

## Obituary

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# Prof. Dr. med. Dr. med. h.c. Georg W. Kreutzberg

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Georg W. Kreutzberg was born on September 2, 1932 as the middle child of three siblings. His street-wise mother lovingly guided the family through the chaos of World War II. Through his father, a surgeon, he soon became familiar with the world of medicine, and decided at a young age that he was going to be a scientist one day. His scientific journey began. Due to frequent excursions to the nearby Rhine valley, young Georg developed an interest in Rhine stones and minerals that could be found there which gave rise to his early interest in chemistry, but he also used a microscope, which he shared with his one and a half-year older brother. The secondary school Georg Kreutzberg attended, the Ahrweiler Gymnasium, left a long-lasting impression on him because it provided a rich academic atmosphere. Quite exceptional at the time and also for

German schools today, the majority of its teachers held a doctorate and some were still engaged in academic activities while teaching at the school.

Following his Abitur (final high school exam) in 1951, Georg Kreutzberg pursued his medical studies in Bonn and Freiburg im Breisgau (Germany) but also gave in to “Wanderlust” that led him to study at the Universities of Innsbruck and Vienna (Austria). In addition, he engaged in biochemical studies at the University of Bonn during his semester vacations. Georg Kreutzberg passed the State Examination in Medicine at the University of Freiburg in 1957. According to the medical doctor-training scheme at the time, this examination was followed by internships, which Georg Kreutzberg spent at clinics of the Universities of Bonn and Freiburg (1957–1959). In 1960, he obtained his general medical license. In 1961, the University of Freiburg awarded the Dr. med. degree to Georg Kreutzberg for a thesis entitled, “Studies on the metabolism of tryptophan in various diseases of the nervous system” which he had undertaken in their Psychiatry Department. Georg Kreutzberg had a long-standing interest in chemistry and developed a special interest in physiological chemistry (biochemistry), which was relatively new field at the time. According to his own words, he was considered sort of a “mooncalf” by his peers because he pursued neurochemistry in a Psychiatry Department that was very much influenced by the philosophy of Martin Heidegger and whose patient records would even reflect his literary style. Heidegger still filled large lecture halls at the University of Freiburg, and Georg Kreutzberg attended Heidegger’s lectures with great interest.

However, Georg Kreutzberg’s fascination by the biological basis of brain diseases persisted and took him to Bonn where the first Chair of Neuropathology in Germany had been created for Professor Gerd Peters. Thus, starting in 1960, Georg Kreutzberg received 5 years of training in basic neuropathology under Gerd Peters, first at the Brain Research Institute and Department of Neuropathology at the University of Bonn (1960) and then as research assis-

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tant in neuropathology (1961–1964) at the Max-Planck-Institute of Psychiatry (Deutsche Forschungsanstalt für Psychiatrie) in Munich where he had moved together with Peters.

A postdoctoral fellowship followed (1964–1965) in the newly established Department of Psychology at the Massachusetts Institute of Technology (MIT) in Cambridge, MA, USA, which was being set up by Hans-Lukas Teuber (1916–1977), a pre-World War II German emigrant. The great professionalism of “Luk” Teuber’s operation, which featured regular departmental conferences that were attended by scientists such as David Hubel and Torsten Wiesel, was most inspiring for Georg Kreutzberg. The scientific purpose of his stay was to learn autoradiography on nervous tissue and life-long friendships with Joe Altman and Walle Nauta ensued. The techniques learned proved crucial for Georg Kreutzberg’s later description of dendritic transport and axotomy-induced microglial proliferation.

Georg Kreutzberg returned from MIT to the Max-Planck-Institute of Psychiatry in Munich as a research associate (1965–1967) before serving as Guest Investigator at Rockefeller University in New York by invitation of Paul Weiss (1968), the discoverer of axonal transport. A key publication on blockage of intra-axonal enzyme transport by colchicine soon followed. Georg Kreutzberg was appointed Chief of Section for Experimental Neuropathology at the Max-Planck-Institute of Psychiatry, Munich, in 1969. It became the Department of Neuromorphology and was relocated in 1984 together with the Theoretical Institute of the Max-Planck-Institute of Psychiatry; the latter was renamed MPI of Neurobiology in 1998. With Georg Kreutzberg’s retirement and the concurrent closure of his Department in 2000, the tradition of the famous Munich school of neuropathology ended in Germany.

In 1989, Georg Kreutzberg became Director of the Max Planck Institute of Psychiatry, as it was known then, in Martinsried, Germany, where he led both the Institute and the Department of Neuromorphology for eleven years. As Director, his main concern was the well-being of his co-workers and employees. He took a genuine interest

not only in their work but also in their lives and quickly became a role model for many. His approach towards his employees was not bossy or top-down, but rather interactive, engaging, and nurturing, and this was particularly beneficial for the many younger scientists who were just starting their careers under his tutelage. His motto was “We need courage, luck, and patience”, which he had chalked on the laboratory door of Dietmute Bühringer, one of the superbly skilful technicians working in the department (Graeber et al., 2012). He took pride in the fact that many of his coworkers went on to leading positions in research and clinical practice. While Georg was an excellent teacher and respected leader with unquestionable integrity, he was also a “regular guy”. Not infrequently, he joined his postdocs, students, and others for a quick beer after work, which usually amounted to an hour or two of pub time, where he enjoyed good conversation over a few beers and a tasty Bavarian snack. He was not the kind of person to engage solely in shoptalk, but in fact commonly digressed into all sorts of other subjects, in particular, historical matters of various kinds. The study of the history of neuroscience became one of his favorite past times in his retirement.

Georg Kreutzberg will be missed by many of his trainees, including the authors of this obituary, who spent some of their most productive years as postdocs in his department. The experience of working with “Georgie” (as they sometimes referred to him amongst themselves) shaped their scientific careers and quite possibly their lives. He was a powerful influence and role model because of who he was and how he conducted himself. May he rest in peace.

## References

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