Werner Schmid, 1930–2002

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Obituary

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One of the pioneers of clinical and experimental cytogenetics, Werner Schmid, passed away just shortly prior to his 72nd birthday. Together with Charles Ford, Marco Fraccaro, Harold Klinger, Jérôme Lejeune, Jan Lindsten, Margareta Mikkelsen, Ulrich Wolf, and others he was one of the 'founding fathers' of modern-day cytogenetics, and he also was one of the founders of this Journal.

Werner Schmid came from a rural family and grew up in the city of Winterthur, close to Zürich. He attended medical school in Zürich and Paris, and came into contact with genetics during his MD thesis work on radiation-induced wing mutations in Drosophila at the Institute of Radiation Biology in Zürich. After a brief stay at the Institute of Pathology, he moved to Texas for training in the newly emerging area of cytogenetics, first with J. Biesele in Austin, later with T.C. Hsu in Houston. Following first-time case reports on translocation trisomy 21, he published one of the early key papers in the field of human cytogenetics: "DNA replication patterns of human chromosomes" which appeared in this Journal in 1963 (Schmid, 1963). Until it was replaced by chromosome banding, radioactive thymidine labeling followed by autoradiography was the only method to distinguish between morphologically similar chromosomes. When Prof. Guido Fanconi retired in 1962 as head of the Department of Pediatrics in Zürich, his successor, Prof. Andrea Prader asked Werner Schmid (who was on the verge of accepting a position as Assistant Professor in Philadelphia) to set up a cytogenetics laboratory at the famous Zürich "Kinderspital". In addition to heading a diagnostic laboratory, Werner Schmid continued his experimental work in cytogenetics, focussing on "heterochromatin in mammals" as the topic of his 1967 "Habilitationsschrift" (Ph.D thesis). In 1969, Werner Schmid was promoted to Assistant Professor, and to Associate Professor in 1974, at which occasion the cytogenetic laboratory was upgraded into a Division of Medical Genetics, still within the Department of Pediatrics. In 1978, Werner Schmid was appointed to a new chair of Medical Genetics at the University of Zürich School of Medicine, and he became the first Director of the newly founded "Institut für Medizinische Genetik" which he headed until his retirement in 1995.

Werner Schmid was a very talented researcher, and he made a number of highly significant contributions both to basic and applied cytogenetics. For example, he was one of the first discoverers of the increased chromosome fragility in Fanconi anemia (Schmid et al., 1965) and, together with Marco Fraccaro from Pavia, he wrote the first report on patients with a peculiar phenotype (including coloboma of the iris and anal atresia) and an additional small extra chromosome (Schachenmann et al., 1965). He called the clinical phenotype "cat eye syndrome", but it would certainly be appropriate to call this phenotype the Schmid-Fraccaro syndrome. He once told me that one should not stay with a single research topic longer than about five years. A view he adhered to. Thus, he moved from his special interest in heterochromatin to mutagenesis, which led to the development of the micronucleus test (Schmid, 1975a) as an excellent tool with which to measure genomic damage in the early seventies. When it became evident that prenatal cytogenetic diagnosis was going to revolutionize medical genetics and dramatically increase the need for genetic counseling, he was one of the first in Europe to introduce this new method. Once again he entered the emerging field of prenatal diagnosis with a technological breakthrough: the description of the in situ method for preparing amniocyte metaphases which, as he realized from the beginning, was the optimal method for distinguishing clonal aberrations from true mosaicism (Schmid, 1975b).

At the beginning of the eighties, Werner Schmid decided to move entirely into applied human genetics. His credo was that human society should benefit from the rapid advance of knowledge in medical genetics. He devoted much time and effort to genetic counseling, clinical genetics case reports (e.g. Schachenmann et al., 1965; Schmid, 1979; Schinzel and Schmid, 1980) and to establishing clinical genetics services. In addition, the nature vs. nurture issue with respect to intelligence, school and professional success became one of his main interests. To approach this complex issue, developmental and school records were ascertained from all 11-year-old children of his home town Winterthur, altogether from more than 1000 students, and analysed for a large number of parameters (Schmid et al., 1983). As one might have anticipated for the analysis of complex traits, the results of the Winterthur study confirmed that success in school and profession depends on the interplay between a variety of genetic, medical, social and environmental factors that shape human life.

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Ever since he worked in Zürich, Werner Schmid was an active supporter of the Swiss Society of Genetics whose president he was in 1970/71. Realizing, however, that competition between physicians and biologists was paralysing the society, he decided to found a separate society for the promotion of medical genetics, the Swiss Society of Medical Genetics, SGMG, for which he served as the first president in 1978/79. It was also largely due to his efforts that Medical Genetics was finally recognized as a medical speciality in Switzerland in 1999, and although this happened only after his retirement, he was one of the first medical geneticists in Switzerland to become board-certified.

One of the highlights of his academic career was the annual meeting of the European Society of Human Genetics which he organized in the year 1981 in Zürich. Thanks to his excellent organization and an attractive scientific and social program the Zürich meeting turned out as one of the best meetings of the European Society prior to it's reorganisation in the early nineties. Many participants remember Werner Schmid as the pleased and charming host of the meeting. As an academic teacher, Werner Schmid was critical and quite demanding, and one had to know him well to perceive the subtle compliments by which he signalized approval. As a researcher, he was no less critical and always strived for excellence in anything he started in the laboratory. Typical for him was to enter a new field of interest with a major new contribution, such as cited above, and to quietly understate his own achievements. Coming from a long-lived family, and considering his general good health, one could have predicted a long period of active retirement and much enjoyment of his grandchildren, travel and the well-deserved leisure for cultural attractions. Unfortunately, reality turned out differently. The contributions of Werner Schmid to the stature of human genetics in Switzerland and abroad, and to cytogenetics and medical genetics in particular, will not be forgotten.

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