

IN MEMORIAM
Jerzy Vetulani
By
Robert Belmaker, Irena Nalepa and Franciszek Vetulani

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Jerzy Vetulani (January 21, 1936 – April 6, 2017)



The 2007 New Year's party at the Department of Brain Biochemistry, Institute of Pharmacology of the Polish Academy of Sciences, in Kraków, Poland.



The July 2008 XXVI Congress of the CINP in Munich, Germany.



Rome, Italy, 2010, during one of his research visits under aegis of the CNR-PAN joint research program.



Vetulani in his office at the Brain Biochemistry department, Institute of Pharmacology of the Polish Academy of Sciences, Kraków, Poland, in 2015.

Biographic sketch

Prepared by Irena Nalepa

Professor Jerzy Vetulani: honorary doctor of the Silesian Medical Academy, honorary doctor of the Medical University of Lodz, active member of the Polish Academy of Arts and Science, corresponding member of the Polish Academy of Sciences, honorary member of the Indian Academy of Neuroscience, president of the Committee of Neurobiology of the Polish Academy of Sciences, Member of the Presidium of Kraków Branch of the Polish Academy of Sciences, vice-president of the scientific council of the Institute of Pharmacology of the Polish Academy of Sciences, professor at Małopolska Higher Vocational School, professor (part-time) in the Department of Brain Biochemistry of the Institute of Pharmacology of the Polish Academy of Sciences

Born on January 21, 1936, in Kraków, Poland, Jerzy Vetulani's primary education was received at first in the underground elementary courses and, after liberation, in the didactic school for the Pedagogical Faculty of Jagiellonian University. In 1948, he began high school at Sienkiewicz Lyceum in Kraków and after the closing of the school, he went to the Nowodworski Lyceum, where he graduated in 1952 with a diploma of the Leader of Science and Social Work and immediately commenced studies at the Biological Faculty of Jagiellonian University, specializing in animal physiology. His scientific career started in March 1956 as assistant-volunteer at the Department of Pharmacology of the Polish Academy of Sciences (later renamed the Institute of Pharmacology) in Kraków. After graduation in 1957, with a M.Sc. in Biology, with specialization in Animal Physiology, his thesis on the influence of ascorbate on the blood picture of the rabbit was published in *Scientific Fascicule* of the Jagiellonian University in Kraków; it was his first scientific paper. In September 1957 Vetulani obtained a part-time position as an assistant and began chemical studies at the Faculty of Mathematics, Physics and Chemistry of Jagiellonian University. At the same time, he began training by eminent future Polish pharmacologists Tadeusz Chruściel, Maria Chruściel and Tadeusz Marczyński in basic pharmacological and analytical techniques. Upon finishing his chemical studies in 1962, with a M.Sc. in Chemistry with specialization in Theoretical Chemistry, (his thesis on organic semiconductors having therapeutic activity was published as a chapter in the book "Organic semiconductors" by Gumiński, Pigoń and Vetulani) Jerzy began to work toward his PhD. His doctoral thesis dealt with metabolic effects of

synthesized by him and investigated in various pharmacological models of potential oral antidiabetic agents.

After receiving his Ph.D. in natural sciences in 1966, granted at the Ludwik Hirszfeld Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences in Wrocław, Vetulani was awarded a Riker Scholarship and spent a year in Great Britain, working under the supervision of Professor A.S.V. Burgen at the Department of Pharmacology of Cambridge University, particularly learning spectrofluorometric techniques. Upon return to Poland, he started to work in the field of psychopharmacology under the supervision of Professor Jerzy Maj, using his knowledge of spectrofluorometry to assess biogenic amines in the brain tissue and learning basic behavioral methodology. The basics of animal euthanasia and collection of brain tissue he learned from Professor Zbigniew Herman in Department of Pharmacology of Silesian Medical Academy at Zabrze, Poland.

Jerzy Vetulani's thesis for professorship (habilitation) concerned interactions among neuroleptics and compounds disturbing the metabolism of biogenic amines – MAO and DBH inhibitors. After completion of the experiments, publishing four scientific papers and the submission of his thesis, Vetulani left for the United States where he was employed as a Research Associate Professor with Vanderbilt University, Nashville, Tennessee, in the Department of Pharmacology, under supervision of Professor Fridolin Sulser (1973-1975). During this period, he learned new biochemical techniques with which he investigated changes in the generation of cyclic AMP in the brain during chronic administration of antidepressants. The results of his investigations enabled him to formulate a novel hypothesis of action of antidepressant treatment, the so-called “beta-downregulation” hypothesis, which for a few years was the leading hypothesis in the field; it was the first hypothesis postulating that psychotropic drugs act by inducing adaptive changes in the nervous system and brought him international recognition (the *Nature* paper of Vetulani and Sulser, 1975, became a classic with more than 560 citations).

Returning to Poland for family reasons, Jerzy Vetulani passed the professorship colloquium (habilitation) at the Ludwik Hirszfeld Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences in Wrocław. He was nominated the head of a newly formed Department of Biochemistry at the Institute of Pharmacology of the Polish Academy of Sciences in Kraków, remaining in this post from January 1, 1977, till February 28, 2007. He received the Polish state titles of Professor 1983 (supernumerary) and 1989 (ordinary). Since January 1, 2007, after reaching the age of retirement, Vetulani was named a part-time professor in the Department

of Brain Biochemistry of the Institute of Pharmacology of the Polish Academy of Sciences. Since October 2007, he was also a full professor in the Józef Dietel Malopolska Higher Vocational School, Kraków, where he taught neurobiologically oriented psychology.

Jerzy Vetulani was a promoter of nine Ph.D. candidates and from his research group four people received professor's degrees. He also served as a referee on many PhD theses, habilitation dissertations and motions for professorship, He was also the head of several grant projects.

The most important results of his studies are:

- The discovery of phenomenon of beta-downregulation induced by chronic administration of various antidepressant treatments and formulation of the hypothesis that beta-downregulation is the mechanism of action of antidepressant treatments (with F. Sulser, 1975)
- The discovery of inhibitory effect of clonidine on opioid withdrawal syndrome and suggestion that this effect May be of clinical importance (with B. Bednarczyk, 1978)
- The discovery of upregulation of alpha(1)-adrenergic and 5HT₂ serotonergic receptor by antidepressant treatments (with A. Pilc and L. Antkiewicz-Michaluk, 1981-1983),
- The discovery of the role of protein kinase C (PKC) In the receptor dialogue between alpha(1)- and beta-adrenoceptors (with I. Nalepa, 1991)
- The demonstrations of differences of among various mice strains in responses of adrenoceptors on chronic administration of antidepressants (with M. Sansone, 1982)
- The discovery of inhibition of abstinence syndrome and development of morphine dependence with concomitant potentiation of morphine analgesia by blockers of calcium L-type channels (with L. Antkiewicz-Michaluk, 1994)
- The discovery of inhibition of withdrawal syndrome from neuroleptics by calcium L-type channel blockers and formulation of hypothesis on the role of calcium in adaptive processes (with L. Antkiewicz-Michaluk, 1995)
- The demonstration of similarity of biochemical and behavioral effects of electroconvulsive treatment and rapid transcranial magnetic stimulation (with T. Zyss, 1997)
- The demonstration of facilitation of learning by low doses of oxytocin and colostrinine (with P. Popik, 1992, 1999)

- The discovery of correlation between salsolinol level in the cerebrospinal fluid and motor and cognitive deficits in Parkinson's disease (with L. Antkiewicz-Michaluk and A. Szczudlik 1997)
- The formulation of hypothesis about physiological role of endogenous tetrahydroisoquinoline neurotoxins as modulators of dopaminergic activity (2001)
- The discovery of increased expression of mRNA coding for alpha(1A)-adrenoceptor by chronic administration of antidepressants (with I. Nalepa, 2002)
- The discovery of potentiating action of nicotine on action of antidepressant drugs (with P. Popik, L. Antkiewicz-Michaluk and I. Nalepa)
- Demonstration of antiaddictive action of 1-methyl-1,2,3,4-tetrahydroisoquinoline (MeTIQ)
- The elucidation of the mechanism of neuroprotective action of 1-methyl-1,2,3,4-tetrahydroisoquinoline (MeTIQ) (with L. Antkiewicz-Michaluk and J. Łazarewicz, 2006)

During his tenure at the Institute of Pharmacology of the Polish Academy of Sciences Department of Biochemistry, he coordinated three groups investigating:

A. Psychopharmacological aspects of action of tetrahydroisoquinoline derivatives as potential neuroprotective agents

B. effects of chronic administration of antidepressants on expression of adrenergic receptor subtypes in the rat brain

C. various aspects of memory and learning and drug addiction

From 1994 until 2001 Jerzy Vetulani served as Science Director of the Institute of Pharmacology of the Polish Academy of Sciences in Kraków. During this time, Vetulani elaborated, published (in *Wszechświat*, a popular-science magazine of which he was editor-in-chief from 1981-2001) and implemented the directions of the Institute's policy aimed at increasing scientific output by appropriation of research funds to various departments on the base quality and number of scientific publications. The system significantly enhanced the productivity of the institute and was, with some modifications, implemented in similar scientific centers. Since 2002, he had served as the vice-President of the research Council of the Institute of Pharmacology of the Polish Academy of Sciences in Kraków.

Jerzy Vetulani's total scientific output consists of 540 publications, including 240 original research papers; 27 book chapters; 27 review articles published in English and 66 in Polish; 93 popular science articles; 13 reviews of scientific books; other published notes (in addition to more than 220 notes under the pen name J. Latini); and 275 abstracts. During the period 2000-2010, Vetulani gave 377 lectures on science conferences, educational conferences, invited seminars, special lectures for seniors and children. He is the author or co-author of six books, among them the very popular "How to improve memory?" (three editions), and a recent book of essays: "Brain: Fascinations, Problems, Secrets" (published in October 2010; awarded the title "Book of the Month in January 2011; and sold out; the second edition in preparation). He also translated a few book chapters and popular science articles from *Scientific American* to its Polish mutation *Świat Nauki*. His translation of Erickson's "Science of Addiction" was printed in 2010.

During the years 1968-2014, 235 of his publications are cited Medline. Scientific papers of Professor Vetulani are highly cited; six of his papers received more than 100 quotations; and one, a paper from Nature, 1975, with Fridolin Sulser entitled "Action of various antidepressant treatments reduces reactivity of noradrenergic cyclic AMP-generating system in limbic forebrain," attained the status of "citation classic."

Since 1978, Jerzy Vetulani regularly collaborated with the Consiglio Nazionale delle Ricerche (CNR, National Research Council) in Rome. On behalf of the Institute of Pharmacology of the Polish Academy of Sciences, he was a coordinator of the joint research program of his home Institute with the Istituto di Biologia Cellulare e di Neurobiologia (IBCN). More than 30 research papers were published as a result of this collaboration. Also, he was a great expert and lover of history and monuments in Rome, and was able to disseminate his fascination to his co-workers and friends.

Vetulani's discoveries brought him numerous awards, among them the prestigious International Anna Monika Award (2nd class) for studies on the mechanism of antidepressant action of electroconvulsive shock (1983), the Copernicus Award (1996), the Jerzy Konorski Award (2001), the Prime Minister Award for scientific achievements (2003) and several other awards and distinctions, listed below.

He was an active member of Polish Academy of Arts and Science beginning in 1996 (correspondent member since 1991), corresponding member of the Polish Academy of Sciences (PAN) (since 2008), corresponding member of Warsaw Scientific Society (1995), honorary member of the Indian Academy of Neuroscience (1988), of Polish Copernicus Naturalist Society

(1996) and of the Polish Neuroscience Society (2007).

He was a member of several international and Polish scientific societies including *Collegium Internationale Neuro-Psychopharmacologicum* (CINP) (councilor 1992-1998); *European College of Neuropsychopharmacology* (ECNP); Polish Copernicus Naturalists Society (vice-president since 1984); Polish Neuroscience Society (president 1999-2001); Polish Pharmacological Society; Polish Psychogeriatric Society; and Polish Bioethical Society. He served as the member of the council (1990-1996) and the member of the Board (1996-2000) of the Polish Society for Support and Promulgation of Sciences.

Jerzy Vetulani was a member of the Committee of Physiological Sciences of the Polish Academy of Sciences (secretary 1978-1981) and Committee of Neurobiology of the Polish Academy of Sciences (president 2007-2011). In years 1997-1999 and 2003-2008, he served as a member of Central Commission for Scientific Title and Degrees. His popularity among Polish biomedical scientists is supported by the fact of his winning the third place in the ranking for the best Polish neuroscientists organized by Polish Neuroscience Society, and by taking first place in elections to the Committee for Physiological Sciences.

Vetulani was invited several times to be a speaker, debater or session president on international and national scientific meetings, or as a lecturer at universities (including Libera Università Maria SS. Assunta [LUMSA] in Rome). He a board member of several scientific journals, including *Pharmacological Reports* (Editor in chief 1993-1996), *Postępy Psychofarmakologii*, *Depresja i Lęk*, *Psychogeriatrya Polska*, and *The World Journal of Biological Psychiatry*.

The popularizing of science was an important part of Vetulani's activity. He was engaged in it sporadically in the 60s, publishing articles and short notes (often under the pen name J, Latini) in *Wszecławiat*. In 1981, he became the Editor-in-Chief of this oldest Polish popular science magazine, staying at this post for 21 years, till 2001. In 2011, he became the vice-President of *Wszecławiat's* Scientific Council. He revitalized the declining journal and brought it through the difficult period of economic transformation in the 90s. Vetulani was a member of *European Dana Alliance for Brain (EDAB)* – an organization promoting the knowledge of the brain, and organizer and lecturer in the *Brain Awareness Weeks* in Kraków. He organized the Scientific Café of the Polish Academy of Arts and Science – monthly lectures and debates open for general public. He gave several lectures, e.g., in the program of Commission of Colligation Risks of the Polish Academy of Arts and Sciences, Galician School of Health, Academy of Full Life, and he spoke in

elementary and junior high schools in Kraków, as well as at the Unicorn Club and various senior organizations.

In addition to his previously mentioned book, “How to improve Memory?”, and his recent “Brain: Fascinations, Problems, Secrets”, he published a booklet entitled “Narcotics without didactics” as a high-circulation supplement to the national weekly “Polityka.”

Along with his writings and lectures, Vetulani popularized science in scientific programs on radio and TV and in numerous media interviews related to current issues of interest (addiction, speeds, health diet, etc.). He also prepared a series of lectures filmed by Academic Scientific Television (ATN). He was often a guest on Kraków Radio programs “Little question for breakfast,” “Before the Buggle-call” and others. He was a member of the Council for Dissemination of Science of the Polish Academy of Sciences.

Though employed in a research institute, Vetulani was also involved in university teaching. In the 90s, he taught monograph lectures from psychopharmacology at the faculty of Biology of the Jagiellonian University; from 1998-1999 taught Neuroscience for students in the Medical School for Foreigners at the Medical College of Jagiellonian University; and from 2005-2006, he taught Essentials of neurobiology of behavior and etiology for Psychology at the Philosophical Faculty of Jagiellonian University. Vetulani was highly regarded by students as witnessed by his 2008 nomination of the Teacher of the year by American students and receiving the Dean’s award at the Jagiellonian University Medical College.

After retirement, Vetulani continued lecturing for foreign medical students and Polish psychology students and accepted the position at the Joseph Dietel Malopolska Higher Vocational School in Kraków, where taught psychology at the Faculty of Humanities and Health Sciences. Since mid-90s, he co-organized a yearly symposia of Regulation of Organism functions, held originally by the Pedagogical Academy of Kraków, and then by Malopolska Higher Vocational School.

In addition to his scientific activity and popularization of science, Vetulani was socially active. As a student, he participated in the students’ movement that established the Polish Revolutionary Youth Movement in 1956, and returned to social activity in 1980. Engaged in Solidarity at the level of the Polish Academy of Sciences in Kraków and in the National Mediation Commission of Science (1987-88), Vetulani was a member of the underground Regional Board of Solidarity Małopolska (at the end of this period a member of the Presidium) which dealt mainly with program issues and the revival of Solidarity after the 1981 martial law period. After the

legalization of Solidarity, Vetulani became a member of the Kraków Citizen's Committee (1989-1990) and the Kraków Solidarity Club (1994-1995). He also became a member and the member of council of reactivated Society for support and Promulgation of Science, and was particularly active in its Commission for Science Policy, which prepared the program of reform of Polish science. In 2002, Vetulani became a founding member of the association "Forum for Małopolska" and was its candidate for the position of Mayor of Kraków (with no success). He is an honorary member of Academy of Full Live (an association of senior citizens) and Galicia School of Health, both in Kraków.

In his youth, Jerzy Vetulani was also active in the artistic field. During the years 1955 - 1962, he was a member of the board and lecturer in Kraków Students' Discussion Film Club. He was also one of the pioneers active in years 1954-1961 in a cabaret "Piwnica pod Baranami," (a venue for literary cabaret established in the 1950s, hosting jazz, poetry and surrealist comedy). He was a member of the Chapter of Laurel of Kraków (a body awarding eminent Kraków personalities) and a member of the Board of the Association of the Friends of Fine Arts.

Summing up, Professor Vetulani during almost 60 years of his scientific carrier made several important scientific discoveries and successfully directed scientific groups, educating a large group of his disciples, and achieved an unquestioned international position in the world of science. He also played an important role in popularization and promulgation of science. He was an all-rounder, always willing to share his vast knowledge and experience and helpful for everybody who asks him.

In the memories of his students and associates, he will remain a man full of energy, cheerful and smiling. We shall remember Professor Jerzy Vetulani for his passion of life, for his knowledgeable contribution to research and for never-ending and fascinating discussions on every topic.

Jerzy Vetulani died at the age of 81 on 6 April 2017 at a hospital in Kraków from complications of injuries sustained after being struck by an automobile in early March. His wife of 54 years, Maria née Pająk, died in September 2017; they are survived by sons Marek and Tomasz, and four grandchildren.

Awards and honors (selection)

- Awards of the Science Secretary of the Polish Academy of Sciences (collective)

Warszawa; 1972, 1977

- Awards of Medical Faculty of the Polish Academy of Sciences (as group leader), Warszawa; 1982, 1986, 1992
 - International Anna-Monika Prize II Class, Basel; 1983
 - Gold Badge of the Polish Copernicus Society of Naturalists, Warszawa; 1986
 - Honorary membership of the Indian Academy of Neurosciences, New Delhi; 1988
 - Corresponding/active member of the Polish Academy of Arts and Science, Kraków; 1991-1996
 - Counselor of Collegium Internationale Neuro-Psychopharmacologicum, Washington; 1992-1998
 - Copernicus Prize of Polish Academy of Arts and Science and the City of Kraków (shared) Kraków; 1996
 - Honorary Membership of the Polish Copernicus Society of Naturalists, 1996
 - Jerzy Konorski Award (shared) (2001)
 - Prime Minister of Poland Award for Scientific Achievements; Warszawa 2003
 - Honorary doctorate at the Medical Faculty of the Silesian Medical Academy; Katowice 2004
 - Knight's Cross of Polonia Restituta 2004
 - Jędrzej Śniadecki Medal for the entirety of research in the field of psychopharmacology; 2006
 - Honorary Membership of the Polish Neuroscience Society, 2007
 - Honorary doctorate of the Medical Faculty of the Medical University of Łódź, 2008
 - Corresponding membership of the Polish Academy of Sciences ,2008
 - Honors Gratia Badge from the mayor of the Royal Capital City of Kraków, 2009
 - The Book of the Month January 2011 – Kraków 2011
 - Zbyszek Thielle Award from Polish Drug Policy Network, 2011
 - Honorary Fellow of the Oxford Neurological Society, 2017
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Franciszek Vetulani: A Vivid rationalist celebrating life.

A short remembrance of my grandfather

Even after turning 80, my grandfather appeared to be a strong and fit man. Every morning he practiced using his stationary bicycle and making tents and swings. He drank a cup of strong, black coffee (or strong black tea) and took a tram to work. He was extremely active until his last days. Probably more active than most other men, not to mention other men his age. He often sat at the computer preparing PowerPoint presentations for lectures or writing articles until late at night or early in the morning. I guess there was just no other life for him.

In general, he was very up to date. Speaking to him I, being 20 years old, did not have an impression of a man of a past era, but rather of someone who lives and thinks in a modern way. Someone who does not lag behind. This is why he felt at ease among young people and, why, I think, we had such a good relationship. We could speak clearly and honestly and do different things together, as if there was no huge age barrier. Of course, he was old fashioned in some respects – his jokes were sometimes sexist (but even then, in a soft and charming way – and even more often feminist). But compared to a conservative and strongly religious Polish society, his views on morality, religion, sexual life and psychoactive substances were very liberal, and at the same time, very humanistic and rational.

All his life he worked hard to understand the world, pursue professional ambitions and – no less important – make a living. In his last years, especially after becoming a popular lecturer, almost a celebrity (a particular one: scientist celebrity), he earned well. But along with earning, he enjoyed just as much giving. I knew he would enjoy paying for something that I needed or desired; a summer trip, for example. It was remarkable. Also because of that, he never had a chance to become a millionaire. He liked to joke that everybody in the family wanted him to stay alive as long as possible because of that generosity. “Usually grandchildren want their grandfathers to die as fast as possible to inherit their property. But my grandchildren know they can't count on inheriting my fortune, since I don't have one. They also know that I will help them financially however I can while I'm still alive. That's why my grandchildren want me alive for long time, while other grandchildren of scant grandfathers wish them rapid death.” But he enjoyed most

giving his books, with personal dedications included, to his friends. At home, he kept a huge box with loads of copies of all his books and each time he went for a meeting or dinner he took one and made a present out of it. Concerning the amount of social interactions in which he was involved, this probably made him the most efficient and best advertiser and distributor of his own works, better than any bookselling company.

He was an active citizen. He did not remain indifferent to political issues: not in the 1980s, when he was a Solidarity activist, nor in more recent times, when we started to see a right-wing populist party take power in Poland, with ambitions to constitute an authoritarian regime. He participated in various protests. Like many others, he wore black in a sign of protest when the parliament was about to exacerbate an already conservative law on abortion. He had strong opinions and was ready to argue when necessary, and he was also open to changing his mind at any point of the discussion if his interlocutor pointed out convincing facts or if new data was uncovered. Sometimes I blamed him for not being rigid enough in a discussion, but overall, he was a pragmatist. He thought that one should come to some kind of agreement, or at least to disagree in peace and mutual respect.

My grandfather, among other things, was very fond of himself. But it wasn't purely vain. For example, I remember him doing his morning exercise and watching the video of the lecture he gave at the same time. There is no doubt he enjoyed watching himself, but at the same time he listened to what he had said and caught mistakes he might have made, and thought about what to say next time. So, it was a part of self-improvement process. He enjoyed receiving applause and honors, but also had a sense of irony. He and my grandmother were awarded a Medal for Long Marital Life, an official Polish distinction given to marriages that have survived at least 50 years together. "In the official ranking, it's the lowest possible distinction a citizen can get," he used to tell his friends. "Well, in fact there are two that are lower: The Star of Iraq and the Star of Afghanistan." We also laughed together when he received a special award for "Doctor of the Year" from a local journal. Well, he was never trained in medicine. He used to reply to all people that asked him for medical consultation: 'I cannot give you professional advice. I'm not a physician. I'm a guy from rats.' Nonetheless, he accepted the award from the journal.

He kept an undying curiosity about the surrounding world and enjoyed discovering distant countries and cultures. I will never forget our trips to Rome, the city he visited dozens of times

since the 1970s. When I once suggested that we go, instead, to Florence or Venice, he said: “No, no point of going there. I mean, they surely are very beautiful, but then: what for, if even a man's lifetime is not enough for Rome?” So, we went back to Rome. We used to walk around the city all day, from the morning hours until late evening. We went in a group of five and sometimes, in the late evening, when everyone else was resting to recover – we used to go out for a second walk. Then my grandmother would storm us with phone calls, telling us to go home immediately, concerned about my grandfather's bad sight and age. But we didn't really care and continued walking. And he was a great guide. He knew the topography and the history of the city very well; even if he didn't see well, he knew which way to walk or which bus to take to get somewhere. Walking around with us, he often summoned his favorite guidebook by Georgina Masson. “It was so good that they translated it from English to Italian,” he said.

Thanks to my grandmother he always had a very good outfit. They used to buy a new suit each time during their visits in Rome and my grandmother had, of course, the decisive voice in the pick. I laughed at them and asked ironically: “Grandpa, don't you already have enough many suits?” But it really worked. He told me once: “You know, I'm really happy to have such a solid adviser in clothing like Marysia.” A Polish professor walking around Kraków in a fashionable Italian suit must have looked impressive, especially before capitalism came to us in the aftermath of 1989 transformation.

We worked together on his blog and I ran his social media channels and he really treated me like an equal partner. Although he could easily call on his authority to persuade me to do something as he would have liked it – he would rather not do that. He explained to me many things, told me some anecdotes he had come across and that he included in his most recent lectures. That was a danger – when he started to present his lectures in a casual, everyday conversation or among friends – he was unlikely to finish soon. But he was interesting enough that nobody wanted to stop him. And I think the ability to speak with almost everybody gained him a lot of sympathy. Old, young, men, women, scientists, laborers – he could draw their attention and at the same time gave them equal attention back; in this respect, he was truly an egalitarian intellectual.

As a grandfather to me, he was good, kind and tender. I felt he was always around. He never read a bedtime story to me, but he told me different stories that he made up the very moment he was telling them. First, there was a series about a grandfather and grandson that travel the world

together and visit strange, remote places. Then I forced him to make up Scooby-Doo stories. Once the story was incredibly addictive: it was an episode in which Scooby and his friends visit an old opera house, where a mysterious ghost terrorizes the crew. Only after having seen Andrew Lloyd Webber's *The Phantom of the Opera* some time later did I realize that my grandfather adopted the musical plot to come up with a story that would require the minimum of inventive effort. His version, with the participation of Scooby-Doo, was anyway much better than the original, I thought.

His sight deteriorated constantly, to the point he could barely see anything. It was very sad and sometimes deeply frustrated him, but it couldn't take away his enjoyment of life. He found as many substitutes as possible. When he couldn't read printed books, he started to listen to audiobooks. When going to cinema or theater, he always sat in the first row. When something about the plot or a particular scene was unclear, he asked us for feedback and explanation. When walking down the stairs, when there was no rail, he asked us to give him a hand. "We must look funny," he used to say, when I stopped him from falling, "a young boy and old man holding hands."

Kraków, August 2017

Eulogy
by
Robert H. Belmaker

Jerzy Vetulani's name first came to my attention with his 1975 paper in *Nature* with Fridolin Sulser, a Swiss-American psychopharmacologist who was then professor at Vanderbilt University and Vetulani's post-doctoral advisor. He and Sulser showed that antidepressants could downregulate the noradrenergic system, thus standing on its head the canonic monoamine hypothesis and ushering in the new era of receptor theories of antidepressant action. They used cyclic AMP generation to measure receptor function and this caught my eye since I was looking at the time, in my laboratory in Jerusalem with Richard Ebstein, at the effects of lithium on adenylate cyclase, resulting in our own paper in *Nature* in 1976.

Vetulani and I were both invited to a small conference in Copenhagen in early 1983 by Arne Geisler who had long been interested in antidepressants, lithium and cyclic AMP. By then he had returned to Poland. The facilities were modest and Vetulani and I were asked to share a very small room in the dormitory. After meeting Jerzy for the first time, I was then called to receive a phone call from my wife who informed me that a telegram had been received at our home in Jerusalem announcing that I had won the Anna-Monika Prize for research in depression. On returning to the room, I told Vetulani, who congratulated me warmly. I had no idea that he had also submitted his candidacy and I felt no jealousy in his congratulations. There were no affordable phone connections at that time between Poland and Denmark. When Vetulani returned home he managed to inform me that his wife had received the same telegram that night. We became very good friends and, of course, were together in Switzerland for the Anna-Monika Prize ceremony.

Vetulani invited me to lecture in Poland in the fall of 1983. This was far more difficult than it sounds because Poland and Israel had no diplomatic relations and the Communist boycott of Israel went far beyond lack of diplomatic relations. Vetulani was active in the early Solidarity movement, and as part of the thaw arranged for me to receive a medal from the Polish Academy of Sciences and for me to receive this award in the huge, architecturally Stalinist building in Warsaw called then the Palace of Culture. There were several hundred people in attendance including party officials at many ranks. After receiving my medal and coming back to the table, Vetulani said in a not so quiet voice: "Look around, Belmaker, there is not a single Communist in the room." He continued in his not very politically correct way by saying: "Please send us some capitalists to exploit us." The rest is history with regard to Poland, Solidarity and the end of

Communism.

Vetulani and I became fast friends, in science and outside of science. He invited me to Kraków and convinced me to convince my father to come along (my father, who had been born in Poland and who was the only survivor of his family, had never been back to Poland). My father spoke Polish, Vetulani said, as well as Vetulani's father, who had been a Professor at the Jagiellonian University in Kraków. Never one to be politically correct or to cover up his own shortcomings, Vetulani said that while his father had been a defender of human rights, his mother (or grandmother) openly kept a list of businesses in Kraków with a notation as to which should not be patronized because they were Jewish owned.

Vetulani visited Israel in 1987 for the 6th Catecholamine Congress. He enthusiastically toured many sites in Israel and described his optimistic vision for future Poland-Israel relations. He also traveled by rented car with a friend through the Palestinian areas and jokingly said that he had no difficulties because he erected a huge sign on his car saying: "Don't throw stones, we're Polish anti-Semites."

In 2001, Vetulani invited me to speak at the Polish pharmacology meetings in Torun in western Poland where Copernicus had done science in the 1600s. I asked him if I could speak on a more general topic related to the new exciting discoveries then about the human genome, and he readily agreed that I speak about "Implications for pharmacogenetics of the fact that all humans are very closely related and of recent origin." On arriving near the area of the meeting's lectures, there was a huge wall with meter high letters, in red graffiti, painted in Polish. I asked another conference participant to translate. At first unwilling, she in much shock told me that it says: "Jews eat children." Vetulani was the very opposite kind of Polish patriot and intellectual.

Vetulani told us about his son, a painter, of whom he was very proud and who was married to an Israeli and living in Utrecht. In 1995, Vetulani heard that my wife and I were on our way to lecture at the Dutch Society of Biological Psychiatry meeting and he arranged for us to spend two nights at the home of his son and daughter in law.

I last saw Jerzy at Vienna ECNP in October 2012. We had a good discussion then when he was very angry at the plenary lecturer who described the deconstruction of schizophrenia into multiple syndromes which Jerzy felt could never lead to psychopharmacologic progress. He spoke loudly and definitively, never a man to hide his opinion.



(Left to right) Irena Nalepa, Jerzy Vetulani, Ilana Belmaker and Haim Belmaker at the Poland-Israel meeting in 1993, in Polana Zgorzelisko near Zakopane, Poland.

November 9, 2017