OBITUARY

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BOGDAN DREHER (1941–2019)

MSc (Warsaw University), PhD (Nencki Institute), DSc (University of Sydney)

Bogdan Dreher, Nencki Alumnus, the eminent Polish and Australian neurophysiologist, decorated with the Nencki Award, died in Canberra on May 22, 2019.

Bogdan's father, Jakub Drajer (Dreher), studied History at Warsaw University and worked as a teacher in the Jewish orphanage run by famous paediatrician, pedagogue and writer Janusz Korczak. Bogdan was born in 1941, just three months before the German invasion of the USSR. His father, captured by Germans and imprisoned, managed to escape and moved back to Warsaw, where he was active in Communist anti-Nazi conspiracy. He was shot in 1943 when he tried to escape arrest. Bogdan's mother managed to catch the last train leaving the invaded Byelorussia and escape with Bogdan (his original name, used until the end of the war, was Daniel) and other members of the family to the Soviet Union, where they were sent to a kolkhoz near Yershov, a small city close to Saratov in Russia. In spite of severe malnutrition, Daniel and his mother survived and returned to Poland in 1945.

Bogdan finished his schooling in Warsaw, studied in the Department of Biology at Warsaw University and in 1962 joined the Department of Neurophysiology at the Nencki Institute for his doctoral studies. He worked in the laboratory of Dr Bogdan Żernicki, defending his doctoral thesis on the cortical control of eye movements in

cats in 1968. During his doctoral studies he married Zofia, also a biologist, and later their son Jakub (Kuba) was born. Bogdan's doctoral defense, in 1968, coincided with the infamous anti-Semitic purges during that year. In 1969, Bogdan was refused a passport for his official post-doc leave to Australia. He decided to declare the will to emigrate to Israel as a Jew, which resulted in his being stripped of Polish citizenship and being handed a one-way travel document, so in effect he was expelled from Poland. It was a hard personal decision for Bogdan, as at that time his wife and son were not allowed to leave with him. They joined him in Canberra two years later.

After a few successful years in Canberra, Bogdan moved to the Department of Anatomy at the University of Sydney, where he worked until his retirement, in 2007. He still continued with several collaborations, so the last scientific paper under his name appeared this year. Altogether, Bogdan published 126 full papers, 4 book chapters, 5 biographical papers and over 140 abstracts. He has been cited 8293 times (Index H=51). His major scientific interests were the neurophysiology and neuroanatomy of the visual system of mammals. The most influential of Bogdan's papers, published in 1972, demonstrated that the "hypercomplex" cells of the visual cortex are in fact "simple" and postulated the parallel processing of visual disparity information in the retino-geniculate projection (Pettigrew and Dreher 1987), introducing new arguments to the idea of parallel, as opposed to serial, processing of information in the visual system. The latter was advocated by the Nobel Prize winners, Hubel and Wiesel. The paper was cited among only a few others in the Nobel Lecture by David Hubel. Equally important was his idea of the "caecal period", showing that sequences of brain development are similar in many vertebrate species, when the developmental period (the time from conception to reaching a functional stage, e.g. eye opening) is normalized to a unit (100%), independent of the time of birth or hatching.

Bogdan was a voracious reader, astonishingly erudite and endowed with a superb memory – the eminent son of a society where books were rare and expensive and where personal knowledge and good memory were crucial and revered. It seems that Bogdan could not live without quickly absorbing his daily dose of scientific literature (i.e. browsing through 2-5 international journals and reading several papers in detail). The capacity of Bogdan's memory and his knowledge of scientific literature were legendary at the Nencki, remembered there long after he left. During scientific meetings, Bogdan played the roles of Google, PubMed, Wikipedia and jester at the same time. In case of any doubt about who wrote what and what results had been reported in any scientific paper relevant to the ongoing discussion, Bogdan, then still a PhD student, would stand up and report, from memory, the author, journal and volume and frequently also the page where the relevant information had been published.

When I joined Prof. Żernicki's laboratory at the Nencki Institute, in 1970, I was assigned the task of continuing Bogdan's research on eye movements in cats, part of a larger plan to investigate higher-order gnostic processes that were at the centre of Konorski's interests at that time. As a primer, I was handed Bogdan's PhD thesis to read. It consisted of over 200 pages and cited more than 250 papers and books. I was told that Bogdan had to be severely limited in his attempts to cite "everything that matters", which worried him very much. Merely browsing through his thesis evoked a long-lasting spreading despair in my brain.

In 1989, Bogdan was allowed to visit Poland for the first time since 1968, to visit his mother, Regina, who lived permanently in Warsaw. He visited the Nencki Institute too, and everyone who had known him earlier was very happy and excited. We also met, and I found discussing science with him fascinating and discovered we had many interests in common. I asked him if I could join his laboratory for a year or two, and amazingly, Bogdan agreed to invite me and my wife, Rouzanna Djavadian, also a neurophysiologist.

When we arrived in Australia, in 1991, Bogdan and his wife Zofia (also a scientist) helped us tremendously to settle in Sydney. When we started working on the manuscript, I learned the art of writing on a computer, while Bogdan still preferred pencil and printouts, which he would take for a few hours and return with hundreds of handwritten changes and new literature to cite. I had to make the changes on the computer, print out a new version and deliver it to Bogdan. Some days we had only one round of amendments, and sometimes two or three. The pile of versions could reach a height of two feet before the manuscript could be sent to editors. At the same time, Bogdan was giving lectures to students, working on two or three other manuscripts, writing grants and

participating in new experiments. He also enjoyed discussing politics and making lots of puns. In the laboratory, Bogdan was very emotional: tense about the results and in despair when something went wrong. He expected others to keep up with his roadrunner speed and was deeply disappointed by any slowing down. But there was no malevolence in this, just strong emotions. We both hold very good memories of our collaboration with Bogdan.

When we returned to Poland, Dr Wioletta Waleszczyk established the longest scientific collaboration with Bogdan of all the researchers at the Nencki Institute, resulting in eight papers together. Bogdan's contribution to the Nencki Institute was so highly esteemed that he received the "Nencki Award" in 2013, a distinction bestowed on great scientists who collaborated with the Institute and helped to develop its scientific potential.

Shortly before Bogdan's death, a meeting in his honour was organized by Prof. Jonathan Stone in Sydney, and a Festschrift was published on the internet. More than 70 people from around the world attended the meeting and even more sent their contributions to the Festschrift. The news of Bogdan's death was greeted with sorrow by even more people in Australia, Poland and other countries. At the Nencki Institute black flags were flown for three days. Bogdan was survived by his wife, son and three grandchildren.

Kris Turlejski

September 23, 2013. Director of the Nencki Institute, Prof. Adam Szewczyk and Head of the Nencki Award Committee, Prof. Małgorzata Kossut, issue Bogdan Dreher with the Nencki Award. Copyright Nencki Institute.