How we remember Him

I vividly remember Boguœ’s arrival in Rochester, tennis racket in hand, incredibly black, wavy hair worthy of a movie idol, and a penchant for neurophysiological theorizing a la Konorski. We set about some impossible experiments that nevertheless succeeded. They followed his deep fascination for the midpontine pretrigeminal preparation that he had acquired from Moruzzi’s famous group in Pisa. He introduced me to all the technical tricks of that procedure, and how to obtain long-term survival of these severely debilitated cats, in which we additionally severed connections to the cerebral cortex. We were able to show that the then-popular "mesencephalic reticular formation" became remarkably silent electrophysiologically consequent to removal of its forebrain input. This "silence" was commonly accompanied by sporadic seizure activity, even two weeks after the isolation, suggesting that some of the lost forebrain input had been inhibitory. This "control" of the ascending brain stem systems by the forebrain is often overlooked in theorizing about the necessity of brain stem input for maintaining cortical activity. Our experiments, and now several other lines of evidence, showed that the brain stem is a "two-way street", that it and the neocortex send and receive powerful signals from each other, so that the arrangement is that of a dynamic loop of activity between these entities, rather than a simple ascending influence from the brain stem.

Boguœ and I maintained contact over the years, and in the early 1990s we planned a series of experiments concerning the "habituation" of the ocular following reflex, that is such a prominent feature in his favorite pretrigeminal cat. We wished to see whether there was a cortical participation in the habituation and, if so, whether this simple form of learning would be spontaneously "transferred" from one to the other cerebral hemisphere. I was to come to the Nencki to share in the labors, but I never found either the time or the money to do so. Boguœ went ahead with the experiments, and then it was up to me to write up the results. They proved to be of considerable interest for, despite the profuse bilaterality in the brainstem for control of eye movements, it was clear that the neocortex participated in the habituation. With the corpus callosum intact, moving the lateralized stimulus so that it impinged upon the retina contralateral to that employed for the initial habituation, hence directing the stimulus to a "new" hemisphere, there was clear evidence that the previously established habituation persisted. On the other hand, if the callosum had been severed prior to the habituation, moving the location of the stimulus to activate the other hemisphere required a full repetition of the habituation procedure. Of course, this does not show "transfer" in the sense that, with the callosum intact, the "unaddressed" hemisphere would have sustained the habituation in the subsequent absence of the callosum; but it does clearly show that there is an interaction at the cortical level, whereby the hemisphere not directly addressed by the stimulus nevertheless has access to the habituated state via the callosum, and that such access is lacking if the callosum is absent during the habituation.

These are but two among the many insights that Bogulaw Żernicki offered the world in a long scientific life of great originality. May these hard won gains continue to inform our view of the nature of mind and how it is derived from neurons, an elusive quest that Boguœ pursued with deñt enthusiasm.

Robert Doty, University of Rochester, USA
All of us in the Nencki Institute are deeply moved by the unexpected illness and sudden death of our friend and colleague, Boguslaw Żernicki. In 1951, as an undergraduate student at the Medical Academy in Łódź, Boguś was fortunate to be accepted as a volunteer to the Nencki Institute. A lively scientific life in its Department of Neurophysiology orbited around professor Jerzy Konorski, who was remarkably well acquainted with every detail of experiments conducted by each member of his staff. Scientific seminars of the Department lasted for three hours every Wednesday and each scientific worker, young or old, periodically presented his data and defended his views. All of us were really proud to be members of the Department. I recall that many of us had the impression that Boguś was the favorite pupil of professor Konorski. However, the Master (as we called him) had a talent for making use of any member of his staff.

My personal interactions with Boguś intensified when both of us started to participate in scientific symposia and congresses, and I will limit this memorial to the account of our visits and common actions. Our first common journey was to the International Congress of IUPS in Leiden, 1962, where Boguś presented a communication on the conditioning in chronic pretrigeminal cat, whereas at the same seminar I reported on the effects of prefrontal lobectomy on retention of avoidance reflexes in cats. The first presentation of our own data in front of a competent international audience evoked conceivable excitement in the young scientists, but nevertheless both of us were deeply moved listening to Konorski’s lecture on the central factors in differentiation. Later on we both enjoyed participation in the IUPS Congresses in Munich (1971), Paris (1977), and Budapest (1980). In those years our (and the Institute’s) financial possibilities were limited, so we shared rooms, lunched together, but most importantly discussed our impressions from the lectures, presentations and meetings with other scientists. I recall with pleasure the invitation by professor Jerzy Rose for a dinner in an old Munich restaurant. He discussed with the three of us, Konorski, Boguś and me, the necessity of introduction and use of the modern anatomical methods in our Institute. Thus, in the quite informal atmosphere, over good meals and excellent wine, the important decision of building the electron microscopy unit in the Nencki Institute was made. The laboratory materialized two years later.

We also shared hotel rooms during Congresses of the Polish Physiological Society, starting from the IX Congress in Poznań. The XII Congress in Szczecin (1969) was especially memorable. We, the young associate professors from the Neurophysiology Department, met in a small restaurant and discussed passionately the need for deep reorganization of the Department. Nearly all of us had the experience of working with the undergraduate students, teaching and supervising their master’s theses. Nevertheless, official responsibilities belonged only to the Master. At that time Konorski held the post of Director of the Nencki Institute, whereas I was nominated the deputy director. Therefore, it was decided by the company that it would be my duty to present our common proposal to the Institute authorities. It was not an easy task, but the reorganization started a year later and at the beginning of 1971 Żernicki was nominated the head of the new Laboratory of Visual Perception, whereas I was given the Laboratory of Defensive Conditioned Reflexes. Several other scientists were also nominated to the head of their laboratories.

Even earlier Żernicki had been involved in editorial duties. From 1962 Jerzy Konorski was the editor-in-chief of Acta Biologiae Experimentalis with Stefan Brutkowski the managing editor. When Brutkowski was killed in a street accident in 1966, the post of the managing editor was given to Żernicki. In 1970 the name of the journal was changed to Acta Neurobiologiae Experimentalis. After Konorski’s death in 1973 Żernicki became the Editor-in-chief of the journal and held the post till 1987. Under his guidance ANE changed its scope, expanded and published proceedings of several international symposia, following earlier (1972) publication of the seminal proceedings of the satellite symposium of Munich IUPS Congress entitled “Frontal granular cortex and behavior” that was held in Jabłonna in 1971. That symposium had some long-lasting consequences. In Jabłonna Konorski and his scientific friends deliberated on the future after Konorski’s retirement from the chair of the Department of Neurophysiology and directorship of the Nencki Institute that was planned for the end of 1973. There was a general agreement that Żernicki should replace the Master as the chair of the Department, whereas upon suggestions of Hans–Lucas Teuber and Hall Rosvold professor J. Konorski foresaw me as his successor at the post of Director of the Nencki. These suggestions were later discussed with the authorities of the Nencki Institute. The sudden illness and death of professor Konorski in 1973 accelerated our overtaking the responsibilities for the Department and Institute, respectively.
The next symposium organized by the two of us, "The Warsaw Colloquium on Instrumental Conditioning and Brain Research", was held in Jabłonna in 1979 honoring the memory of Jerzy Konorski and the 60th anniversary of the Nencki Institute. Scientists from 11 countries presented more than 40 lectures and 15 posters. The atmosphere of the conference was lively and very open. Colleagues from the USA and Great Britain corrected English in our manuscripts and had discussions with foreign guests that visited the Department for training.

Our Department hosted many young scientists from the East European Laboratories. This tradition started after the conference organized in 1958 in Osieczna (Poland) by J. Konorski, E.A. Asratian from Moscow and E. Gutman from Prague. That Conference initiated close collaboration of the three Institutes and a series of meetings that were held periodically in Liblice (Czechoslovakia), Dilijan (Armenia) and Jabłonna (Poland). Żernicki played an important scientific, social and administrative role at those conferences that contributed greatly to the foundation of Intermozg organization in 1972. Practically each year we participated in neurophysiological meetings, conferences and schools of young scientists in various East European countries. The habit of sharing hotel rooms and similarity of spelling of our surnames brought about numerous misunderstandings and adventures, but in most cases we managed to make the best of them. Moreover, our customary open discussions on all aspects of life gave each of us inappreciable profits. Sometimes the discussions were really emotional. I especially recall our "room dispute" in Gagra (Georgia) during the conference "Neurophysiological bases of memory". After the long discussion Boguś changed his mind, and instead of the expected theoretical lecture (he always showed philosophical and historical inclinations) the next day he presented a penetrating analysis of the development of visual memory in cats, citing experimental data collected together with his pupils: Kossut, Michalski, Mitros, Słośarska and Turlejski.

Turning back, I see the parallelism of our scientific carriers and feel a satisfaction that for a very long time we were able to retain vivid and open relations, enjoy mutual confidence and friendship that was immune to the devastating influences of years and peoples' envies. In all circumstances we both realized that our relationship formed in the unique atmosphere of the early years, when the Polish School of Neurophysiology was being built and formed by our Master, professor Jerzy Konorski.

Kazimierz Zieliński, Nencki Institute, Poland

I’ve opened my mailbox and saw: "Boguś died" - a message I couldn’t believe! How could it be? He used to come to work daily in January this year! He never spoke about any illness, and now, suddenly, that terrible news: "passed away at his home, as he wished!"

I knew Boguś since the times when the Nencki Institute was located in Łódź, the second largest Polish city. Boguś was always very interested in brain physiology. He graduated from the Medical School, as did several scientists working at the Nencki Institute (Elżbieta Fonberg, Andrzej Zbrożyna, Stanisław Dryl, Stefan Soltysik) and directed his interest to animal physiology, in particular to the conditioned reflexes in dogs. Later on, after a visit in Pisa with Professors Moruzzi and Pompeiano, Boguś switched to the behavior of "isolated brain in the cat and its oculomotor activity". I remember him as a real, not an idealized person. He was a very good chair of the Neurophysiology Department. In addition to his research papers he wrote several review books, historical evaluations of the Department and autobiographical essays, where however he sometimes expressed somewhat controversial or one-sided views. Most of all Boguś was a very friendly man and my personal friend for over fifty years. I am extremely sorry that he is no longer among us.

Włodzimierz M. Kozak, Carnegie-Mellon University, USA
I know that Boguś will be sorely missed by his colleagues at the Nencki Institute, but he will also be missed by the many scientists around the world who gravitated to him because of his dedication to science and his personal integrity and sincerity and warmth - and so became his life-long friends.

I probably knew Boguś longer than most others had, as I met him already in January of 1959, when I first visited the Nencki on a three-month sabbatical. I had been invited by Jerzy Konorski to perform collaborative research there with several members of his department on the topic of frontal lobe function. Boguś had strong interests in a different aspect of brain function, and so he was not a collaborator in that work. However, at that time he was living with his wife in the Nencki, where I too had an "apartment", so I had many opportunities to interact with him in one-on-one discussions, in group meetings, and socially. Indeed, he and his wife would often invite their new American friend to share their Polish dinner for which they would have prepared something a bit special. This of course was still a time of shortages as well as of strong East-West tensions, difficulties we idealists easily rose above.

I met Boguś again on numerous occasions thereafter - on my subsequent visits to the Nencki and on his visits here and at international meetings; and though perhaps there was nothing special that occurred on those occasions, I always felt an intimacy with him that derived from the time we spent together almost as family in early 1959. I mentioned his integrity and sincerity, which drew me (and others) to him, but I shall miss especially the warmth of his smile and his wonderfully deep yet quiet voice, which together gave one a feeling of great comfort in his presence.

Mortimer Mishkin, Bethesda, USA

Let us express our deepest sorrow, reading about the death of Boguś Żernicki. From the early sixties until recently we met from time to time, unfortunately not very often. He was a real friend, with whom we were so happy to talk, not only about science, but also about many other subjects of common interest. He was a scientist of excellence. We shall regret his loss so much. Good-bye, Boguś.

Pierre & Arlette Buser, College de France, France

I respected Boguś a lot. During the very hard years in Poland he did a lot to preserve the traditions of the Nencki Institute. He was a talented scientist, so he could have left for abroad to pursue his scientific career in better conditions, as did many Polish scientists. Instead, he stayed and did a lot to keep the high scientific level of his Department and of the whole Nencki Institute. Later on, he tried to help us as much as he could when we were in trouble. For me he was a standard of noble-minded magnanimity and human goodness. He was easily forgiving of other’s mistakes, the achievements of his colleagues always made him happy, and he was never trying to dominate over the individualities of other people. His death is a great loss for me and for all those who knew, understood and liked him.

Bella Harutjunian–Kozak, Institute of Applied Physics, Armenia

When in 1969 I was accepted to the Nencki Institute for doctoral studies in its Department of Neurophysiology, Professor Żernicki invited me to join his laboratory. After the first conversation about the probable area of my future research he asked me to borrow some relevant books from the Nencki library and read them. I asked him where is the library and which books should I read. He answered: "I am not going to
direct you. If you are fit to be a scientist, you will find them yourself." I passed that test. What I cherished most during that period was the freedom of scientific pursuit that he gave me. He cared for my education, organizing my training in electrophysiological techniques in another laboratory. He was turning my attention to interesting papers that could have been a starting point of new experiments, but I myself changed the theme twice, before settling on what really did interest me. He tolerated the somewhat erratic paths of his students, giving us a gentle push when it was needed.

Professor Żernicki was always ready for a compromise and mediation in personal matters, but he held stubbornly to his scientific opinions and it was very hard to convince him of a different view or idea. At the same time he tolerated very different opinions of other people and allowed them to pursue their own interests. Such an attitude helped to change the structure of the Department that he inherited from Konorski and to create an interesting diversity, where scientists doing ecological, behavioral, electrophysiological, anatomical, biochemical and molecular studies rubbed elbows and exchanged ideas.

Our scientific ways diverged, but it was always pleasant to see him going on, planning research or going to play tennis. With his death something important will be missing in the landscape of our Institute.

Krzysztof Turlejski, Nencki Institute, Poland

I was greatly saddened to receive the news of Boguś’s death. We had kept in touch via Christmas cards every year since my sabbatical spent in the institute in 1972-73. In those cards we exchanged news about our daughters, Magda and Ellen, who was only three during our stay. Boguś was very proud of Magda’s achievements.

While at the Nencki, I helped Boguś with papers that came to Acta Neurobiologiae Experimentalis from the Soviet Union and surrounding countries, checking the English. This I was glad to do because I learned and could also pay respect to those who had to write in my language. My greatest pleasure came one day when Professor Konorski asked me to correct a paper he was to give in Norway. He stood behind me as I worked and at one time interjected with a giggle while rubbing his hands, "My God, you’re skillful!" Unforgettable! Perhaps twenty years have passed since I last saw Boguś. We would have met in Philadelphia in 1990, but the animal rightist attack had forced me to leave town for a while. But I still can hear his very deep voice and see his glistening black hair, which I imagine had changed as has mine.

Another friend gone that will be missed.

Adrian R. Morrison, University of Pennsylvania, USA

I was deeply saddened to learn of the death of Prof. Bogusław Żernicki. He was a dedicated scientist, strong advocate for the neurosciences in Poland, and a very real and warm human being. I knew him from my first extended visit to Nencki to work in the laboratory of our colleague Prof. Kazimierz Zieliński over 25 years ago. In my many subsequent visits to Warsaw, and Prof. Żernicki’s visits to me when I was in Boston, we kept our friendship current. Others will surely comment on his scientific achievements, and certainly his devotion to Prof. Jerzy Konorski. I would like to add a brief note about his warmth and friendliness. He was a good person, who laughed easily and was concerned about the development of young scientists. I was especially pleased to observe, albeit from a distance, how he made the transition from the editorship of Acta to a new generation of capable scientists whom he had nurtured. I will miss him.

James F. Brennan, University of Louisville, USA
When I first came to the Nencki Institute Prof. Żernicki was the head of its Department of Neurophysiology. When I visited Nencki twenty-five years later, he was still successfully heading the very diverse department. I remember him as a distinguished scientist and the leader of Polish neurophysiology. His studies on the pretrigeminal preparation and on the effects of visual deprivation in cats were published in the best scientific journals. He cooperated with many scientists all over the world. In spite of his many administrative responsibilities he always devoted his early morning hours to scientific studies.

Professor Żernicki was deeply involved in education of young scientists. He understood the importance of participation in the international collaboration and scientific discussions for the development of a novice scientist. When he accepted me to his laboratory, I was assigned to the team experimenting on pretrigeminal cats, together with Prof. Radil from Prague and Prof. Javrishvili from Tbilisi. They were both eminent scientists but of very different personalities and ideas on how to conduct scientific research and analyze its results. I remember my frustration when I listened to the clashes of their arguments. Prof. Żernicki always gave us his support and advice. He had a peculiar ability to extract important facts and present them in a clear and succinct way. I learned a lot during the years of my doctoral studies in his lab. Later, I had the opportunity to meet him frequently when I attended the summer and winter schools for young scientists in Bulgaria, Hungary, USSR and Czechoslovakia, where he was a very respected teacher. After lecturing and scientific discussions he used to ski, swim, run or play volleyball with his students.

Recently, we met in Poland after many years and I was very happy that he accepted my invitation to a dinner, even though I heard that his health was deteriorating. We recalled our old memories and I was astonished that he looked so young, joyful and energetic. I feel sad when I realize that he will not be among us any more. Nevertheless, I will always remember him as a person who shaped my life and helped me significantly.

Stanisław Sobótka, University of Rochester, USA

I was very sad to discover about the unfortunate death of my friend and colleague, Prof. Bogusław Żernicki. He had made a breakthrough not only in his field of research, but also to the open world, at a time when Poland was under the political conditions where only a few scientists had dared to climb the walls and bridge to the outside community of scientists. It is not only that everybody could learn a lot from his excellent and classical studies in animal behavior, but also that he served as an excellent and rare example in the former political block in which Poland was framed of how studies in this field should be performed. Personally, I lost another colleague with whom I could share all kind of scientific questions in our common field of development of the visual system, behavior and physiology during various conferences, congresses, meetings and other opportunities.

Uri Yinon, Tel-Aviv University, Israel

Boguś Żernicki was my very likeable, highly competent and hard working friend and colleague. Among his many areas of expertise, he was a specialist of brainstem transections. In the early days of the midpontine pretrigeminal preparation, he showed that the well-known, almost continuous cortical activation also occurs with transections anterior to the midpontine plane - thus he only wrote about "pretrigeminal preparation" - and that these animals are conscious since they can be conditioned. Once, I spoke to Gyorgy Buzsaki about an experiment on sleep mechanisms that our laboratory was making on acute cerveau isolé rats and he suggested collaborating with Boguś Żernicki. Immediately, I invited him so he came to Nice several times and was even Associate Professor for a year. From 1981 to 1995, our two teams published together 8 papers on transections performed in acute and chronic rats and cats, from the ponto-medulla oblongata junction to the midhypothalamic
level. In particular, we showed that the posterior hypothalamus is responsible for the almost continuous theta rhythm observed in the acute cerveau isolé preparation and, moreover, that the medulla oblongata is necessary for the occurrence of paradoxical sleep. The experiments were performed in Nice on rats, in Marseille on cats or in Warsaw, where I went twice, each time receiving a very warm welcome. I will miss Boguś very much.

Claude Gottesmann, Université de Nice, France

I was deeply saddened with the news that Boguś, as I liked to call him, has died. We were good friends since he visited UCLA and then he invited me to present my research work at the Nencki in 1980. I believe that the Nencki Institute and the international neuroscience community have lost a great scientist and a leader. I have personally lost a very dear friend.

Jaime R. Villablanca, UCLA, USA

My encounters with Prof. Żernicki were not numerous, but were always enjoyable. I met Prof. Żernicki for the first time when he visited Stefan Sołtysik in Los Angeles around 1981 while I was completing my Ph.D. in Sołtysik’s lab. Jennifer Cook and I had many engaging interactions with Prof. Żernicki and his wife when we spent 6 months at the Nencki Institute in 1993. I especially recall the pride expressed by Prof. Żernicki as he showed us his family home - the home that he was in the process of reclaiming after it had been seized following the war. I recall numerous conversations with him regarding my ideas about memory; he asked the probing questions that forced me to consider my position very carefully. Although the work that I did in Prof. Zieliński’s lab was my primary interest, I constantly found myself drawn to discussions with Prof. Żernicki and his students about issues related to their work with discriminative conditioning in cats. I should close by recalling that upon our arrival at the Institute in January of 1993 one of the first events that Jennifer and I attended was a celebration for Prof. Żernicki. I do not recall the nature of the occasion, but I recall that "Sto Lat"("Hundred years") was sung – our first exposure to that song. Prof. Żernicki did not have his sto lat, but he had many very good years. The Institute, and science in general, has lost a good friend.

W. Jeffrey Wilson, Albion College, USA