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PSYCHOLOGY AT GÖTEBORG, SWEDEN

The Institute of Psychology
The Institute of Education
The Psychotechnical Institute

BY

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28 December 1966

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PSYCHOLOGY AT GÖTEBORG, SWEDEN

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INTRODUCTION

The University of Göteborg was established in 1891 as a private institution, endowed by local citizens. At the turn of the century the University concentrated its effort and limited funds on the humanities and languages. While its reputation was built in these areas, it also became known throughout Sweden for its excellent faculty salaries. In 1956 the University became part of the Swedish "state" system, although endowments held at that time remained at Göteborg. Income from this money now subsidizes faculty travel to professional meetings and a number of incidental expenses of the various University Departments and Institutes.

The main campus is located in the heart of downtown Göteborg. While the University has undergone a marked expansion since founding, the city of Göteborg -- the second largest in Sweden -- has expanded even faster. Thus, buildings are spread over such a wide area of the city that students actually find some difficulty in getting from one class to another. Psychology recently has been accommodated in spacious new quarters, although other Departments of the University even occupy scattered rental space in office buildings. The Medical School, which is now considered to be the leading faculty of the University, occupies a beautiful center on the edge of town.

The first true recognition of psychology at Göteborg was in 1912, when a Chair was established in Educational Psychology and Philosophy. The break with Philosophy came in 1939, with the establishment of a Chair in Education and Psychology. A separate Chair in Psychology was established in 1956, at the time the State took over the University.

THE INSTITUTE OF PSYCHOLOGY

Professor John Elmgren has held the Chair in Psychology since it was created in 1956 and has been a professor at Göteborg since 1939, when he was appointed to the then newly established Chair in Education and Psychology. In addition to Elmgren, the faculty of the Psychology Institute consists of one laborateur, Dr. S. Rubenowitz; two docents, Dr. J.W. Holley

and Dr. K. Larrson; three lecturers; and ten research students. Two special lecturers from the Department of Statistics and Physiology also are associated with the Institute. There are approximately 250 undergraduates in psychology, 50 graduate students, and eight PhD candidates.

Prior to occupancy of new quarters this fall, teaching was extremely difficult because of limitation in classroom size, and laboratory space was at a premium. The Institute now is located in two adjacent new buildings in downtown Göteborg, occupying the first two floors of one building and the ground floor of a second. The remaining space, approximately eight stories in each building, consists of private apartments. Classroom and office space should be quite adequate; there is a library of more than passing significance, as well as a room with a one-way mirror for use in teaching techniques of psychological testing. At the same time there has been surprisingly little space set aside for laboratory use. Elmgren and his colleagues actually drew up the floor plans for the Institute, so one would anticipate the layout would meet the needs at least of the present generation of faculty members. In passing, it might be noted that the Psychology Institute at Göteborg may have the distinction of being the only Department in Europe to have designed its quarters in such a fashion that the faculty offices and research space are separated from the classroom and general student area by locked doors.

There is close collaboration with the Medical School in both teaching and research. A Section on Animal Studies, headed by Dr. Larrson, is physically located at the Medical School. This Section, which has excellent laboratory facilities, still is far enough removed from the main Institute to create problems for students in attending class.

Generally speaking, Göteborg has never been particularly known for its academic program in psychology. While the training and curriculum does not differ significantly from that of the other Swedish universities in terms of course content and structure, there possibly may be less depth in the psychological training than is found at Stockholm, Uppsala, or even Lund. Moreover, the Institute has never really established a definitive research image, either within Sweden or in other countries. Probably the best known faculty member at Göteborg is Larrson; however, his research interests are very narrowly confined to the sexual behavior of rats. While quality of work has gained Larrson international repute in his chosen area of study, it is somewhat doubtful if any university could achieve major stature in psychology through the work of one man in this particular field of research. With the exception

of Larrison, and Rubenowitz who really is just beginning his work, research activity at the Institute appears to be rather diffuse and ill-defined. For a major university there is surprisingly little laboratory equipment. That which is available has for the most part been made by the individual investigators. Elmgren, who has a long-standing interest in EEG, has an eight-channel Grey-Walter instrument and a wave analyzer. At the same time the equipment is located in a room which has neither temperature nor humidity control, and one suspects that there may be a great deal of electrical interference.

Elmgren is a friendly and charming individual who expects to retire in the very near future. While he is a most gracious host, it is somewhat difficult to understand what he is attempting to do in his research. He has worked on studies involving factor analysis of EEG tracings, and now is concerned with establishing a link between alpha activity and metabolism, which in turn he believes to be related to body typology or constitution. Recently he has started a series of studies in the area of gerontology. Here he has two students working on the problem of intellectual flexibility and decline of abilities with age. The Rorschach and various aptitude tests are being used in this study. Elmgren hopes to determine curves for decline in productivity of industrial workers which in turn will lead to decisions as to when workers should be pensioned. Elmgren discusses outlines of research rather than data or publications, and one is left with the distinct feeling that it has been years since he has really been active. In fact, one suspects that much of the present diffusion in the Institute may be traced to the fact that to all intents and purposes Elmgren already has retired.

The brightest star on the present Institute horizon is Rubenowitz, a fairly recent (1963) PhD, who is young, extremely alert, intelligent, and active. The book growing out of his dissertation has been well accepted in Sweden⁽¹⁾. Although Rubenowitz now has been on the faculty for about three years, his major effort has been devoted to building an applied and industrial psychology program. He is establishing a Department of Applied Psychology within the Institute, modeled somewhat after Magnusson's Section at Stockholm University. He also is working with the Swedish Military Psychology Institute on a major program of analyzing jobs in terms of physical requirements. In spite of his lack of publications to date, Rubenowitz is highly respected among Swedish psychologists and quite possibly will play a major

role in the development of the Göteborg Institute.

As indicated earlier, Knut Larsson is the only well-established investigator at the Institute. In contrast with his colleagues, Larsson has a highly sophisticated and well-equipped laboratory as well as no problem of research funding. In fact, some of his research has been supported by the US Public Health Service through the National Institute of Child Health and Human Development. He is fluent in English and eager to discuss his work with visitors. Several years ago he worked at the University of California, with Beach, under a National Academy of Sciences postdoctoral fellowship in physiological psychology.

For the past several years Larsson has focused on the study of neuroanatomical and biochemical correlates of sexual behavior in the albino rat. Larsson and his collaborators have found an area, the medial preoptic - anterior hypothalamic continuum, which is of essential importance to the sexual behavior of the male. Surgical destruction of this area abolishes sexual behavior, even though functioning of the hormonal system does not appear to be impaired. Larsson now is concentrating on the olfactory system, which has been shown to be of primary importance in both male and female sexual behavior. In a recent series of experiments, four of nine animals with lesions of the olfactory peduncle, which contains second-order olfactory neurons, evidenced a total loss of sexual behavior. Because of these unexpected results, future work will be concentrated on systematically producing lesions at various levels in the olfactory system. Lesions in the optic nerve resulting in blindness did not interfere with sexual behavior.

The biochemical components of the research, which is carried out in collaboration with the Biochemistry Department of the Medical School, are focused on the development of methods to measure change in hormonal level in the blood. It is anticipated that success in this area will lead to studies of the relationship between sexual activity and the output of hormones such as testosterone.

Jasper W. Holley recently completed the requirements for a Swedish doctoral degree in Psychology under Elmgren and has been appointed a docent in the Psychology Institute. Holley, an American who obtained a PhD under Gilford at USC, has been in Sweden for several years and plans to remain indefinitely at Göteborg. He has a long-standing interest in factor analysis and has published several papers in this area^{(2), (3)}. He also has been concerned with a factor analytical approach to validation of the Rorschach⁽⁴⁾. In spite of his difficulties in

learning to speak Swedish, Holley appears to have been well accepted at the Psychology Institute.

THE INSTITUTE OF EDUCATION

The Institute of Education was created in 1955 at the time the Chair of Education and Psychology was separated. Professor Kjell Hårnqvist was appointed to the Chair in 1958 and has directed the Institute since that time. Hårnqvist is an extremely young professor, whose formal training and doctorate was in Psychology. From 1955 until he moved to Göteborg, Hårnqvist was with Ekman at the Psychology Institute of Stockholm University. As is the case with the majority of the younger psychologists in Sweden, he started his professional career with the Military Psychology Institute.

The Institute is housed on one floor of an office building in a less prosperous section of the Göteborg business district. Space was a major problem until this past summer when the Psychology Institute moved to its new quarters and the vacated space was given to the Institute of Education. The present rather limited staff, all appointed by Hårnqvist, is as follows: Docent, Dr. J. Dahllöf; Lecturer, Dr. A. Svennson; and two research assistants who are PhD candidates, B. Anderson and E. Wallin. Anderson and Wallin have few teaching responsibilities and are engaged almost full-time in research activity. Another eight to ten teaching assistants, who are working for the licentiate degree, are occupied half-time with classroom instruction.

While the Education Institute is not responsible for teacher training, they do offer one course which is required for a degree in Education and several more which are optional with Education students. Approximately 500 students enroll in the required first semester Educational Psychology course. Forty to fifty students continue into the second semester, although approximately half of these are psychology majors. An advanced course is offered to undergraduates both in education and psychology. There are approximately 20 students studying for the licentiate (graduate) degree in Educational Psychology and two PhD candidates.

The Institute of Education has a surprisingly active research program in view of its short history and limited staff. The research tends to be quite systematic and programmatic with individual studies being grouped into two or three major projects.

The first project area, Programmed Instruction, has

been fully described in Dr. John A. Nagay's excellent report, ONRL-6-66, "Programmed Instruction in Norway, Sweden, and Denmark." Accordingly, a description of this work will not be repeated here. It may suffice to say that in addition to Hårnqvist having a personal interest in this area, he also directs a commercial organization doing work in programmed instruction. Last year Dr. Donald H. Bullock spent a year as a visiting docent at the Institute, working in the area of programmed instruction.

The second problem area is broadly concerned with the analysis of the Swedish gymnasium curriculum (the higher secondary school from which students enter university). The classical Swedish gymnasium curriculum permits students to enter one of five very clearly defined "streams" or "sides": general, classical, scientific, technical, or commercial. Obviously the stream which a student enters holds major implications for both university specialization and adult vocation.

The work accomplished to date in this project area may be divided roughly into two parts. Hårnqvist has approached the curriculum from the standpoint of the students; and Dahllöf has carried out an extensive group of studies analyzing the gymnasium curriculum from the viewpoint of university professors and a cross-section of Swedish business and industry. The results of Hårnqvist's and Dahllöf's studies hold many implications for educational and developmental psychologists beyond those directly pertinent to the Swedish educational system.

Hårnqvist collected data on some 8000 adolescents through a systematic, nation-wide sampling procedure. Four specific groups of students were studied: students just entering the gymnasium, a sample failing to complete their course, a group halfway through the course, and a sample of 962 graduates. Data were collected through the use of questionnaires which yielded information regarding frequency and confidence of course or "stream" choice, motivation toward school subject matter, interests, vocational plans, and academic guidance. An extensive analysis and interpretation of this data has been published in the form of a book by Hårnqvist and Grahm⁽⁵⁾, which unfortunately is in Swedish.

Because of the magnitude of the data, no attempt could be made to present a detailed summary. The following general remarks, however, give some indication as to the nature of the findings. School grades prior to gymnasium have a predictive value in terms of the decision to continue on through gymnasium, the specific "stream" chosen, and confidence in having made the right decision. While social background appears important

in the student's confidence in his decision, it is less important in determining the choice of "stream." Here, occupational and educational status of the parents becomes important. Each of the "streams," except for the general, was characterized by specific interest profiles.

Dahllof's studies also have been brought together into a Swedish-language book⁽⁶⁾. As indicated earlier, his portion of the project was concerned with adequacy of the gymnasium curriculum from the standpoint of the student's preparation either for university work or the business and industrial world. Information was collected both on rating scales and questionnaires. Again, because of the magnitude of the project, only a cursory summary will be attempted here.

First, the entire gymnasium curriculum was divided into 65 categories on the basis of the subject matter. In one study, every full-time faculty member in the four Swedish universities existing at that time was requested to carry out a threefold rating of the 65 subject categories. Using a five-point scale, each category first was rated in terms of its importance for university study in the faculty member's specialty. Next, a rating was made of knowledge which new students demonstrated at the university in each category relevant to the faculty member's specialty. Finally, all faculty members were requested to rate each of the 65 categories in terms of their importance for general education. In another study, a similar series of ratings was carried out in a total of slightly over 1,000 separate departments in Swedish industrial and business concerns. A final series of individual studies was devoted to the importance of foreign languages as seen both by university faculty members and representatives of business and industry.

One of the most striking results of this research is the fact that the university faculty members generally considered studies under the broad head of "humanities" to be of more importance than those grouped under "science." A second somewhat unexpected finding was a surprising degree of agreement between the university faculties and nonacademic respondents with regard to the subject matter which is important in general education. Some differences were found between the two groups of respondents with regard to languages. Apparently the faculties considered proficiency in English, French, and German as equally important, whereas the non-academic respondents were far more concerned with proficiency in English than in either of the other two languages.

The broad project area of curriculum studies has been somewhat dormant since publication of the two books in 1963. However, in the near future another group of large-scale

studies will be undertaken regarding the effect of the revised Swedish educational system on gymnasium curriculum. This promises to be a rather important venture inasmuch as extensive baseline data are available from the studies described above for use in evaluating the change in educational philosophy.

By far the most active and the largest project at the Institute of Education is that concerned with pupil adjustment. This is a longitudinal study that could be carried out only in a country such as Sweden, which maintains extensive public records on the total population from birth to death.

The impetus for the pupil adjustment project comes from a major primary school system reform in Sweden. For approximately 15 years experiments have been under way on curriculum changes in the first nine years of schooling, which are compulsory in Sweden. The focus of concern has been on the three-year period equivalent to the US junior high school. In the past, students have been "streamed" through a large number of diverse schools and curricula within school during this period. In 1962 the Swedish Parliament passed a law which made the comprehensive system mandatory. While the comprehensive program already had been adopted in some school systems prior to the 1962 Parliamentary ruling, all of Sweden's schools will be changed over by 1972. The change is being made by phasing out the old system over a period of time rather than by shifting students from one system to another.

As the shift will not be completed throughout Sweden for a number of years this provides an excellent opportunity for comparative studies of the two systems. Harnqvist and his colleagues began their studies in 1961, and it is evident that they will continue for some years, even after the complete change-over has been accomplished. The primary aim of the project is to compare the two broad educational systems with regard to their long-term impact on intellectual and psychosocial development.

Two separate sets of studies currently are under way. One, which began in 1963, is limited to the city of Göteborg school system. The shift to the comprehensive system will be completed in Göteborg at the end of the 1966 school year. However, by proper selection of schools, it has been possible to obtain the last sample under the old system and a comparable sample under the new system (N in each group > 5,000). In addition to information on academic achievement, extensive sociometric and questionnaire data also are being collected.

Harnqvist has been strongly influenced by J.S. Coleman's

book, The Adolescent Society, in designing the Göteborg study. Thus, the data will permit comparison of the two systems in terms of student attitudes, values, motivation, peer group relations, and subculture norms. Much of the questionnaire and sociometric data must be coded by graduate assistants but the actual data processing will be by machine. It is anticipated that this study will be completed sometime in 1968.

The second major substudy of the pupil adjustment project started in 1961. With the assistance of the National Central Bureau of Statistics, a 10% random sample was obtained of all sixth grade pupils in Sweden -- a total of approximately 10,000 children. Next, teachers throughout Sweden were requested to report on student achievement through the first six grades, as well as to administer an extensive test battery and questionnaire to the students. Inasmuch as participation was voluntary, the rate of return was startling. School record data was submitted on 98% of the students and the achievement test and questionnaire information was obtained on approximately 87% of the sample. Information was obtained on the parents' social economic background, the children's selection of comprehensive versus streamed schooling for the junior high school period, and attitudes towards further schooling. Roughly 50% of the subjects went into each of the two systems for the remainder of their compulsory education. Tests have been carried out at periodic intervals since 1961, and the first group of students entered military service this fall. In collaboration with Swedish military authorities, extensive follow-up studies will be conducted on the male students during their military service, which is compulsory in Sweden.

When one considers the size of subject groups, sampling techniques, and the homogeneous Swedish culture, the change in the Swedish educational system provides a rather remarkable opportunity for Härnqvist to conduct well-controlled longitudinal investigations. From an experimental design standpoint it is reasonable to predict that any differences in capability and performance effectiveness found over time in these two large samples may be attributed to the differences in the highly divergent school systems.

Several theoretical considerations have gone into foundation of the nation-wide study, although J. McV. Hunt's book, Intelligence and Experience, has had a particularly strong influence. One of the primary goals is to evaluate the differential effect which the two systems may have on development of ability to utilize native intelligence. It

is predicted that a difference will be found, particularly in the case of individuals from a lower socio-economic background who customarily have not gone into the old academic "stream" curriculum.

Because of the size of the sample, it also will be possible to study a number of socio-economic or "class" variables related to home environment. Of interest here is the question of the influence of the home "linguistic" environment on test performance, and the impact of the changed school environment on children raised in orphanages. Studies also will be conducted relating school environment and attitude.

The magnitude of this project is somewhat overwhelming to the visitor when considered in context with the size of Harnqvist's staff. At the same time, however, one cannot help being impressed with Harnqvist's concise formulation of plans, clarity of thinking, and obvious administrative skills. The data collection now has become routinized, and analysis will be undertaken by graduate students under the supervision of Harnqvist and his faculty colleagues. In fact, 20 graduate theses now are under way or have been outlined in this project.

GÖTEBORG PSYCHOTECHNICAL INSTITUTE

The Göteborg Psychotechnical Institute is a private organization founded about 1940 by Professor Elmgren. Although the Institute is not particularly stimulating from a research standpoint, at least passing mention is considered appropriate inasmuch as it is the largest private industrial psychology organization on the west coast of Sweden.

This Institute occupies space in an old, dark, high-ceilinged office building in the heart of the Göteborg business district. It employs a total staff of about 30, most of whom have at least a first degree in psychology, and there are five affiliated organizations outside of Göteborg.

The primary activity of the Institute is personnel selection for industry. Over the years the organization has routinely selected bank employees and various types of industrial workers. There is also an executive selection program which appears to be less extensive in scope.

The organization is self-supporting and has a separate research budget -- part of which comes from outside grants or contracts. In the past, tests have been developed for use in the Swedish school system in differentiating pupils, and the Institute also has developed a mechanical aptitude test which is currently

used in the Swedish military psychology program.

The Psychotechnical Institute was owned and run by Professor Elmgren as a private enterprise until last year. For some time he had expressed a hope that the Institute would eventually become part of the University. However, this did not come to fruition and he sold the Institute to the employees. He has remained as a consultant and apparently spends a fair amount of his time on Institute activity.

On brief exposure to the Institute one is left with the feeling that it might be best characterized as an organization which is dedicated to methodically applying accepted techniques to fairly routine problems. It is doubtful if the organization will contribute any major theoretical break-through in the area of industrial psychology.

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