



TERESA GÓRSKA-ŻÓŁTOWSKA (1932–2019)

Professor Teresa Górka-Żółtowska, passed away at age 87 on 27 November 2019. She was a neurophysiologist with main interests in the physiology and anatomy of the motor system and its neural control. Her scientific career was associated with the Nencki Institute of the Polish Academy of Sciences. She graduated from the psychology at Warsaw University in 1954 and in 1957 joined the Department of Neurophysiology of the Nencki Institute under direction of professor Jerzy Konorski. She started her research work by analyzing the importance of the proprioceptive input from a limb for instrumental reflexes in behavioral studies on cats, dogs and rats together with Elżbieta Jankowska and Włodzimierz Kozak, then PhD students. As the proprioceptive feed-back turned out not to be of critical importance, this study led to the analysis of the role of the pyramidal and extrapyramidal cortico-spinal systems for both the acquisition of instrumental reflexes and the execution of skilled movements. This issue became the subject of her doctoral dissertation under the guidance of professor Jerzy Konorski and defended in 1965.

Teresa Górka continued her post-doctoral studies of the motor system first at the Nencki Institute in behavioral experiments and then in the laboratory headed by prof. C.N. Woolsey, at the University of Wisconsin in Madison, USA where she extended them by the analysis of the organization of the sensory-motor areas of the cerebral cortex, using electrical stimulation of the cortex, and the ensuing movements. After having returned to Poland, she focused on the ontogenetic problems; on the development of the sensory-motor cortex and its somatotopic organization as well as effects of injury of the cortico-spinal tract on the cortical organization.

Her ambition was to investigate the motor system by combining behavioral and neuroanatomical techniques with electrophysiological analysis. She did not have the possibility to implement this in the Nencki Institute in Warsaw, but In 1973-1983 she found new opportunities in the Research Station of the Polish Academy of Sciences in Łomna, near Warsaw, where she was appointed as docent and organized the Laboratory of Ontogenesis of the Efferent Systems (later the Laboratory of Inborn Forms of Behavior). Together with a group of PhD students and technicians she started neuroanatomical studies on the ontogenetic development of cortico-striatal projection in dogs using the autoradiographic labeling method. These studies were combined with behavioral studies of ontogenetic changes in motor functions, especially postural reactions, and studies on the impact of the damage of cortico-spinal pathways on manipulatory movements. Unfortunately, the economic collapse of the country in the eighties did not allow the group to complete these studies in Łomna and forced them to move back to Warsaw and to reorganize their work in the Nencki Institute where she became appointed associate professor in 1983 and professor in 1994.

During the period between 1982 and 1985 Teresa Górską collaborated with prof. Anders Lundberg research group (Göteborgs Universitet, Sweden), extending her research in the direction of spinal mechanisms of instrumental movements and locomotion. In Göteborg she assisted prof Lundberg's group in combining their electrophysiological studies of spinal mechanisms of supra-spinaly initiated movements by behavioral analysis and, in particular, mechanisms of their visuo-motor control.

Following these studies Teresa Górską focused, together with a group of younger collaborators and PhD students, on studies of disorders of coordination between fore- and hind limb movements during locomotion following partial spinal cord injuries. She retired in 2002 but continued this work also after retirement.

Scientific work was her passion and joy, despite difficulties and frustrations that accompany the research. She was the promoter of seven doctoral dissertations. She liked scientific challenges and hated succumbing to difficulties, expecting from us, her students and coworkers, similar attitude. Teresa Górską had a rare skill - the ability to infect us with her research enthusiasm and joy of life and this is how she remains in our memory.

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Looking back...

The late 50-ies, when Teresa Górską started her research work were long, long time ago, more than half a century. The knowledge of the motor system was then rudimentary, the analysis of the nervous system at a cellular level was just starting and it was long before it could be extended to the molecular level. The technical facilities of the studies that could then be carried out were also closer to the beginning than to the end of the 20th century, especially when they had to be re-created from a near-zero level after destruction of the Nencki Institute during the war. The only way to make the progress was to take profit of any facilities that were available and to make a continued effort to improve them, the way we had to proceed with Teresa Górską when we started our PhD studies and that she continued during her career. There were, nevertheless, several advantages of the conditions of the research work at the Institute at that time. The Institute was small and the life in the Department was almost like in a family, with daily contacts with everybody, continuous discussions on the results on very closely related issues and the feeling of an oasis of very good will and extremely high moral principles. All those more experienced were always ready to help us with any problems we met, both theoretical and practical, from prof. Jerzy Konorski, Dr. Liliana Lubińska and Dr. Lucjan Stępień to the elder colleagues including W. Kozak, S. Sołtysik or M. Mossakowski. One could fully focus on the research as it was the time when it was centrally financed and there was no need to apply for grants, or write the reports, to be able to continue. It was also the time when preparing a PhD thesis meant solving problems of our choice rather than being enrolled as a PhD student. We were selecting ourselves the problems that we were interested in and prof. Konorski helped us with this by discussing their different aspect but accepted our choices.

Working with Teresa Górską was great fun and we enjoyed solving various problems of the experiments that led first to mine and then to her PhD thesis. Writing the papers for publication was less enjoyable as it was the pre-computer time and we had to struggle with it much more. After the first period of working together, our ways separated, except for the short period of Teresa's work in Sweden, but our friendship remained as close as ever until the last period of Teresa's life.

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