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HENRY WIEGHORST NISSEN

1901—1958

A Biographical Memoir by

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February 5, 1901–April 27, 1958

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HENRY WIEGHORST NISSEN, Director of the Yerkes Laboratories of Primate Biology at Orange Park, Florida, and at the time of his death almost certainly the Western world's leading authority on the biology and psychology of the chimpanzee, died on April 27, 1958.

It can be said with assurance that no man, at least in the non-Communist world, with the exception of the late Robert M. Yerkes, has ever had so long and so intimate a scientific association with the study of the chimpanzee as did Dr. Nissen. He studied this great primate in its wild habitat in Africa and he was an especial expert on the care and scientific study of the laboratory chimpanzee in America. For more than a quarter of a century he worked at Yale and at Orange Park with many scientific colleagues on hundreds of research projects in medicine, physiology, neurology, endocrinology, and psychology. These projects were made possible by financial grants from the Rockefeller Foundation, the Ford Foundation, the Carnegie Foundation, the Fels Foundation, the Atomic Energy Commission, the National Science Foundation, the National Institutes of Health, and other organizations and philanthropic individuals.

Dr. Nissen was elected to membership in the National Academy of Sciences in 1953.

Dr. Nissen was born on February 5, 1901, in Chicago, Illinois. His early education was received in Chicago and La Salle, Illinois. Elmer G. Koehler, M. D., of Elkhart, Indiana, a lifelong friend of Dr. Nissen, has written a letter to the present author about Dr. Nissen's childhood and personal life. Nissen's nickname, by which he was known to his early friends and family, was Heinz. As a small child, and indeed through life, he was quiet and thoughtful. Even in his earliest years he turned aside from noisy and boisterous play. His father had a very similar personality and has been described as "an old-fashioned bookkeeper" by occupation. His father is pictured as standing ten or sometimes even twelve or fourteen hours a day at a high desk laboriously penning entries into large volumes for the Pabst Chemical Company where he was employed. Henry's mother was pretty and warmly maternal. She made her home a center of kindness and peace. She adored her son and gave him much love and attention. At the time of Dr. Nissen's early high school years his father invested his life's savings in an aluminum utensil factory in La Salle, Illinois, at which time the family moved to that part of the state.

During his undergraduate years at the University of Illinois, Nissen spent much time at home and was still meticulously cared for by his mother. As a college student his interest was primarily in literature. He majored in English and received the Bachelor of Arts degree at the University of Illinois in 1923. His friend Dr. Koehler, referred to above, reports that during undergraduate years a third and very close friend was Adolf Pabst, now a professor of mineralogy at the University of California. Pabst, Koehler, and Nissen, all having been reared in German families and having learned

to speak German before English, had the highly satisfactory experience of being joint members of a very small German class in the university. In this class, under the guidance of a sympathetic professor, they did extensive reading in the German classics. One pleasant by-product of this work was a Christmas play of the German Club in which Nissen and his two close friends took the parts of the three Kings.

After college Dr. Nissen worked for three years in Chicago and New York as a sales correspondent and statistician with the Pupman Thurlow Company.

He was married in 1927 to Jane Marian Stowby and had two children, Dora Jane and Joanna Marie. This marriage ended in a separation. Late in life he was married again to Kathy Hayes, joint author with Dr. K. J. Hayes of a well-known book, *The Ape in Our House.* This marriage also ended in a separation before Dr. Nissen's death.

During his adult life Nissen was haunted by ill health. At one time he had a ruptured appendix from which he nearly died. Later he had a most critical case of pneumonia. Toward the end of his life he was afflicted by what his physicians called "advanced emphysema," a lung condition which produced very marked shortness of breath. Once, when about to address an academic meeting, he found it necessary to walk the full length of a meeting room. When he reached the platform he was so out of breath that he could not speak. In spite of this difficulty in breathing, he was an inveterate smoker. He realized that smoking aggravated his lung condition but, strange as it seems for a psychologist, he apparently found it very hard to give up cigarettes. For the last six months of his life, however, he did not smoke. Toward the end of his life he found it hard to work in the early part of the day. Instead, he would often persevere far into the night. In this way his scientific papers and laboratory reports were

often prepared in the complete solitude of the deserted Orange Park Laboratory.

The statement given above should not be interpreted as indicating that Nissen was a "cold" person. He enjoyed social occasions and was fond of boating and fishing. He was very fond of table tennis and played the game well.

The late Professor C. J. Warden, one of America's early and distinguished comparative psychologists, was a graduate teacher and friend of Nissen. It is from Dr. Warden that Nissen secured his introduction to the field in which he was later to make such outstanding contributions. When Dr. Warden came to Columbia in 1924 Nissen was enrolled in night courses at that university. Soon he changed to regular daytime attendance and did the work necessary to secure the Master of Arts degree. During part of this time he was an assistant at Barnard College where he worked under the direction of the well-known psychologist, Harry L. Hollingworth. In the academic year 1927-1928 Nissen received a Columbia University fellowship and a stipend of $1800 a year. This gave him time to work on his dissertation for the degree of Doctor of Philosophy. The title of this thesis was "The Effects of Gonadectomy, Vasotomy, and Injections of Placental and Orchic Extracts on the Sex Behavior of the White Rat." This thesis was published in June 1929 as a *Genetic Psychology Monograph.*

Dr. Warden reports that in 1927 Nissen, while studying in one of Warden's courses in comparative psychology, spent almost endless hours of extra time in the laboratory. He never seemed to tire of just watching the animals with which he or the other students were experimenting. He thus early demonstrated an abiding interest in the direct observation of behavior that so characterized his later scientific life. Soon he was working with Dr. Warden on a research problem connected with the

obstruction method of testing animal drives. This paper, Nissen's first formal scientific contribution, was published jointly with Warden in the *Journal of Comparative Psychology* in 1928. In this connection, it is worth noting that Nissen was a true comparative psychologist and that he was always interested in the behavior not only of chimpanzees but also of many other mammals as well as human beings of various social and racial backgrounds.

During his graduate years Nissen read a report before the student section of the American Psychological Association, then sometimes referred to as "the slave market." Professor Robert M. Yerkes was in attendance and was impressed by Nissen's research. He invited Nissen to come to Yale to talk over the prospects of taking a position in his laboratory to work on primates. As a result, Nissen went to Yale in 1929 with the title of Research Associate, but it was clearly understood that this appointment was at the level of an Assistant Professor. This was an unusual compliment in the professional employment pattern of the period. His title remained that of Research Associate until 1933. From 1933 to 1939 he was Research Associate at the level of Associate Professor of Psychobiology at Yale, and with various titles he remained connected for the rest of his life with the Yale Laboratories of Primate Biology (later named the Yerkes Laboratories). From 1944 to 1956 he had the title of Research Associate with the rank of Professor at Yale. At the time of his death he was Director of the Laboratories. Because the direction of the Laboratories had been transferred from Yale to Emory University he was from 1956 to the time of his death Professor of Psychobiology at Emory.

In October 1929 Yerkes organized a field trip to Africa for Nissen. He went to French Guinea where, with the cooperation of the staff of the Pasteur Institute, he spent a number of

months making naturalistic observations of free-ranging chimpanzees in their native habitats. The result of this work was presented as a *Comparative Psychology Monograph:* "A Field Study of the Chimpanzee: Observations of Chimpanzee Behavior and Environment in Western French Guinea," published in 1931. In returning from Africa he brought back with him eighteen young chimpanzees. These animals were divided between the psychobiological laboratories of Yale in New Haven and at Orange Park. Some of these animals continued to be his laboratory subjects and, one may say, friends, throughout the rest of his life.

During the years at New Haven Nissen undertook basic responsibilities in connection with the maintenance of the growing chimpanzee colony. During this period he also gave much of his time to the supervision of graduate students who were working on theses that were related to the behavior of the chimpanzee.

In 1939 he moved to Florida to become Assistant Director of the Yale Laboratories at Orange Park which Yerkes had established in this optimal location, chosen for the colony after careful geographical and climatological study. In 1941, following the retirement of Yerkes as Director of the Laboratories, Nissen became Assistant Director. Dr. Karl S. Lashley became Director in 1942 and upon his retirement in 1955 Nissen succeeded him as Director of the Laboratories.

During his years in both laboratories Nissen not only did a great deal of personal research on what he liked to call the psychobiology of the chimpanzee but also devoted himself with great success to the study of the general pattern of life of his animal subjects. The present writer, during some two decades as a member of the Board of Scientific Directors of the Yerkes Laboratories, had ample opportunity to observe at firsthand Nissen's amazing devotion and deep understanding

of the "style of life," as it were, of the great animal subjects of the colony. It is no exaggeration to say that at the time of his death, Nissen knew more about the infancy, youth, general behavior, reproductive cycles, diseases, diet, and the general medical, dental, and surgical care of chimpanzees than anyone else, at least in the free world. The large and truly significant list of publications of the Yerkes Laboratories of Primate Biology could not have come into being without his help. In a sense, not only his own research papers but all of the other publications of the Laboratories were in part made possible by his continuous and self-sacrificing work of maintaining the colony in optimal condition year after year. In this connection, it is hard to overemphasize the scientific significance of the daily observations of the reproductive cycles and all the behavioral manifestations of certain individual members of the colony for over one quarter of a century. The importance of these records for studies of the ageing process was emphasized by Nissen.

The reader who wishes to have a summary of the point of view and experimental work of Dr. Nissen cannot do better than to turn to his chapter entitled "Phylogenetic Comparison" in the *Handbook of Experimental Psychology,* edited by S. S. Stevens, published in 1951. In this presentation Nissen gives his point of view concerning the basic methods of comparative psychology and the relationship between the evolutionary and naturalistic point of view and animal psychology more strictly defined. He gives an eloquent defense of the genetic method, which he shows as one important way of finding out about psychological processes. For him, a study of the origin and development of any psychological process during the growth of the individual was fundamental in a scientific study of mental life. He viewed problems of development in their anatomical and physiological setting. Nissen gives

full attention in his work with animals to what may be called cognitive functions, as well as to the motivational aspects of behavior. In the latter correlation he emphasized homeostasis as fundamental in the basic drives of the organism.

Because of his long years of observing animals in relatively free situations, much of his work contributes to a knowledge of so-called social perception and to such specialized problems as the play activities of these great animals.

He was interested in what he came to call the innate determination of directive factors in behavior. His treatment of this field was scientifically sophisticated. Because of this area of interest he was attracted to the work of K. Lorenz and N. Tinbergen and that of the whole ethological school. However, he always regarded this new point of view in the biological behavioral sciences from the standpoint of his training in American quantitative psychobiological studies. He was more sympathetic to ethological work than were some other American psychologists because his own biological and evolutionary study of individual organisms had sensitized him to certain of the ethologists' major problems. Nissen's original schema of drive behavior, especially as modified by learning, will continue to be influential in psychology.

It may be pointed out that Nissen's view of the selective process of attention is very much like that of D. O. Hebb, who was his junior colleague at Orange Park. Dr. Hebb, in the preface to his influential book, *The Organization of Behavior,* pays an especial tribute to Nissen "and the persistent theoretical debate at the Yerkes Laboratories of Primate Biology."

During many of his most productive years, Nissen collaborated with A. H. Riesen in a series of psychological studies and also in studies of the anatomical development of the chimpanzee. Their work on the ossification of bones and on the development of dentition in young chimpanzees has not only

provided information of great significance concerning the chimpanzee but also has given very interesting data for comparison with the growth of the human individual. Nissen and Dr. Elaine F. Kinder also collaborated through a number of years on intensive and most painstaking projects dealing with the psychological development of the chimpanzee from a comprehensive point of view. This work included an elaborate time-sampling study of the growth of young chimpanzees.

Much of Nissen's time in his later years was devoted to study of the development of behavior in the young chimpanzee not only in the standard laboratory conditions in which he had observed it for so many years and with so much care but also in experimentally restricted or "deprived environments" and in "enriched environments."

In 1946 and 1947 he was away from Orange Park as Director of the Unit for Research in Biopsychology at the Rockland State Hospital in New York. When he returned from this assignment to Orange Park he again plunged into his comparative infant study program. Among the papers, some of them with joint authorship, that came out of his full knowledge of the growth of the chimpanzee are: "Retardation in Onset of Ossification in Chimpanzees Related to Various Environmental and Physiological Factors," "Interocular Transfer of Learning in Visually Naive and Experienced Chimpanzees," and "Effects of Restricted Opportunity for Tactual, Kinesthetic and Manipulative Experience on the Behavior of a Chimpanzee."

On the side of the experimental enrichment of the environment he worked alone and with a number of colleagues in attempting to provide conditions in which the growing chimpanzees would be given the same sort of enriched environment that characterized the best rearing of human infants. He worked in detail with Dr. Glen Finch on a home-reared

chimpanzee infant and later was especially interested in all the details of the work done by Dr. and Mrs. K. J. Hayes on their elaborate experiment in the rearing of Viki at home.

Nissen, throughout his career, was a student of the learning process and followed with interest the theoretical development of learning theory propounded by such psychologists as Guthrie, Hull, and Skinner. In spite of this interest, however, he was also, throughout his whole scientific career, steadfastly concerned with the identification and description of factors related to so-called innate behavior. On the basis of many personal conversations with the present writer, it can be said that as the years passed he became more and more concerned with the importance for all psychology of those aspects of behavior that are essentially inborn. His 1954 paper, "The Nature of the Drive as Innate Determinant of Behavioral Organization," shows one development of this point of view.

Besides the formal appointments already noted in this paper, Nissen also at various times was a research associate at the Psychiatric Institute and Hospital in New York City. He had been President of the Florida Psychological Association. He was a member of the American Psychological Association, the Society of Experimental Psychologists, the American Society of Naturalists, and, as already noted, of the National Academy of Sciences.

In the present writer's opinion, Nissen was one of the truly important scientific psychologists of his generation. His extreme personal modesty and his almost deferential approach to some of his colleagues at times masked the originality of his mind and the sharp, rapierlike power by means of which he could get to the bottom of important controversies in scientific psychology. After an earnest and often devastating analysis of some pretentious and undemonstrated point of view in psychology he would smile quietly and say, "But, of course,

I may be wrong." He liked to speculate about the nature of causation in psychology. His point of view in this connection led him more and more to see that the complex activities of mental life in the adult chimpanzee or in the adult human being could only be fully understood in a genetic and developmental setting. This led him to have great interest in the individual genetic backgrounds of the laboratory-reared chimpanzees at Orange Park. He was especially concerned with the ontogenetic development of the sensory processes, the behavior related to perception, the affective life, the drives and motivation as well as the complex patterns of socially determined behavior that he observed in his laboratory animals.

Nissen was thus not only an original and effective student of animal behavior but also one of the important contributors of his generation to general scientific physiological psychology.

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KEY TO ABBREVIATIONS

Anat. Record = Anatomical Record
J. Comp. Physiol. Psychol. = Journal of Comparative and Physiological Psychology
J. Comp. Psychol. = Journal of Comparative Psychology
J. Genet. Psychol. = Journal of Genetic Psychology
J. Psychol. = Journal of Psychology
Psychol. Rev. = Psychological Review

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