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100 Years in Psychology and Deafness: A Centennial Retrospective

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100 YEARS IN PSYCHOLOGY AND DEAFNESS: A CENTENNIAL RETROSPECTIVE[1]

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Abstract

This article is from an address the author made to Division 26 of the American Psychological Association. It reviews the development of psychological services provided to deaf persons in the United States. The article discusses the evolution of psychological testing, personality assessment, treatment of psychopathology, and the role of linguistics and sign language in psychology and deafness.

Setting the Stage

If you were an average Washington resident on this Saturday afternoon in 1892, you might have gone to the ballpark to see the Washington Nationals' sensational outfielder, William "Dummy" Hoy, first deaf player in the major leagues. Apart from his many celebrated athletic feats, Hoy made a contribution to baseball that has become a cherished part of the game's deportment ever since. He invented umpire's hand signals, like "Strike!", "Safe!", "Yerrr Out!"—so that they could communicate with him (Panara, 1992).

If your tastes ran more to the artistic in 1892, perhaps you read of the latest American sculptor causing a stir at the Salon des Artistes in Paris, Douglas Tilden, who was deaf (Panara & Panara, 1983).

If you were a young deaf person 100 years ago, you probably attended one of 77 residential deaf schools operating in this country (Gordon, 1892). The American system of deaf education, founded only 65 years earlier by Thomas Hopkins Gallaudet and the illustrious deaf teacher, Laurent Clerc, flourished in nineteenth century America, serving over 30,000 deaf students by 1892 (Gordon, 1892). You could even pursue a higher education then, at the National College for the Deaf here in Washington, DC. You'd have felt a proud sense of history there. The college president was Edward Gallaudet, Thomas's son, for whom it would later be renamed, and it had only been 28 years since the college charter was signed–by Abraham Lincoln. As a young deaf man or woman in the late nineteenth century, you'd have felt strongly about your civic responsibilities and pursued them through the newly established National Association of the Deaf.

If you were a psychologist 100 years ago, you looked forward to the publications of your esteemed contemporary, William James. You'd have read his most recent one in *The American Annals of the Deaf*, wherein he challenged the prevailing notion that formal language was necessary for abstract thought. If you were a regular reader of the *Annals*, you may also have seen the piece by David Greenberger who, two decades before the publication of the Binet scale, described objective procedures for evaluating the intellectual abilities of deaf children (Greenberger, 1889).

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If you were a professional in the deafness field 100 years ago, you were not a psychologist, you were a teacher and were surely aware of the raging debate between proponents of the purely oral method of instruction, espoused by Alexander Graham Bell and nearly universally practiced in Europe, and proponents of the American method which emphasized sign language, advocated by Edward Gallaudet. In 1892, you would have read the newly published book *Education of Deaf Children*, which contained the complete testimonies that Gallaudet and Bell made during their presentations to a British royal commission who'd invited them to defend and debate their polemic views on deaf education.

Psychology and Deafness in the Late Nineteenth Century

Popular notions about deaf people in the late nineteenth century reached several extremes. Some believed they were possessed by Satan. Others thought they were blessed with divine or supernatural powers. The majority, however, merely accepted Aristotle's long-standing edict that because deaf persons did not demonstrate language, it meant that they had no intellect, at least no more than animals had. At the time, speech was widely viewed as mankind's only proof of superiority over animals. Education for the deaf was viewed by many as important specifically for this reason, to raise deaf children above the level of the animals either as an end in itself or to afford them religious salvation, which could only come to humans, that is, speaking humans.

While psychologists were not yet participants in deaf education, certain psychological practices were evident. David Greenberger, superintendent of a deaf school in New York City, had grown dissatisfied with the subjective teachers' ratings traditionally used to differentiate able students from the "feeble-minded." He therefore developed a set of objective methods for gauging student's intelligence (Pintner, Eisenson & Stanton, 1941). His evaluation procedures, though not standardized, still included test-like materials and tasks: he asked children to sort form and color stimuli, gave them pictures to complete, blocks to build with, and tasks using numbers. Greenberger described these procedures in an 1889 publication, (Greenberger, 1889) 16 years before Binet's scale was released. By the turn of the century, word of the utility of objective evaluation methods had spread among deaf educators and they were some of the most enthusiastic recipients of the Binet-Simon scale when it was finally translated into English (Levine, 1977).

In addition to this early psychological testing work, educators in the late nineteenth century also published opinions regarding the psychological functioning of deaf children. James Foulston, principal of a deaf school in Ireland, characterized the uneducated deaf child as an id run amuck and the treatment of choice as consistent behavior modification and parental modeling:

> "Previous to instruction ... the animal feelings assume full reins — Being creatures of feeling, rather than sound reason, they are easily led into any, or everything, likely to afford present gratification, without for a moment thinking upon consequences ... If, however an occasional curb be given to their wild career, maternal fondness will, perhaps compensate the momentary check by an extra indulgence. Thus, then, the released feelings rush forward anew, with an increased and more dangerous impetuosity, until the unhappy and enslaved possessor becomes a torment to himself and a terror to all around him ... If parents

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> could only see the vast importance of a uniform, consistent conduct, and would perseveringly exhibit it as a pattern for their child's imitation, they may be assured ... Providence would surely smile graciously upon the work." (Foulston, 1855).

Foulston goes on to provide a case study of successful parenting that is remarkably behaviorist, and even includes a description of shaping. His emphasis on behavioral techniques and especially on parental modeling arises in part from his observation that most parents have an "inability to converse freely in the mute's language." He believed that more sophisticated instruction required "communication with such children by signs and dactylology ... When abstract ideas ... have to be explained and made comprehensible ... nothing but an intimate acquaintance with the natural language of the deaf is likely to enlighten their ... minds."

The idea that "natural sign language," as it was known then, was capable of imparting abstract ideas was viewed as something between irrelevant and preposterous by nineteenth century European deaf educators. They were much more concerned with the development of speech, reading, and writing skills. Yet, in 1892 America, 51 of the existing 61 public deaf schools employed sign language, alone or in combination with oral methods, as the official instructional medium (Gordon, 1892). This set American educators quite apart from their European counterparts who were nearly exclusively oral in their methodology by that time. Despite its widespread use, sign language was advocated only because deaf students displayed a natural affinity for it, not because it was thought to be cognitively stimulating or even a language at all. Linguistic and psycholinguistic investigations into the structure and capacities of American Sign Language (ASL) would not take place for seven decades.

To be fair, psychology was beginning to take interest in deaf people but not directly, as it would in the 1900s. For psychology, this was a time of transition, from introspective methods of inquiry and the study of consciousness to objective methods and the functionalism of William James. Psychologists' interest in deaf people lay in what their functioning and unique cognitive and environmental situation might teach us about the human intellect in general. Thought was widely regarded then to be internalized speech, at least until William James' encounters with two deaf men caused him to challenge that centuries-old notion.

James' viewpoint arose from his contacts with Melville Ballard and Theophilus d'Estrella. Both men were deaf from birth and had written accounts of what their cognitive processes were like prior to acquiring formal education and language (James, 1893). James had read Ballard's account in the *American Annals of the Deaf* and refers to it in his legendary text, *The Principles of Psychology*. But it was James' personal correspondence with d'Estrella, first published in *Philosophical Review* in 1892, that solidified his conclusion that complex thought could indeed take place prior to formal language acquisition.

> "It will be observed," James writes of d'Estrella, "that his cosmological and ethical reflections were the outbirth of his solitary thought ... His narrative tends to discountenance the notion that no abstract thought is possible without words. Abstract thought of a decidedly subtle kind, both scientific and moral, went on here in advance of the means of expressing it to others ... The only way to defend the doctrine of the absolute dependence of thought on language is to enlarge the sphere of this latter word as

> to make it cover every possible sort of mental imagery ... It is far better to drop the language doctrine altogether." (James, 1893).

James goes on to state that d'Estrella's account of how he stopped his boyhood petty thievery after accidentally stealing a valuable gold coin when he only meant to take a quarter argues for an innate rather than a learned sense of morality. (One can't help but feel that James was just a step away from Noam Chomsky's assertion, a half-century later, that language too is an innate rather than a learned capacity.) James knew that Ballard's and d'Estrella's recollections of their pre-lingual, pre-educational reasoning was so shocking and scientifically significant that he published character references on their behalf, anticipating that his colleagues might otherwise discount the men's recollections as lies or fantasy. Despite James' view, however, the perception that thought was internalized language would persist far into the twentieth century.

The Early Twentieth Century: Psychological Testing

By the early 1900s, the American system for educating deaf people was becoming increasingly oral; the tide that had first swept Europe was sweeping America as well. Simultaneously, psychology was increasingly turning toward John Watson's behaviorism and the S-R theory of learning, which was also being applied to theories of language acquisition. These events finally stimulated some psychologists to become more directly involved in the deafness field, addressing questions of how hearing loss affected language acquisition and studying the educational achievement of deaf children.

Psychologists didn't have to know sign language to work with deaf pupils and, furthermore, the widespread use of Binet's and other psychological tests now offered them tools they could use to investigate intelligence and learning achievement.

Rudolf Pintner is widely regarded as the first psychologist to take a strong interest in deafness. A professor of Educational Psychology at Teacher's College, Columbia University, Pintner also conducted research in psychoacoustics, reading, and music. According to Pintner (Pitner, Eisenson & Stanton, 1941), the usual evaluation methods employed with deaf children at the turn of the century were physical tests and quasi-psychological ones that were not well standardized. Interestingly, early published studies usually found deaf students to be equal to or superior to their hearing counterparts on such tasks.

Pintner, along with Donald Paterson of the University of Minnesota, published their first paper on deafness in 1915, wherein they reported the limitations of using the Binet scale with deaf children (Pitner & Paterson, 1915). They rightly observed that the linguistic requirements of the test were unfair for deaf students and yielded invalid, low scores. Over the next several years, Pintner would develop a whole series of performance-based psychological tests for deaf students, including an individually administered intelligence scale, a group intelligence test, primary and preschool intelligence tests, and a test of educational achievement. He also began to study deaf children using tests of personality and psychosocial functioning.

Pintner's leadership and standing as a researcher were widely regarded, and in 1928, he was called upon by the National Research Council to chair a special committee examining the topic of research needs in deafness. Pintner's committee, which included eleven psychologists,[2] published their report the following year (National Research

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Council, 1929). Their recommendations covered a wide range of areas, from otology to teacher qualifications but it was the psychologically-oriented research that was most strongly emphasized. Prominent, of course, was their call for developing tests of various intellectual abilities and academic achievement which they said should be standardized on deaf pupils. Regarding the development of communication proficiency tests, they said "the feasibility of moving picture film is suggested as worthy of consideration." They called for studies of deaf children's psychosocial and emotional development in relation to different educational methods, teachers, and parenting styles. A model nursery school was described in great detail, and parent education programs were proposed. They even called for studies on the attitudes of hearing persons toward the deaf.

The 1929 proceedings also addressed the adult deaf population and their perceived psychotherapeutic needs. The report states: "The emotional reaction upon the individual himself is of a grave nature, reaching in many cases the psychopathic level ... Measures should be found for the amelioration of these conditions." Accordingly, they made a prophetic recommendation:

> "The Conference recommends that steps be taken toward the establishment of [A Central Institute] for the study of social and emotional problems of auditory deficiency ... The directing staff of such an organization should include an otologist, an experimental psychologist and a clinical psychologist ... Able applicants with hearing disabilities of their own should have consideration from the standpoint of their primary interest, and aptitude for personal contact with the case material ... As practically necessary supplements to the research functions of such an institute, clinical work would be carried on, and a small amount of teaching be made available ... It is understood that this teaching would be in research with the deaf, not in teaching the deaf in an ordinary sense."

This recommendation would eventually see the light of reality, but not for about thirty years. In the meantime, Pintner, his students, and a host of other researchers, many of whom were much less knowledgeable about deafness than the Pintner group was, began publishing a torrent of psychometric studies examining the mental, social, and emotional functioning of deaf children. Unfortunately, this wide variation in researcher skill, familiarity with deafness, and validity of the measures used caused the accumulating literature to become a cacophony of contradiction and dissention. Edna Levine, the most prominent psychologist in the deafness field in the next generation, would later recount the consequences of the Pintner era in this way:

> "The enthusiasm with which educators had welcomed psychology into the field of the deaf was considerably diminished. The anticipated benefits expected from psychology were lost in the evident difficulties psychologists were experiencing in working with the deaf as well as in their sharp dissections and conflicting findings. Disillusioned educators charged that: [and here she quotes an educator writing in 1934] 'The ordinary students of psychology are not fully qualified to deal with the psychology of the deaf ... They simply do not get hold of the subject of their examinations. Their lack of familiarity with the deaf is too obvious to inspire a

teacher of the deaf with confidence.'" (Levine, 1977).

One of the fundamental questions that had not reached a consensus opinion was where deaf children stood, intellectually, in comparison to hearing children. Pintner had made up his mind, though he was very cautious to qualify his opinion in this 1941 summary:

> "This, then, is the general picture of the intelligence of the deaf child. As compared with the hearing child he is about 10 points below in I.Q. on nonlanguage and performance tests ... This we must remember refers to the average child. The overlapping of the two groups, deaf and hearing, is very great. There are many bright and very bright deaf children ... Just because a child is deaf does not mean that he is therefore slow and dull ... There is a large reservoir of fine native ability among the deaf. We must not let the small difference in intelligence between the deaf and the hearing warp our thinking as to the educational possibilities of the deaf. They are possessed of sound intelligence upon which education can build (Pintner, et al. 1941).

Despite Pintner's cautions, the conclusion of deaf intellectual inferiority had now been stated by the field's leading researcher. This influential perception would remain for the next quarter century, reinforced by others such as Helmer Myklebust (Myklebust, 1960), until psychologist McCay Vernon's research would show otherwise. More importantly, the legacy of this period was that a precedent had been set for judging deaf people against hearing standards and finding them wanting. This trend would soon spread, to studies of personality.

The Search for a Deaf Personality

The influence of the Gestalt movement on personality theorization and especially child psychology broadened the interest of the psychologists in the deafness field to investigate and theorize about the personality and psychosocial implications of deafness. Pintner himself, in his characteristically cautious style, summarized the beginnings of such investigations in 1941:

> "The scientific study of the personality of the deaf has only just begun ... We must beware of using inventories constructed for the hearing ... they will make the average deaf child appear very emotionally maladjusted and this is probably false ... Nevertheless, there are differences ... it would seem that the deaf find it just a little more difficult to adjust to their environment. They are probably just a little more emotionally unstable. They seem to be slightly more introverted and a little less dominant. They may have on the average more fears and they probably are a little less mature in judgement and social competence." (Pintner, et al. 1941).

Mainstream psychology had an even more exaggerated and pathological perception of "the deaf personality." Max Friedreich Meyer, a leading psychologist of the times and a flamboyant writer, held a particularly disdainful view of deaf people and especially of sign language. In his introductory text, *Psychology of the Other-One*, he stated:

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> "We no longer wonder at the fact – not statistically proved or provable, but generally acknowledged – that deaf people are more likely to be unsocial, morose, [and] suspicious of their fellow men." (Meyer, 1921).

Pintner's support for his view was at least based on data but, unfortunately, from written English language personality tests such as the Bernreuter Personality Inventory and the Rogers Test of Personality Adjustment. These tests were of course biased against deaf subjects, not just by virtue of their language requirements, but in the ways in which life with a hearing loss would affect the direction of answers. These are the same criticisms that would later be made about the MMPI when Helmer Myklebust and others used it in support of their conclusions of broad psychopathology within the deaf population. Some authors went so far as to imply that since emotional maturity consisted of abstract feelings and since deaf persons typically had difficulty using more abstract English words, then it followed that emotional maturity was not fully developed in the deaf population.

In their 1941 review of studies of deaf personality, Heider and Heider, of the prolific Psychological Division at the Clarke School for the Deaf (Heider & Heider, 1941), criticized the use of hearing personality tests as scientifically unsound. They concluded that psychologists' findings were "largely the expression of personal opinion." Nevertheless, the picture of deaf people as psychologically disturbed became increasingly entrenched in the professional and even the popular literature, as evidenced by the pitiful deaf character who appeared in Carson McCullers' 1940 novel, *The Heart is a Lonely Hunter* (Sacks, 1989).

Heider and Heider furthermore noted the inappropriateness of judging deaf people's mental health against hearing standards. Of course, they were talking about the category fallacy, so important these days in cross-cultural research. They state:

> "Before any such quantitative measures, designed as these were for an average hearing population, can be offered for use with the deaf, it will be necessary to make broader analyses of the whole life situation of the deaf person to find out what his psychological environment is ... to find out at what points the restrictions imposed by his deafness become psychologically important, and what the 'normal' and expedient ways of adjusting to his situation are. Adjustment has no meaning in itself. It is always adjustment to a concrete situation ... We cannot say what is normal for the deaf person until we know what tensions and problems his situation involves ... A closer study will show that in many cases it is normal behavior in an abnormal situation rather than abnormal or maladjusted behavior in the ordinary sense of the word ... On the whole what they mind about it all is not so much that they are left out, as the fact that they are left out because the hearing consider them inferior, as not full human beings" (Heider & Heider, 1941).

Later, these issues would be eloquently detailed in *A Deaf Adult Speaks Out* by Leo Jacobs and by Carol Padden and Tom Humphries in *Deaf in America: Voices from a Culture.*

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From Population to Individual Psychopathology and its Treatment

Though research and treatment programs for legitimate mental health problems in the deaf community were called for by Pintner and his colleagues in 1929, it took nearly three decades for them to materialize. Instrumental in the development of such programs was psychologist Edna Simon Levine. Levine, a leading figure in rehabilitation psychology, strove to insure that some of the funding opportunities created by post-war rehabilitation legislation were directed toward the psychiatric rehabilitation of deaf individuals (Levine, 1977).

In the early 50s, Levine and the ground-breaking deaf RSA administrator Boyce Williams approached psychiatrist Franz Kallman of Columbia University to discuss the establishment of such a program (Vernon & Andrews, 1990). Kallman had done some research with deaf persons relating to genetic factors in schizophrenia. Levine and Williams successfully urged him to go headlong into the deafness and mental health field and in 1955, Kallman established the first psychiatric treatment program for the deaf at the New York State Psychiatric Institute. On Kallman's staff were psychiatrists John Rainer and Ken Altshuler and psychologist Hans Furth.

These three men, along with Edna Levine, published the majority of that decade's works on psychopathology and its identification and treatment in the deaf population. (Edna Levine and Boyce Williams would continue their pioneering program initiation efforts and were instrumental in the founding of the National Theater of the Deaf in 1966.)

Word of Kallman's Mental Health Project for the Deaf spread rapidly. The program was visited by professionals from around the globe who soon began to establish similar programs. Within ten years five very influential programs had been founded and were rapidly expanding the knowledge base regarding deafness and mental health. They included: Kallman's program in New York; the Mental Health Project for the Deaf at St. Elizabeth's Hospital in Washington, founded in 1963 by Luther Robinson; a program at Michael Reese Hospital in Chicago, founded in 1966 by Roy Grinker, McCay Vernon, and Eugene Mindle; the University of California San Francisco's Center on Deafness, founded also in 1966 by Hilde Schlesinger and Kay Meadow; and John Denmark's psychiatric program for the deaf in England.

While these programs dealt most often with severely disturbed deaf patients, their publications still tended to describe the pathology of the deaf patients as if it was an invariable consequence of the deafness itself. The view that the psychological functioning of the general deaf population might be quite different than that of the clinical deaf population was not strongly emphasized. Studies of deaf patient groups yielded perceptions that deaf people on the whole were concrete thinkers, emotionally immature, egocentric, had poor object relations, and were prone to "action-oriented psychopathology" and "primitive personality disorder" or surdophrenia.

Yet, as was taking place elsewhere in the late 60s, radical change was about to come to the deafness and psychology field. Its impetus was not, however, from psychology nor from the political events of the day but from a researcher at Gallaudet College who was striving, in the face of criticism for the frivolity of his investigations, to subject sign language to the rigid analyses of professional linguistics.

Stokoe and the Psycholinguistics of Sign

There is perhaps no single academic event that has had more profound impact, not only on the field of deafness but on the lives of deaf

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people, as the 1965 publication of *A Dictionary of American Sign Language* by William Stokoe.

Until that time, it was widely assumed, even by many deaf people, that sign language was an unsophisticated communication pattern of mimed pictures in the air or perhaps a crude visual representation of English. Stokoe's careful analysis of the structural elements of ASL was a watershed event. He and his deaf coauthor Carl Croneberg had effectively reframed sign language and, by extension, the Deaf community itself in as permanent and profound a way as Galileo or Einstein had reframed the thinking of their days. ASL's recognition as a language had the effect of bringing legitimacy to the Deaf community in the eyes of many hearing persons, including those in the mental health field. Psychologists' earlier, negative views of the linguistic, intellectual, and psychological characteristics of deaf people were suddenly cast in a new light, reconsidered, and frequently abandoned. Stokoe made the premise of deaf psychological health a far more viable one than it had ever been before.

One of the more rapid effects of Stokoe's work was a resurgence of studies that identified the benefits of school instruction through sign language, this after six decades of nearly complete oral domination of the deaf education system (Schlesinger, 1986). Also in keeping with the theme of deaf psychological health, McCay Vernon began a series of investigations that was to demonstrate that, when more appropriate, individualized assessment methods such as Wechsler's performance scale subtests were used, intelligence was found to be normally distributed in the deaf population, countering a quarter century of notions regarding deaf intellectual inferiority.

The first major psychology texts demonstrating the post-Stokoe shift in the field were Mindel and Vernon's *They Grow in Silence* published in 1971 and Schlesinger and Meadow's *Sound and Sign*, published in 1972. Both these influential works emphasized the pivotal role that early parent-child communication plays in the development of healthy vs. unhealthy cognitive and emotional functioning in deaf children. This was a significant change from the previous views that deaf persons were somehow destined to psychopathology by virtue of their hearing loss alone or the use of sign language. Now, intervening variables were being identified that could have a powerful impact on determining psychological health or, alternatively, pathology in deaf people.

Psycholinguistics, too was adding to the growing positive view of deaf persons. Hans Furth, along with others, continued to challenge the notion that thought takes place through internalized language, demonstrating that even deaf persons with no formal language system, sign or otherwise, still demonstrated successful problem solving strategies that were much like those of hearing people. Ursula Bellugi began her pioneering work in psycholinguistics and the neuropsychology of ASL about this time, expanding on Stokoe's findings and bringing further respect and legitimacy to ASL which was slowly becoming understood to be a rich, dynamic, and very complex language.

A Costly Diversion: Sign Language and the Primate Studies

The field of psychology unfortunately provided an interesting but costly digression in the area of sign language research in the 1970s. Allan and Beatrice Gardner, psychologists at the University of Nevada in Reno, embarked upon a project in 1966 designed to teach primates to communicate using signs. Their motivations were reflective of the behaviorist bent of the times, that all behavior was learned, including language behavior, and that humans were not the only

species with the mental faculties necessary to learn a formal system of communication. Washoe, their primate, was said to have learned about 130 signs over the course of four years of intense training. (It was later shown that the Gardners' definition of a sign and of a correct response to a signed question was so liberal as to discredit their claims that Washoe was indeed signing.)

Arden Neisser, writing in *The Other Side of Silence* (Neisser, 1983), reports that there was a high turnover rate among the few deaf persons employed on the Washoe project. They were treated like second class citizens, he says, and were critical of the lax linguistic criteria being employed in the study. Their resentments grew as hearing members of the project, who were the exclusive recipients of the academic credit and media exposure, continued to misrepresent ASL in interviews and publications. The work nevertheless continued, moving to Oklahoma and the Institute for Primate Studies under the direction of psychologist Roger Fouts. There it expanded to include other chimps, such as Koko.

As reports of Washoe and Koko's achievements grew more and more wondrous, scientists increasingly questioned their validity. Much secrecy surrounded the work of the Institute, and skeptics were reportedly not welcomed to conduct independent observations. A more controlled experiment was therefore begun by Herbert Terrace at Columbia University, employing Laura Petitto, a linguist proficient in ASL, as the primary trainer. The results of their work with the ape Nim Chimpsky were reported in the 1979 book *Nim*. Their conclusion was that Nim did not learn sign language in any meaningful sense. Like Washoe, his sign vocabulary was acquired only after painstaking manipulation of his hands into crude approximation of sign shapes. His use of signs was frequently in error, both productively and conceptually. Ironically, Petitto left the project to pursue research in the psycholinguistics of ASL under Ursula Bellugi at the Salk Institute in California.

The debate over whether or not the failure of apes to learn sign language was conclusively shown continued for several years thereafter. Neisser writes:

> "the whole thing erupted into an extremely uncouth shouting match at the New York Academy of Sciences in 1980." More poignantly, he observed that, "[By 1979] I realized I had been meeting a number of ... hearing people who were very excited about ASL - not because deaf Americans were using it everyday but because they believed it might be taught to apes" (Neisser, 1983).

This sums up the two major criticisms of the Gardners' legacy: first, it wasn't sign language the apes were using and, secondly, the claims publicized by the press and endorsed in many introductory psychology textbooks had a deleterious effect upon many hearing persons' perceptions regarding sign language and deaf people. It is safe to assume that these chimpanzee reports were the most significant exposure that a generation of psychology students had to the study of deafness and sign language.

Modern Legislation's Effects on Psychology and Deafness

It seems that growth in the deafness and psychology field has frequently been tied to major legislative events. It was in the mid-70s when Section 504 of the Rehabilitation Act of 1973 prohibited programs that received federal funding from excluding services to persons on the basis of physical disability. This increased the accessibility of deaf students to higher education and of deaf

patients to public mental health programs. Their presence stimulated further growth in research and service activity in psychology and deafness. The 1975 Education for All Handicapped Children Act (PL 94-142) was even more influential. Prior to its passage, most deaf children were educated at state residential schools. The new law was widely interpreted as mandating local school district mainstreaming (though, technically, it did not) and it channeled large numbers of deaf students to public school programs. Moreover, PL 94-142 was passed at a time when children who were born deaf during the American rubella epidemic of the early 60s were reaching school age. The simultaneous impact of the Act and the epidemic brought a torrent of deaf children, many with obvious neurologic and behavioral difficulties secondary to the rubella infection, to the public schools. The school psychologists and special educators were generally ill-prepared to provide competent psychoeducational assessments and effective instruction to these deaf students, not just because of their lack of training but because of a still-inadequate research base regarding assessment methods appropriate for this special population. This situation caused federal and state education departments to fund a great deal of psychoeducational research over the next two decades. As welcomed as this progress was, the recognition of these psychological research and service needs soon overwhelmed the human resources available to address them.

Deafness and the Profession of Psychology

Throughout the 1970s, Edna Levine was perhaps most active in the search for better training for psychologists in the deafness field. In 1971, she conducted a survey of psychological service providers to the hearing-impaired, and was immediately confronted with the lack of any formal network or mailing list through which to reach such persons. Through some roundabout methods she was able to contact nearly 200 such professionals and found that:

> "the large majority of respondents were practicing [sic] without substantive knowledge of either deafness or deaf people; without special, organized preparation for their work; and without the ability to communicate manually or to establish productive interpersonal relations with manual deaf subjects. Their problems were further compounded by exceptional difficulties in the use and interpretation of psychological tests with the deaf. Most of the respondents had no contact with any deaf individuals prior to assuming psychological practice with the deaf and the majority had no preparation for the work other than on-the-job experiences" (Levine, 1977).

This survey eventually led to the acclaimed 1975 Spartanburg Conference on the Functions, Competencies and Training of Psychological Service Providers to the Deaf, organized and reported by Levine in a 1977 *Journal of Rehabilitation of the Deaf* monograph. In what was surely a ground-breaking move for the profession, 12 of the 83 participants were themselves deaf or hard of hearing. The Spartanburg Conference yielded a wonderful agenda, a wish-list for psychological training and competencies in the field. Yet, like Pintner's 1929 list of research needs, the hopes of the Spartanburg Conference remain mostly unfulfilled at the present time.

Only recently have psychologists had the opportunity, outside of conferences, to obtain formal training in the deafness field. Only in this decade have specialized graduate programs

appeared – first, of course, at Gallaudet University where last year, the school, counseling, and rehabilitation psychology programs were joined by a newly established doctoral program in clinical psychology. A few other bachelor's and master's level psychology and deafness programs exist at New York University, Northern Illinois University, the University of Maryland, the University of Arkansas, Western Oregon State College and, next year, at the Rochester Institute of Technology.

While we await improvement, the current number of psychologists who are properly trained to work with deaf and hard-of-hearing persons remains very low. Even lower is the number of psychologists who are themselves deaf or hard of hearing. This situation has arisen because of the historic lack of access to higher education for persons who are deaf. Two years ago, McCay Vernon counted only 20 deaf psychologists in the United States, up from 5 in 1979 according to Barbara Brauer and Allan Sussman. Brauer, Sussman, and their deaf colleagues at Gallaudet University thus represent at least 25% of all the deaf psychologists there are. Hopefully, the Americans with Disabilities Act will increase accessibility to graduate psychology programs, internships, and to jobs for deaf psychologists outside of Gallaudet. The fact that internships are presently inaccessible is exemplified by the horrifying results of a 1991 survey (Pollard, Gutman, DeMatteo, & Stewart, 1991), where directors of APA-approved programs were asked if they would accept an otherwise qualified deaf intern. Among their responses were these:

> "I can't believe President Bush would pass the Americans with Disabilities Act if it meant paying for interpreters"; "Don't all deaf people read lips?"; "Patients are very disturbed already and having a hearing-impaired therapist would make them more so"; "It would present major obstacles and extensive problem"; "I can't say on a stack of bibles that we would .. but if this issue comes out of the woodwork, we're in deep doodoo."

Clearly, the Americans with Disabilities Act stimulated no sudden improvement in accessibility and attitudes regarding students who are deaf.

And what of the APA and its progress in the deafness area? In the mid- to late 1970s, a group of psychologists with disabilities convened at several APA conventions to discuss and advocate for greater accessibility to the association. Their work prompted the development of a task force on psychology and handicaps, which included Barbara Brauer from Gallaudet. This task force eventually recommended the formation of the Committee on Disabilities and Handicaps, which met for the first time in 1985 and has become a standing committee under the Public Interest Directorate. Now renamed the Committee on Disability Issues in Psychology, a deaf or sign-fluent individual has been a member of the committee since its inception. Outside of governance, Division 22, historically much more involved with mobility and CNS impairments than sensory disabilities, became home to a special interest section on deafness in 1990.

This is not to imply that the APA is by any means fully accessible to deaf persons. The association purchased their first TDD only this year; previously, there was no way for a deaf individual to call the association. Sign language interpreting arrangements at the convention have been horrendous in past years and have been the major reason why more of our deaf colleagues do not attend. If you visit the new APA building, notice the voice intercom system on the outside wall. A deaf person cannot use it to gain access to the building after hours and is out of the line of sight of the guards at the desk as well.

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Accessibility problems are quite commonplace in APA-approved graduate and internship programs, too. These and other matters need to be addressed diligently in the years ahead if the APA is truly to be an association of all psychologists, including the many young deaf ones who will soon be joining our profession.

To prepare for these changes, I urge every psychologist to gain at least a passing familiarity with the central issues in deafness and psychology; surely at some time your work or practice will bring you into contact with deaf persons. Even more important, though, is to have a personal appreciation for these issues, for sign language, and for the wonderfully diverse deaf community. Try Oliver Sack's *Seeing Voices*, a brief and very readable book that should be particularly engaging for those interested in language and neurology. Award-winning psychologist Harlan Lane's *When the Mind Hears* is a longer but more thorough study of deafness, deaf education, and society. The direct perspective of the Deaf community is wonderfully represented in Leo Jacobs' *A Deaf Adult Speaks Out*, Padden and Humphries' *Deaf in America: Voices from a Culture*, and Jack Gannon's two books *Deaf Heritage* and *The Week the World Heard Gallaudet*. Try *Islay*, a popular novel about an all-deaf society. Rent the video of *Children of a Lesser God* or go see a performance of the National Theater of the Deaf.

The Future of Psychology and Deafness

What shall we see in the next century? Like the effects of Stokoe's research, I am sure that the 1988 student protests at Gallaudet will eventually have a profound impact on our field. No longer will many inadequately trained professionals have such broad control over deaf children and adults; the field will be increasingly comprised of specially trained, sign-fluent professionals, most of whom will be themselves deaf and hard of hearing, as it should be. More deaf psychologists will become active in the APA and its governance structure. Psychology and deafness will become a more organized specialty. There will be journals devoted exclusively to the area and more training programs. Research will continue, of course. In the psychoeducational field, assessment methods will improve, and we'll learn of the effectiveness of bilingual-bicultural education approaches. We'll continue our advancements in knowledge regarding the psycholinguistics of American Sign Language and other countries' signed languages. Social psychologists will teach us more about the heterogeneous deaf community and the nature of social interaction between deaf and hearing people. Long-overdue attention will be paid to the hard-of-hearing and late deafened populations. We shall learn much more about psychopathology and its treatment in the hearing-impaired population, especially in relation to the neuropsychological impairment that is so often associated with medical conditions that cause deafness. We'll learn of the utility of treatment programs now being established that are based on psychosocial rehabilitation and peer support intervention models. There will be a comprehensive text on psychopathology and deafness that will influence psychiatric training as well. Studies and programs promoting effective parenting of deaf children will continue. McCay Vernon thinks that our future deafness studies will lead us right back to William James' interests in what deaf individuals can teach us regarding the fundamental ways in which our psyches function similarly; that, despite our outward differences, the growing findings of similarity between deaf and hearing thought processes will one day lead us to discover the true "basic" language of the brain, perhaps something like all computers' binary logic despite their outward differences in software.

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Endnotes

1. From an address to Division 26 of the American Psychological Association, August 1991.

2. The psychologists were: Pintner (Teachers College, Columbia Univ.), English Bagby (Univ. of North Carolina), Madison Bentley (Cornell Univ.), S.W. Fernberger (Univ. of Pennsylvania, PA), Robert Gault (Northwestern Univ.), Vernon Jones (Clark Univ.), H.S. Langfeld (Princeton Univ.), Donald Paterson (Univ. of Minnesota), A.T. Poffenberger (Columbia Univ.), F. Lyman Wells (Hartford Seminary Foundation), and G.R. Wells (Boston Psychopathic Hospital).