its beginnings in the 19th century until roughly 1945. Since I had initiated the idea of an update, at least indirectly, it was suggested to me by some of our colleagues that I should look into the prospect of such a project.

Raphelson’s history was extensive and comprehensive. However, by ending in 1945, it told the story of the “old” Michigan Psychology Department that was totally unlike the department that we know today. The “modern” department really began in 1945. It was created by Donald Marquis and some of his extraordinary colleagues, between 1945 and 1957. Its creation represents one of the greatest entrepreneurial achievements in academic history.

So, for the past year I have researched the creation of our “modern” department by Donald Marquis and others of our incredible, pioneering colleagues. This document is the product of that research. It is the work of a thoroughly amateur historian, but I think that for any of you who would like to know how we became the kind of department that we are today, it will be useful and interesting.

I see this paper as the first stage in a long-term project of producing a comprehensive history of our department. In 1959, Lowell Kelly, the chairman who succeeded Marquis, introduced the “area structure” that we have today. What needs to be done now, to follow up this document, is to produce a history of each of our areas, centers and institutes for the past fifty years. I would be happy to coordinate such an effort, if other people from each of our areas think it is a worthwhile project, and would be willing to join me.

Bob Pachella
March, 2010

CREATING THE MODERN MICHIGAN PSYCHOLOGY DEPARTMENT:

THE CHAIRMANSHIP OF DONALD MARQUIS

(1945-1957)

Introduction

Donald Marquis was thirty-six years old in January, 1945 when his appointment to become the chairman of the Psychology Department at the University of Michigan was approved by the University Regents. His appointment was to begin in the fall term and his salary was set at \$7000. This salary exceeded what had been budgeted for the position and the Regents fretted over the need to find the additional \$500. (UM Regents, 1945).

What Marquis accomplished during his tenure as chairman in the next twelve years can only be described as epic. He took over a moribund department of eight faculty members with almost no national recognition or consequence and turned it into a monumental department of international renown. He established the Michigan psychology department on the order and the magnitude that sixty years later is still recognized for its reputation throughout the world. This chapter will recount the story of the building of the modern Michigan psychology department. Subsequent chapters will present more contemporary histories of the various institutes, programs and areas that constitute the Department today.

For the last sixty years, the Michigan Psychology Department has been continuously ranked among the most productive, comprehensive and prestigious departments in the world. Today the department is constituted with over a hundred professorial faculty members, over 200 graduate students, and over 1500 undergraduate majors, making Michigan the largest psychology department in the world. The department has PhD programs in personality and social contexts, biopsychology, clinical

psychology, cognition and perception, developmental psychology, and social psychology. It also participates in joint PhD programs in education and psychology, social work and psychology, and women studies and psychology. Department faculty members have affiliations with more than fifty research centers, institutes and departments throughout the University, and account for more than \$5,000,000 in annual research expenditures (Psychology Department, 2009). Much of the size and scope of the department was established in the years immediately following World War II, and Donald Marquis was the architect who did the building and whose vision gave it its shape.

Although he is often deservedly given the greatest proportion of the credit, Marquis was not alone in the building of what became an academic empire. He was ably assisted by a number of other outstanding, established people: Robert Angell, E. Lowell Kelly, Rensis Likert, and, most notably, Theodore Newcomb. All of these people helped establish programs and institutes that attracted even more people, funding and students as the department grew to remarkable size. Further, Marquis' development of the department could not have happened outside of the context of the historical times. As a result of World War II and the post war expansion of higher education, revolutionary changes occurred within the discipline of psychology that benefitted Marquis immeasurably in his quest to build the department. Nevertheless, Marquis' entrepreneurial talents enabled him to produce a unique establishment of extraordinary distinction.

By the time Marquis left the department in 1957, it had grown from the original eight faculty members that he inherited to more than forty who held professorial appointments. Another thirty people held lecturer, instructor and adjunct positions, and many more were associated with the department in research capacities. In the five years preceding his arrival, the department graduated fifteen PhD students. In the five years preceding his departure it produced 127 PhD graduates. During the Marquis era, the psychology department (along with sociology), was instrumental in founding the

Institute for Social Research, which by 1957 already had become the largest social science research institution in the world. The psychology department, in conjunction with the department of psychiatry in the medical school, helped to create the Mental Health Research Institute (now the Molecular and Behavioral Neuroscience Institute) with significant budgetary funding directly from the state of Michigan (Peckham, 1967). Additionally, by the time Marquis left, the department had established major graduate programs in the burgeoning fields of clinical and social psychology, fields that had no significant presence within the department before he arrived.

It is easier to quantify the institutional growth that Marquis produced at Michigan than it is to describe the qualitative innovation that the new department represented. In order to fully appreciate the insight and vision that Marquis brought to the task of building the modern Michigan psychology department, it must be looked at from the perspective of the state of academic psychology at the time. Before the war, academic psychology in America was dominated by the natural science specialties of experimental and physiological psychology. This was especially true at Michigan where the department was entirely housed in the Natural Science Building, and had its closest intellectual and geographical ties to the biology department. The dominant figures in academic psychology at the time were, for the most part, the learning theorists: Skinner, Tolman, Spence, Guthrie and Hull. Although Freud had visited America in 1909, his ideas had much bigger effects within the professions of medicine and psychiatry than on academic psychology. As late as 1940, it was impossible to obtain a formal PhD in clinical psychology anywhere in the United States (Capshe, 1999).

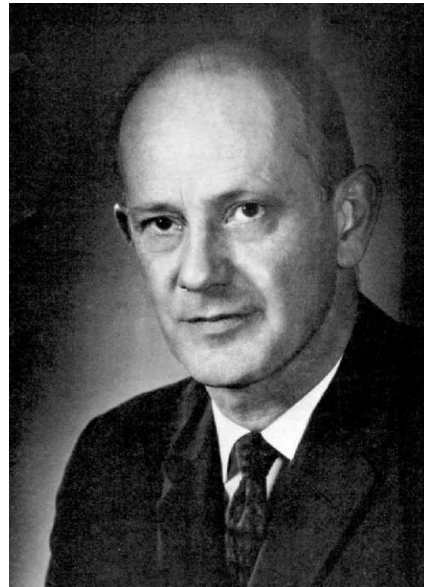
As a psychologist Don Marquis fit well within this pre-war tradition. He had done his doctoral thesis on the effects of occipital lobe lesions on the visual discrimination behavior of dogs, and his most notable published work was his famous textbook (written with Ernest Hilgard), *Conditioning and Learning*. So, it is a significant commentary on the man's foresight that he realized from the beginning of

his tenure that the department would have to be built overwhelmingly from within the specialties of social and clinical psychology.

It is also a commentary on the entrepreneurial genius of the man that when he started he had no blueprint or model to work from. Nothing like the department that he created had ever existed before within the discipline of academic psychology. And while the Dean and Regents had presented him with the challenge to build Michigan psychology into a department of national distinction, they did not envision anything remotely like the department that he built, nor did they provide him with the resources to build it. Thus, Marquis not only had to conceive of and plan this department in terms of its intellectual and professional structure, he also had to develop, and often invent, the means from which such a structure could be achieved.

Donald G. Marquis (1908-1973)

Although Marquis' training was limited to the natural science areas of experimental and physiological psychology, virtually every commentary written about the man describes his knowledge as encyclopedic, both within the field of psychology and outside it. His breadth of knowledge was reflected in the wide variety of positions and achievements that he attained during his professional career. He began as an academic teacher and researcher in experimental and physiological psychology at Yale in the 1930s, building a solid academic career. In the middle of his career he was extensively involved in the American Psychological Association, ultimately being elected President in 1948. Much of his work during



this time led to gaining increased recognition for the applied professions, particularly clinical psychology. This included Marquis serving as chairman of the American Board of Examiners in Professional Psychology. At the end of his career he was a leader in the development a new field of psychology: the management of science and technology, organizing a nationally recognized program in the Sloan School of Management at MIT. This culminated in his being named the David Sarnoff Professor of Management Technology shortly before his death (Miller, 1973).

Marquis was uniformly effective in these varied roles throughout his professional career. William Pounds, the Dean of the Sloan School of Management at MIT, presided at the memorial service held for Marquis at the time of his death. He commented on the various different careers that Marquis had held during his lifetime. He acknowledged that many people attending the memorial service had known Don in the context of one or another of these careers. What impressed him the most was that each of the people who had known Don in the context of one or another of these careers, was convinced that he was the most effective in the career in which they had encountered him: "We are all aware that Don did great things at other times than when we worked with him, but he had such a great capacity to care for those with whom he worked, and to commit himself to the problems of the moment, that none of us who worked with him can quite imagine that he could have been as effective at any other time." (Miller, 1973)

Marquis was born in 1908, and was the son of a college professor, so he was a second generation academician. He attended Stanford University, where he became a highly noticeable figure on campus. He was a clarinetist in a popular campus band, and member of a tap dance duo that often appeared in campus shows. According to Robert Sears, "He looked and seemed the very essence of the jazz era." He graduated Phi Beta Kappa with a straight A average in 1928. (Sears, 1973).

Marquis stayed at Stanford to begin his graduate work, but was urged by his mentors, C.P. Snow and Lewis Terman, that it would be good for him to complete his PhD elsewhere. He enrolled at Yale in 1930 and completed his doctorate in 1932 under the supervision of E.S. Robinson. One of his classmates was Arthur Melton, also receiving his doctorate in 1932 under Robinson's supervision. Melton would later become a major figure that Marquis recruited to Michigan in the 1950s.

Marquis remained at Yale for thirteen years, one as a postdoctoral fellow, and twelve as a faculty member. He ultimately became chairman of the department. As a faculty member he continued his long-term collaboration with Ernest Hilgard, even after Hilgard had left Yale for Stanford. This collaboration produced their classic text in 1940, *Conditioning and Learning*. His teaching included the graduate course in experimental psychology, which became the cornerstone of the Yale graduate program for many years. As chairman, he was also credited with the reform and upgrading of the undergraduate curriculum.

A notable event from his graduate days at Yale was his meeting Dorothy Postle. Postle had received her PhD at Ohio State. She was a pioneer in the study of the neonate, and had conducted the first study to establish conditioned responses in the newborn (Hilgard, 1987). At the time that she met Marquis, Dorothy was a postdoctoral fellow with Arnold Gesell, the acclaimed developmental psychologist. Dorothy eventually married Don and accompanied him to Michigan. Thus, it should not be surprising that when Don became chairman at Michigan he had so many insights and interests in developmental, personality and clinical psychology. Dorothy and Don divorced after he left Michigan, but she remained in Ann Arbor for the rest of her life, maintaining a close association with the psychology department for many years.

Marquis During the War Years

Marquis was only thirty-three when he was asked to take on the Chairmanship at Yale after Pearl Harbor. However, he had already established himself as a significant contributor to the scientific fields of neurophysiology and physiological psychology. At this early career stage he had already been invited into the Society of Experimental Psychology. His collaborative research with Ernest Hilgard on the function of the visual cortex had helped to establish the concepts of dynamic neural networks, and was a precursor of to the revolutionary concepts articulated by Donald Hebb in his pioneering work, *The Organization of Behavior*. Seventy years later, Marquis' work was still being lauded for the role that it played in the development of modern neuroscience (Haider, 2008).

Even though his tenure as chairman at Yale was brief, from 1942 to 1945, and the department had been depleted by departures for the war, the Yale chairmanship provided Marquis with an important stepping stone that would bear fruit when he came to Michigan. As the chairman of one of the major departments of the time, he could involve himself in the important professional issues on the national scene, as well as play a significant role with regard to the war effort. These issues included the massive reorganization of the national professional societies that culminated in the establishment of the modern American Psychological Association (APA) in 1943 and 1944. They also entailed the founding and operation of the Office of Psychological Personnel (OPP) in Washington, D.C.

Both of these activities, the reorganization of the APA and the development of the OPP, were initiated through the efforts of one of Marquis' important, senior colleagues at Yale, Robert M. Yerkes (Capshe, 1999). Yerkes, a past President of APA, was a figure of great stature on the professional scene in both scientific and applied psychology. On the applied level, he had been a prime mover in the mobilization of psychologists during the First World War, with a significant role in the development of

intelligence testing and psychological assessment techniques that grew out of that war. After the war he moved from Harvard to Yale and continued his legendary scientific work in comparative psychology.

With the outbreak of World War II, Yerkes tried to establish for psychology a similar mobilization to that of First World War, but without much initial success. The government showed little interest in the mobilization of psychology, particularly as compared to the mobilization of other scientific disciplines such as physics. Yerkes grew concerned that the role psychology might play in the war effort would be minimized without some concerted national effort by the profession. This, in turn, might then affect the role psychology would play with the government after the war.

Yerkes discerned that the major problem with the government recognition of psychology was the fragmentation of the psychological profession across a number of different national organizations. The fragmentation did not provide the government with a unified perception of the discipline and its potential contributions to the war effort. On one side, the scientifically oriented, academic psychologists were represented in the old American Psychological Association, which had historically catered to the academic elite. On the other side, there were a number of professional organizations that represented the largely non-academic, applied fields of psychology and various psychological special interests. The most important of these applied groups was the American Association of Applied Psychology (AAAP), but it also included the Psychometric Society, and the Society for the Psychological Study of Social Issues (SPSSI). Even though the membership of these organizations overlapped with the APA, nonetheless, a long standing, historical tension of considerable proportions existed between the scientific psychologists of the academy, and the non-academic practitioners of the applied professions.

It is likely that only a person of Yerkes stature, experience and power with both sides of this tension could have brought about the national reorganization that occurred. Through Yerkes cajoling and manipulation, a “constitutional convention” of all of the national psychology organizations was

convened early in 1943, culminating in a new constitution for a reorganized, and much more powerful, APA that absorbed most of the other organizations under its umbrella. This new, unified APA could now supply to the government a single professional presence. Important roles for the profession could then be established with regard to the war effort. The stage was also set for the APA with regard to the extraordinary post-war expansion of both academic and applied psychology.

It was not incidental that one of the psychologists involved in this reorganization from its beginning was Yerkes' younger colleague at Yale, Donald Marquis. Furthermore, among the delegates and alternates to the convention were several people who would later play a part with Marquis in the transformation of the Michigan psychology department after the war: Theodore Newcomb, Willard Olson and W. Clark Trow. In addition, from this national vantage point, Marquis was able to observe at close hand the new working relationship between this national professional organization and the federal government.

Yerkes concern for the mobilization of the profession during the war also led to the establishment of the Office of Psychological Personnel (OPP) in Washington, D.C. under the aegis of the National Research Council. Prior to the bombing of Pearl Harbor, there had been no national clearing house for the placement of psychologists in government and military positions. As the war effort expanded, the OPP became the central "employment agency" for the profession of psychology. Its task of placing the right psychologist in the right position became increasingly important, not just to the war effort but to the careers of many psychologists. The OPP became a crucial crossroad for the entire profession of psychology. After the war, the OPP was transformed into the Central Office of the APA, and the position of Director of OPP became the position of Executive Secretary of APA.

Again, it should not be surprising that one of the central figures in the operation of this agency, as one of its war-time Directors from 1943 to 1945, was Yerkes' younger colleague from Yale, Donald

Marquis. During these years, Marquis literally commuted back and forth between New Haven and Washington in order to fulfill both of his jobs, Chairman at Yale and Director of OPP.

By the end of the war, through his position with the OPP, Marquis became immersed in many of the critical issues that were to shape the future of psychology. Marquis summarized a number of these issues, and the role that OPP played with regard to them, in his last report as OPP Director (Marquis, 1945):

- Through the placement activity by the OPP in the military, particularly of clinical psychologists, Marquis became aware that “(the Veterans Administration) would become one of the largest employers of psychologists in the post-war period. With the expansion of facilities throughout the country, the establishment of Guidance Centers by contract with colleges, and the proposals for the utilization of clinical psychologists in the Veterans hospitals, it appeared that the number of psychologists in the agency would be limited only by the supply of available qualified persons.”
- The OPP kept abreast of legislation and administrative orders that were of interest to psychology. Thus, Marquis was involved with the proposed legislation to establish the National Science Foundation (NSF), and he helped lead the effort through the APA for the inclusion of psychology within that agency.
- The OPP initiated a national survey of university graduate departments (under the direction of Robert Sears). This led to the APA Committee on Graduate and Professional Training to recommend standards for improved graduate training, especially with regard to clinical psychology.

- The OPP conducted the nationwide survey of psychologists in 1944, analyzed by Alice Bryan and E.G. Boring, that led to the study of the conditions and factors influencing careers of women in psychology.

Thus, it is not incidental to the story of the building of the Michigan Psychology Department that during the war Donald Marquis held positions from which he could become so thoroughly knowledgeable about a broad cross-section of the profession, both scientific and applied.

Marquis' Move to Michigan

Raphelson (1968a) describes in detail how Michigan chose Marquis to be the next chairman of the psychology department. This account is summarized below:

In 1945, at the end of the war, Marquis moved to the University of Michigan. As noted in both the Raphelson (1968) and Capshew (1999) histories, by the time of Walter Pillsbury's retirement as chairman in 1942, the Michigan psychology department had become virtually moribund. The faculty that Marquis inherited in 1945 consisted of eight members, six of whom were Michigan PhDs. The average tenure on the faculty at that point for this group had been 21 years. Only one of these faculty members, Norman R.F. Maier, had any national reputation or published research with any regularity.

Many assumed that John Shepard, the most senior member of the Michigan faculty, would assume the chairmanship after Pillsbury's retirement. However, the Dean of LS&A, Edward Kraus, was displeased with the department, and decided that Michigan needed to rebuild with outside blood. He appointed Shepard acting chairman (with a clear understanding that he would not get the permanent job), and engaged in a national search for a new chairman.

The search was slowed during the war because so many prominent people were committed to war obligations. Nevertheless, Kraus actively pursued a number of outstanding candidates. His first choice was Marquis' erstwhile collaborator Ernest Hilgard, who he actively pursued in 1942 and 1943. Kraus traveled to Washington in August, 1943 to meet with Hilgard, and Hilgard came to Michigan for a two day visit in September. However, Hilgard had been offered the chairmanship of his home department at Stanford, to take effect after the war, which he accepted.

Kraus' next serious candidate was Clarence Graham, a noted sensory psychologist from Brown. Graham visited Ann Arbor in the spring of 1944, and Kraus traveled to the east coast on a couple of occasions to meet with him. Although he had little previous administrative experience, Graham was offered the chairmanship in May. However, Graham was in the midst of a divorce, and he claimed that he had significant obligations with regard to some large research grants at Brown, on which many workers' jobs depended. Graham turned Michigan down. And although he said that he couldn't leave Brown to come to Michigan in 1944, he did leave Brown to go to Columbia in 1945. It is interesting to speculate how different the history of the department would have been had Graham accepted the offer to become its chairman.

Two strikes down, Kraus now received credentials and recommendations for three other notable candidates: B.F. Skinner of Minnesota, E.G. Weaver of Princeton, and D.G. Marquis of Yale. After investigating each, Kraus narrowed his focus to Marquis, who visited Ann Arbor in the summer of 1944. Kraus retired as Dean that fall, but his successor, Hayward Keniston, offered Marquis the job, and he accepted the appointment to take effect for the following fall, 1945.

The Michigan Department in 1945

Here is a brief sketch of what Marquis inherited upon assuming his duties as Chairman of the Michigan psychology department in the fall of 1945. In fairness, it should be noted that Raphelson's (1968b) history of the department contains more extensive (and perhaps more charitable) descriptions of each of the active faculty members:

Norman R.F. Maier, a Michigan PhD, and a faculty member since 1935, was the only real star on the faculty. He published widely and with much acclaim, although engendering controversy. His classic work on abnormal fixations in rats as a result of confronting them with insoluble problems had been reviewed by Marquis in his conditioning and learning textbook. It also received national attention in the popular press and became the basis for the famous E.B. White *New Yorker* essay, "The Door". Later in his career Maier became widely noted as an industrial and organizational psychologist, and even published writings about the psychology of literary criticism. In 1939 he was presented with the Henry Russel Award, the University's highest faculty honor. Since Maier continued as a productive member of the faculty for many years after Marquis' arrival, he will be discussed later in a later section of this chapter.

The most senior member of the faculty was John Shepard, a Michigan PhD, who had been on the faculty since 1906. He might be best described as a comparative psychologist, although he had broad interests. His comparative psychology ranged from the study of ants, to rats, to college students. He was also one of the first Americans to grasp the significance of Gestalt psychology, and he had done some extensive studies of learning and memory. Unfortunately, he was probably most remembered for one of his mazes, a full sized human maze that he built in the basement of Hill Auditorium.

Shepard was an energetic and intelligent man who conducted much varied research over his long career. However, he published almost none of it. During a long period of his career much of his

energy was siphoned off when he was appointed by the Regents as the “Supervisor of Plans” for building construction on campus. He had been the liaison between building contractors and the faculty during the construction of the Natural Science building in 1912, and as a result of this success, he was asked to continue in this role. He fulfilled this role with great distinction, and was extensively engaged for many years with the construction of a significant proportion of the Michigan central campus, much of which still exists: The Natural Science Building (which became the home of the psychology department); Angell Hall; the General Library (the older, front part of today’s Graduate Library); the University High School (now the School of Education Building); East Physics (the older part of Randall Laboratory); and of great importance to the current psychology department, East Engineering (now East Hall, the home of the psychology department since 1994).

Charles Griffitts, a Michigan PhD and faculty member since 1922, had established some early career notoriety with a significant book, *The Fundamentals of Vocational Psychology*, in 1924. He had published little since. By the time Marquis arrived, his work at the University was almost entirely involved with the Psychological Clinic, which he had helped to establish in the 1930s.

Burton Thuma, a Michigan PhD and faculty member since 1931, was a noted teacher with wide ranging interests. He taught a variety of courses, from comparative psychology and sensory functions, to the psychology of law and the psychology of art. He published very little. By the time Marquis arrived, he had begun an increasing involvement with the University administration that culminated in an appointment as the acting Dean of LS&A, in 1955.

Carl Brown, another Michigan PhD and faculty member since 1927, was highly regarded by his colleagues as a man of great intellect, with a keen and analytical mind. He had worked with R.M. Yerkes and Lewis Terman on the Army Intelligence testing program during the First World War. He was known to have developed theories that integrated the principles of Gestalt psychology and S-R psychology, and

he had done work that was recognized by his colleagues as having anticipated by decades Hebb's neurophysiology. Maier found him indispensable as a colleague and critic. Unfortunately, although he was held in awe by many friends and students, most of the papers that he published concerned the construction of laboratory equipment.

Martha Colby, a Michigan PhD and a faculty member since 1929, had been a student of Pillsbury. Although reasonably enterprising, she was seen as maintaining her position through her association and devotion to Pillsbury. She also suffered from some of the chauvinistic and nepotistic policies of her era: As the wife of a distinguished member of the physics department, Walter Colby, she was never granted a full time appointment at the University.

The other two faculty members that Marquis inherited were Henry Adams and Edward Greene. They were both exceptions to the Michigan faculty pattern. Neither was a Michigan PhD. Adams had gotten his degree from Chicago just after the turn of the century, having studied with Harvey Carr. Greene received his degree from Columbia in 1928.

Adams arrived at Michigan in 1911 in a position that was called at the time "an assistant". As such he didn't have his own course to teach and he realized that in order to teach he would have to generate new courses that were not covered by the existing faculty. Since he had come from a family background that was involved in the business world, he turned his attention to applied areas, and developed courses in the psychology of advertising, salesmanship and management. In doing so, Adams was able to carve for himself a faculty position and a long career at Michigan. But, he also found himself outside the traditional mainstay areas of the Michigan department, experimental and physiological psychology. Because of this, his endeavors received little support or recognition from his colleagues. By the time Marquis arrived, Adams was not even housed within the department space in the Natural Science Building.

Edward Greene developed interests in applied areas of psychology, particularly what in his day passed for “clinical psychology”, which at the time consisted mostly of mental testing and measurement. These areas were not held in high regard by the “Michigan” faculty members and Greene remained as an outsider both intellectually and professionally. He was never granted tenure, even though he was still technically a faculty member in 1945. By the time Marquis arrived Greene was basically an adjunct appointment, with his full time job as the Chief of Personnel for the United States Employment Service in Detroit. After 1946, he was gone.

Such was the faculty roster Marquis presided over in his first year as chairman.

Marquis Begins the Transformation

From his work at OPP and APA, Marquis was aware that enormous changes were going to take place in psychology at the war’s end. These changes would be reflected both generally within society, and especially within the academy. He understood the huge demands that society was going to have for psychological knowledge in ways that could not have been imagined before the war. Although his training had been in experimental and physiological psychology, during the war he had seen firsthand the widespread use of important applications of clinical and social psychology, and his imagination told him that these specialties would revolutionize academic psychology in the post-war era.

During his first year at the helm, 1945-46, Marquis began to build a radically different department from anything that had ever before existed at Michigan. It is instructive to look at his very first new appointments. These appointments were transformational in the development of the new department: administratively, with regard to how they became part of the psychology department; and how they were funded. From the outset it was clear that the shape of what was to come would be almost unrecognizable to the faculty that Marquis inherited.

The official faculty list for 1946-47 contains the previous year's listing with the exception of Edward Greene, who was not even continued in an adjunct capacity. Just four new names appear as Marquis' first appointments in his new Michigan Psychology Department. They are a stunning group with regard to any assessment of the history of modern psychology: Theodore Newcomb, E. Lowell Kelly, Urie Bronfenbrenner and Willard Olson. These appointments established the outline of the directions that Marquis planned to take the department: the expansion of the department with new programs in clinical, social and, eventually, educational psychology.

It is also instructive to note how these appointments were made. Newcomb and Olson were already at Michigan. Newcomb was a professor in the sociology department, and Olson in the School of Education. All that was required to bring them into the department was to offer them a title as Professor of Psychology in addition to their already established appointments. This did not cost the university any additional resources.

By any accounting, Ted Newcomb and Lowell Kelly have to be considered two of the most significant and honored psychologists in the history of psychology. Each helped shape an entire area of psychology. Each was awarded the American Psychological Association's Gold Medal. Each was elected President of the APA.

Theodore Newcomb (1903-1984)

Ted Newcomb was Marquis' first appointment to the department in 1946 (Newcomb, 1974). He was a social psychologist who by 1945 had already established a significant academic reputation. He was a national figure who had important connections throughout his field. When Marquis arrived at Michigan he already knew that social psychology was going to be an area of great consequence after the war, and he knew that Newcomb would be the person to guide Michigan's entry into this area.

Newcomb was the son of a Congregationalist pastor, who graduated Oberlin College in 1924 with the intent to become a Christian missionary. His initial graduate training was at the Union Theological Seminary. The location of this institution within New York City provided the young Newcomb with two important features that pushed him into the direction of psychology. The first was that the school was right across the street from Columbia, and students at the Seminary could enroll in classes at both institutions. In classes at Columbia Teachers College Newcomb encountered Edward Thorndike, Robert Woodworth, and most importantly, Goodwin Watson and Gardner Murphy. This experience convinced Newcomb to pursue psychology and not theology. After two years at the Seminary he officially transferred to Columbia to complete his PhD, in 1929.



Additionally, the student community around the Seminary and Columbia exposed Newcomb to his first significant intellectual community. He counted among his friends and acquaintances Carl Rogers, Ernest Hilgard, Rensis Likert and Lois Barclay (later to become Mrs. Gardner Murphy, and one of Murphy's significant collaborators). Newcomb experienced considerable personal growth as a result of membership in a living community in which students interacted with each other with regard to class work, reading and life experiences. This experience shaped Newcomb's ideas about what education should be, and influenced much of his later work.

After finishing his degree Newcomb bounced around a bit, a year at Lehigh and two at Western Reserve's Cleveland campus. Eventually in 1933, he accepted a position at Bennington College in

Vermont. Here he developed his first research program. This program conducted entirely with undergraduate assistance produced the famous Bennington studies. These classic studies established, among other things, the manner in which students' attitudes changed during the college years as a function of the students' reference groups and peer group influences.

In the fall of 1941 Newcomb was recruited to the University of Michigan by Robert Cooley Angell, chairman of the sociology department. He had barely unpacked when the bombing of Pearl Harbor drew him to wartime work in Washington, DC at the age of 38. From 1941 through 1943 he served as the head of the Analysis Division of the Foreign Broadcast Intelligence Service, analyzing and interpreting, through content analysis, enemy radio broadcasts. But it was in his last 18 months of service, from 1944 into 1945, that Newcomb was brought into contact with a number of people who would become significant colleagues back at Michigan after the war.

First, he moved into the Division of Program Surveys of the Bureau of Agricultural Economics, headed by his old friend from Union Theological Seminary, Rensis Likert. Likert's group included Dorwin Cartwright, Angus Campbell and George Katona. It was here that Newcomb received his first lessons in survey research. From there he moved to the Office of Strategic Services (the forerunner of the CIA) to help assess candidates for "special" (secret) service overseas. It was here that he worked with James G. Miller, Urie Bronfenbrenner and Donald Fiske. Finally, he joined the Morale Division of the U.S. Strategic Bombing Survey, which was also headed by Rensis Likert, in order to assay the effects on civilian morale of the Allied bombing of German cities. This group included among others, Dan Katz and Helen Peak both of whom would also join Newcomb at Michigan after the war.

In late 1945 Newcomb returned to the University of Michigan where he encountered Donald Marquis and his invitation to join the psychology department. The first result of this new "joint appointment" of Ted Newcomb was the establishment of a new joint doctoral program in social

psychology. This program was to be conducted cooperatively by both the psychology and sociology departments with Newcomb as the director. The second result was the recruitment to the University of Michigan of Rensis Likert's survey research group from the government, and the recruitment of Dorwin Cartwright's Research Center for Group Dynamics from MIT. These organizations would eventually be combined into the Institute for Social Research. These topics will be dealt with later in the chapter.

Throughout the 1940s, 50s and 60s, Newcomb's stature continued to grow. He continued to publish important research reports and books. The first reports of the Bennington studies were published in 1943, and the 25-year longitudinal follow up appeared in 1967. His books and textbooks were often considered landmark publications: *Experimental Social Psychology* (1938, with Gardner & Lois Murphy); *Personality and Social Change* (1943); *The Acquaintance Process* (1961); *Social Psychology: the Study of Human Interaction* (1965, with R. Turner & P. Converse). His numerous awards included Fulbright and Guggenheim fellowships; Fellow of the Center for Advanced Studies; Fellow of the American Academy of Arts and Sciences. He was awarded the Kurt Lewin Award and the APA Gold Medal. He was elected to the National Academy of Sciences, and elected President of APA.

His citation for the APA Gold Medal clearly described his position with regard to the history of psychology:

"For his leadership in social psychology which, under his impact, grew from an insignificant subarea of psychology into a field of major importance. Through his diverse contributions he enriched our theoretical and empirical understanding of man's interaction with the social environment. He opened up new fields of inquiry and fostered novel approaches to the study of the relationship of personality and culture. His work led the way to a greater interdisciplinary involvement of social psychology, especially with sociology and anthropology, not only on the conceptual level, but also in the application of interdisciplinary conceptions to pressing social problems." (American Psychological Association, 1977)

No account of Newcomb's life would be complete, however, without a description of his lifelong commitment to social activism and social issues. His activism began early and continued throughout his

life. As the commencement speaker at his Ohio high school in 1920, he shocked some of his listeners with a speech about the injustice of the New York State Legislature evicting two properly elected representatives because they were socialists.

He was a charter member of the Society for the Psychological Study of Social Issues (SPSSI). While at Bennington he was involved with union organizing both on campus and in the community. He briefly was a member of the socialist party in the 1930s.

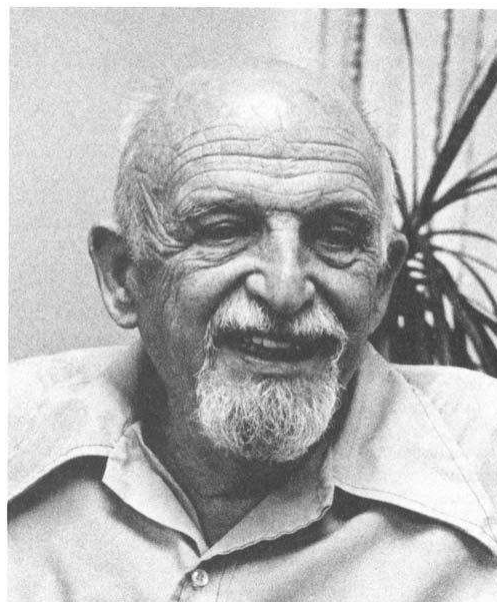
But at Michigan his exceptional social conscience showed itself in response to one of the darkest episodes in the history of the University: In 1954 the University of Michigan fired two professors, H. Chandler Davis and Mark Nickerson, and suspended Professor Clement Markert for refusing to testify before members of the House Un-American Activities Committee about their alleged Communist sympathies. Later when President Hatcher came before the faculty senate to justify his actions, Ted Newcomb was the only faculty member who “took the floor with a calm but forceful challenge to both HUAC and the administration on the fundamentals of academic freedom. It was a matter of widespread embarrassment to many sympathetic colleagues that Ted alone had stood up to be counted on the issue” (Converse, 1994). Ted undertook his stand despite the fact that he himself had come under HUAC suspicion because of his political activities during the 1930s.

E. Lowell Kelly (1905-1986)

E. Lowell Kelly came to Michigan from Purdue University after the war. But to recruit Kelly to Michigan, Marquis had to pull some strings. The strings he had to pull were Kelly’s own. Bill McKeachie relates the following story: “Lowell Kelly, for example, was considering offers from several major universities after WWII, when Don invited him to come to Michigan. And as they began discussing the

details, Don said, 'Now I'm sorry, but I only have money for half your salary. Do you think you could find the other half somewhere?' And Lowell did." (Sears, 1973).

This strategy would become the hallmark of Marquis' entrepreneurial technique. He would acquire personnel for the department, and develop programs to expand the department, by utilizing joint appointments with other departments at the university, or paying for staff positions with "soft", research money from outside the university's general fund budget. This strategy would remain a mainstay of department's growth for many years to come and would be adopted by many future department chairpersons.



Although he was a pioneer in establishing the new clinical psychology as a therapeutic profession, Lowell Kelly was a clinical psychologist of the old school (Kelly, 1980). He received his PhD in 1930 from Stanford where he studied with Louis Terman and where he learned testing, measurement and assessment. At the time, Donald Marquis was a younger graduate student also working with Terman. As a post-doc he went to Europe to study psychoanalysis. He returned to America to the University of Connecticut from 1933 to 1939, eventually becoming the chairman of the department. In 1939 he moved to his alma mater, Purdue, where he remained until requesting a reserve commission in the Navy at age 37 after Pearl Harbor.

Kelly began his war career in the Navy as an aviation psychologist and was responsible for much of the national (and international) standardization of many aspects of flight instruction. In his three years of service he progressed through a series of administrative positions at Pensacola and

Washington, rising to the rank of Commander. Near the end of the war he was assigned to the Office of Naval Research. At the time, ONR was beginning to plan for its post-war sponsorship of unclassified research in university settings. Kelly was placed in the position of supervising the awarding of grants in the social sciences to university programs, which was a new research endeavor for ONR. Although no specific reference source has been found by the present author, because of the historical timing, it is conceivable that Kelly was involved in the ONR contracts that were granted to Kurt Lewin that helped to establish the Research Center for Group Dynamics at MIT immediately after the war.

During this phase of his ONR work, Kelly also became a significant liaison between ONR and the United States Senate. In this capacity, he helped to shape the legislation that brought the National Science Foundation into existence, particularly with regard to the inclusion of psychology in the Foundation's structure. His expertise as a social scientist seemed also to be greatly needed: At one point during a Senate hearing he was questioned by a Senator about the difference between social science and socialism! (Fiske, 1987). Kelly gained significant experience during this time in learning the ropes around Washington, with regard to both the legislative and research funding processes: skills that were later to benefit Michigan greatly.

As noted earlier (and not surprisingly), another person heavily involved in establishing the priorities for the legislation that founded the NSF was one Donald Marquis.

After the war Kelly returned briefly to his alma mater, Purdue, before moving to Michigan in 1946. He was attracted to Michigan by the prospect of working with Marquis in the endeavor to build the department at Michigan. During Marquis' tenure, Kelly served as a de facto associate chairman: He ran the internal day-to-day operation of the department, freeing Marquis to engage in his entrepreneurial activities both within the university and on the national scene (Kelly, 1980). When Marquis suddenly left Michigan in 1957, Kelly became the acting department chairman and then served

as chairman from 1958 to 1961. In 1959 as department chairman, Kelly established the area structure of the department that still serves as the backbone of the department's administrative organization today. Kelly gave up the department chairmanship in 1961 to become the head of the Selection Division of the newly established Peace Corps in the Kennedy administration.

Kelly's career at Michigan personified the Marquis style of faculty appointment. While his appointment always said "Professor of Psychology", for much of his career it was split in a variety of ways, including many years as Director of the Institute of Human Adjustment, and as Branch Chief Psychologist for the Veterans Administration.

Kelly had extensive involvement with the American Psychological Association, including election as President of APA in 1955. He also served as President of the Divisions of Clinical Psychology and of Consulting Psychology, as well as serving on the APA Board of Directors for six years. He also was elected President of the Michigan Psychological Association. He retired from Michigan in 1974.

Kelly has been credited as one of the people who, at the end of the war, developed the idea of redefining the field of clinical psychology by expanding it into the area of patient treatment. (Dawes, 1994). Kelly influenced this development of clinical psychology in many ways. In 1946 he became a member of the APA Executive Committee on Training in Clinical Psychology (i.e., the Shakow committee). He was one of prime lobbyists to the Veteran's Administration for the establishment of a large scale training program for the necessary expansion of the field of clinical psychology. He was the Executive Director for the important "Boulder Conference" that established the "scientist-practitioner" model for the training of clinical psychologists. Finally, on a national level he became the person to evaluate the selection and admission procedures used by the various institutions that became the recipients of VA Training Grants. (American Psychological Association, 1988).

Lowell Kelly was one of the most honored and revered psychologists in the department's history. During his long career at Michigan, Lowell Kelly became a beloved mentor to scores of graduate students, chairing over forty doctoral committees. He was awarded the APA Gold Medal in 1986.

Clinical Psychology

Early Development of the Clinical Program

Building a training program in clinical psychology was clearly one of Marquis' first priorities once he got to Michigan. But building a clinical program at Michigan did not lie outside the scope of the national revamping that clinical psychology underwent as a result of the aftermath of World War II. Further, the story about Michigan's expansion of clinical psychology must be told against that backdrop, both to set the historical context, and to relate the significant roles that were played by future Michigan faculty members.

Before World War II, clinical psychology hardly existed as an academic specialty. To be sure, there was always some interest in two important clinical areas: abnormal psychology and the assessment of mental abilities. In this regard, the pre-war Michigan department was fairly typical of academic programs. Walter Pillsbury had begun teaching a course in abnormal psychology right after the turn of the century, and continued to teach it for many years. Its title was "The Psychology of the Abnormal and the Occult". He included in the course by way of description some varieties of psychopathology. However, his main goal in the course was to show how "the more important facts of mental derangement... throw light upon principles of general psychology." (Raphelson, 1968a).

Pre-war clinical psychology had strong links with the psychology of adjustment and mental testing. Clinical psychologists of that era "examined" patients largely by means of giving them batteries

of psychological tests (including by the 1930s and 40s, Rorschach, TAT and MMPI tests), and interpreting some of the results to a degree that might lead to diagnosis. Treatment and therapy, however, remained largely the realm of psychiatrists, trained as physicians with MD degrees.

During the Pillsbury years Michigan had a psychological clinic. The organization, administration and function of this clinic provide insight into how clinical psychology was defined in its day, and its relation to academic psychology on one side, and psychiatry on the other. The Michigan Psychological Clinic began as an adjunct to the Institute for Adjustment. It was established by Charles Griffitts in 1937. (Raphelson, 1968b). The Institute for Adjustment had begun the year before, and was administered directly through the graduate school with a grant from the Rackham Fund. It had no connection to the psychology department. Its focus was largely on physical rehabilitation, vocational training and speech pathology. Griffitts had begun working with the Speech Clinic to supplement its diagnostic services. After a year, he went directly to the Dean of Rackham, with whom he had a personal relationship, to propose a psychological clinic. It was founded in January, 1937. Again, it was directly administered by the Dean of the Graduate School, with no connection to the psychology department, other than Griffitts' participation. Eventually the Clinic became increasingly involved with what might be described today as school and counseling psychology: the educational assessment of school children, and the diagnosis of learning difficulties and disabilities.

The Michigan Psychological Clinic was similar to most of the psychological clinics in the country before the war, including the very first university clinic, founded at the University of Pennsylvania in 1896 by Lightner Witmer. (Hergenhahn, 2009). Witmer's clinic at Penn is often acknowledged as one of the founding markers for clinical psychology in much the same way that Wundt's laboratory is noted with regard to the founding of experimental psychology. It was the work done in Witmer's clinic that gave "clinical" psychology its name.

Some of Griffitts' early work as a faculty member in the psychology department had been in vocational psychology, and he even published a book on the topic. This applied field, though, had little standing in academic psychology, and Griffitts' involvement with it alienated him intellectually to some extent from the rest of the faculty. Griffitts' alienation was further accentuated by the fact that he had established his Clinic administratively by going directly to the Dean of Rackham rather than working within the psychology department. However, it probably never occurred to Griffitts to do otherwise: It was just reflective of the separation of academic psychology and clinical psychology during this era.

Clinical psychology was largely a non-academic profession. To be sure, many psychologists who trained at universities availed themselves of clinical experience. University clinics, including Michigan's, provided them with this opportunity. Michigan even offered masters degree level training in clinical psychology. But clinical training was largely done outside of the student's academic pursuits. Gaining clinical experience afforded the student the possibility of employment after graduation outside of and supplementary to academic employment. Given the low level of academic salaries, many professors supplemented their salaries in this fashion. This employment also was an important advantage during the Depression. However, most clinical psychologists of this era worked outside of the context of university settings. All of this was about to change dramatically as a result of the Second World War.

Clinical Psychology and the Veterans Administration

The veterans returning from the war created enormous problems for the Veterans Administration (VA). These problems included the care and treatment of psychological difficulties that resulted from the war experience. Even before the war, the VA had contended for years with a shortage of psychiatrists, who were the only professionals charged with the treatment of psychological problems. In 1940 the American Psychiatric Association had a total membership of less than 2400. The war

exacerbated the shortage to crisis proportions: Of the first 1.5 million soldiers discharged during the war for medical reasons, 675,000 (45%) were discharged for psychological disabilities. By early 1946, sixty percent (44,000) of the 74,000 patients being treated as inpatients in the VA hospitals were classified as neuropsychiatric patients (Vandenbos, Cummings, & DeLeon, 1992). Because of these conditions, many psychologists had been pressed into service to supply counseling and therapy. (Hutt & Milton, 1947). Spurred by these needs, pressure increased to convert the clinical specialty within psychology into a treatment providing profession. A number of consultants to the VA, including E. Lowell Kelly, were critical to the development of its policy to allow properly trained clinical psychologists to engage in treatment and therapy. (Dawes, 1994).

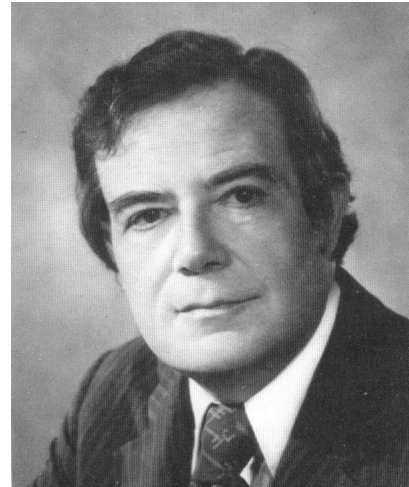
The wartime merger of the AAAP and the APA also aided this conversion of clinical psychology. In 1945, a report from the Committee on Training of Clinical Psychologists of the APA (which now included the clinical division of the old AAAP) provided guidelines for training clinical psychologists within the framework of academic psychology departments. Known as the Shakow Report (after David Shakow who chaired the committee), it devised a four year graduate curriculum that included a grounding in general psychology and research methods; clinical training and internship; and a research based doctoral dissertation. The idea was to produce clinicians who would be “scientists-practitioners”, with foundations in both scientific research and clinical practice. E. Lowell Kelly was a prominent member of this important committee.

The spur for the acceptance of this model by psychology departments that previously had been entirely academic in their orientation, was training money provided by the VA for supporting graduate students, and the promise of jobs within the system of VA hospitals after they acquired their degrees.

The role played by the VA in the development of modern clinical psychology as a treatment oriented profession cannot be overstated. It provided the impetus through its critical need to care for

and treat returning veterans. It supplied the marketplace for the employment of clinical psychologists through the VA Hospitals. And it supplied much of the initial funding for the training of the “new” clinical psychologists. As already noted, one of Michigan’s new faculty members, Lowell Kelly played a significant role. But, a second future Michigan faculty member, James Grier Miller, was essential to establishing and developing the program within the VA.

Public Law 293 signed by President Truman in January, 1946 established the Department of Medicine and Surgery within the VA. James Grier Miller (1916-2002), who obtained both PhD (in psychology) and MD degrees from Harvard University, was named to be the Chief of the Division of Clinical Psychology within this department. Although he was only the Chief of the program for 18 months, his defining impact on the program and within the profession of clinical psychology is almost incalculable.



The legislation that established the Department of Medicine and Surgery within the VA also established a new training program of physician residency in conjunction with the nation’s medical schools. The legislation did not provide for a training program in clinical psychology. However, the legislation also removed the requirement that the hiring and employment of personnel within the VA be conducted through the Civil Service Commission. Such hiring was now placed directly under the administration of the VA.

Miller discovered that these hiring provisions provided a “loophole” that allowed for the employment of temporary, part-time staff within the VA. Miller realized that he could use this “loophole” to create a clinical psychology training program by hiring graduate students in clinical psychology as temporary, part-time employees of the VA. The work assignment of these “employees”

would be to receive training as treatment-oriented, clinical psychologists in graduate programs of the type defined by the Shakow Report. This training would then qualify the clinical psychologists to function in the context of treating patients within the VA hospitals. Thus, Miller had invented a “training program” for clinical psychologists, where the trainees were actually employees of the VA. (Moore, 1992).

In a seminal paper in the June, 1946 *American Psychologist*, Miller announced the new VA clinical psychology training program. In this article he provided the details defining the new program, and ultimately defining the new profession. This article can be thought of in many respects as the “birth announcement” of modern clinical psychology. And Miller explicitly noted the important and revolutionary role that the VA program was to play in the development of the new profession:

Since the Veterans Administration is the largest single employer of clinical psychologists at the present time, it has an important role to play in the establishment of standards in the profession which is struggling for group self-consciousness and recognition. At the suggestion of many advisors in psychiatry and psychology, the policy has been adopted of requiring of all appointees in the program this essential triad: adequate personality traits of judgment, clinical insight, tact, interest in people, motivation for psychological work, and professional attitude; sufficient experience of proper clinical type; and a thorough-going educational background. These principles have been translated into the following practical terms of qualifications for the various grades of psychologists, which are in general similar to those maintained by certain other government agencies. The minimum educational requirements for clinical psychologists are successful completion in a college or university of recognized standing of all requirements for a doctor's degree...

The advantages to the profession of clinical psychology as a whole in setting rigid standards are obvious, and they will redound to the advantage of each individual clinical psychologist... Clinical psychologists are receiving comparable responsibilities with psychiatrists, and if they are to retain the respect of their professional colleagues, they must maintain comparably high standards. Just as no one would expect a physician to practice without a medical degree, so clinical psychologists should not be expected to assume their full responsibilities without a doctor's degree in psychology. Moreover, it is essential that this training be not wholly academic, but that real experience be obtained in the clinical techniques which can be learned only in the doing. So a doctor's degree in psychology alone is by no means qualifying for these positions. (Miller, 1946) (p. 184-185).

Miller, as the Chief of the relevant section of the VA, was explicitly establishing a treatment role for clinical psychologists, and in many respects defining the new profession of clinical psychology. And even though there was still some acquiescence to the psychiatric profession, once the door was open, these too would erode:

The clinical psychologist will carry out individual or group therapy under direction of the responsible neuropsychiatrist. This means that the neuropsychiatrist will first review the case and decide whether it is the type of problem which may reasonably be handled by a clinical psychologist. If the case involves such fields as readjustment of habits; personality problems within the normal range; educational disabilities such as reading defects, speech impairments, or similar difficulties requiring re-education; or relatively minor psychoneurotic conditions without important somatic components, the patient may be referred to a clinical psychologist for individual or group treatment. The Chief Neuropsychiatrist will delegate such therapeutic duties only when he believes the individual clinical psychologist to be fully competent to carry them out. The clinical psychologist periodically at staff meetings or other times will report to the responsible neuropsychiatrist on the progress of the therapy and consult with him as to further measures to be taken. (Miller, 1946) (p. 184)

The goal of the training program was to supply the VA system with the large number of practitioners that the VA knew it would need. Miller noted that the total number of the positions needed by the VA exceeded the total of all the clinical psychologists in existence at the time. The expectation was that pre-doctoral students accepted as trainees would complete their doctorate in a certified graduate program, and then continue to work (with significant pay increase) for the VA as a practicing clinician. With regard to the training responsibilities, Miller established the cooperation of the VA program with existing academic graduate institutions. A candidate for a "traineeship" in a qualified graduate school under this new program was described as a potential employee of the VA:

A candidate for employment must have received a bachelor's degree from a recognized college or university. He must have taken a beginning course in psychology and at least one other course in the general field of clinical psychology, abnormal psychology, test construction, or statistics. He must also have taken at least one course each in general biology, in one other science, and in one social science. He may or may not have done graduate work in psychology. Under the program contemplated at present, individuals who have doctor's degrees in psychology will be accepted if they wish to change their field of specialization to clinical psychology, but the program of training outlined herein

is basically pre-doctoral. All candidates must sincerely intend to complete training for the doctorate in psychology and to remain in the field of clinical psychology. It will be expected that trainees who complete this program will continue to work for the V. A. and every effort will be made to encourage them to do so. Candidates are selected by the Department of Psychology of any university recognized by the American Psychological Association as qualified to give complete training in clinical psychology. Selections are made from applications that come to their attention, according to the established standards of that university. The number that they may select is limited only by the availability of teaching staff or clinical facilities. In general, universities have stated that they can accept between five and twenty such candidates at different levels of advancement. Two hundred positions will be authorized, which will be available at any of the four levels of advancement mentioned below. These positions will be apportioned to the various universities cooperating with the program according to the number of trainees which their facilities permit them to accept. The names of candidates who have been selected by the universities are then submitted to the Chief, Division of Clinical Psychology, Neuropsychiatric Service, Department of Medicine and Surgery, V. A. for approval and processing. When a name has been approved, the candidate will be hired by the V. A. and detailed to a V. A. hospital, mental hygiene clinic, or other station near the university of his choice. (Miller, 1946) (p.186)

The program proved to be a great success in solving the VA's needs and it produced a burgeoning profession of clinical psychology. In the first year 200 trainees were enrolled nationally. By 1950 the number of trainees expanded to 650 and remained at that level for the next sixteen years. By 1966 the VA reported that 72% of the clinical psychologists employed by the VA had been VA trainees (Ash, 1968).

In its first year twenty-two graduate programs were approved to receive VA trainees. Although no standard curriculum existed among the institutions, the selection of programs had been determined in conjunction with the APA Committee on Graduate and Professional Training. APA published a report listing graduate programs that would be capable of providing training of the type that the VA required. (Sears, 1946). Michigan was on this first list. This might be considered surprising, given that in 1945 Michigan had little by way of staff or facilities to match the VA's criteria. But, beginning with his tenure as Michigan's chairman, Marquis had established as one of his first priorities the development of such a program. Furthermore, Marquis' fingerprints were all over the developments in both the VA and APA.

In fact, in a footnote to the APA report on acceptable training facilities in clinical psychology, Sears gratefully acknowledges, by name, the assistance of Marquis in preparing the report.

In his first year at Michigan one of Marquis' appointments was Lowell Kelly, who had been a member of the "Shakow" Committee and one of the primary consultants to the VA. Further, because the VA anticipated much larger numbers of applicants to their program than they possibly could handle, Kelly and the University of Michigan had been selected by the VA to establish a research program to study the admissions criteria of candidates across the participating institutions. (Kelly, 1980).

In addition, Urie Bronfenbrenner came to Michigan as another member of Marquis' first group of new faculty. Just before coming to Michigan, Bronfenbrenner had been Miller's chief deputy in Washington at the Clinical Psychology Division of the VA. In 1947, Marquis also added Max Hutt to the clinical program. Hutt also came to Michigan from the VA, where he had been a Branch Chief in Clinical Psychology in New York. So, it should be of little surprise that Michigan would become a leader in establishing a VA training program.

And, as will be discussed later in this chapter, in 1955 the University established the Mental Health Research Institute, whose founding director would be none other than James Grier Miller.

Clinical Psychology at Michigan in the '40s and '50s

During Marquis' chairmanship the department expanded continuously. In the clinical area the expansion included a number of faculty members who remained members of the department for extended periods of time, and who attained prominence during the course of their career. But there were many others who did not have regular faculty appointments, and who made significant and important contributions to the research, teaching and training in the area. The clinical program depended much more than other areas in the department on adjunct and clinical instructors, who

provided the clinical training for the students. There were times in which the total personnel in the clinical program exceeded the total faculty for the rest of the department.

In addition the expansion included significant improvement in the psychological facilities that were essential for the training of clinical graduate students: the Counseling Services and the Psychological Clinic.

Enrollment records for particular areas in the department for the Marquis years are not available, since the explicit designation of the areas in the department was not established until 1959. But a sense of the growth of the program can be seen in the PhDs awarded in clinical psychology during Marquis' tenure. Table 1 shows the number of clinical PhDs in comparison to the total PhDs for the department. In the early 1950s clinical PhDs comprise between a third and half of the total granted degrees in the department. (Note: The VA training program PhDs would not begin to show up in Table 1 until 1950 and 1951.)

Table 1: Clinical PhDs during the Marquis Era

	Clinical PhDs	Total PhDs
1946	0	2
1947	0	1
1948	2	5
1949	1	8
1950	4	14
1951	10	24
1952	10	22
1953	13	27
1954	13	29
1955	7	27
1956	9	28
1957	6	18

The first three clinical area faculty members of the Marquis era were E. Lowell Kelly (who has already been profiled), Urie Bronfenbrenner and Max Hutt. All three came to Michigan with some previous involvement with the VA.

Urie Bronfenbrenner (1917-2005) was only at Michigan briefly, but he helped to establish the department, especially with regard to its VA credibility. He came to Michigan from a position as the

assistant chief clinical psychologist for research in the newly established VA Clinical Psychology Training Program in Washington, DC. Bronfenbrenner's immediate supervisor in this program was James Grier Miller.

Bronfenbrenner had received his PhD from Michigan in 1942 under the old regime. The day after he received his doctorate he was immediately inducted into the Army, where he was placed as a psychologist with the Air Corps. Later during the war he was attached to the Office of Strategic Services (OSS), evaluating personnel for special (secret) duty. At OSS, Bronfenbrenner served with both James G. Miller and Theodore Newcomb. These later war time placements would likely have been coordinated through the Office of Psychological Personnel (OPP), whose director at the time was Donald Marquis.

Bronfenbrenner left Michigan in 1948 for Cornell University where he remained for the rest of his career, becoming one of the legendary psychologists in the field of developmental psychology. The name of the Lifetime Award for Contributions to Developmental Psychology for APA Division for Developmental Psychology is the Bronfenbrenner Award.

With Kelly and Bronfenbrenner on board it is not surprising that Michigan became one of the first clinical training centers of the VA training program in its initial year of existence.

Max L. Hutt

Max L. Hutt (1908-1995) came to Michigan from New York City in 1947, where he had become Branch Chief for the VA. At the age of 38, he had returned to Columbia in 1946 for his post-war PhD, but he never completed it. Before and during the war he gained extensive clinical experience, including conducting therapy, both in the United States and Europe. After the war he documented the roles that clinical psychologists had played during the war, including therapy, in an important *American*

Psychologist article (Hutt & Milton, 1946). This report provided a significant rationale for James Miller to transform clinical psychology into a field in which clinicians could supply therapy.

Marquis contemplated a real need for the new clinical training program to have someone on the faculty with significant experience in training clinicians for conducting therapy. Max had that experience as well as connections to the VA. "Following World War II, he was considered to be one of the leading clinical psychologists in the nation and was hired by Don Marquis in 1946 to join the faculty in the Department of Psychology on central campus. As such he was among the first - if not THE first - clinically trained faculty member teaching clinical psychology... an outstanding and charismatic teacher and a "master" of psychodynamic psychotherapy." (Buchtel, 2010)



As a Michigan faculty member, Hutt published a number of influential books with regard to the development of tests for the diagnosis of a variety of psychological disorders. He also engaged in significant exploration of mental retardation. During the early years of the clinical program, Hutt played a major role in the training of clinical students. Of the first 37 students to complete a PhD in the new clinical program at Michigan, Hutt chaired twelve, even though he himself did not have a PhD.

Hutt was an exceedingly interesting character. As a clinician he worked extensively with the Bender-Gestalt and Rorschach tests, about which he published extensively. "He also believed he could diagnose many organic brain syndromes using the Bender-Gestalt and the Rorschach - in fact, he believed the Rorschach could do *anything*. He also had great faith in the ability of the Bender-Gestalt to diagnose brain damage." (Buchtel, 2010). After many productive years, Marquis became impatient with

regard to the fact that Hutt had not finished his own PhD. Marquis arranged for Hutt to take off a semester to return to Columbia, but he failed to finish his degree. Eventually his position was terminated and he resigned from the department. He continued at Michigan in the department of psychiatry and worked at the Neuropsychiatric Institute as well as consulting within the department of neurology. He left Michigan in the 1960s for the University of Detroit.

Currently the department of psychiatry presents an endowed annual lectureship in Hutt's name that is made possible by a generous endowment from Max Hutt for training activities that further research and theoretical exploration in clinical psychology. Several members of the psychology department have given this lecture, including Bill McKeachie, Frank Yates, Catherine Lord and Chris Peterson. It has been rumored that Hutt generated this bequest to the psychiatry department in order to spite the psychology department for dumping him, although Buchtel has noted that "on the other hand if he was going to give an endowment to the University, he certainly wouldn't give it to a department that pushed him out - so it could simply have been not an option rather than spiteful." (Buchtel, 2010)

In 1948 Edward Bordin (1913-1992) came to the University of Michigan from Washington State College. Bordin served as both a faculty member in the psychology department and as Director of the Counseling Division of the Bureau of Psychological Services, a position which he held for most of his career until his retirement in 1984. Bordin "developed a team to explore psychotherapeutic processes such as depth of interpretation, warmth, and free association in relation to patient and therapist characteristics. Bordin was among the first to formulate the concept of the therapeutic (or working) alliance, which has become a major theme of contemporary psychotherapy research." (Strupp & Howard, 1992). Galinsky (1995) described Bordin's role in the department:

Ed was an influential and vital member of the Department of Psychology at the University of Michigan and helped build its clinical program into one of the most highly regarded in the country. Simultaneously, he shaped the Counseling Center into a uniquely successful training, research, and student services center.

Ed was also prominent in APA circles serving as President of the Division of Counseling Psychology, Chairman of the Education and Training Board, member the Board of Professional Affairs, and Editor of the Journal of Counseling Psychology. He was awarded the Leona Tyler Career Contribution Award of the Division of Counseling Psychology of the APA in 1986.

Over the next several years, with a swelling group of clinical trainees, the clinical faculty grew both in terms of regular and adjunct faculty to handle increased teaching and training demands of the program. In 1949 Daniel Miller and Gerald Blum joined the clinical program and would become long term faculty members. Dan remained in the department until 1971 and Gerry until 1968.

Anna S. Elonen (1904-1982)

In 1951 Anna Elonen was one of the first two women to be recruited into the psychology department by Marquis. Helen Peak was the other woman Marquis recruited in personality and social psychology, and she will be covered later in the chapter. Like many others, Anna came into the department via a joint appointment. She had come to the University from the University of Chicago as an associate professor in psychiatry and pediatrics in the Medical School. Anna's clinical specialty consisted of working with normal and



disturbed handicapped children, particularly blind children. Her research consisted of developing assessment techniques, treatment protocols, and the development of training methods for working with

these children. Of particular importance were premature babies, who became blind as a result of post-natal treatment. These children later were often mistakenly assessed as being retarded, but Elonen was able to establish through assessment techniques that they were not. She recalled in an interview late in her life,

“Not much was known then about certain conditions,” she said. “They found that premature babies frequently became blind, but they didn’t know it was from too much oxygen. They didn’t get stimulation from their eyes, so their development was slowed. In addition, the average parent of a blind child was so frozen, it was hard for them to work with the child,” she said. Because she was one of the few who believed the children were not retarded, “I had to prove it.” (Schenably, 1981)

Anna was born a United States citizen in Finland. She was raised in Hancock, Michigan. She received her BA from Lawrence College in 1925, and an MA from Minnesota in 1927. After working for ten years as a “mental examiner” for the state of Minnesota, she returned to graduate school at the University of Chicago in 1937 from where she obtained her PhD, and was then retained on the faculty, eventually gaining responsibility for the “externship” program for the training of clinical psychologists. At Michigan, in addition to teaching in the psychology department, she had extensive treatment and training responsibilities with the Children’s Psychiatric Hospital, as well as a research appointment in the Institute for the Study of Mental Retardation.

Anna often returned to Finland. She was awarded two Fulbright Fellowships for the purpose of teaching and conducting research at the University of Jyväskylä, who awarded her an honorary degree in 1981 (Regents, 1972). (She is pictured above at the time of her award wearing the ceremonial Finnish academic hat, which corresponds to the academic cap in the United States.) Anna remained at Michigan until retiring in 1972. The Finnish Psychological Association established a foundation and scholarship in her name. The Anna S. Elonen Foundation has supported numerous research grants for Finnish students.

Marquis recruited Frederick Wyatt (1911-1993) in 1952 to join the clinical program as the Director of the Psychological Clinic. Wyatt built the Clinic extensively with an orientation toward psychoanalytical therapy. Wyatt was a Viennese psychoanalyst of the stereotypical image. He was trained in psychoanalysis at the University of Vienna, receiving his PhD in 1936. He came to America in 1939 to find refuge from the Nazis. He came to Michigan from the position of Chief Psychologist at the prestigious MacLean Hospital in Belmont, Massachusetts. According to Adelson (1995), "The clinic soon achieved a reputation as the nation's best training agency of this type... attracting brilliant students who chose Michigan precisely for the therapeutic-intellectual identity that the Clinic and Wyatt provided."

By 1957 when Marquis left Michigan, he had hired 15 regular faculty members in clinical psychology, in addition to numerous adjunct and associate faculty, many of whom remained in the department for many years. Among them were Elton McNeil and Richard Cutler who came in 1955 and who together for many years ran the Fresh Air Camp. McNeil died suddenly in 1974, and Cutler moved into the University's central administration until his retirement in 1971. The last clinical members recruited by Marquis in 1957 were Edward Thomas and Joseph Adelson. Thomas retired in 1994 and Adelson in 1997, both after long and distinguished careers.

The Boulder Conference

One of the other defining events in the development of the modern profession of clinical psychology was the conference that was held at the University of Colorado in August, 1949. The conference was sponsored by a grant from the N.I.M.H. to the APA and coordinated through the APA Committee on Training in Clinical Psychology (Kelly, 1980).

The “Boulder Conference”, as it became known, was convened “to examine the then present methods of training psychologists for clinical work, to assess the current and future needs for psychological services, and to recommend a model, if possible, that would offer some level of standardization for how clinical psychologists were trained across diverse psychology departments” (Benjamin & Baker, 2000). The “Boulder Model” established the “scientist-practitioner” model for clinical training that “was ideally designed to balance... the three primary forms of expertise that any clinical psychologist should have – they should be experts in the diagnosis of mental disorders, they should be skilled psychotherapists and they should be able to complete high quality research” (Goodwin, 2008).

Seventy-one participants were invited, including representatives of 41 of the 42 universities that by that time had received APA approval of some kind (or another) for their clinical training program. Additionally, field supervisors from installations in VA hospitals, state hospitals, community agencies and medical school clinics were also asked to participate.

The Michigan department had a considerable presence at this conference, which helped to create the blueprint for the expanding profession of clinical psychology. Lowell Kelly was the Executive Director of the conference. Michigan faculty members Ed Bordin and Max Hutt were also participants. In addition, among the participants present was James Grier Miller, the major architect of the VA training program, who by then was the chairman of the department of psychology at the University of Chicago. A few years later he also joined the Michigan department.

By the end of his tenure at Michigan in 1957, Donald Marquis had established one of the largest and most important clinical programs in the country. It had a rigorous program for conducting its training, with nationally recognized facilities in terms of the Psychological Clinic and Counseling Services.

By 1957 it was training significant numbers of clinicians under the supervision of a large and highly regarded faculty.

Social Psychology

When Marquis arrived at Michigan in 1945, the psychology department had almost no representation in the field of social psychology. This was not unusual, since throughout the history of academic psychology, social psychology was not a particularly well defined subfield of the discipline. Twelve years later when Marquis departed, Michigan had the largest and most dominant social psychology program in the country, and one of the largest and most eminent social science research centers in the world. The new Joint PhD Program in Social Psychology (created in cooperation with the sociology department) was turning out PhDs at a rate that could only be matched by the largest departments in the University. Further, on the national scene social psychology had become one of the core subfields of academic psychology, with Michigan as the main purveyor of its development.

This transformation of social psychology at Michigan represents a stunning achievement in academic entrepreneurship. It entails the recruitment to Michigan of both the Division of Program Surveys from the U.S. Department of Agriculture, and the Research Center for Group Dynamics from MIT. These programs would be merged into the Institute for Social Research, which would become the largest social science research institution in the world. The transformation also entails the establishment of the Joint PhD Program in Social Psychology by the departments of psychology and sociology.

Donald Marquis, of course, played a significant role in this development. At the center of the story also stands Theodore Newcomb, who in many respects was the most significant part of the story. However, Newcomb's presence at Michigan was not the work of Donald Marquis. Newcomb was

already at Michigan, as a professor in the sociology department, when Marquis arrived. Marquis' "achievement" in this regard was merely to extend to Newcomb an invitation to join the psychology department.

The credit for recruiting Newcomb to Michigan belongs to Robert Cooley Angell (1899-1984). Angell was never a member of the psychology department, but his contribution to the history of the department is significant. Angell was the chairman of the sociology department when Marquis arrived. But, his foresight about the significance of social psychology both to sociology and psychology, his administrative leadership, and his cooperation in conjunction with Marquis' entrepreneurial genius was as important to the development of the psychology department as any other individual.

Robert Cooley Angell was a long standing fixture at the University of Michigan. He received his undergraduate (1921) and graduate (1924) degrees from Michigan, studying sociology under the guidance of his uncle, the esteemed sociologist and social psychologist, Charles Horton Cooley. Named an instructor in 1922, Angell stayed on continuously as a faculty member until his retirement in 1969. At the time he started as a faculty member, his appointment was in



the economics department because that was where sociology was taught. Sociology became a free standing department in 1930, the same year that the psychology department gained its independence from the philosophy department. Angell served as chairman of sociology from 1940 until 1952.

In the late 1930s Ted Newcomb had begun to emerge as a significant figure in social psychology. He had taught for seven years, and built a successful research program, at Bennington College. However, he was hungry for the chance to teach graduate students at a major institution. His

opportunity arrived in an unusual way when Angell approached him with the chance to move to Michigan in 1941. It was uncommon for sociology departments at that time to offer positions to social psychologists. However, Michigan's sociology department had a long history with regard to social psychology because of the work of Charles Horton Cooley, who was a pioneer in social psychology, and whose work Newcomb had long admired.

Because of the sociology department's reputation with regard to social psychology, Newcomb jumped at the chance to accept Angell's offer. It was certainly not because of the reputation of the psychology department. Newcomb noted in his autobiography that, "The psychology department then had little interest in the subject (social psychology), and I believe this was particularly true of Professor W. B. Pillsbury, its long-time chairman." On arriving at Michigan Newcomb was warmly welcomed by Angell. The two men developed a strong and enduring friendship (Newcomb, 1974).

Newcomb had been in Ann Arbor for just one term when the bombing of Pearl Harbor led him to accept a job in the War Department in Washington, D.C. Four years later, in the fall of 1945 he returned to Michigan to find that things had changed significantly with regard to the psychology department. Pillsbury had retired and had been replaced by Donald Marquis. Newcomb's appointment in psychology occurred with the concurrence of Robert Angell, and the two departments agreed with Newcomb's proposal to establish between the two departments a joint PhD program in social psychology.

At the outset, the Joint Program in Social Psychology had limitations, not the least of which was personnel. Newcomb was the only social psychologist with an appointment in the psychology department, and the sociology department had few faculty members who associated themselves with the field of social psychology. This would soon change dramatically. Almost immediately Newcomb,

Angell and Marquis began negotiations with Rensis Likert to bring his group, the Program Survey Division of the U. S. Department of Agriculture to Ann Arbor.

The Creation of the Institute for Social Research

The Program Surveys Division of the USDA

In 1939 the Department of Agriculture established the Division of Program Surveys in order to assess farmers' attitudes about farm relief programs. The 36 year-old Rensis Likert was brought in to head the division. Likert had previously established a research team for the Life Insurance Agency Management Association, where he had conducted innovative, large-scale comparative studies of work organizations. With the outbreak of WWII the Program Surveys group, already firmly established, was strategically placed to aid the government with a variety of surveys about civilian attitudes. For example, within a week of Pearl Harbor, the group completed a survey and report to the government about civilian attitudes about the attack (Seashore & Katz, 1982).

The war brought on quick expansion of the division. From an original staff of twelve in 1939, it expanded to more than 200 employees by 1942 with funding of almost \$350,000 (the equivalent of \$4.5 million in 2010 dollars). (Capshew, 1999). It was now conducting research for a number of governmental agencies such as the Office of War Information and the Office of Facts and Figures of the Department of War.

The U.S. Strategic Bombing Survey

In November 1944, Likert was named head of the Morale Division of U.S. Strategic Bombing Survey. This extraordinary study was commissioned under order from the Secretary of War, pursuant to

a directive from President Roosevelt. The purpose of the survey, to be explicitly conducted by civilians, was to conduct a wide-ranging study of the effects of Allied bombing campaigns as a way defining “strategic” bombing missions for post-war planning. Among its directors were Wall Street financiers, Henry Alexander and Paul Nitze, who would later serve as Secretary of the Navy in the Johnson Administration. Its research directors included among others, economist John Kenneth Galbraith, geologist Fred Searls, Jr., aeronautical engineer Theodore Wright and psychologist Rensis Likert.

From 1943 through 1945 the Allied Command conducting the war in Europe decided on a strategy that they believed would hasten the end of the war. In addition to the bombing of strategic military and industrial targets, the strategy, endorsed particularly by the British, was to engage in massive, incendiary bombing of population centers of major German cities, such as Hamburg and Dresden. The belief was that such bombing would significantly reduce civilian morale to the point where the viability of the Nazi regime would collapse. The strategy was certainly controversial and many U.S. commanders, including General James Doolittle, objected vehemently, arguing that the strategy went beyond military efficacy, if not outright immoral. Nonetheless, the strategy was put into effect.

The results were devastating. Many German cities were laid to ruin. Hamburg was bombed for a week in July 1943 with incendiary devices that produced fire storms. More than 40,000 civilians were killed and hundreds of thousands were left homeless. The results at Dresden, which was bombed late in the war after the Germans were all but defeated, were worse: On the night of February 13-14, 1945 hundreds of aircraft dropped hundreds of tons of incendiary bombs on Dresden. The resulting fire storm spread over eight square miles with estimates of as many as 200,000 civilians killed (Levine, 1992).

Following the war the USSBS investigated and reported on all aspects of the strategies of the Allied Air Command and the use of air power. The Morale Division was created specifically to assess the effects of the bombing on the morale of the citizenry.

Likert brought with him to the Morale Division much of his staff from the Program Surveys Division. This group included many individuals who would ultimately end up with Likert at the University of Michigan: Angus Campbell, Charles Cannell, Dorwin Cartwright, George Katona, Daniel Katz and Leslie Kish. This staff was supplemented by a number of other noted psychologists including Otto Klineberg, Robert MacLeod, David Krech, Ted Newcomb and Helen Peak.

Immediately upon the German surrender in April 1945, the group set up headquarters in Darmstadt and Bad Nauheim. With over 130 employees, they sent fourteen teams into the field and conducted nearly 4000 interviews.

When the report of the USBSS was published in November 1945, *Time Magazine* covered it with a headline that read “Awesome and Frightful”, and referred to it as “the definitive source on man’s inhumanity to man, pre-atomic style”. As recently as February, 2008, the *Air Force Magazine* stated:

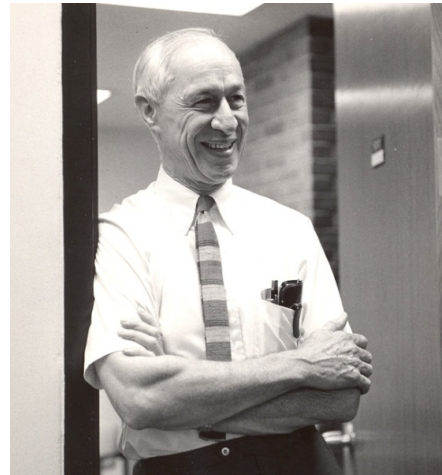
Few documents can boast its staying power. For more than 60 years, the USSBS has colored—some would say distorted—opinion about the efficacy of airpower and the value of the Air Force to the nation. Most major works about airpower reference the survey and its findings in one way or another. (Grant, 2008)

One finding that Likert’s group discovered, among many others, reported with rigorous, data-supported detail, was shocking to many, and to this day controversial: the extensive Allied bombing of German cities, at least until defeat was imminent, had surprisingly little effect on German civilian morale (U.S. Strategic Bombing Survey, Morale Division, 1947), (Levine, 1992). Given the moral questions raised by this strategy of area firebombing, the destruction of cities, and the loss of life, this conclusion has had great significance for U.S. military planning for many years, as well as for the general concept of warfare with regard to civilian populations.

Rensis Likert (1903-1981)

Rensis Likert, whose father was an engineer, began his undergraduate studies at the University of Michigan in civil engineering. However, in his junior year he encountered a young instructor who had just received his PhD in sociology, and who inspired Rensis to switch his major to sociology. The instructor's name was Robert Angell. Likert received his bachelor's degree in sociology in 1926. He then began his graduate studies at Union Theological Seminary where he became friends with a student from Cleveland, Ohio named Theodore Newcomb. So, it should not be surprising that twenty years later when Newcomb and Angell approached him with the prospect of moving to the University of Michigan, Likert found the idea congenial.

It was common practice for the Union Theological Seminary students to take courses at Columbia, which was right across the street. When several of his friends (Newcomb, Ernest Hilgard and Carl Rogers) transferred to Columbia, Likert soon transferred too. Like Newcomb, he found an inspiring mentor in Gardner Murphy, with whom he took his PhD in 1932. His dissertation contained within it a psychometric method for scaling attitudes that became known as Likert scaling and is still widely used today.



Likert was known as primarily a methodologist to many in psychology. The Likert scale techniques have already been noted, but he has also been credited with being “the chief architect of modern population survey methods” (Seashore and Katz, 1982). Among his credits along these lines are the development of a variety of open-ended, intensive interviewing techniques, and population

sampling procedures in which a large and diverse population can be sampled with great efficiency. Likert was eventually elected President of the American Statistical Association.

But Likert was also widely acclaimed for his theories of organizational psychology and management. While these areas were always significant aspects of his research, he published extensively about them only later in his career in three major works: *New Patterns of Management* (1961), *The Human Organization* (1967) and *New Ways of Managing Conflict* (1976, with Jean Gibson Likert).

These theories of organization and management were not merely academic abstractions to Rensis Likert. The third part of the legacy of his long and distinguished career, and the one of importance to the present story, takes the form of the administration of large, productive research organizations, in which he applied his ideas of participative management and organizational conflict resolution. He was the founding Director of the Institute of Social Research from 1949 until his retirement in 1970. Previously, he had founded and directed the Program Surveys Division of the USDA (from 1939 to 1947), which became the Survey Research Center on its transfer to Michigan; and before that, he founded and directed the research program within the Life Insurance Agency Management Association (from 1935 to 1938), in which he conducted his first large-scale studies of comparative work organizations.

Before moving on with the story of the development of ISR, it is instructive to provide those unfamiliar with the enterprise something of the size and scope of the institution that it has become. The Institute's Survey Research Center from its beginning was established to conduct national surveys. This entailed hundreds of interviewers spread across the country, in addition to sampling statisticians, content analyzers, administrative staff and facilities for processing data. By the time all of the founders (Likert, Campbell, Cannell, Katona, and Kish) retired in the early 1980s, ISR employed over 450 people

with an annual budget of over \$15 million. Today it supports the research of over 200 scientists from more than 20 disciplines with a budget of over \$80 million.

Through its first 20 years Rensis Likert's organizational vision, leadership and management significantly shaped the Institute for Social Research into the colossus that it is today.



The Survey Research Center

When the U.S. Strategic Bombing Survey completed its work in mid-1945 many of the psychologists from the team that Likert had assembled returned to their academic institutions. This included Theodore Newcomb, who returned to the University of Michigan with his new joint appointments in the psychology and sociology departments.

The group returning to the Program Surveys Division included Likert, Campbell, Cannell, Katona and Kish. This group decided that they would like to move as a group to a university setting and continue

to conduct the kind of large scale survey research that they had been doing for the government. The difficulty would be finding a university within which such a large enterprise could be absorbed. Feelers were sent out and some discussions were begun, and almost immediately the University of Michigan, led by Newcomb, Angell and Marquis, responded with enthusiasm. By early spring 1946 serious negotiations began.

Initially the University executive officers were, in Likert's words, "friendly but skeptical" (Cannell & Kahn, 1984). Through these discussions Likert's group and the University arrived at a unique and enduring agreement: Likert's group would now become the University of Michigan Survey Research Center. It would be housed at Michigan, and its founding members would be given research appointments. Those who would be teaching would also be given professorial titles in the appropriate departments. However, the Center was to impose no financial burden on the general funds of the university. Further, there would be no implications of university tenure with regard to the Center's employees: "In the event of cessation of funds from special sources... in the case of persons not previously employed by the University, both the service and the salary shall forthwith terminate regardless of the rank or title held" (Cannell & Kahn, 1984). The University, on the other hand, was willing to allow the Center to retain the overhead and indirect costs that the Center's grants and contracts generated so that the Center could maintain continuity of staff and research activities. Thus, the Survey Research Center was to become essentially a free-standing, self-supporting research institution under the umbrella of the University of Michigan.

Rensis Likert, Angus Campbell, Charles Cannell, George Katona and Leslie Kish moved to Ann Arbor in the fall of 1946. By 1949, when SRC merged with the Research Center for Group Dynamics, they had added Robert Kahn, Daniel Katz, Stephen Withey, John Lansing and James Morgan. All of these people had long and productive careers and remained at Michigan until their retirements.

Angus Campbell (1910-1980)

From 1946 until 1976 the only directors the Institute for Social Research knew were Rensis Likert and Angus Campbell. The Institute was fortunate throughout the first half of its history to have been led by two such prominent scientists, who were also talented administrators.

Campbell was born in Peru Indiana but grew up in Portland Oregon. He attended the University of Oregon where he received both BA and MA degrees. He received his doctorate at Stanford in 1936 where he worked with Ernest Hilgard, studying human conditioning. But Kurt Lewin's brief stay at Stanford in 1933 had drawn him toward social psychology. After graduate school he moved on to Northwestern where his interest in social science blossomed. In 1939 he received a Social Science Research Council fellowship in anthropology at Cambridge University in England. However, his studies at Cambridge were cut short with the outbreak of the war. He spent the rest of his fellowship in the Virgin Islands where he conducted field studies of the black population of St. Thomas (Coombs, 1987).



The war effort brought Campbell to Likert's group in survey research in 1942. By the end of the war he was Likert's major associate, both with regard to the application of survey methods to social issues and research administration. Campbell moved with the rest of the Likert group to Ann Arbor in 1946, where he commenced a research project on voting behavior, for which he is perhaps most well known. For example, in contrast to the commercial polls of the day, on the basis of SRC's national surveys Campbell and his associates refused to predict a victory for Dewey over Truman in the 1948 election. This continuing research on voting behavior led to many influential publications by Campbell

and his associates including *The People Elect a President* (1952), *Elections and the Political Order* (1966) and *The American Voter* (1960). According to Robert Kahn (Kahn, 1981), his book, *The American Voter* (1960) “is widely recognized as a seminal and transforming influence in political science”. The SRC study of voting behavior in presidential elections has continued until this day.

But Campbell had broad interests beyond the study of voting behavior. A long series of studies and books by Campbell and his colleagues presented comprehensive pictures of attitudes and values in America. This research was reflected in books like *The Quality of American Life*, *The Human Measurement of Social Change*, and Campbell's last book *The Sense of Well-Being in America: Recent Patterns and Trends*.

During his career Campbell was rewarded with the Distinguished Scientific Contribution Award from the APA, and he was elected to the National Academy of Sciences, among many other honors.

Charles Cannell (1913-2001) attended the University of New Hampshire as an undergraduate and obtained his PhD from Ohio State. He began working with Rensis Likert at the Program Surveys Division in 1939 and remained associated with the organization until his retirement from the University of Michigan in 1984. His most enduring influence on the field of survey research came from the study of the interview process itself on which the validity of surveys depended. His book with Robert Kahn, published in 1957, *The Dynamics of Interviewing* had significant effects on the theory and techniques of survey research. He was awarded a Lifetime Achievement Award from the Association for Public Opinion Research in 1999 (Page, 2001).

George Katona (1901-1982)

George Katona joined Likert's Program Surveys Division in 1942 in response to the government's worries about predicted post-war inflation. Immediately, he began developing surveys on economic behavior that would throw light on these economic questions. For example, Katona developed the War Bonds Redemption Survey that predicted that the public was unlikely to drive inflation after the war as the result of pent-up consumer demand. Coming to Michigan with Likert's group after the war, Katona was made the program director for the Economic Behavior Program within the new SRC, which was supported by contracts brought with them from

Washington from the Federal Reserve Board.

Katona supervised the national survey of consumer attitudes that was widely used by governmental agencies, business analysts and economists from 1946 until his retirement in 1971 (Frantilla, 1999). Katona received his PhD from Gottingen in 1921. He did post doctoral



work at Berlin, where he studied economics and Gestalt psychology. Coming to America as a result of the rise of Hitler in 1933, he spent several years as a Wall Street investment analyst before his work was interrupted by a three year bout with tuberculosis. During this period Katona also worked with Max Wertheimer, who had emigrated to the New School for Social Work in New York City.

George Katona was one of the true pioneers in the field of behavioral economics. The author of more than a dozen books about economic behavior, *The New York Times* referred to him as "the dean of behavioral economists". Harold Shapiro, economist and former President of both Michigan and Princeton stated that, "Katona's pioneering work blending the disciplines of economics and psychology

has left a lasting imprint on economic thinking". (Bird, 1981). This blending required "convincing psychologists to be interested in common behavior patterns of masses of average people, and convincing economists to be interested in behavior that was not assumed as a mechanical response to stimuli, but that resulted from problem solving that used past experience and learning to arrive at new insights." (Morgan, 1982).

His research led to several important books, such as *The Psychological Analysis of Economic Behavior* (1951), and *The Powerful Consumer* (1960). These books and others reformulated much of economic theory, especially with regard to the role of consumer attitudes in business cycles and periods of inflation.

Katona was awarded with the APA Distinguished Professional Contribution Award in 1977. He was also awarded numerous honorary degrees, including one from the Free University of Berlin on the day before he died. It has been rumored that just before his death he had been chosen to receive the Nobel Prize for Economics. However, the prize could not be made because of the prohibition by the Nobel Committee against posthumous awards.

Research Center for Group Dynamics

At the same time that Likert's group was contemplating moving into an academic setting in 1945, the great social psychology pioneer, Kurt Lewin, was founding the Research Center for Group Dynamics at the Massachusetts Institute of Technology. Lewin was a German colleague of Max Wertheimer and Kurt Kaffka at the University of Berlin early in the century. He came to America in 1933. He established a strong presence at the University of Iowa, beginning in 1935. Lewin was an inspirational mentor, and his research program attracted to Iowa a group of brilliant students and younger

colleagues. These included a number of individuals who would become important social psychologists: Leon Festinger, Ronald Lippitt, Dorwin Cartwright, Marian Radke and Alvin Zander.

Tensions existed at Iowa because Lewin was not a member of the regular faculty, but on the staff of the Child Welfare Research Station, a research facility connected to the university. When he was offered the chance after the war by MIT to realize his dream of creating a research center to study the dynamics of social groups, he took advantage of the opportunity. Lewin did this even though the environment at MIT, largely devoted to the development of natural science and technology, had not previously been overly conducive to social science research. At MIT, Lewin re-assembled much of the group he had at Iowa that had been scattered during the war: Cartwright had left during the war to work with Rensis Likert's Program Surveys Division; Lippitt had joined the U.S Public Health Service; and Festinger successfully avoided the draft by teaching statistics at the University of Rochester under the auspices of the Committee on Selection and Training of Aircraft Pilots (Patnoe, 1988).

The Research Center for Group Dynamics at MIT got off to an auspicious beginning. Lewin brought with him substantial research support totaling almost \$300,000 (over \$3.6 million in 2010 dollars), much of it from the Office of Naval Research. The first class of graduate students at MIT included, Kurt Back, Morton Deutsch, Harold Kelley, Albert Pepitone, Stanley Schachter, and John Thibaut, all of whom eventually became noted social psychologists and leaders in the field. The research program developed with the unique character of Lewin's research framework: It included rigorous scientific research and theory development led by Festinger; and extensive field and action research led by Lippitt. Although there was a natural tension between these approaches, Morton Deutsch noted that Lewin's "benign presence kept the tension under control." (quoted in Patnoe, 1988).

Unfortunately, what might have been a long-standing, innovative enterprise at MIT (Lewin was only 56 years old at the time) was struck a devastating blow when Lewin suddenly died of a heart attack

on February 11, 1947. Without Lewin as its director, the MIT administration decided almost immediately, in March 1947, that the Center would be terminated the following year. Faced with this prospect the staff of the Center designated Cartwright as Lewin's successor with a mission of finding an institution that might take on the entire Center as a group.

The obvious institution was the University of Michigan. The previous year Michigan had completed just this kind of transaction with the Likert's Program Surveys Division. Furthermore, two years earlier, Cartwright (along with Ted Newcomb) had been a member of Likert's group. So, it cannot be a surprise that Cartwright began negotiations with Newcomb, Likert and Marquis with regard to the prospect of moving the RCGD to Michigan.

In July 1947 Cartwright wrote to Likert telling him that RCGD had received feelers from James Grier Miller, who was about to become the new chairman of psychology at Chicago. Cornell, among others, also showed interest, but the RCGD group wanted to come to Michigan. He asked Likert to "sound out the administration" at Michigan. The Cornell offer was apparently in conjunction with their negotiations with Newcomb to become chairman of the Cornell sociology department. Newcomb had stipulated to Cornell that any move of this kind entailed recruiting RCGD, and even after Newcomb withdrew, Cornell continued to pursue the Cartwright group.

In August Newcomb wrote to Cartwright saying that he had turned down Cornell and was staying at Michigan. He also alerted Cartwright to the effect that "the administrative authorities think we have just about reached the point of over-extending ourselves in psychology. In short, we would have to be persuaded that you were extremely anxious to come here if we were to try to overcome this obstacle. If your eagerness is great enough, I think ours is too." (Cartwright, 1947).

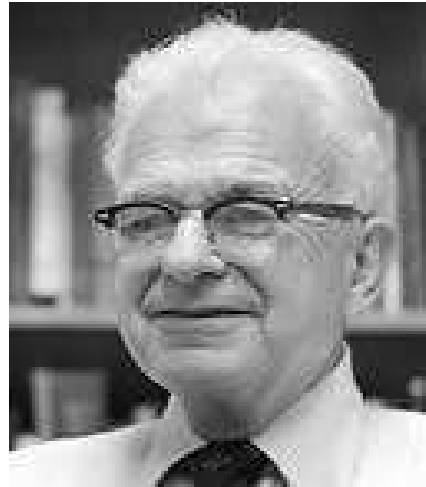
By December, Angell and Marquis asked for approval of the Social Science Division of the College of LS&A at Michigan to bring RCDG to Michigan. Marquis' proposal was to merge the RCGD with the Survey Research Center in an institute "probably" to be called "The Human Relations Research Center" (Marquis, 1947).

Marquis, who was now President Elect of APA, was noted for his persuasive proposals. In the present case he wrote to the faculty that Michigan had taken steps to establish itself "as one of the leading institutions for research and training in social psychology and human relations in the world... The creation of the PhD degree in social-psychology and the establishment of the SRC have made important contributions to the commanding position that Michigan now occupies." In the re-write of the proposal to the executive officers it was stated, "Michigan now has the resources of one of the major tools of the social sciences, survey research, and the addition of RCGD would supply the resources of the other major component too. The combined resources at Michigan would then be unique throughout the world." (Marquis, 1947). There were no dissenters to the Marquis proposal.

By the middle of 1948 all administrative hurdles had been cleared, and RCGD moved to Michigan under the same arrangements that SRC had. Its founding members at Michigan consisted of Doc Cartwright, Ronald Lippett, Leon Festinger and Jack French (who had replaced Lewin on the MIT staff). Marian Radke had decided to stay in the east, and Alvin Zander, who was already at Michigan, took her place. The Center brought with it approximately \$120,000 (\$1.2 million in 2010 dollars) in grants and contracts (largely from the Office of Naval Research).

Dorwin (Doc) Cartwright (1915-2008)

Dorwin (Doc) Cartwright was one of the founders of the field of group dynamics. He had been a student at Swarthmore College in the mid-1930s when Wolfgang Kohler joined the faculty and inspired Cartwright to pursue a career in psychology. Cartwright was accepted to graduate study at Harvard, and spent an uninspiring first year of graduate work there. Kohler then convinced him to spend a summer in Iowa working with Kurt Lewin. He returned to Harvard to complete



his PhD in 1940, and although E.G. Boring was the official sponsor of his thesis, it was based on work that he had started in Iowa with Lewin and continued when he returned to Harvard (Patnoe, 1988).

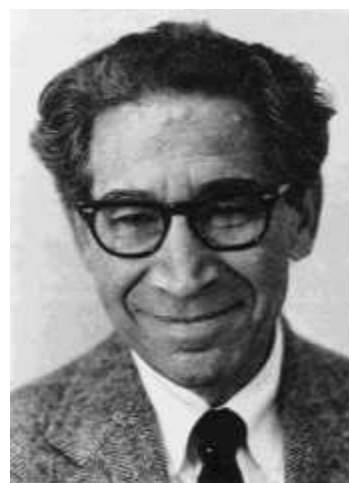
Following graduate school Cartwright moved back to Iowa for postdoctoral work with Lewin. There he encountered several members of the future RCGD: Leon Festinger, Alvin Zander and Ronald Lippitt. With the outbreak of WWII, he moved to Washington to join Rensis Likert's Program Surveys Division. At war's end, Cartwright joined the new group that Lewin had formed at MIT.

Cartwright's research was significant in the development of the formal representation of group dynamic theory using mathematical graph theory to analyze social networks. According to Burnstein, "This approach allowed social networks to be analyzed both as objective systems — who helps, talks to or beats up whom, for example — as well as psychological or cognitive systems — how people perceive or represent these objective systems in their heads." (Swanbrow, 2008).

As already noted, with the death of Lewin, Cartwright (who was only 31 years old at the time) became the head of the group and handled all of the negotiations for the move of RCGD to Michigan. He remained as the director of RCGD within ISR until 1959, and at Michigan for the next 31 years.

Leon Festinger (1919-1989) was only at Michigan for three years early in his career (1948 to 1951). However, because of the scope and importance of his career, and the role he played in the founding of ISR, Festinger's presence at Michigan is notable to the history of the psychology department. Zajonc has written with regard to his status in the history of psychology, "Festinger's is the first name that comes to mind in association with 'social psychology.' For Leon is to social psychology what Freud is to clinical psychology, and Piaget to developmental psychology." (Zajonc, 1990).

Festinger graduated from CCNY in 1939, having already produced publishable research as an undergraduate. He went to Iowa explicitly to work with Lewin, receiving his PhD in 1942. Except for two war years, Festinger was with Lewin at Iowa and MIT until Lewin's death in 1947. It is arguable that Festinger was the inventor of modern experimental social psychology, and several of his innovative "laboratory" experiments are among the most famous experiments in the history of psychology. But it is in the realm of



theory that his contributions have been most enduring: His theory of cognitive dissonance and his social comparison theory are among the staples of the discipline. Both theories were formulated with great generality and applicability to everyday life, but also with a degree of rigor to enable detailed empirical verification. He was a staunch advocate of the use of carefully designed and analyzed experiments in the service of arriving at testable predictions. His methodological proclivities were reflected in a classic text written with Dan Katz, *Research Methods in the Behavioral Sciences*.

Festinger's stress on scientific rigor led to inevitable tensions with the "action research" group at the RCGD, most notably with Ronald Lippitt. In Morton Deutsch's words, "the orientation of Leon

Festinger was much more of science. The orientation of Lippitt was much more 'change the world' and trying to do good – with a bow to science". (Patnoe, 1988). This tension undoubtedly contributed to Festinger's departure from Michigan in 1951. He moved first to Minnesota, then to Stanford in 1955, and finally to the New School for Social Research in 1968, where he remained until his death. He was awarded the APA Distinguished Scientific Contribution Award in 1959 and elected to the National Academy of Sciences in 1972.

Ronald Lippitt (1914-1986) became the personification of Lewin's action research. During his long career at Michigan he conducted or supervised research that focused on a variety of social problems. For example, these problems looked into the debilitating effects of poor social skills on children's learning in classroom groups; and the difficulties of cross-cultural communication. The goal of the "action" research was not only to understand the underlying sources of the problems, but also to suggest remedial action.

After graduating from college at Springfield (MA) College, Lippitt had spent a year studying with Piaget and thought he was going to be a developmental psychologist. However, upon arriving at Iowa's Child Welfare Station, he was assigned by chance to Lewin as an advisee. In interviewing him, Lewin discovered that before studying with Piaget, Lippitt had worked with social groups in college, and almost immediately the two began talking about possible experiments. For the next twelve years, except for the war years, Lewin and Lippitt continued their collaboration. Cartwright noted that, "This impact of Lippitt's cannot be overemphasized. His role was very important. Lippitt had a tremendous influence on Lewin to get him interested in groups specifically" (Patnoe, 1988).

Under Lewin's tutelage at Iowa, Lippitt "performed a series of elegantly designed experiments on the effects of democratic, autocratic, and laissez-faire leadership of boys' groups. The experimental study of group dynamics began here". (Gold, 1988). These studies formed that basis of Lippitt's doctoral thesis and are still considered classic.

Beginning in 1947, Lippitt was a founder of the National Training Laboratory in Group Development at Bethel, Maine, which provided opportunities for training professionals in constructive group leadership. He remained associated with NTL for the rest of his life.

As the research at RCGD became increasingly academic, Lippitt's social activism moved him to create within ISR a new research program, the Center for the Utilization of Scientific Knowledge, which endeavored to investigate the nature of the application of scientific research to the real world. He continued with CRUSK until his retirement in 1974. However, even in retirement he was still not done with his social activism. In retirement he established a non-profit consulting organization, Human Resources Development Associates, to bring social science to bear on social problems. HRDA became a valuable resource for literally thousands of individuals as well as private and public agencies.

Although he was always interested in social psychology and social problems, Alvin Zander (1913-1998) obtained his PhD from Michigan in 1942 in educational psychology because "there wasn't much social psychology taught in those days." (Patnoe, 1988). Just before finishing his degree, Zander visited Lewin at Iowa and was offered a job there. With the outbreak of the war, Zander joined the U.S. Public Health Service where he functioned as a clinical psychologist. After the war, Zander took a job at Springfield College in Massachusetts, where he was able to collaborate frequently with the members of the newly created RCGD at MIT. At this time he also founded (with Ronald Lippitt) the National Training

Laboratories in Bethel, Maine. Zander was about to join the MIT group when Lewin died, so instead accepted an offer from the University of Michigan School of Education. Of course, shortly thereafter the RCGD moved to Michigan, and Zander joined them. He succeeded Doc Cartwright as the director of RCGD in 1959 and continued in that role until his retirement in 1978. Zander was the author or co-author of a dozen books some of which are enduring classics that are still in print, such as *Motives and Goals in Groups* and *Making Groups Effective*.

On February 1, 1949 the Survey Research Center was officially merged with the Research Center for Group Dynamics to form a new organization: the Institute for Social Research. Rensis Likert was named its director, with Angus Campbell as director of SRC and Doc Cartwright as director of RCGD. As history has established, the projections made by Donald Marquis in his original proposals to the faculty and executive officers of the University to bring these organizations to Michigan have been more than borne out.

The Joint PhD Program in Social Psychology

With the addition of social psychologists to the department as a result of the creation of ISR, the Joint PhD Program in Social Psychology directed by Ted Newcomb was also in position to flourish. An obviously natural symbiotic relationship existed from the outset between the Joint Program and ISR: The Institute needed students to assist in conducting its research, and the graduate students needed the Institute for support and research training. Many of the faculty and research personnel associated with

ISR actively participated in the development of the Joint Program in Social Psychology, and added immeasurably to its reputation.

When the Joint Program began in 1946, many universities conducted doctoral programs in social psychology in both sociology and psychology departments. "Social psychology" had originated in both disciplines around the beginning of the twentieth century, and it was not unusual to find some degree of competition or even outright antagonism between departmental programs within an institution. Part of the foresight of Ted Newcomb in proposing an interdepartmental PhD program, was to avoid such antagonism. Newcomb's proposal was aided by the flexibility of Donald Marquis and Robert Angell to establish an administrative structure for such a program. The new program was given neither independent budgetary power nor power of appointment, thus it had to maintain a close dependence on both of its parent departments. However, Marquis and Angell granted it a significant degree of academic autonomy, an arrangement that generated a good deal of pride among those associated with the program (Newcomb, 1974).

With the SRC engaging in large-scale survey research, and RCGD conducting both pioneering experimental social research and field-style action research, the Joint Program became immediately attractive to potential students. A number of the MIT graduate students came to Ann Arbor with the RCGD, and several of them took their degrees at Michigan, including future luminaries Stanley Schachter and Albert Pepitone. Soon the program was attracting high quality students about equally from both sociology and psychology, most of whom had completed a year or more of graduate work before admission. Within five years the program was producing PhDs at a faster rate than all but a few of the largest departments within the University. All together, during its more than 20 years of existence from 1946 to 1968, 226 social psychologists were granted their PhD degrees from Michigan, many of whom achieved considerable national visibility during their careers.

While Ted Newcomb has been given much of the credit for the phenomenal success of the Joint Program, and deservedly so, there were many other people of significance in the early years that helped to cement the reputation that it garnered. One of these people, deserving of special mention, was Newcomb's long time friend and colleague, Daniel Katz.

Daniel Katz (1903-1998)

Dan Katz was second only to Ted Newcomb with regard to developing the Joint Program and establishing its early reputation. By the time Katz joined the psychology department in 1947, he was a national figure of great renown with regard to social psychology. He came to Michigan from Brooklyn College, where he had been the founding chairman. Although he was chairman there for only a short time, the department at Brooklyn became a significant program from which many notable people emerged. Before the war, Katz had been a notable faculty member at Princeton for fifteen years (1928-1943).



(From left: Dan Katz, Basil Willerman, Robert Kahn, Kermit Schooler, and Richard Snyder (standing)).

Katz's eventual move to Michigan, like so many others, developed out of his war experience. In 1943 he left Princeton to join Rensis Likert's Program Surveys Group. Shortly afterward, he was named Director of the Survey Division of the Office of War Information doing research similar to that of Likert's group. However, he rejoined Likert at the end of the war with the formation of the U.S. Strategic Bombing Survey, where he worked with eventual Michigan faculty, Likert, Campbell, and Cartwright. Ted Newcomb and Helen Peak had also become members of the USSBS team.

Dan Katz grew up in Buffalo, NY. He attended the University of Buffalo, graduating in 1925 majoring in history and sociology. At Buffalo he became engaged in a significant research program with the chairman of sociology, Niles Carpenter that led to a series of important publications. This research investigated the assimilation into the city of Buffalo of three generations of Poles, including Polish-born parents and their American-born children. It also studied the intergeneration tensions that developed. From Buffalo Katz went on to graduate study at Syracuse, where he became Floyd Allport's first PhD in 1928.

Upon graduation, Katz was immediately offered a position on the faculty at Princeton. There he authored (with Roger Schanck) an early, influential textbook, *Social Psychology* (1931). His most well known work from this period entailed a series of classic studies conducted with Kenneth Braly on the nature of prejudice and racial stereotyping. These studies assessed the attitudes held by undergraduate students about preferential rankings of ethnic groups, and the characteristics that the students attributed to the groups. However, since the subjects in the experiments (Princeton students) had little or no direct contact with the groups, the judgments reflected the characteristics of stereotyping. This research was reflective of Katz use of survey methods to gain quantitative measurement of attitudes.

An extension of this work on prejudice and stereotyping led Katz to study of the nature of the development of nationalism. Over many years this work on nationalism was reflected in a series of

important publications: *The Psychology of Nationalism* (1940), “Nationalism and strategies of international conflict resolution” (1965), and “A Comparative approach to the study of nationalism” (1969).

During the war Katz conducted extensive research on the morale and motivation of shipyard workers. In this pioneering research Katz developed research designs that enabled him to assess organizational variables across multiple organizations, and to compare self-reported survey data with independent measures obtained from employment records and direct observation.

Once he arrived at Michigan in 1947, Katz devoted himself both to the development of research programs at the Institute for Social Research with Rensis Likert, and to the development of the Joint Doctoral Program in Social Psychology with Ted Newcomb. He eventually had his full time appointment totally within the psychology department, even though he maintained his interests and research efforts at ISR. Early on at Michigan, he collaborated with Leon Festinger on the classic textbook, *Research Methods in the Behavioral Sciences* (1953), which became a mainstay for researchers in the field for many years. Katz also served as the editor of the key social psychological journal, *The Journal of Abnormal and Social Psychology* during its transition into the *Journal of Personality and Social Psychology* from 1962 to 1967.

Katz’s career led to numerous honors and awards. He was a Fellow at the Center for Advanced Study in the Behavioral Sciences and twice a Fulbright Scholar. He was elected to the American Academy of Arts and Sciences, and awarded the Lewin Award by SPSSI, which he also served as its President in 1950. He was awarded the APA Gold Medal in 1977.

But within the Psychology Department at Michigan Dan Katz was known as a truly beloved figure. Robert Kahn concluded his detailed obituary with the following passage:

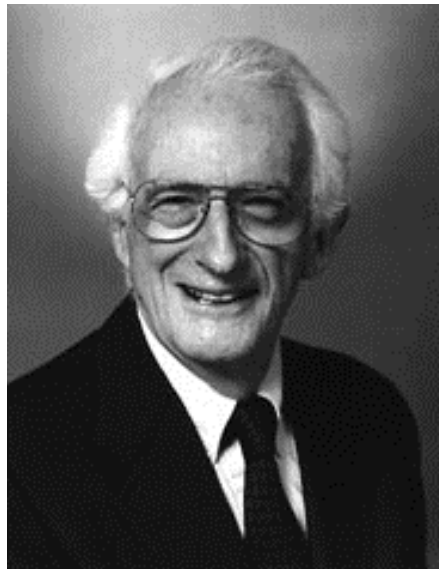
Academic biographies are notoriously impersonal, but accurate description of Katz's place in social science requires some mention of his personal qualities. Colleagues knew and students quickly recognized his absolute integrity, his commitment to the intellectual life, and his unfailing consideration for others. The example of high character may not be a requirement for scientific contribution, but it enriches those who encounter it. (Kahn, 2000).

As already noted, the Joint Doctoral Program was incredibly productive in terms of PhD students, many of whom became leaders in the field of social psychology. A number of these students stayed on at Michigan, and the psychology department benefited greatly by their important contributions. Several early participants in the Joint Doctoral Program are highlighted below.

Robert Kahn (1918 --)

Robert Kahn (1918 -) graduated from Michigan in 1939 with a major in English and a teaching certificate. After obtaining a Master's degree the following spring, he returned to Detroit, where he was born, and worked as a substitute teacher. In addition, he took a job interviewing people with regard to governmental surveys intended for the development of unemployment statistics. Besides supplementing his income and exposing the 22 year old English teacher to social science research, the job offered him advancement. It eventually led him to the position of the State Supervisor for the Michigan Employment Survey. With his success in this position, Kahn was recruited in 1942 to the Census Bureau in Washington D.C. to help with the national analysis of census data. He remained there throughout the war, eventually training tens of thousands of interviewers for the upcoming 1950 census. This work provided him with a solid, working knowledge of quantitative survey methods.

After the war Kahn decided to pursue a graduate degree in survey research and ended up back at Michigan at the newly established Survey Research Center. Even though Kahn did not have any undergraduate course work in psychology or sociology, Ted Newcomb accepted him into the Joint Doctoral Program in Social Psychology. Kahn received his PhD in 1952 and shortly afterward, he was named a program director within the SRC, a position he held until the early 1960s. In 1970 Kahn succeeded Angus Campbell as the Director of the SRC.



During his long career Kahn produced many significant publications, including a book published in his 80s on *Successful Aging* (1999, with John Rowe), for which he has been a remarkable role model. (Katterman, 1999). His extensive early field work led to an important methodological book with Charles Cannell, *The Dynamics of Interviewing*, (1957). Later, Kahn became one of the pioneers and leaders in the burgeoning field of organizational psychology. His major work in this regard, co-authored with Dan Katz, *The Social Psychology of Organizations*, became one of the field's seminal works. He applied this research to the realm of international problems, in which he extended the theories and ideas of organizational psychology to nations-states with the publication (with Mayer Zald) of *Organizations and Nation-States* (1990).

Another early student in the Joint Doctoral Program in Social Psychology was Stanley Seashore (1915-1999). Arriving at Michigan after the war to work at the new ISR, Seashore obtained his PhD in

1953, and becoming a faculty member, he remained until his retirement in 1987: serving during his long career as a professor of psychology, program director within SRC, and associate director of ISR.

Seashore came from a family of notable psychologists. His uncle, Carl Seashore, had been president of the APA in 1911. His brother, Harold, was founding director of the testing division of the Psychological Corporation. His cousin Robert Seashore was at one time chairman of psychology at Northwestern, and another cousin, Charles Seashore, was director of the National Training Laboratories. Finally, his sister Marjorie was a professor of social psychology at San Francisco State University.

Michigan's Seashore was instrumental in developing the program in organizational psychology at Michigan. On the national scene, Seashore "was prominent among those whose broadening view contributed to the transition of an individually oriented industrial psychology, with its emphasis on personnel selection and placement, and on problems of individual worker attitudes, into a more system-oriented and interdisciplinary psychology. This development was reflected in the name change of APA's Division 14, from Industrial Psychology to the Division of Industrial and Organizational Psychology. The expansion of the field is also visible in universities, where organizational psychology has become an important subject in schools of business, education, social work, and public health". (Kahn & Tannenbaum, 2005).

Roger Heyns (1918-1995)

Roger Heyns was another early product of the Joint Program. Although he had a successful career as an academic faculty member, Roger Heyns is clearly most well known for his career as a university administrator. As the Chancellor of University of California at Berkeley from 1965 to 1971 he guided that institution through one of the most tumultuous episodes in the history of higher education.

Time magazine described Berkeley of that era as “the original hotbed of U.S student activism” (Hevesi, 1995), and the Berkeley Academic Senate described the era in the following fashion:

In the Berkeley of 1965, a new chancellor faced a highly charged atmosphere. The daily life of the campus had been shaken and made increasingly divisive by issues of race and war, student protest, and political maneuvering. The University's ability to govern its own affairs was seriously challenged, on campus by political activists who defied University authority, and around the state by angry alumni, legislators, and regents who wanted to dictate how that authority should be asserted... For those who were not in the center of it, it remains difficult to describe the intensity and dangers of those times. (University of California Academic Senate, 1995)



Into this maelstrom strode Roger Heyns, fresh from his position as Vice President for Academic Affairs at the University of Michigan. To many at Berkeley, it was thought that Heyns literally saved the institution. Clark Kerr, who was the President of the University noted, “He came like a gift from heaven to leadership of the Berkeley campus. He was an ambassador of good will when so many others were expressing ill will.” (Hevesi, 1995). Again, the Berkeley Academic Senate noted:

The record of the Berkeley campus over the six years that Roger Heyns was Chancellor reflects the guidance of a remarkable administrator. Not only did he hold the campus together, he also changed its environment from one of confrontation and disrespect to one where academic norms were accepted. (University of California Academic Senate, 1995)

Growing up in Grand Rapids, Roger graduated from Calvin College in 1940. He received an MA from Michigan in 1942 before enlisting in the Army Air Force. Following the war he returned to Michigan to complete his graduate studies as one of the first PhDs in the new Joint Doctoral Program in Social Psychology in 1949. After a post-doc year at Harvard, he returned to the faculty at Michigan. As a social

psychologist he studied problem solving in groups, and the affiliative basis for human interaction, especially conformity behavior (Veroff & Mckeachie, 1997). He co-authored two books while at Michigan: *The Psychology of Personal Adjustment* (1957) and *An Anatomy for Conformity* (1962).

In 1957, Heyns was asked to become the Dean of the LS&A, the youngest person appointed to that position in the history of the college. Four years later he was appointed Vice President for Academic Affairs, where he served from 1962 to 1965. Although Vice President at Michigan for only a short time, some of his accomplishments are still with us: He created the Center for Research on Learning and Teaching, and was instrumental in the creation of the Residential College.

Then, he took on the Berkeley Chancellorship. Heyns' resignation at Berkeley in 1971 was thought to be partly due to fatigue. Years of battling a conservative Board of Regents, largely appointed by then Governor Ronald Reagan, had brought on health issues: he had suffered a heart attack the previous summer (Time Magazine, 1970). He accepted a return to the faculty at Michigan, but was almost immediately asked to become the president of the American Council on Education, a position he held for six years. Heyns then accepted the presidency of the William and Flora Hewlett Foundation. After two years of retirement he died of a heart attack in 1995.

Helen Peak (1900-1985)

One final member of the pioneering group of social psychologists that Donald Marquis brought to Michigan deserves special mention: Helen Peak.

Helen was the first woman faculty member in the history of the department with a regular, full-time professorial position. Earlier in the history of the department, Martha Colby had taught and

conducted research for many years (from 1922 to 1949), but she had never had a regular faculty appointment. This was partly due to the nepotism policies that had been traditionally followed within the University. In 1929 Martha married Prof. Walter Colby, a distinguished member of the physics department. Thus, from this time onward Martha was never considered for anything except part-time, adjunct appointments.

In the late 1940s, the Kellogg Foundation of Battle Creek indicated to the University a desire to establish an endowed chair at the University with the express condition to allocate the position specifically to a woman faculty member. Donald Marquis thought he knew the perfect candidate for the position and nominated Helen Peak. She had been the chair of the psychology department at Connecticut College, a small women's college in New London, Connecticut, since the end of the World War II.



With Marquis' persuasion, the Regents approved her appointment and Peak joined the faculty in 1950. Another entrepreneurial coup for Marquis: Peak became another esteemed faculty member without any budgetary obligation for the department.

Helen was born in 1900 and graduated from the University of Texas. She received an MA from Radcliffe College. As a graduate student at Radcliffe she encountered the typical sex discrimination of the era: among other insults, she was barred from taking William McDougall's graduate seminar at Harvard. Helen then enrolled at Yale, and received her PhD in 1931, the year before Donald Marquis received his degree. Later, she and Marquis often collaborated with regard to work within the American

Psychological Association. During her career she served APA in numerous capacities including the Board of Directors, the Policy and Planning Board and the Publications Board.

Although there was considerable difficulty for women to attain professional standing in the 1930s, after gaining her degree, Helen produced a solid research program at Randolph Macon Women's College. With an experimental background from Yale, Peak began her research in the behaviorist tradition of the day, but became one of the first to apply the rigors of the experimental method to social problems. She eventually rose to the position of department chair before the war.

During the war Helen began working with the War Production Board, and the Office of War Information. She then became a member of Rensis Likert's Morale Division of the Strategic Bombing Survey. She was one of the few members of Likert's team to publish findings obtained by the group in scholarly journals. These publications included papers addressing personality characteristics of German Nazis, and the psychological problems of reeducating the German population.

Helen Peak was probably more of a generalist than just a social psychologist. Even so, her presence on the faculty did much to enhance the already developing reputation of the social psychology program at Michigan. Much of her research at Michigan focused on the problems of attitudinal structure and capacity for attitude change. From this "she developed a general activation theory of both motivational processes and the properties of structure ... She showed in detailed fashion how her more general theory could take account of the findings of dissonance experiments and could provide a unifying framework for the disparate notions of consistency and for cognitive theory in general." (Katz, 1987).

Experimental Psychology

During the first few years of his chairmanship, much of the expansion of the psychology department by Donald Marquis took the form of the addition of large programs in clinical and social psychology. The acquisition of the units that constituted the Institute for Social Research, the creation of the Joint Doctoral Program in Social Psychology, and the establishment of a clinical psychology program required (actually exceeded) most of the resources that Marquis had available. During this time concerns were expressed by various administrators about the size of this expansion and whether some restraint should be exercised. After World War II, the national expansion of higher education left many administrators in new and unfamiliar territory. How much expansion was realistic and/or could be sustained? Furthermore, Marquis' strategy of expansion outside of the regular general fund budget of the University regularly raised concerns among administrators and faculty as well.

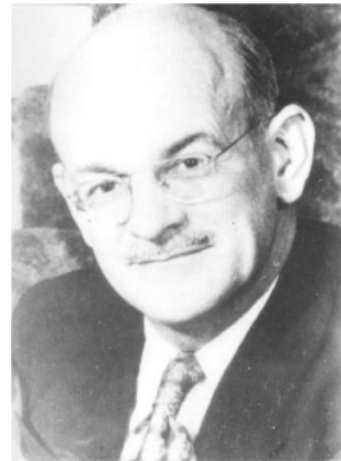
Nevertheless, while the development of the areas of experimental, physiological and mathematical psychology was not as dramatic as those in social and clinical psychology, in his twelve years as chairman Marquis made significant additions to these areas as well. Unlike clinical and social psychology the additions in these areas did not come programmatically, but on a case-by-case basis. Furthermore, some of the later additions in these areas during Marquis' tenure (e.g. the creation of the Human Performance Center) didn't bear their most significant fruit until after he had left Michigan. Those stories will be presented in later chapters.

If the department had a "strength", such as it was, when Marquis arrived, it might have been with regard to the natural science areas of experimental and physiological psychology. These two areas were generally not considered as separate areas during this era, and were generically labeled,

“experimental psychology”. Maier, Shepard, Brown and Thuma could all be described as experimental psychologists, and all of them remained in the department for various periods of time after Marquis arrived. As has already been noted, most of these holdover faculty members did not publish much research; nevertheless, they continued to contribute to the department as good teachers, and dedicated mentors and advisors to students.

Norman R. F. Maier (1900-1977)

Norman R. F. Maier (1900-1977) was the exception. In 1945, he was the only highly regarded researcher in the department with a national (even international) reputation. His appointment at Michigan had begun in 1931, so by 1945 he was well established. Not too long before Marquis arrived, Maier had been named the recipient of the 1939 Henry Russel Award, one of the highest honors that the University can bestow on a faculty member. Maier remained an active faculty member until the day he died in 1977.



Maier had a remarkably interesting and productive career. Raphelson (1968b) details much of his early biographical information. He was both an undergraduate and graduate student at Michigan, and was a devoted student of his mentor, John Shepard. However, by the time he became a faculty member he had accumulated a number of significant, broadening experiences that would overcome the problematic nature of such “inbreeding”. As a graduate student, he was one of the first Americans to travel to Germany to study with the Gestalt psychologists, Wertheimer, Kohler and Lewin. He found their perspectives useful and congenial with the ideas he had learned from John Shepard at Michigan.

After attaining his PhD, he spent two post-doc years at Chicago working with Karl Lashley. In Lashley's laboratory he developed an interest in studying the behavior of animals who had failed to learn discriminations in the particular experimental paradigm that became known as the "Lashley jumping stand".

During his career, Maier authored (or co-authored) more than a dozen books and over 200 articles, and he mentored over 30 PhDs. He also became an important and enduring figure in two quite different fields of psychology: experimental psychology and industrial-organizational psychology. A number of his books were considered classics, even in their own day: His early research led to his book (with Schneirla) *Principles of Animal Psychology* (1935). His research on the development of frustration in the rat culminated in his book *Frustration: the Study of Behavior Without a Goal* (1949), and his *Principles of Human Relations* (1952) was a highly regarded, pioneering work in industrial and organizational psychology that was published in several editions and in many languages around the world.

But his work on the development of frustration and "neurotic" behavior in rats literally made him internationally famous, if not notorious. It is difficult to comprehend how, in an era before television and the internet, Maier was able to achieve such notoriety as a result of his academic research on rat behavior. When he won the Newcomb Cleveland Prize from the American Association for the Advancement of Science (the first psychologist to be so awarded) in 1939, the feat was reported on the front page of both the New York Times and the Washington Post with headlines such as, "Scientist Who Double-Crossed Rats Into Lunacy Wins \$1,000". (Dewsbury, 1993). The research was covered by both *Time Magazine* and *Life Magazine*, the most widely circulated magazines of the time. *Life's* story was titled "Rats are driven crazy by insoluble problems". His work was the basis for the famous short story

"The Door" by E. B. White that originally appeared in the *New Yorker*, and has been reproduced in numerous anthologies of American literature.

Perhaps because of all of the notoriety, for a more than a decade, Maier was forced to fend off contentious critiques and attacks by academic psychologists with regard to various aspects of this research. These critiques included his characterizations of the behavior as "abnormal" and "neurotic", as well as the claim that the problems that produced frustration in the rats could also produce seizures. Maier was thought by some to be a "maverick scientist", who was a difficult person with whom to interact. Furthermore, his theoretical accounts of the behavior were formulated outside of the context of the prevailing "S-R" theories of the day. Maier favored more Gestalt-type explanations that reflected his training from his mentor John Shepard, and from his study in Germany with Wertheimer, Kohler and Lewin.

Maier eventually developed a degree of persecution complex, believing that his work was not fairly treated by APA journals. He later published a cynical account of how to gain approval of behaviorist psychologists entitled "Maier's Law", which argued that in presenting scientific arguments in psychology, various distortions of fact were to be preferred to reevaluating an existing theory. Later in life Maier acknowledged that the acrimony and notoriety generated by these controversies helped to drive him away from experimental psychology and into industrial-organizational psychology. Dewsbury (1993) commented on Maier's persecution complex: Given his productivity, and the originality and creativity of his research, it seemed strange that Maier's biographical data

"reveals none of the fellow elections, honorary degrees, or national and regional offices one would expect of a scientist of Maier's stature. It is difficult to explain these lacunae if Maier's perceptions were pure paranoia. There appears to be at least some validity to his perceptions of prejudicial treatment."

Nevertheless, even after leaving the field of experimental psychology, Maier's paradigms and theories produced extensive literatures throughout the 1950s and into the 1960s (Solem & McKeachie, 1979).

Edward L. Walker (1914-1997)

The first experimental psychologist that Marquis added to the faculty at Michigan was Edward L. Walker. Walker was hired as an instructor in 1947 and promoted to assistant professor in 1948, which was the common hiring practice for new faculty at the time. Ed spent his entire career as a member of the faculty at Michigan, retiring in 1980.



Ed Walker was born in Connersville, Indiana in 1914. He graduated from Connersville High School in 1932 at the height of the depression. Given the difficult times, his matriculation to Indiana University was delayed for a couple of years while he went to work for the Connersville News-Examiner. He started as a reporter and was almost immediately promoted to City Editor at the age of 20.

As an undergraduate at Indiana, Walker worked with and published several papers on basic conditioning phenomena with Winthrop N. Kellogg. Kellogg was the psychologist, who with his wife, became famous for attempting to raise a chimpanzee along with his own child. As a sophomore, Ed began what would prove to be an outstanding teaching career when Indiana hired him on as a teaching assistant. After graduation Ed worked as a prison psychologist for the Indiana Department of Corrections while he completed a masters degree from Indiana in 1940. He began his graduate training at Iowa in 1941, but was almost immediately derailed in this pursuit by the outbreak of the war. During the war

Walker served as a Navy psychologist and utilized his background to investigate night vision problems encountered by pilots that often led to aircraft accidents.

Following his war service, Walker enrolled at Stanford in 1945, and completed his graduate training with a PhD degree in 1947 with Frank W. Weymouth a noted sensory physiologist. Although Weymouth was the founder and director of Stanford's Vision Laboratory, he also had broad interests in comparative animal behavior. Immediately upon finishing his degree, Walker was hired by Marquis.

At Michigan Walker developed a broad program of research in the areas of learning and motivation. As noted above in the discussion of Maier's work, in the 1940s and 1950s work in learning was dominated by the "S-R" and behaviorist traditions; and the leading theories of motivation focused on basic biological drives like hunger, thirst and sex. Learning was seen as a result of reinforcing behaviors that reduced or satisfied these basic biological drives. Other more complex motivations were derived in one way or another out of these basic biological needs.

Like Maier, Walker developed less conventional accounts and explanations of the phenomena that he studied. Under Walker's conception, much animal and human behavior is driven by the desire to attain optimal levels of complexity and stimulation. When events are too simple they are boring and unpleasant. When events are too complex they become overwhelming and unpleasant. Animals strive toward optimal levels of stimulation. The major tenet of his theory was the principle that "psychological complexity determines preference". This single principle enabled Walker to account for and explain wide varieties of behavior, from simple maze behavior of rats to music preferences of college students (Doyle, 1997). Because of the dominance of this one principle Walker referred to his theory as the "hedgehog theory of behavior" on the basis of a quote from the Greek poet Archilochus, who said, "The fox knows many things, but the hedgehog knows one big thing" (Walker, 1980). In addition, because of

the generality of the principle, it led Walker into a remarkable variety of research over his long career with a wide variety of colleagues and students from different areas of psychology.

Arriving at Michigan when he did in 1947, Walker was present during the great expansion of the department. Given his breadth of interests, he became notable as a “workhorse” of the department in terms of mentoring students in the expanding graduate program. In his first twenty years on the faculty Walker directed 33 doctoral dissertations (UM Regents, June, 1979), many of whom went on to significant careers, including Russell DeValois, Eleanor Maccoby and Robert Ableson, and current faculty members, Rachel and Stephen Kaplan. But within this role as mentor, Ed also was known for his unflinching support of his students and employees, who often came to “Uncle Ed” with their personal problems in addition to their academic difficulties (Doyle, 1997).

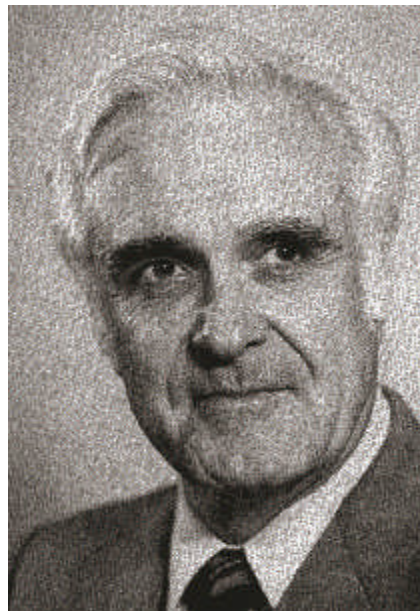
Walker authored eleven books and countless research papers during his career. In addition he edited a popular series of twenty basic concepts books, all written by Michigan faculty. He was elected president of the Midwestern Psychological Association and president of Division 10 of APA. He was a fellow of the APA, the AAAS and the Center for the Advanced Study in the Behavioral Sciences. However, perhaps his greatest recognition as a psychologist came in 1964 when he became one of the few recipients of a Lifetime Research Career Award by the United States Public Health Service, which supported his research for the rest of his career.

John W. Atkinson (1923-2003)

John W. (Jack) Atkinson, like Ed Walker, was a leader in establishing motivation as a distinct field of study within psychology (Smith, 2005). Also like Walker, one of Atkinson’s graduate school mentors,

his formulation of a theory of motivation helped to broaden the field beyond the narrow strictures of the “S-R” and behaviorist theories of the day.

It is difficult to place people like Walker and Atkinson in the area scheme of psychology like the one developed for the department in the 1960s. Atkinson's work influenced, and was influenced by, the areas of clinical psychology and social psychology as much as experimental psychology. In examining Atkinson's journal publications one finds many more papers in the *Journal of Abnormal and Social Psychology* than in the *Journal of Experiment Psychology*, and most of the latter coming from early in his career. But Jack saw himself as an experimental psychologist, with a small “e”, as much as anything else. Jack saw his work as a connective if not an outright unification of what Lee Cronbach described "as the two disciplines of scientific psychology". Atkinson saw achievement motivation just as important as hunger in a general theory of motivation (American Psychological Association, 1980).



Atkinson was born in Jersey City, New Jersey. He began his college career at Wesleyan College in the fall of 1941. But like so many of his generation his college career was interrupted by the outbreak of World War II. During the war he served as a flight instructor in the Army Air Corps. Returning to Wesleyan in 1945, Atkinson fell under the spell of David C. McClelland, beginning a relationship that would last for the rest of McClelland's life. In 1947 he enrolled in the graduate program at the University of Michigan, where he studied under the tutelage of Donald Marquis and Edward L. Walker. In one role or another Atkinson remained at the University of Michigan for the rest of his career. Completing his

formal graduate work in just two years, Atkinson spent the 1949-1950 academic year back at Wesleyan where he replaced McClelland who was on leave at Harvard. While at Wesleyan he worked with their honors students while he wrote up his dissertation. One of the honors students that Jack worked with during this year was Joseph Veroff who would later study with Atkinson at Michigan, and eventually join him on the faculty. During this year, Atkinson also worked on a draft of *The Achievement Motive* with McClelland, Russell Clark and Edgar Lowell.

From his experience in the Wesleyan environment, Atkinson nurtured the idea of teaching in a small college atmosphere. However, "he was lured from teaching at a small college mainly by a challenge from Marquis, the entrepreneurial department chairman at Michigan, to establish as good an honors research program in psychology at Michigan as at Wesleyan, which Atkinson did." (American Psychological Association, 1980).

For the next 35 years, working with an extensive array of students and colleagues, Atkinson evolved a comprehensive theory of motivation. This work could be divided into three phases (Smith, 2005). The first phase dealt with the validation of a thematic apperception measure of motives, and with the effects of approach and avoidance motives on learning. This work culminated in the book *The Achievement Motive*, and in Atkinson's 1954 *Nebraska Symposium on Motivation* paper, "Explorations using imaginative thought to assess the strength of human motivation".

In the second phase of his career, Atkinson explored a mathematically explicit, expectancy-value theory that related the determinants of approach and avoidance motivation to levels of performance, levels of aspiration, and persistence. This work was represented in edited books, *A Theory of Achievement Motivation* (with Feather) and *Motivation and Achievement* (with Raynor).

The final phase of Atkinson's work reflected his close collaboration with his long-time colleague David Birch. Together they developed an ambitious new formulation, in words and equations,

that incorporated Atkinson's prior critical thinking about motivation. Their book *Dynamics of Action* (1970), more than simply an incremental change in theory, presented a formal, mathematically elaborated statement of the way in which behavioral tendencies influence the stream of behavior, that is, the selection, initiation, intensity, persistence, and cessation of a particular activity. (Smith, 2005).

Atkinson received many honors during his long career, including a Guggenheim Fellowship, the William James Award from the American Psychological Society, and the Distinguished Scientific Contribution Award from the American Psychological Association in 1979.

H. Richard Blackwell (1921-1995) and The Vision Research Laboratory

In 1945 Harold Richard Blackwell enrolled as a graduate student at the University of Michigan. He had graduated from Haverford College in 1941 with a degree in philosophy. He then entered graduate school at Brown University, where he obtained an MA degree in 1942 under the direction of Clarence Graham. Like many graduate students of that era, Blackwell's graduate training was interrupted by the war. During the war he engaged in military research: he was selected by the Tiffany Foundation to direct a vision research project on military applications at MIT. He also served as the executive secretary of the Armed Forces National Research Council Vision Committee, probably on the recommendation of Graham, Blackwell's graduate school mentor, who had a long standing relationship with that organization.

In 1945 Graham declined an offer to become chairman at Michigan (before Marquis accepted it), and moved from Brown to Columbia University. Blackwell then decided not to return to Brown, and instead to enroll at Michigan to finish his PhD. As a result of the extensive research he had conducted before and during the war, Blackwell basically only needed to finish a dissertation at Michigan, which he

did in 1947 under the nominal direction of Donald Marquis. Marquis then kept him on at Michigan as a faculty member beginning in 1948.

Blackwell continued his research at Michigan studying sensory systems, particularly vision, and established his own laboratory, the Vision Research Laboratory (VRL). In 1953 Blackwell acquired significant, continuing research funding for his laboratory by way of a major Defense Department contract to the University of Michigan called "Project Michigan". This comprehensive research program ran for many years, monitored by the U. S. Army Signal Corp. It funded projects across a number of University programs dealing with generic military problems. Blackwell was able to secure about ten percent of the Project Michigan funds annually for the Vision Research Laboratory (Alpern, 1996).

Blackwell left Michigan in 1958 and moved to Ohio State University, where he remained for the rest of his career, retiring in 1983. At OSU he established a laboratory comparable to Michigan's VRL, the Institute for Vision Research. During his career he was honored a number of ways. He was a fellow of the AAAS, the American Academy of Optometry, and the American Institute of Physics. He was awarded the Adolph Bomb Medal of the American Optical Society, and the Gold Medal of the Illuminating Engineering Society.

Mathew Alpern (1920-1996)

One of Blackwell's enduring legacies at the Vision Research Laboratory consisted of his hiring Mathew Alpern in 1955 as a research associate. Matt remained at the University for the remainder of his life staying active and productive until the day he died.

Matt was to become one of the foremost vision scientists of his generation (Pugh & Krantz, 1999). According to the New York Times, “A good part of what medical science knows about the mechanisms of human vision and the nature of color-vision defects stems from Dr. Alpern's studies at the Vision Research Laboratory.” (Saxon, 1996).



Alpern was born in Akron, Ohio in 1920. At age 21, he received a degree in optometry from the Northern Illinois College of Optometry in Chicago, Illinois. This degree was sufficient to practice optometry but little else. With the outbreak of the war Matt was drafted into the Army in 1942, where he worked as an optometrist at a station hospital in Florida. While still in the army he took advantage of the locale to study at the University of Florida, from which he received a bachelor's degree after the war in mechanical engineering. After being mustered out of the Army, he returned to the practice of optometry, but soon decided he was not very good at it, and turned his attention toward graduate school. He was admitted to the new school of optometry at Ohio State University by the distinguished vision scientist Glenn Fry. In 1950 he received his PhD in physiological optics.

Alpern began his academic career at Pacific University, a small church related college located in Forest Grove, Oregon. As an assistant professor of optometry his workload included 30 contact hours a week teaching optometry students. This grueling workload might have left a less resilient person little time for professional development and research. However, Alpern persisted in both areas. At this point in his life Matt was little more than a professional optometrist, and certainly he could hardly be called a psychologist. But while at Pacific, Alpern discovered a colleague, Anna Berliner, who would help provide him with the education in psychology that he had otherwise missed. She was the only woman ever

admitted as a student at Wilhelm Wundt's laboratory, receiving her PhD from Wundt in 1914 (Uffelman, 2002). Anna was THE psychologist at Pacific. She taught all of the psychology courses, from perception to personality, and everything in between.

Anna also conducted a weekly seminar for students and faculty that Matt regularly attended. Anna led them in detailed and exhaustive analyses of the important classical and contemporary works of psychology, such as S.S. Stevens' *Handbook of Experimental Psychology*, and H. H. Helson's *Theoretical Foundations of Psychology*. Near the end of his life Alpern wrote, "If today, despite my lack of formal training, I identify myself as a psychologist it is largely due to what I learned sitting at her feet." (Alpern, 1996).

Despite the many hours of required teaching at Pacific, Alpern began his legendary research career using homemade apparatus, his own eyes, and those of his (sometimes pregnant) wife. In three years at Pacific, he produced eight publications in peer-reviewed journals. Unfortunately the grueling pace also led to a deterioration of Matt's health, and in 1954 Matt contracted tuberculosis and was confined to a VA sanatorium for the next 13 months. On release from the hospital, Alpern turned down Pacific's offer to return to his old job, and accepted a "soft money position" (i.e. Project Michigan) as a Research Associate in the Vision Research Laboratory at the University of Michigan, one of 35 post-doctoral or research personnel supported by VRL and Project Michigan. (Alpern, 1996)

In a relatively short time Alpern established himself as one of the leading vision researchers in the world. By 1963 he was a full Professor of Physiology, Ophthalmology and Psychology. Known widely for his research on color vision and its anomalies, Alpern's interests ranged across the varieties of vision research. He published 126 research papers during his career. Early in his career he was one of the pioneers of focal electroretinography, a technique that allows for the precise measurement of the electrical response of the retinal cones. Later, "his two chapters on eye movements and accommodation

in Hugh Davson's famous multivolume text, *The Eye*, totaled almost 260 pages, establishing him in the 1960s as one of the world's foremost scholars of oculomotor research." (Pugh & Krantz, 1999).

Alpern was greatly honored for his accomplishments. He was rewarded with the Friedenwald Award of the Association for Research in Vision and Ophthalmology in 1974, and the Edgar D. Tillyer Medal of the Optical Society of America in 1984. He was elected to the National Academy of Sciences in 1991. It was also often rumored that Matt had been nominated on several occasions for the Nobel Prize.

With the establishment of the Vision Research Laboratory and the addition of Richard Blackwell and Matt Alpern, Michigan began a tradition of excellence with regard to vision research that it still maintains today. Michigan has been a leading institution at the forefront of vision research continuously for over 60 years.

The Development of Signal Detection Theory

Blackwell's methodological research at Michigan culminated in a 1953 book entitled, *Psychophysical Thresholds: Experimental Studies of Methods of Measurement*. This book elaborated in extensive procedural, analytical and mathematical detail the specification and measurement of the sensory threshold, a classical psychophysical concept. Virtually all of Blackwell's research on sensory systems depended in one way or another on this concept and these procedures. Blackwell was certainly not alone in this dependency. For almost a century up until this time, much of the entire field of sensory psychology depended on these methods and concepts of classical psychophysics.

However, around this period of time, two of Blackwell's graduate students at the VRL began developing alternative concepts of both theory and method: Signal Detection Theory. This work was to revolutionize the field of psychophysics and undermine the concept of the sensory threshold.

The VLR students were Wilson (Spike) Tanner and John Swets. They had learned about signal detection theory and receiver operating characteristic functions from two engineering graduate students, Theodore Birdsall and Wes Peterson, who had been doing research on the development of these ideas in the context of the performance of radar operators. Tanner and Swets believed the concepts would apply to the analysis of observers in psychophysics experiments as well. They began running their own experiments, some of which led to Swets' doctoral thesis. These experiments demonstrated the success of signal detection analysis: the performance of subjects in psychophysics experiments could be accurately modeled with the application of statistical decision theory and without the assumption of a sensory threshold.

These early results led to an important publication by Tanner and Swets: "A decision making theory of visual detection". This paper was the first on the application of signal detection theory to human observers in psychophysics experiments and appeared in 1954 in the *Psychological Review*. Theodore Newcomb, the editor, was willing to accept for publication these initial results and their radical theoretical analyses on the basis of recommendations from Harry Helson and J. C. R. Licklider.

Within a decade signal detection theory produced a transformation with regard to the study of sensory psychophysics and the understanding of vision and audition. The citation for Swets' APA Distinguished Scientific Contribution Award in 1990 described the development of signal detection as "work that caused a paradigm shift in sensory psychology." Also noted was the applicability of these concepts to a wide variety of subject areas within psychology as the result of:

A steady stream of important theoretical and empirical papers using signal detection theory to further our understanding of human perception and cognition, and demonstrating its applicability to the evaluation of diagnostic systems in a variety of domains including weather forecasting, materials testing, information retrieval, polygraph lie detection, aptitude testing, and medical decision making. (American Psychological Association, 1991)

Wilson P. (Spike) Tanner, Jr. (1912-1977)

Spike Tanner was an unconventional man. To describe him as a "colorful character" would be an understatement. He was a big man with big appetites (especially for food and alcohol), with a robust sense of life. He had a significant strabismus (crossed eyes), and he randomly switched his dominant eye so that one could never be quite sure where he was looking. He lived in a world full of heroes and villains, and dear friends and mortal enemies. Some of his unconventional behaviors and traits endeared him to many of his students and colleagues, while others of these behaviors created professional problems and difficulties for him. The accounts of some of his unconventional behavior and professional difficulties have reached legendary status. It is clear that Tanner had as much to do with the creation, development and propagation of signal detection theory as anyone else, and his productivity in terms of research contracts and important publications was exceptional. Nevertheless, in contrast to other signal detection theory pioneers, it is difficult to find biographical information about Tanner because he received few honors, awards and citations during his lifetime.



What is "known" about his early biography and unusual academic life is fraught with some degree of mystery because Spike often produced contradictory accounts and details of his life. It is known that Spike was born in New York City in 1912. He received a bachelor's degree from Wesleyan

University in 1937 at the age of 25. He served in the Navy during the war, and enrolled at the University of Florida after the war, receiving a Masters degree in 1949 at the age of 37. That same year he came to Michigan and Blackwell's laboratory. He finally received his PhD degree from Michigan in 1960 at the age of 48. His first regular appointment to the psychology department faculty was at the rank of full professor in 1963 at the age of 51. This is certainly an unconventional academic resume.

Some of the accounts about his unusual academic progression are bound up in the stories and legends about Tanner's professional difficulties. For example, it is known that Tanner had a considerable falling out with Blackwell as a result of the development of signal detection theory and its critique of the concept of thresholds. John Swets also had a falling out with Blackwell, who caused him considerable difficulty in completing his dissertation. But, unlike Spike, Swets was able to tolerate Blackwell's interference (with some intercession from Marquis) and finish his degree in 1954 (Swets, 2010).

One story tells of a "screaming-down-the-hall, slamming-doors fight over the concept of the threshold. Spike at the time was in Blackwell's lab, working on the effects of uncertainty of the location of a visual target on detection. This episode, it was said, led to Blackwell's blocking any move toward using these results as a thesis." (Creelman, 2008). Tanner left Blackwell's lab and moved his research to the Electronic Defense Group within the School of Engineering, the program where he had met Birdsall and Peterson. It may be just coincidence, but it is also known that Tanner did not finally complete his doctoral dissertation until shortly after Blackwell left the University of Michigan. Extending the story even further, Tanner at one time told the present author that the reason Blackwell left Michigan was because he couldn't tolerate the success that signal detection theory and Spike Tanner had achieved.

A more prosaic account that has been often recounted of Tanner's difficulty in completing his PhD degree is that at the time the degree required a reading competence in at least two foreign languages. According to the story, Spike failed the German competency exam, and refused to take it

again. Since he was running his own visible and highly successful research program at the time, it simply didn't matter to Tanner that he didn't have his PhD degree. Eventually someone in the administration waived the second language requirement and Spike was granted his degree. Whether either of these accounts of the delay in achieving his degree is true, each account further asserts that the research for his dissertation and his subsequent thesis defense were mere formalities, and that Tanner was at least as well known a researcher as anyone in the room at his thesis defense.

Whatever the truth of these matters, Tanner established a successful and productive research program within the Electronic Defense Group. Even before he had received his own PhD, he supervised of the dissertation research of a number of notable students, including David Green and Douglas Creelman, although he could not formally be listed as such. Within two years of "finishing up" his own degree, Tanner opened his own laboratory, the Sensory Intelligence Laboratory, and was appointed as a full professor in the psychology department. For the next 15 years, a steady stream of graduate students, both within and outside of psychology, worked their way through Tanner's laboratory. In an official announcement released following his death, the Psychology Department stated:

His most important work during this period was his guidance of graduate students. Spike cared very deeply for his students and he was always truthful as well as caring: he told them their deficiencies bluntly yet with real love. Because he attracted very bright students, and gave them much attention and much blunt criticism, they received their doctorates with superb scientific training and most have gone on to make excellent contributions. Their Ph.D. theses alone constitute a history of the intellectual development of the Theory of Signal Detection. (Department of Psychology, 1977)

After his death, friends and colleagues created a fund in his name that still exists today to support undergraduate Honors research within the department of psychology.

Arthur W. Melton (1906-1978)

One of the last faculty members that Marquis recruited to the University of Michigan was his graduate school classmate, Arthur Weever Melton, who joined the faculty at Michigan in 1957. Most of the effects that Melton had on the Michigan psychology department would take place after Marquis left. These included recruiting to Michigan in the following years many other distinguished experimental psychologists, such as Paul Fitts and Ward Edwards, and the establishment of the Human Performance Center in 1963. Thus, by bringing



Melton to Michigan, Marquis began the process of establishing Michigan as one of the most important experimental psychology programs in the country. This was part of Marquis' vision for the psychology department, and ultimately as it turned out, an important part of his legacy.

Even though he did not have an extensive publication record, by 1957 Art Melton was one of the most important experimental psychologists in the country. He was the editor of the *Journal of Experimental Psychology*, a post he had held since 1951 and would continue to hold through 1962. It is hard comprehend from our current perspective, how powerful this editorial position was. During this era, human experimental psychology would reemerge from the animal mazes of the 1940s, and develop into the subsequent "cognitive revolution". It was an important phase in the history of modern psychology, and *JEP* was the dominant experimental journal. Melton was a consummate scientist of the first degree, having established his bona fides as a methodologist as early as 1936 with an 89 page article in the *Psychological Bulletin* entitled, "The methodology of experimental studies of human

learning and retention". His insistence as an editor that experimental work and analysis meet his high standards raised the bar of scientific excellence for the entire field.

Upon his retirement from Michigan and his move back to Texas, Melton asked the present author to sort through his old files that he had left at the University. These files included the correspondence from the time when he was editor of the *Journal of Experimental Psychology*. The extensiveness and the quality of the correspondence that Melton had engaged in with the prospective authors of articles was truly stunning. Having been involved with the editorial process in various ways for over forty years, the present author has never seen or heard of anything else quite like it. Of that correspondence Melton's student, Benton Underwood, wrote the following:

It may be said that for 12 years Melton served as the methodological superego of experimental psychology. None of us escaped his no-compromise rejection of manuscripts when the methods of research were faulty or perhaps only sloppy. Only a very small proportion of the accepted manuscripts did not have to be revised. Whether the manuscript was rejected or needed revision, the letters from Melton were long and explicit. Many authors, of course, complained bitterly of the rejections, and many felt that Melton was far too arbitrary in his decisions. Usually, however, a careful reading of the rejection letter revealed Melton's genuine pain at having to make an unfavorable decision. The rejection letter almost always told the author how the experiment should be redesigned to accomplish what the author thought had been accomplished in the original experiment. For 12 years, by means of these letters, Melton ran extension courses all over the world on problems of experimental design in psychology. (Underwood, 1979).

Of course, Melton brought the same standards of excellence and demands for scientific rigor to bear on research of the many graduate students that he supervised during his Michigan career.

Art Melton was born in Fayetteville, Arkansas, the son of a University of Arkansas professor. He studied psychology as an undergraduate at Washington University of St. Louis, under the influence of John McGeoch, who had gotten his degree under Harvey Carr at the University of Chicago. He then obtained a PhD degree from Yale University in 1932 in a department that had been built by James

Rowland Angell. Thus, Melton's education and life-long perspective was thoroughly steeped in the tradition of American functionalist psychology.

After three years as an instructor at Yale, at the age of 29, Melton was hired as the chairman of the psychology department at the University of Missouri, his first faculty position. "He promptly established a program for the Masters degree that was of such high quality that the students were almost automatically assured admission to PhD programs of any major university." (American Psychological Association, 1977). During this time Melton also began his lifelong research on human learning and memory. In 1940 Melton and Irwin published in a seminal paper that established that response competition and unlearning were both important factors in retroactive interference.

Probably no theoretical notion has been as influential in shaping experiments in the study of forgetting as has the notion that both response competition and unlearning are involved in retroactive inhibition. This two-factor theory is still responsible for much research today, as investigators try to identify the specific losses that constitute unlearning. (American Psychological Association, 1977).

World War II began Melton's extensive military experience. With the exception of three years immediately following the war, when he was a professor at Ohio State, Melton spent the next 17 years working from within the military establishment. During that time he rose to the rank of Brigadier General. He became the Air Force's leading expert on personnel training and human resources management while serving as the Technical Director of the Air Force Personnel and Training Research Center at Lackland Air Force Base, Texas. "Melton's administrative leadership helped to create and cement an important role for psychology within the military that has lasted until the present time." (Posner, 1992).

After coming to Michigan, and recruiting his good friend Paul Fitts to the faculty, Melton established and directed the Human Performance Center from 1962 until his retirement in 1974. Much

more will be said about HPC in a subsequent chapter, but suffice it for now to say that it became one of the leading training and research centers in the country for a generation of experimental psychologists. Melton also became the leading authority in the world on all aspects of memory. His 1963 paper "Implications of short-term memory for general theory of memory" was a landmark to the field (Underwood, 1979). "To some, its most salient characteristic was the manner in which old ideas and new ideas were merged to provide a vision and a framework for future work." (American Psychological Association, 1977).

For all of his professional accomplishments, Melton confessed to the present author just before his retirement that his real secret passion was playing poker. For 15 years he had been a member of the "Big Game" on campus that was comprised of senior professors and administrators across a number of departments, who played for really "big stakes". In those days "big stakes" could run into hundreds of dollars per pot. Over all the years of playing, Melton had kept meticulous records of his winnings and losses, and he thought it a singular achievement that in playing against the best poker players that the faculty had to offer, he had lost on the average less than \$10 a night.

Melton was extensively honored during his lifetime. He was elected to the National Academy of Sciences, and he was awarded the Gold Medal of the American Psychological Foundation. He was elected president of the Midwestern Psychological Association, as well as the Division of Experimental Psychology, and the Division of Military Psychology within the American Psychological Association. These awards were in addition to the numerous military citations he received, and of which he was equally proud.

Physiological Psychology

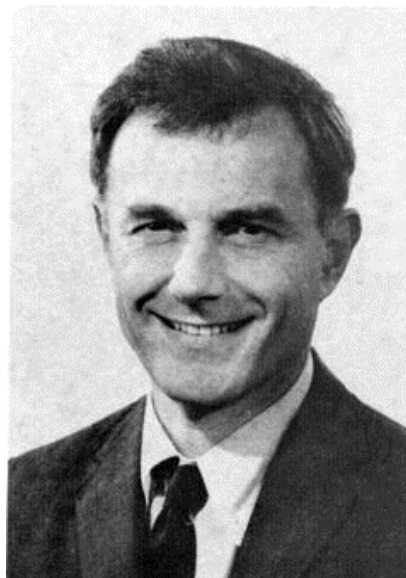
At the time that Marquis built the modern Michigan psychology department, physiological psychology (biopsychology in today's terminology) was just a part of experimental psychology. During his tenure Marquis also expanded the department along these lines. One early faculty addition deserving mention was Robert McCleary (1923-197x), who joined the department in 1951. McCleary received his BA from Harvard in 1944. He completed an MD degree from Johns Hopkins Medical School in 1947, and a PhD from Johns Hopkins University in 1951. While in graduate school at Hopkins, McCleary studied the functions and uses of the galvanic skin response (GSR), producing a major review of the literature on the GSR in the *Psychological Bulletin* of 1950. This expertise with the GSR led McCleary to collaborate with Richard Lazarus on one of the most famous (or perhaps infamous) experiments in the history of perception: "Autonomic discrimination without awareness: a study of the subception", which appeared in the *Psychological Review* in 1951.

Through the 1950s at Michigan McCleary produced an impressive array of publications on a number of topics, both methodological and substantive, utilizing a number of species ranging from rats and cats to fish. In 1961 McCleary moved to the University of Chicago where he spent the rest of his career and life, unfortunately dying at a fairly young age in the late 1970s. One footnote to show the humor of the man: In 1946 he published a book while still a medical student titled: *Call Me Doctor! Cartoon Memories of a Medical Student*.

James Olds (1922-1976)

A second physiological psychologist that Marquis added to the psychology department near the end of his tenure in 1957 was James Olds. As recently as 1999, Richard Thompson, writing from a perspective more than 20 years after Olds' untimely death, described Olds as "one of the most important psychologists of the 20th century". Continuing along these lines, Thompson wrote:

“...many of us feel that his discovery of the "reward" system in the brain is the most important single discovery yet made in the field concerned with brain substrates of behavior. In retrospect, this discovery led to a much-increased understanding of the brain bases and mechanisms of substance abuse and addiction. Jim also was a pioneer in the study of neural substrates of learning and memory and the first to show that neurons in the hippocampus become substantially engaged in basic associative learning.” (Thompson, 1999).



Generations of scientists, and not just psychologists, became familiar with the name of James Olds from his exciting and widely reprinted 1956 *Scientific American* article, "Pleasure centers in the brain". This research represented a breakthrough that could be widely appreciated by virtually everyone who has a general interest in science.

James Olds was born in Chicago in 1922. His father, Leland Olds, was an economist who was appointed by Franklin D. Roosevelt as the chairman of the Federal Power Commission. His grandfather, George Olds, was the ninth president of Amherst College. Olds began college at St. John's College in Annapolis, Maryland, but his undergraduate education was interrupted by service during World War II. He eventually received his bachelor's degree from Amherst College in 1947. Olds did his graduate study at Harvard in the newly established Department of Social Relations. This enabled Olds to work with such

diverse mentors as Richard Solomon and Talcott Parsons, who listed him as a co-author on the book, *Family, Socialization and Interaction Process*. But it was a reading Hebb's book, *The Organization of Behavior* as a graduate student that inspired Olds toward the direction of physiological psychology.

Spurred by the commitment to neuroscience, Olds received a postdoctoral fellowship to study at McGill University for three years under the direction of Donald Hebb. It was during this period of time that Olds (with Peter Milner) made his dramatic discovery of the "pleasure center" in the septal region of the midbrain. The original discovery was made quite by accident: Having planted electrodes in what he believed was the animal's reticular activating system, Olds was testing the electrode pre-experimentally, by manually delivering small shocks to the rat's brain. He noticed that the animal seemed to return to the last spot in the open field at which the shock was delivered. Subsequent manipulations showed that he could control the movement of the animal to various corners of the apparatus. Later it was shown that an animal would learn a response in a T-maze in order to receive a shock, and finally that animals would learn to bar press in a Skinner box in order to receive self-stimulation.

Olds went on from this success at McGill to two more postdoctoral years in the newly founded Brain Research Institute at UCLA directed by Horace Magoun and Donald Linsley, during which he built upon his discovery of the brain reward pathways. In 1957 Marquis recruited him to the University of Michigan as an associate professor, and a year later he was promoted to full professor.

In his 12 years at Michigan Olds greatly expanded and extended his work on brain mechanisms. In a field that had mushroomed under the inspiration of his original discovery, Olds' research program and his laboratory remained a national leader, attracting outstanding graduate and postdoctoral students, many of whom went on to outstanding careers themselves: among them, Aryeh Routtenberg, Bob Wurtz and Ralph Norgren.

In 1969 Olds moved to the California Institute of Technology. Many Michigan faculty of the time believed that the move was inspired by sheer ambition. Olds openly aspired to winning a Nobel Prize, and it was felt by many that he thought his chances were better at Caltech. Nevertheless, in the time that remained to him, Olds continued to do groundbreaking research, some of which elucidated the first clear demonstrations of brain mechanisms involved with associative learning. And many, including Richard Thompson, were certain that, had he lived, he would have in fact won a Nobel Prize. An indication of this prospect was given by the fact that he was elected to the National Academy of Sciences and awarded the APA Distinguished Scientific Contribution Award at the young age of 45.

Unfortunately, at the height of his career at the age of 54, he died in a tragic swimming accident off the coast of California.

Mathematical Psychology

Former department chairman Keith Smith used to remark that mathematical psychology is really not a separate area of psychology. By itself, outside of the context of the rest of psychology, it has no substantive content. Nevertheless, its importance is not just to bring rigor to psychology, but the prospect of establishing a common way of conceptualizing varied psychological phenomena. Marquis was not a mathematical psychologist, but he had great belief in the search for rigorous ideas and concepts whose generality might bridge across various areas of psychological thinking. By one account, when Wiener's *Cybernetics* first appeared in 1948, Marquis required all the graduate students in the department, regardless of their specific interests, to read it (McKeachie W. , 2009).

The development of quantitative theories and methods in psychology has greatly enhanced the image of psychology as a possible science. In this endeavor the modern Michigan psychology department played a significant role also from its very beginning.

Clyde H. Coombs (1912 -- 1988)

It is not clear whether or not it was part of Marquis' vision to establish a mathematical psychology program when he began to rebuild the department, but that is exactly what he got when he hired Clyde Coombs as one of his first faculty members in 1947. Clyde's personality fit in perfectly with the vibrant, expanding department that Marquis was building. Clyde Coombs was one of the most vigorous, enthusiastic and joyful people ever to have graced the Michigan psychology department. The obvious pleasure that he took in virtually all of his activities was apparent to everyone who knew



him. Whether he was teaching his unfolding technique for creating non-metric scales, or playing cards at lunchtime, Coombs affected everyone around him with his sheer joy of living.

Like so many of Marquis' appointments, Coombs was not directly brought in to the psychology department. Rather, in 1947 he was hired into a position at the Psychological Clinic. There was at least a loose connection: immediately after the war, Coombs developed the Separation Counseling program for demobilized GIs, work for which he was awarded the Legion of Merit. To Marquis' entrepreneurial eyes, this was certainly good enough experience for placement onto the staff of the Psychological Clinic. Regardless, Coombs arrived at Michigan and the mathematical psychology program was born.

Coombs was born in Paterson, New Jersey but grew up in Santa Barbara, California. He began his first two years of college at Santa Barbara State studying mathematics and engineering. "A course in psychology, however, opened up an exciting new world for Clyde and convinced him to change direction." (Tversky, 1992). Coombs took a year off from college to read up on psychology and physiology, and then transferred to the University of California at Berkeley to complete his major in psychology in 1935. He continued at Berkeley graduate school completing a Masters degree in 1937 with a thesis on the adaptation of the galvanic skin response. However, his interests were derailed again when one of his teachers at Berkeley, Robert Tryon, organized a seminar to study L. L. Thurstone's new book *Vectors of the Mind*. Typical of Coombs assertiveness, he enthusiastically wrote to Thurstone about the book. In response Thurstone offered Coombs a research assistantship in his laboratory at Chicago from where he completed his PhD in 1940. While at Chicago he also met Lolagene Convis a graduate student in demography. "Discovering she liked music, he provided her with a list of operas and asked her which she would like to attend with him; as planned, they ended up attending them all together. They were married soon and later had two sons, Stephen and Douglas." (Dawes & Tversky, 1989). Lo Coombs would also become a collaborator on some of Coombs most important later work.

Although he was called to duty with the outbreak of war, his military service was not solely in response to the national emergency. As a boy Coombs had hoped to attend West Point or the Naval Academy. Clyde spent six years in the service during World War II, primarily in the Personnel Research Section of the Adjutant General's office, ending with the rank of Major.

The possibility of measuring subjective phenomena with quantitative methods and describing their underlying structure was a problem that fascinated Coombs throughout his career. In the beginning of his career he encountered the techniques developed by Thurstone and others that entailed strong, unverifiable and often unwarranted assumptions. Coombs, however, developed his own

approaches throughout his career for articulating the structures of subjective phenomena that did not depend upon such metric assumptions. This fascination unfolded itself in a series of important books written by himself and with colleagues during his career: *A Theory of Data*; *Mathematical Psychology: An Elementary Introduction*; *Psychology and Mathematics: An Essay on Theory*; and *The Structure of Conflict*.

Because his mathematical articulations were so impressive, it is sometimes forgotten what a superb psychologist Coombs was. This was exemplified in his collaborative work with Lolagene Coombs on preferences for family size and gender composition:

Working together, they utilized conjoint measurement and unfolding theory to develop scales on number and sex preferences for children, and tested their validity in many countries. Since then, this practical application of Coombs theoretical work has been used in fertility studies worldwide. (*American Psychological Association, 1986*).

Clyde's energy and exuberance were often expressed through the activity of travel. During his career at Michigan he obtained no less than a dozen visiting professorships around the world, in such far flung places as Western Australia, Venezuela, China and Tbilisi, Russia.

Everyone who knew Clyde Coombs knew of his generosity of spirit, and generosity with his time and energy. Few people, even among those who know him well, knew of his material generosity. During his lifetime, he and Lolagene privately financed the college educations of twelve minority students who otherwise could not have afforded to attend college. (*Dawes & Tversky, 1989*).

Coombs was honored in many ways: he was president of the Psychometric Society, the Division of Measurement and Evaluation of APA, and founding president of the Society for Mathematical Psychology. He was awarded the Distinguished Scientific Contribution Award of the American

Psychological Association. He was also elected to the American Academy of Arts and Sciences and the National Academy of Sciences.

From the beginning Coombs developed an explicit program in mathematical psychology at the University of Michigan, which he directed over the course of many years. At the outset the "program" consisted entirely of one faculty member, Clyde Coombs. Even so, he was still able to attract quality students. Within a few years, however, he added a number of colleagues. The first of these colleagues were often themselves products of the program. Now certainly "inbreeding" is generally frowned upon, but Clyde's program was one of the few in the country, and he knew the quality of his students, and that they were well-trained (by him). Three early students became outstanding faculty members in the mathematical psychology program at Michigan. J. E. Keith Smith entered the mathematical psychology program in 1950 and received his PhD under supervision of Clyde Coombs in 1954. On finishing his degree he took on a position at Lincoln Laboratories at MIT. More will be said about Keith Smith in a later chapter because he did not return to the Michigan faculty until the mid-1960s. The other two students, John Milholland and William Hays, are presented below.

John Milholland (1910 - 2001) was one of the first students to be part of the mathematical psychology program, arriving in 1949. He received his PhD in mathematical psychology in 1953. Upon completing his degree he was immediately appointed to the faculty, where he remained for the rest of his career. Milholland was born in Paris, Illinois, and graduated in 1932 from Colorado State Teachers College, which is now Northern Colorado University. He returned to Colorado State Teachers College in 1939 and completed a Masters degree. During the war he joined the Navy and served as an air

navigation instructor. Following the war he taught mathematics at Flint Junior College before coming to the University of Michigan.

Although highly skilled in mathematics and statistics, his background as a teacher led John to an interest in the psychology and the practice of teaching. Together with Wilbert McKeachie, Robert Isaacson and Richard Mann, Milholland obtained funding for major research programs in teaching and learning in university settings. Known as the MIM project it produced publications that were among the first to deal with the interaction of student and teacher personality characteristics, as well as gender, in affecting student achievement (McKeachie, 2001). He also contributed to numerous national commissions and committees, co-chairing a national project to develop model curricula for psychology.

At the University Milholland was notable as a long-term administrator. For many years he was the director of the Evaluations and Examinations Division of the Bureau of Psychological Services, as well as Chairman of the Psychology Department Undergraduate Committee.

Milholland was the Associate Director for research of the first National Assessment of Educational Progress, and he was elected president of the American Psychological Association Division on the Teaching of Psychology. An outstanding athlete, Milholland also led the psychology department volleyball team to many all-campus championships.

William Lee Hays (1926 – 1995) was also an early student in the mathematical psychology program. He's was raised in Greenville, Texas. He spent the first part of his college career at Paris Junior College in Paris, Texas, and East Texas State College. He then transferred to North Texas State University, where he obtained a bachelor's degree in 1948, and a Masters degree in 1949 in psychology and mathematics. The following year Hays entered the mathematical psychology program at Michigan.

He worked closely with Coombs on the early development of Coombs' scaling techniques, and he completed his doctorate in 1955 with a thesis entitled, "An Extension of the Unfolding Technique to r -Dimensions".

Like Milholland the year before, Hays was immediately appointed to the faculty, and also like Milholland he was quickly engaged in administrative duties. He successively served as: Graduate Chairman of the Psychology Department; Associate Dean of the College of Literature Sciences and the Arts; Dean of LS&A; and Associate Vice President for Academic Affairs. In 1973 Hays moved to the University of Georgia as Vice President of Instruction. Then, in 1977 he returned to his home state to become the Vice President for Academic Affairs at the University of Texas, where he remained for the rest of his life.

However, Bill Hays is most widely known for his comprehensive, 1000-page textbook, *Statistics*, which was first published in 1963 while he was still at Michigan. This widely used textbook for graduate courses in statistics went through five editions, the fifth published shortly before his death in 1995. As testament to its stature, the book is still in print and in use. In reaction to the "cookbook-type" of textbook that is often used in statistics courses for non-specialists, Hays sought to provide some mathematical sophistication while not requiring extensive mathematical backgrounds for his students. Jennings, Manaster, & Weinstein (1999) described his approach in the following way:

Hays managed to find some middle ground where students could learn many of the popular recipes while also developing an understanding and appreciation of the whole enterprise of inference in the face of uncertainty. He provided a rich context and employed a conversational style, neither sacrificing rigor nor insulting the reader. After more than three decades, no one has done it better.

Probably no faculty members are more in demand as graduate student mentors than are statistics teachers. This was especially true for a teacher as caring and wise as Bill Hays. It was noted that

during his Texas days he was often on as many as 50 dissertation committees at a time, including six or eight chairmanships (Jennings, Manaster, & Weinstein, 1999).

The Mental Health Research Institute

The Mental Health Research Institute has been a major research installation at the University of Michigan since 1955. It was renamed the Molecular and Behavioral Neuroscience Institute in 2005. On the occasion of its renaming, the Regents' communication/action request described the Institute in the following way:

"Over the last 50 years of its existence, the MHRI has evolved its mission of understanding the neuroscience of behavior using state of the art scientific tools -- molecular, cellular, anatomical, behavioral and clinical. The Institute is nationally and internationally recognized for its research focusing on how the brain develops, how brain cells communicate, and how functions such as emotions and cognition are organized in the brain. The Institute has a special and collaborative relationship with the Department of Psychiatry, and an important emphasis of its research has been on translating neuroscience discoveries to biological psychiatry, and applying it to uncover in the causes and developing new treatments for psychiatric and/or logical disorders." (UM Regents, 2005)

Throughout its history MHRI (MBNI) has been administered through the Medical School, but it also has had explicit affiliations with the School of Public Health, and College of Literature Sciences and the Arts. In its first year MHRI was comprised of its three new faculty members, James Grier Miller, Ralph Gerard, and Anatol Rapoport. It grew rapidly. Within two years the staff had increased to more than 40 people, and it began construction on its own building. By its 40th anniversary it had a staff over 150 people and a budget in excess of \$7 million.

Over the years, it has been a research home of many members of the psychology department. A shortlist of a few of the psychology faculty members whose research programs were conducted for at least part of their careers at MHRI includes James Grier Miller, Paul Fitts, James Olds, Walter Reitman,

James McConnell, William Uttal, Roger Davis, Irwin Pollack, and Sylvan Kornblum. Non-psychology faculty members whose research has had influences within the field of psychology have included Ralph Gerard, Anatol Rapaport, Kenneth Boulding, J. David Singer, John Gyr and John Platt, again to name just a few.

The Mental Health Research Institute was the brainchild of James Grier Miller. In an earlier section the role James Grier Miller played in establishing the modern profession of clinical psychology was detailed: After World War II, while working within the Veterans Administration, he created the training program from which the modern clinical profession emerged. In 1948 Miller left the Veterans Administration to become chairman of the psychology department at the University of Chicago. Miller had many of the same entrepreneurial characteristics as Donald Marquis. For example, even before formally taking over the duties as chairman at Chicago, Miller engaged in negotiations with Doc Cartwright with regard to bringing the Research Center for Group Dynamics to Chicago. (Cartwright, 1947). Having lost out on that opportunity, Miller conceived of another significant research center that might be established at Chicago.

The concept developed by Miller in the early 1950s was “an Institute of the Behavioral Sciences”. To grasp this concept Miller's background must be examined. Miller had earned both an M.D. degree and a PhD degree in psychology at Harvard. As a result of this background, Miller developed an enduring belief in the possibility that a new field would emerge out of the conjunction of the biological and social sciences. To label this field he coined the term, “behavioral science” in 1949. His approach was broad and integrative. His goal for his Institute was:

“to bring together scientists from a variety of disciplines to freely exchange ideas, and to reveal commonalities in the functions and information processing of cells, organs, individuals, and societal groups and organizations. Thus, beyond the concept of a behavioral science, Miller envisioned the application of general systems theory to living organisms, as had been applied to the physical sciences.” (Agranoff, 2003).

His aspirations for his Institute were also extremely broad, if not visionary. In his Chicago proposal he wrote, "By promoting basic scientific research on human behavior, knowledge about its laws can be advanced and applied to the solution of problems of war and peace, intergroup tensions, personal relations, industrial productivity and morale, mental health and human relations." (Bentley Historical Museum, 1950-55). His proposal was approved by the Working Committee on Behavioral Therapy at Chicago, who urged the administration to take positive steps during the 1953–1954 academic year to establish the IBS. However, the University administration either could not, or would not support the proposal.

Miller began shopping the proposal around nationally. It received serious attention from the University of California at Berkeley. By this time Miller also included as a founding group for his Institute several colleagues from the University of Chicago and the Chicago area: the neurophysiologist Ralph Gerard, the mathematician Anatol Rapaport, and the psychoanalyst Franz Alexander.

Meanwhile, events were transpiring in Ann Arbor as well. Donald Marquis had begun tentative negotiations with the Ford Foundation and a second group of researchers who envisioned the establishment of a broad interdisciplinary research Institute. This group was headed by Marquis' former Yale colleague Ernest Hilgard, and included clinical psychologists David Shakow, Lawrence Kubie and Merton Gill. At the same time, in the fall of 1954, Raymond Waggoner, the chairman of the psychiatry department at the University of Michigan Medical School, had been negotiating with the state legislature for the appropriations for Michigan's Neuropsychiatric Institute, which was funded directly from state. The funding for the basic program and operation of the Institute had already been included within the state's budget, but Waggoner was negotiating for a supplemental appropriation specifically for research relevant to mental illness.

When the negotiations for Miller's Institute at Berkeley fell through in the fall of 1954, Michigan was ready to pounce. Waggoner immediately contacted Miller with word of the possibility of a significant research appropriation coming from the Michigan state legislature. Miller returned the interest with regard to bringing his group to Michigan. After the beginning of the New Year, 1955, progress was swift. With the approval of the Regents, Waggoner met with Sen. Elmer Porter to request a supplemental appropriation for the Neuropsychiatric Institute of \$175,000 (the equivalent of \$1,400,000 today), for research for the study of mental health problems. The Appropriations Committee gave its tentative approval pending the normal legislative process. With Waggoner's pitch to the legislature emphasizing mental health, and with the appropriation being applied to the budget of the Neuropsychiatric Institute, Waggoner wrote to Miller, "I think it might be wise to change the title of the research program slightly" and although he didn't make a suggestion in that letter, around the University he had been referring to it as the mental health research unit of the NPI.

The critical meeting took place January 29, 1955. Miller came to Ann Arbor to meet with Waggoner, Donald Marquis, Vice President Marvin Niehuss, and the President of the University of Michigan, Harlan Hatcher. Prior to the meeting, Miller acceded to Waggoner's suggestion to name the program the Mental Health Research Institute. Marquis assured Hatcher and Niehuss that the Chicago group did not overlap with ongoing research at Michigan, and Waggoner assured them that the appropriations would be approved by the legislature. The meeting was a great success.

The following two weeks saw a flurry of activity and correspondence: Gerard and Rapoport were in California at the Center for the Advanced Studies in the Behavioral Sciences. Miller wrote to them with regard to the Michigan plans, and he sent Rapoport an unsolicited airplane ticket to Michigan with a suggestion that he travel to Ann Arbor to meet with Clyde Coombs and the mathematical psychology group. Donald Marquis wrote a follow-up letter to President Hatcher again describing for

him how well the Chicago group would complement (not overlap) the ongoing research within the psychology department. A. J. Furstenberg, the Dean of the Medical School, wrote to Niehuss with his approval contingent on the legislature's appropriation, and its assurances that funds would also be forthcoming in subsequent years. Miller wrote ecstatically to his friend Franz Alexander about the plans, noting how much money was involved, particularly with additional funds that Marquis would attempt to raise, and how quickly Michigan was working to finalize the deal. Finally, Waggoner wrote to Sen. Porter and formally proposed that the supplementary appropriation be approved for a "Center for Mental Health Sciences".

By April most of the legal formalities with regard to the Regents and the legislature were complete, although there still was some negotiation. Michigan was offering Miller and Gerard significantly less money than they had been making in Chicago, and Waggoner was negotiating with the administration on their behalf. Upon hearing of the possibility of him coming to Michigan, Ted Newcomb had written to Miller noting that, "I have been saying 10,000 Hail Mary's a day ever since I heard the report". Miller wrote him back at this juncture saying, "... please continue the Hail Mary's for a time." On April 22, 1955 President Hatcher wrote to Miller notifying him of the formal approval by the Regents of the project.

Two days later an article appeared in the Detroit News under the headline, "'Military' Attack on Mental Ills Proposed at UM". The article went on to note that the Regents had made a formal request to the legislature for an appropriation of \$175,000, and that this "attack" on mental illness could be compared to the attack that had recently been made with regard to curing polio. This article was based on a news release that emanated from Raymond Waggoner.

Near the end of June, Miller organized a weeklong conference to plan for the new Institute. It was held in California, nominally because Gerard and Rapoport were still at the Center for Advanced

Studies. Marquis was also in attendance. Waggoner was invited as well, but the present author could find no correspondence indicating that he accepted the invitation.

Finally, on July 24th the regents gave formal approval to the appointments of James Grier Miller, Ralph Gerard, and Anatol Rapoport, to begin the first week of August, 1955. The appointments were formally accepted, and for Miller and Gerard at salaries considerably below what they had earned the previous year. On August 1st the Mental Health Research Institute began to function, with James Grier Miller as its director. In its initial year, the Institute shared space in medical research buildings and NPI. In the second year, the University bought and remodeled a house at 1137 East Ann Street for its offices, and began planning for a major new building on the Medical Campus. The Institute was administered as a unit within the department of psychiatry in the Medical School, with an advisory committee consisting of the Deans of the Medical School, Public Health, LS&A, and the Graduate School; the chairman of the psychology department; and the chairman of the department of psychiatry as its chairman.

In Hatcher's letter to Miller of April 22nd formally acknowledging the Regents' action with regard to the new Institute, an important subtext needs to be noted. This theme would result in some long-term tension within the Institute, from its very beginning, right up until the Institute's name was changed in 2005: Hatcher quoted the specific mission for the project from the proposal that the Regents had sent to the legislature, using wording that he undoubtedly received from Waggoner: "to undertake basic research directed toward the cause of mental disease and the development of procedures leading to the prevention of mental disease." This mission statement differs dramatically from the wording in Miller's original proposal for an Institute for the Behavioral Sciences. It is much more specific, and orients the project directly toward mental health research. During the rest of Miller's tenure at the University of Michigan the differences between these two mission statements would remain a point of contention between Miller and Waggoner. Once he established MHRI at Michigan, Miller as director of

the Institute, encouraged and supported wide ranging programs of basic research in behavioral and neuroscience, much of which had little direct relevance to mental health and its prevention. Waggoner often took issue with this work. In fact, in a 1967 memo to the staff of the Institute on the occasion of Miller's resignation as Director, Waggoner explicitly restated his original mission statement in the Regents' proposal. He further stated: "In the pursuit of basic problems some research will become expanded in a direction which is no longer pertinent to mental health problems. In that case these projects may need to be transferred from the Institute and continued in some other area of University."

Ralph Gerard (1900-1974) was one of the founding members of MHRI, and was immediately named its "Director of Laboratories". Although he never held an appointment within the psychology department, this was probably just a consequence of the era in which he was at Michigan. With the influence of neuroscience within the current field of psychology, today Gerard would have undoubtedly been an active member of our current biopsychology program. While at Michigan he worked closely with a number of psychology faculty members.

Gerard was a prodigy. He graduated from high school at the age of 15, and by the time he turned 21 he had completed a PhD degree in physiology at the University of Chicago. In 1925 he further completed an M.D. degree at Chicago. From 1928 to 1952 he was a professor of physiology at Chicago, and in the two years before he came to Michigan he was a professor of neurophysiology in the College of Medicine at the University of Illinois, which was located in Chicago. He is considered by many the "father of neuroscience", and he is literally the man who coined the term, "neuroscience". He was a president of the American Physiological Association, the honorary president of the Society for Neuroscience, and a member of the National Academy of Sciences. The major annual award for contributions to neuroscience from the Society for Neuroscience is named Ralph W. Gerard award.

Anatol Rapoport (1911—2007) also never had an appointment in the psychology department, although he maintained continuing and productive interactions with the mathematical psychology program. He was born in Russia and came to the United States in 1922 and became a naturalized citizen in 1928. He studied music composition and conducting at the State Academy of Music and Performing Arts in Vienna from 1929 until 1934. He fled Austria with the rise of Nazi-ism and returned to the United States, where he continued to perform as a concert pianist. He eventually turned to the study of mathematics, receiving his PhD from the University of Chicago where he studied with Nicolas Rashevsky. After serving in World War II he returned to the University of Chicago as a member of the Committee on Mathematical Biology. He was one of the leading pioneers in general systems theory, and mathematical biology. He was also noted for his work on peace studies, nuclear disarmament, and international politics. In areas relevant to psychology he produced seminal works on game theory, social networks, psychological conflict and semantics. In 1970 he left Michigan and moved to the University of Toronto, in part as a protest against the United States policies with regard to the Vietnam War. He was the author of approximately 500 publications. (Schwaninger, 2010)

James Grier Miller (1916-2002)

Some of James Grier Miller's work has already been detailed in this chapter. But it is appropriate to profile the man as well. Jim Miller was born in Pittsburgh, Pennsylvania. He began his college career at Columbia Bible College in Columbia, South Carolina with the intent of becoming a missionary. However after a year he changed his mind and entered Harvard University, from which he gained a bachelors degree in 1937, a Masters degree in 1938, an M.D. degree in 1942, and a PhD degree in psychology in 1943. While a student at Harvard he was a member of the prestigious Harvard Society of Fellows.

During the war, Miller was a member of the evaluation staff of the Office of Strategic Services (OSS), which was the forerunner of the Central Intelligence Agency. The staff of the OSS at this time included a number of eminent psychologists: Edward Tolman, Henry Murray, Donald McKinnon, Urie Bronfenbrenner, John Gardner, and Ted Newcomb. Together the psychologists developed an extensive psychological assessment program for OSS recruits, which led to a classic report after the war, *Assessment of Men*. (Pickren, 2003).

After the war, Miller joined the Veterans Administration, where he created the training program that was responsible for the transformation of clinical psychology. In 1948 he became chairman of the psychology department at the University of Chicago, where he remained until moving to Michigan in 1955. He was the Director of the Mental Health Research Institute until 1967. While at Michigan he founded the journal *Behavioral Science*, which later became *Systems Research and Behavioral Science*. From 1967 until 1973 he was the first provost at the new Cleveland State University, and from 1973 until 1980 he was the President of the University of Louisville. While at Cleveland State he founded EDUCOM, an early computer network linking universities, which was a forerunner to the Internet. (Agranoff, 2003). During his career, in addition to his visionary exploits with regard to his roles in developing clinical psychology, the Mental Health Research Institute, and pioneering the Internet, he also published more than 100 scholarly articles and nine books.

Education and Psychology

When Donald Marquis arrived at a Michigan in 1945, he had two interests with regard to issues concerning psychology and education. One interest entailed drawing a closer relationship between the psychology department and the School of Education. The second, more general interest arose out of

Marquis' educational concerns about the psychology curriculum and the quality of teaching that took place within psychology courses.

Marquis interest in the relationship of the department and School of Education were the result of his long friendship with Willard Olson. Olson was a professor in the School of Education, having returned to Michigan after the war. He had held significant positions in the American Psychological Association both before and during the war, and he and Marquis had worked together frequently on APA matters. Marquis was also acquainted with Clark Trow, who was also a returning professor in the School of Education. Both Olson and Trow, along with Marquis, had been delegates to the "constitutional convention" that reorganized the APA in 1943.

There had often been interactions between members of the psychology department and teacher education programs at Michigan in the past (Raphelson, 1968a). Although the school of education was not officially organized until 1921, the nation's first professorship of the science and art of teaching had been established at Michigan in 1879. Additionally, the University had been involved in accrediting Michigan high schools since 1872. These early circumstances were among the reasons why John Dewey accepted the chairmanship of the philosophy department at Michigan in 1889. Although Dewey had been trained as a psychologist, by the time he came to Michigan as chairman, he had developed broad interests in the philosophy of education. As chairman of the department, Dewey remained a promoter of the "new" psychology and he established the first psychology laboratory at Michigan in 1890. But he also was concerned about education. He often visited Michigan high schools in the accrediting process in order to improve the quality of their graduates, many of whom would attend the University. One of the reasons why Dewey left Michigan in 1894 for the chairmanship in the newly founded University of Chicago was because that department explicitly had built pedagogy into its philosophy department curriculum.

Walter Pillsbury, the long-term chairman of psychology at Michigan who Marquis replaced, had recognized the role of psychology in teacher education at the turn of the century by organizing a special one semester introductory psychology course intended specifically for education students. This was a different course than the full year introductory course that was offered for literary department students. And, in 1925 Pillsbury published a book entitled, *Education As the Psychologist Sees It*. So, he too had a long standing interest in education (Raphelson, 1968b).

As noted earlier in the chapter, Olson was offered the title of professor of psychology as one of Marquis' first acts when he arrived at Michigan. Together Marquis and Olson "felt that some of the doctoral students in educational psychology, who were beginning to enroll in larger numbers, needed more psychological training than (the School of Education was) prepared to give, and they were already beginning to call themselves psychologists. Students of psychology needed some education to be effective in the school situation." (Trow, 1979). Hence, Olson and Marquis began planning for a program to combine graduate work in education and psychology. The planning became more serious once Olson was named Dean of the School of Education in 1952, and finally came to fruition in 1959 as the Combined Program in Education and Psychology (CPEP). This program, which has produced hundreds of PhDs, is still in place today and remains a significant part of the psychology department. Even though, this program wasn't initiated until after Marquis left Michigan, nevertheless its existence belongs to the legacy of Donald Marquis. However, because of the date of CPEP's initiation, 1959, its details will be discussed in a later chapter.

Marquis second interest in educational issues, the teaching of psychology, did not have the same kind of programmatic result that the development of CPEP had. Nevertheless, it had long-term ramifications for the history of the department. While he was a faculty member at Yale, Marquis was a

dedicated and popular teacher, and "it was he who in the late 1930s stimulated the younger departmental group to reform and upgrade undergraduate program." (Sears, 1973).

After arriving at Michigan, Marquis undertook a similar program of reform. In 1947 Marquis established a Committee on the Undergraduate Curriculum with Ed Walker as chairman. This committee's members included Roger Heyns, and a graduate student named Bill McKeachie. The committee "began trying to devise a curriculum which would make sense in terms of the goals which we held for our students." (McKeachie, 1972). In 1950 Marquis received a grant from the Grant Foundation and the Carnegie Corporation to study the undergraduate curriculum on a national basis. Bill McKeachie, who was now a faculty member, attended the conference which was sponsored by the grant the following summer. The conference ended up putting together a model curriculum that was very much like the one formulated by Walker's committee at Michigan. When McKeachie return to Ann Arbor in the fall he was named the chairman of the Committee on the Undergraduate Curriculum, and he instituted the program within the department.

Marquis also took special interest in the teaching of introductory psychology. Throughout its history the department had usually taught introductory psychology as a lecture course. Marquis reorganized the course so that there also would be discussion sections conducted by graduate student teaching assistants in addition to the lectures.

Harold Guetzkow

Marquis initially placed the course, and the supervision of the teaching assistants, in the hands of one of the department's senior graduate students, Harold Guetzkow, who was finishing his degree. Although he was still a graduate student, Guetzkow was 32 years old. He had entered the graduate program at Michigan after the war. During the war he was allowed the draft status of conscientious objector. He served part of his alternative duties at the Laboratory of Physiological Hygiene in the

Medical School at the University of Minnesota. At this laboratory he was one of 36 conscientious objectors to participate in the famous Minnesota starvation experiment. Afterwards, he had published a book about his experiences, *Men and Hunger: a Psychological Manual for Relief Workers*, published in 1946. He finished his graduate work in 1948 and Marquis immediately brought him onto the faculty as assistant professor. A year later he was hired away from Michigan to the Carnegie Institute of Technology by his undergraduate classmate at the University of Chicago, Herbert Simon. He spent most of his career as a distinguished professor of psychology, political science and sociology at Northwestern University where he directed the International Relations Program. Beyond his scholarly activities, he was known throughout his career for the quality of his mentoring.

In teaching and administering the introductory course, Marquis gave Guetzkow full responsibilities, including:

to meet with the Teaching Fellows weekly to talk about teaching, discuss problems we encountered, and debate the virtues of different ways of approaching teaching. Such training in teaching was rare. Graduate departments trained students to do research; teaching was simply something you did with the knowledge you had gained. Harold was an ideal mentor. He developed the sort of accepting, supportive situation that enabled us to discuss problems arising in our classes without our feeling embarrassed or defensive. (McKeachie, 2005)

Guetzkow's graduate student teaching assistants were an exceptional crew: it included Bill McKeachie, Roger Heyns, Ralph Gibson, Jerry Gurin, Libby Douvan and Marty Hoffman, among others. Guetzkow inspired the group to seek empirical answers to the discussions and arguments that took place in their weekly meetings, and the group began devising a research program. Marquis gave the group strong backing from the department. He even contributed from the department \$100 to supplement McKeachie's \$350 half-time teaching fellowship so that he could coordinate the research efforts of the group.

The following year, 1947, Guetzkow needed the time to finish his dissertation, so Marquis turned over the introductory course, and the supervision of the teaching assistants, to Bill McKeachie. Even after McKeachie finished his own degree and became a faculty member, he retained this role for many years, striving to improve the quality of the teaching of introductory psychology, and enhancing the experience of the graduate student instructors. In doing so, he continued a tradition within the department established by Donald Marquis. "Marquis gave us strong backing in the department. He contributed to the sense that doing an excellent job of teaching the introductory course was important and valued by the department." (McKeachie, 1972).

McKeachie's work to improve the quality of the instruction for the teaching assistants affected generations of graduate students. Fifty years after finishing his degree at Michigan, Douglas Creelman, a Michigan PhD from the late 1950s, and later a distinguished professor at the University of Toronto, wrote to the present author about McKeachie's program of training graduate student instructors in introductory psychology: "I hope, in your history, you give signal coverage to that program; it was very special, and to my knowledge unique in actually training teachers to teach." (Creelman, 2008). And, for many decades, countless teachers all over the world have benefited from McKeachie's experience and wisdom about teaching through his legendary book, *Teaching Tips*, first published in 1951 and still in print today in its 13th addition.

There is an additional, important sideline with regard to the history of the department that has emanated at least indirectly out of Marquis' program to improve the teaching of introductory psychology. Roger Heyns, along with McKeachie, was in the first group of graduate student teaching assistants. He was profiled earlier in the chapter. Like McKeachie, Marquis kept Heyns on the faculty once he finished his degree. Eventually Heyns went into administration. While still at Michigan, he rose to the level of Vice President for Academic Affairs. During Heyns years in central administration, Bill

McKeachie became chairman of the psychology department. Together their professional commitment to the improvement of teaching led them to establish on the Michigan campus the Center for Research on Learning and Teaching (CRLT) in 1962, the first university teaching center in the country. “CRLT is dedicated to the support and advancement of research-based learning and teaching practices and the professional development of all members of the campus teaching community”. (Center for Research on Learning and Teaching, 2009). This mission statement incorporates into it the very values that were imparted into Heyns and McKeachie by Harold Guetzkow and Donald Marquis over 60 years ago.

The story about CRLT lies outside of the time frame of this chapter, but a detailed account of the Center will be provided in a later writing. Nevertheless, it remains as one more part of the legacy of Donald Marquis.

Wilbert J. McKeachie (1921-)

It is fitting that the last profile of this chapter be devoted to the life and career (so far) of Wilbert J. (Bill) McKeachie. If Donald Marquis was the architect who drew up plans and laid the foundation for the modern Michigan psychology department, then Bill McKeachie was the contractor who constructed much of the edifice. McKeachie became the third chairman of the Department in 1961 after a transitional chairmanship of Lowell Kelly between 1957 and 1961. When Marquis left the department in 1957, he had grown it from eight faculty members to forty. When McKeachie finished his second term as chairman in 1971 the department had over 100 faculty members with professorial titles.

Bill McKeachie was born in Clarkston, Michigan in 1921. His father was a teacher who taught in a one room schoolhouse. After graduating high school Bill earned a scholarship to attend Michigan State Normal College (now Eastern Michigan University), which covered the \$30 semester tuition. In order to defray other expenses Bill worked a variety of jobs, including one summer on the assembly line at General Motors. He also played the piano and sang in bars with small



nonunion bands. With aspirations to become a high school teacher, Bill graduated in 1942, having majored in mathematics with minors in English and history. Along the way he had enjoyed immensely all three courses that were offered in psychology. (Krawiec, 1972).

Because of the war and the draft it was unlikely in the short term that Bill would be able to meet his goal of becoming a teacher. So, as an alternative he accepted a position as the minister of an Upper Peninsula Methodist church. To supplement his \$500 a year salary as a minister he also taught mathematics, geography, English, history, and science in the local school. Unfortunately, his draft board did not take his ministerial vocation seriously and refused to give him a deferment. After five months of preaching and teaching Bill enlisted in the Navy. But, the day before he reported for active duty he married his college sweetheart, Virginia Mack. Such a hasty decision might not have worked out, but 68 years later Bill and Ginny are still together.

During the war Bill saw combat duty as a radar and communications officer on a destroyer in the Pacific. Although in college he had prepared to be a high school teacher, amidst the dangers of war he vowed that should he survive he would undertake graduate studies and psychology. He did survive, and

when the war ended he arrived at the University of Michigan in 1945, at the same time as his graduate mentor-to-be, Donald Marquis.

As noted above, early in his graduate career McKeachie became a teaching assistant for the introductory psychology course. In this capacity he also became involved in conducting research on the questions that arose out of his experiences in the classroom. Thus began a research career on the nature of teaching and learning that endured for over 60 years. As a generalist Bill guided his research program into virtually every aspect of the classroom situation, including individual differences among students, gender differences, students' perceptions of teaching, student ratings, and students' feelings about teaching and their teachers. The yield of the resulting knowledge has been immense: 32 books, 117 book chapters, and 199 other articles. (Landrum, 1999). The citation for his James McKeen Cattell Fellow Award from APS in 2009 describes some of his findings:

His research is among the very earliest to examine student anxiety in the college classroom, and to document sex differences in classroom anxiety, test anxiety and interactions with the teacher and material. This research is clearly the precursor for continued work on this topic that has subsequently extended to any group of students that are a minority within the classroom or college setting, or the outsider in any social environment.

McKeachie's work also demonstrated differences in teaching style among faculty and the importance of teaching approaches to the learning of the students. He found that the best way to improve teaching was to give teachers direct feedback on their effectiveness from their students and fellow faculty. (Association for Psychological Science, 2010).

Bill's manifold activities within professional organizations are legendary. For almost 50 years Bill served on at least one committee or another of the American Psychological Association or one of its divisions, including election as President in 1976. He is also Past President of the American Association of Higher Education; the American Psychological Foundation; the Division of Educational, Instructional, and School Psychology of the International Association of Applied Psychology; and the Psychology

Division of the American Association for the Advancement of Science. These are just the highlights, his other professional activities are far too numerous to list.

His honors are also too numerous to list in their entirety, but in summary form: Bill has been awarded 31 regional or national honors, and been granted eight honorary degrees. These include both the 1987 American Psychological Association Award for Distinguished Career Contributions to Education and Training in Psychology, and the 1998 Gold Medal Award for Enduring Contributions to Psychology and the Public Interest.

No profile of Bill McKeachie could possibly be complete without a mention of fast-pitch softball. Bill pitched softball for 56 seasons during which he compiled a winning percentage of greater than .750. He threw 35 no-hitters along the way. When not pitching he played in the field and was a superb fielder. As a batter he hit both with power and for average. But these numbers and facts barely scratch the surface of what kind of a ballplayer and teammate Bill McKeachie was. The present author played alongside Bill for over 20 seasons, including 1976 when, while serving as APA president, Bill's pitching record was 22-0, and the team won the championship in every league in which it was entered. The present author can also attest to the qualities of teamwork and leadership that Bill brought to the game, which were inestimable. Of course, everyone who has ever known Bill, even if they never saw him play ball, knows about these qualities. They have always been on display in any and all of Bill's multifarious endeavors throughout his lifetime.

The End of the Reign

After twelve magnificent years, the Marquis era, in which he created the world's greatest psychology department, came to an end, precipitously. In a manner that has become all too common in current times, but was tainted with scandal in 1957: Donald Marquis, a married man, became involved with a female graduate student; left his wife; resigned as chairman of the psychology department; and left Ann Arbor.

It was the summer of 1957. Marquis had hired a masters-level graduate student, Peggy Cook, to work on one of his projects. As the fall term began, his associate chairman, Lowell Kelly, one of Marquis' closest colleagues, noticed marked changes in his behavior... and a growing affection between Marquis and the young lady. After a long and close relationship going all the way back to their graduate school days, Marquis and Kelly became increasingly estranged because Marquis knew that Kelly understood what was going on (Kelly, 1980). And suddenly, to the shock of everyone, Marquis resigned from the University and left Ann Arbor. He quickly obtained a position on the staff of the Social Science Research Council. In 1959, he married Ms Cook, and he was appointed as Professor of Psychology in the Sloan School of Management at the Massachusetts Institute of Technology. He died in 1973.

In spite of its ending, the story contained in these pages is truly astonishing. More than three dozen people have been profiled, representing most of the major figures who joined the department between 1945 and 1957. Of these people, only two, Leon Festinger and Urie Bronfenbrenner, did not stay until the end of the Marquis Reign, and almost all of them remained at Michigan for the rest of their long careers. And, in highlighting their stories, what amazing careers they were. As you read these accounts, you learned of four APA Presidents, seven Distinguished Contribution Awards, five APA Gold

Medals and seven members of the National Academy of Sciences. Of course, there was also a mention of other significant honors: Presidents of divisions of APA, of other national professional organizations, and of regional associations, editorships of major journals, etc, and there were many more honors that were simply not mentioned because of space.

How could this group accomplish so much? They certainly had amazing talents. But there was more. Tom Brokow called them, “The Greatest Generation” (Brokow, 1998), and this account certainly confirms this accolade. As Brokow points out, they won World War II. All but a few of the people highlighted in these pages sacrificed years of their lives, at important points in their academic careers, to play significant roles in the war that saved western democracy. After that, merely being a psychology professor must have been sheer joy, and the joy of it seems to come through in all of these accounts. These were accomplished individuals, who enjoyed teaching, research, mentoring students, and all of the duties that are part of the professional academic life. But, on top of this, they were all great team members, and they all loved being part of the incredible enterprise that Donald Marquis created after the war, the Michigan Psychology Department.

Bibliography

- Adelson, J. (1995). Frederick Wyatt (1911-1993). *American Psychologist, 50*, 301.
- Agranoff, B. (2003). James Grier Miller, 1916-2002. *Neuropsychopharmacology, 28*, 2221-2222.
- Alpern, M. (1996). *Unpublished Memoir of Matthew Alpern*. Ann Arbor, MI: University of Michigan Psychology Department.
- American Psychological Association. (1975). Distinguished Scientific Contribution Awards for 1974. *American Psychologist, 50-54*.
- American Psychological Association. (1977). American psychological foundation awards for 1976. *American Psychologist, 32*, 98-99.
- American Psychological Association. (1977). Gold Medal Award Winners for 1977. *American Psychologist, 32*, 50-62.
- American Psychological Association. (1978). American Psychological Foundation Awards for 1977. *American Psychologist, 33*, 84-85.
- American Psychological Association. (1980, January). Awards for distinguished scientific contributions. *American Psychologist, 35*, 26.
- American Psychological Association. (1986). Distinguished scientific contribution awards for 1985. *American Psychologist, 41*, 338-342.
- American Psychological Association. (1986). Psychological Professional Gold Medal Award. *American Psychologist, 1986*, 411-412.
- American Psychological Association. (1988). Lifetime award for contributions to developmental psychology. *American Psychologist, 43*, 254-255.
- American Psychological Association. (1991). Distinguished Scientific Contribution Awards for 1990. *American Psychologist, 46*, 294-295.
- Ash, E. (1968). The Veterans Administration psychology training program. *Clinical Psychologist, 21*, 67-69.
- Association for Psychological Science. (2010). *2008-2009 James McKeen Cattell Fellow Award*. Retrieved from Association for Psychological Science: <http://www.psychologicalscience.org/awards/cattell/citations/mckeachie.cfm>
- Benjamin, L. T., & Baker, D. B. (2000). Bolder at 50: Introduction to the section. *American Psychologist, 55*, 233-235.
- Bentley Historical Museum. (1950-55). MHRI History/Background. Ann Arbor, MI: University of Michigan.
- Bird, D. (1981, June 19). George Katona, 79, leading economist. *New York Times*.

- Bird, D. (1981, June 19). George Katona, 79, Leading Economist. *New York Times*.
- Brokow, T. (1998). *The Greatest Generation*. New York: Random House.
- Buchtel, G. (2010, April 1). Email correspondece. Ann Arbor, MI.
- Cannell, C. F., & Kahn, R. L. (1984). Some factors in the origins and development of the Institute for Social Research, the University of Michigan. *American Psychologist, 39*, 1256-1266.
- Capshew, J. H. (1999). *Psychologists On The March*. New York: Cambridge University Press.
- Cartwright, D. (1947). Archived documents. *Bentley Historical Library*. Ann Arbor, MI.
- Ceci, S. J. (2006). Urie Bronfengrenner. *American Psychologist, 61*, 173-174.
- Center for Research on Learning and Teaching. (2009). *CRLT Mission Statement*. Retrieved February 20, 2010, from CRLT Center for Research on Learning and Teaching: <http://www.crlt.umich.edu/aboutcrlt/mission.php>
- Converse, P. E. (1994). Theodore Mead Newcomb (1903-1984). *National Academy of Sciences Biographical Memoirs, 72*, 321-338.
- Coombs, C. (1987). Angus Campbell: 1910 -- 1980. *Biographical Memoirs of the National Academy of Sciences, 43* -- 58.
- Creelman, D. (2008, 12 21). Personal communication. *Email*.
- Dawes, R. M. (1994). *House of cards*. New York: Free Press.
- Dawes, R. M., & Tversky, A. (1989). Clyde Hamilton Coombs (1912-1988). *American Psychologist, 44*, 1415-1416.
- Department of Psychology. (1977). *Statement for the Regents on Wilson P. Tanner, Jr. Announcement*, University of Michigan, Psychology, Ann Arbor, MI.
- Dewsbury, D. A. (1993). Norman R. F. Maier and the Genesis of Seizures. *American Psychologist, 48*, 869-877.
- Douvan, E. (1986). Theodore M. Newcomb (1903-1984). *American Psychologist, 41*, 1380-1381.
- Doyal, R. A. (1995, October 2). MHRI marks 40th anniversary with symposium. *The University Record*.
- Doyle, C. (1979). *Memoir for Edward L. Walker*. University of Michigan, Psychology Department. Ann Arbor, MI: Unpublished manuscript.
- Doyle, C. (1997). *Edward L. Walker*. University of Michigan, Psychology Department. Ann Arbor, MI: Unpublished manuscript.
- Festinger, L. (. (1980). *Retrospections on social psychology*. New York: Oxford University Press.
- Fiske, D. W. (1987). E. Lowell Kelly (1905-1986). *American Psychologist, 42*, 511-512.
- Frantilla, A. (1999). *Social Science in the Public Interest*. Bentley Historical Library. Ann Arbor: University of Michigan.

- Freedman, D. K. (1992). *History of psychotherapy*. Washington, D.C.: American Psychological Association.
- Galinsky, M. D. (1995). Edward S. Bordin (1913-1992). *American Psychologist*, *50*, 172.
- Gilgin, A. R. (1982). *American psychology since World War II*. Westport, CN: Greenwood Press.
- Gold, M. (1988). Ronald O. Lippitt. *American Psychologist*, *43*, 398.
- Goodwin, C. J. (2008). *A History of Modern Psychology (3rd edition)*. Hoboken, NJ: John Wiley & Sons.
- Grant, R. (2008, February). The long arm of the US Strategic bombing survey. *Airforce Magazine*.
- Haider, B. (2008). Contributions of Yale neuroscience to Donald O. Hebb's Organization of Behavior. *Yale Journal of Biology and Medicine*, *81*, 11-18.
- Hergenhahn, B. R. (2009). *An Introduction to the History of Psychology (6th edition)*. Belmont, CA: Wadsworth.
- Hevesi, D. (1995, September 14). Roger W. Heyns, 77, Head of Berkeley in the 60s. *New York Times*, p. B15.
- Hilgard, E. (1987). *Psychology in America: A Historical Survey*. Orlando, FL: Harcourt Brace Janovich.
- Hutt, M. L., & Milton, E. O. (1947). An analysis of duties performed by clinical psychologists in the army. *American Psychologist*, *2*, 52-56.
- Jennings, E., Manaster, G., & Weinstein, C. (1999). William Lee Hays (1926 -- 1995). *American Psychologist*, *54*, 204.
- Kahn, R. L. (1981). Angus Campbell (1910-1980). *American Psychologist*, *36*, 1450-1451.
- Kahn, R. L. (2000). Daniel Katz (1903-1998). *American Psychologist*, *55*, 1056-1057.
- Kahn, R. L., & Tannenbaum, A. (2005). A tribute to Stanley E. Seashore. *The Industrial-Organizational Psychologist*, *43*, 29-30.
- Katterman, L. (1999). *Michigan Greats*. Retrieved February 2/5, 2010, from Research Administration at the University of Michigan: <http://www.drda.umich.edu/news/michigangreats/kahn.html>
- Katz, D. (1986). Theodore M. Newcomb (1903-1984). *American Journal of Psychology*, *99*, 293-298.
- Katz, D. (1987). Helen Peak (1900-1985). *American Psychologist*, *42*, 510.
- Kelly, E. L. (1980). E. Lowell Kelly. In G. Lindzey, *A history of psychology in autobiography*. Washington, D.C.: W. H. Freeman & Co.
- Krawiec, T. C. (1972). *The Psychologists: What they do and How They Do It*. New York: Oxford University Press.
- Landrum. (1999). Fifty-plus years as student-centered teacher: An interview with Wilbert McKeachie. *Teaching of Psychology*, *26*, 142-146.
- Levine, A. (1992). *The Strategic Bombing of Germany, 1940-1945*. Westport, CT: Praeger.

- Maier, N. R. (1960). Maier's Law. *American Psychologist*, 15, 208-212.
- Marquis, D. G. (1945). The Office of Psychological Personnel, Report for the Year 1945. *American Psychologist*, 1, 346-348.
- Marquis, D. G. (1947). Archived documents. *Bentley Historical Library*. Ann Arbor, MI.
- Marquis, D. G. (1949). Research Planning at the Frontiers of Science. *American Psychologist*, 5, 430-438.
- Marrow, J. (1969). *The practical theorist*. New York: Basic Books, Inc.
- McKeachie, W. (2008). *Memories*. Ann Arbor, MI: Informal unpublished manuscript.
- McKeachie, W. (2009, 2 24). Personal communication.
- McKeachie, W. J. (1972). Autobiography. In T. S. Krawiec, *The Psychologists: What They Do and How They Come to Do It*. New York: Oxford University Press.
- McKeachie, W. J. (2001, October 29). Milholland J. *University Record*.
- McKeachie, W. J. (2001). Stanford C. Erickson (1911-2000). *American Psychologist*, 56, 758.
- McKeachie, W. J. (2005, November 10). *A Life of Learning and Teaching*. Retrieved from Teachpsych.org: <http://teachpsych.org/resources/e-books/tia2005/html/33.mckeachie.html>
- Meyer, D. E. (2003). J. E. Keith Smith (1928-2002). *American Psychologist*, 58, 315.
- Miller, J. G. (1946). Clinical psychology and the Veterans Administration. *American Psychologist*, 1, 181-189.
- Miller, J. G. (1973). Donald G. Marquis. *Behavioral Science*, 18, 235-241.
- Moore, D. L. (1992). The Veterans Administration and the training program in psychology. In D. K. Freedheim, *History of Psychotherapy* (pp. 776-800). Washington, DC: American Psychological Association.
- Morgan, J. N. (1982). George Katona (1901-1981). *American Psychologist*, 37, 1140-1141.
- Morse, W. C. (1983). William Clark Trow (1894-1982). *American Psychologist*, 39, 849-850.
- Ness, G. D. (1985, May). Robert Cooley Angell. *Footnotes, Newsletter of ASA*, p. 10.
- New York Times. (2001, September 28). Charles Cannell, 88; Improved survey accuracy. *New York Times*, pp. Section D, page 6.
- Newcomb, T. M. (1974). Theodore M. Newcomb. In G. (. Lindzey, *A history of psychology in autobiography, Vol. 6* (pp. 367-391). Englewood Cliffs, NJ: Prentice Hall.
- Nitze, P. (. (1945). *The United States Strategic Bombing Survey: Summary Report*. Washington, DC: United States Government Printing Office.
- Page, E. (2001, September 28). Charles Cannell, 88; Improved Survey Accuracy. *New York Times*.

- Patnoe, S. (1988). *A narrative history of experimental social psychology*. New York: Springer-Verlag.
- Peckham, H. H. (1967). *The Making of the University of Michigan*. Ann Arbor: University of Michigan Press.
- Phillips, L. D., & von Winterfeldt, D. (2006). *Reflections on the contributions of Ward Edwards to decision analysis and behavioral research*. London School of Economics. London: London School of Economics.
- Pickren, W. (2003). James Grier Miller (1916-2002). *American Psychologist*, 58, 760.
- Posner, M. I. (1992). Arthur Weever Melton (1906-1978). *National Academy of Sciences Biographical Memoirs*, 70, 315-328.
- Psychology Department. (2009). *Internal Review 2002-2008*. Ann Arbor: University of Michigan.
- Pugh, E. N., & Krantz, D. (1999). Mathew Alpern (1920-1996). 54, 364.
- Raphelson, A. (1968a). *Psychology at the University of Michigan, Volume I*. Ann Arbor: University of Michigan.
- Raphelson, A. (1968b). *Psychology at the University of Michigan*. Ann Arbor: University of Michigan.
- Raphelson, A. (1968b). *Psychology at the University of Michigan, Volume II*. Ann Arbor: University of Michigan.
- Regents. (1972). *Memoir marking retirement*. Ann Arbor, MI: University of Michigan.
- Regents, University of Michigan. (1945). January Meeting, 1945. (p. 836). Ann Arbor: University of Michigan.
- Reisman, J. M. (1991). *A history of clinical psychology*. New York: Hemisphere Publishing.
- Routh, D. K. (1994). *Clinical psychology since 1917*. New York: Plenum Press.
- Saxon, W. (1996, May 26). Mathew Alpern, 75, Color-Vision Researcher. *New York Times*, p. 133.
- Schenably, L. (1981, August 7). Finns "say it with a PhD". *The Green Valley News*.
- Schwaninger, M. (2010). *Anatol Rapoport (*1911)*. Retrieved from The International Society for the Systems Sciences (ISSS): <http://www.isss.org/lumrapo.htm>
- Sears, R. R. (1946). Graduate training facilities: I. General information, II Clinical psychology. *American Psychologist*, 1, 135-150.
- Sears, R. R. (1973). Donald George Marquis (1908-1973). *American Journal of Psychology*, 86, 661-663.
- Seashore, S. E., & Katz, D. (1982). Rensis Likert (1903-1981). *American Psychologist*, 37, 851-853.
- Smith, C. P. (2005). John W. Atkinson (1923-2003). *American Psychologist*, 60, 195.
- Solem, A., & McKeachie, W. J. (1979). Norman R. F. Maier (1900-1977). *American Psychologist*, 34, 266-267.
- Sommer, R. (1991). James V. McConnell. *American Psychologist*, 46, 650.

- Stewart, A. J., Antonucci, T. C., & Veroff, J. B. (2003). Elizabeth Douvan (1926-2002). *American Psychologist*, *58*, 405.
- Strupp, H. H., & Howard, K. I. (1992). A brief history of psychotherapy research. In D. K. Freedheim, *History of Psychotherapy* (pp. 309-334). Washington, DC: American Psychological Association.
- Swanbrow, D. (2008, July). Dorwin Cartright (1915-2008). *University Record*.
- Swanbrow, D., & Epele, E. (2007, November 09). In Memoriam: Joseph Veroff. *University Record*.
- Swets, J. (2010). *Tulips to Thresholds*. Los Altos, CA: Peninsula Publishing.
- Thompson, R. F. (1999). James Olds (1922-1976). *National Academy of Sciences Biographical Memiors*, *77*, 247-264.
- Time Magazine. (1970, November). Education: Vacancy at Berkeley. *Time Magazine*.
- Trow, W. C. (1979). Willard Clifford Olson (1899-1978). *American Psychologist*, *34*, 793-794.
- Tversky, A. (1992). Clyde Hamilton Coombs, 1912 -- 1988. *Biographical Memoirs, National Academy of Sciences*, *58* - 77.
- U.S. Strategic Bombing Survey, Morale Division. (1947). *The Effects of Strategic Bombing on German Morale*. Washington, D.C.: U.S. Strategic Bombing Survey.
- Uffelman, R. (2002, Spring). Anna Berliner (1888-1977). *The Feminist Psychologist*, *29*(2).
- UM Regents. (1945). January Meeting, 1945. *Report of Regents Meetings* (p. 836). Ann Arbor, MI: University of Michigan.
- UM Regents. (2005, April 21). change in name to the Molecular and Behavioral Neuroscience Institute. *Regents Communication Action Request*. Ann Arbor, MI: University of Michigan.
- UM Regents. (June, 1979). Memoir for Edward L. Walker. *Regents meeting*. Ann Arbor, MI: University of Michigan.
- Underwood, B. J. (1979). Arthur W. Melton (1906-1978). *American Psychologist*, *34*, 1171-1173.
- University of California Academic Senate. (1995). *1995, University of California: In Memoriam*. Berkeley: University of California History Digital Archives.
- Vandenbos, G. R., Cummings, N., & DeLeon, P. H. (1992). A century of psychotherapy: Economic and environmental influences. In D. K. Freedheim, *History of Psychotherapy* (pp. 65-102). Washington, DC: American Psychological Association.
- Veroff, J., & Mckeachie, w. J. (1997). Roger Heynes (1928-1995). *Amerian Psychologist*, *52*, 652.
- Walker, E. L. (1980). *Psychological Complexity and Preference: A Hedgehog Theory of Behavior*. Belmont, CA: Brooks/Cole Publishing.
- Walker-Family. (1997, October 29). Edward L. Walker. *University Record*.

Weidman, N. M. (1999). *Constructing scientific psychology*. New York: Cambridge University Press.

Zajonc, R. B. (1990). Leon Festinger (1919-1989). *American Psychologist*, 45, 661-662.