

Professor Andrzej Rakowski

Professor Andrzej Rakowski's whole life has been spent working towards the position he occupies today within the scientific community. Having completed his secondary education at the Prince Józef Poniatowski Lyceum in Warsaw, in the class specialising in mathematics and physics, Andrzej Rakowski undertook studies at two different higher education establishments, a situation which hardly ever took place in Poland during the 1960s. He studied both his chosen scientific specialisms with equal enthusiasm, and obtained two degrees: from Warsaw Polytechnic's Department of Communication – Section of Film-Sound Technology (B.Sc., 1957), and from the Department of Composition, Conducting and Theory of Music at the Higher State School of Music in Warsaw (B.A. Hons with distinction, 1958). The combination of professional technical and engineering knowledge and an education in the area of theory of music shaped his further development as a scientist and gave direction to his research interests. Professor Rakowski then honed his professional competence by studying acoustics under Professor E.G. Richardson in the United Kingdom during 1958-1959, on a grant from the British Council. In 1963 he obtained his doctorate from the Department of Communication of Warsaw Polytechnic; his dissertation, supervised by Professor Ignacy Malecki, was entitled *Opening transients in the sound of aerophonic musical instruments*. In 1977 he obtained his habilitation degree in musicology at the University of Warsaw, on the basis of a thesis entitled *Categorical perception of pitch in music*. His academic career was crowned by being awarded the titles of assistant professor in 1982 and full professor in 1989.

From the beginning, Professor Rakowski linked his research and his didactic work with the Fryderyk Chopin Music Academy in Warsaw. As early as a year after obtaining his Doctorate, he was nominated for the appointment of Dozent (at that time the Academy was still the Higher State School of Music) and revealed his abilities not only in the area of research, but also in that of organisation. In 1968 he was instrumental in the creation of the Chair of Music Acoustics, which he headed from then until 2001. The academic community expressed its appreciation of his authority and his commitment by entrusting to him the function of Vice Rector during the years 1972-1974, and during the years 1981-1987 (two consecutive terms) that of Rector of the Fryderyk Chopin Academy of Music.

Professor Rakowski's academic standing and the importance of his research meant that a variety of research and academic bodies were eager to collaborate with him, and to have him serve in posts carrying both responsi-

bility and prestige. During the years 1991-1993 he was a member of the Central Commission for Scientific Titles and Degrees. In 1994 he was elected for a three-year term to the Commission for Fundamental Research of the Committee for Scientific Research. In the same year he became a corresponding member of the Polish Academy of Sciences, where from 1982 he was Scientific Secretary, and Vice-Chairman from 1997. In 1996 he became Chair of the Committee for Acoustics of the Polish Academy of Sciences and he filled that post until June 2007 (he is now Honorary Chair of the Committee for Acoustics of the Department of Technical Sciences of the Polish Academy of Sciences).

In order to complete the picture of the Professor's contribution to Polish and world science, one should also mention his involvement in the work of many scientific societies in Poland and abroad. He was a founder member of the Polish Acoustical Society in 1963, serving as its vice president during the years 1972-1974, and has been its honorary member since 2005. From 1984 he was also active in the Polish Phonetic Association, whose honorary member he has been since 2004. Professor Rakowski has also participated for many years in the work of the Musicologists Section of the Polish Composers' Union (since 1963). One should also take account of his membership of the scientific committees of the Polish Academy of Sciences – Art Studies (since 1994) and Epistemology of Science (since 1996). His name is linked to his research activities in such academic communities as: the International Society of Psychophysics, the International Phonetic Association, the International Acoustical Society CATGUT, European Acoustic Association, International Society for Music Education, Acoustical Society of America (since 2001 – distinguished member), as well as the European Society for Cognitive Sciences of Music – ESCOM, where he began work as a founder member, becoming a member of its Council in 1991, its President during the years 2000-2003, and remaining a member of the Council during the years which followed.

Professor Rakowski collaborated with numerous outstanding academic centres of the world. As a research fellow and visiting professor, he was associated with the Central Institute for the Deaf (St Louis, MO, USA) during the years 1977-1978 and in 1992, and in 1991 with the Hebrew University in Jerusalem in Israel. The years 1972-1994 were taken up by work as a visiting professor. During that period, students of such universities and institutes as Harvard (Cambridge – Massachusetts, USA), Stanford (California, USA), University of Illinois (USA), McGill University (Montreal) and National Research Council (Ottawa) in Canada, universities in Hamburg and Cologne, as well as Centre National de la Recherche Scientifique in Marseilles and the Department of Psychology at the New University of Lisbon in Portugal, had the opportunity of attending Professor's courses and lectures.

The Professor's research activities also involved a more practical aspect. He had worked as a sound engineer at the Documentary Film Productions in Warsaw (1952-1953), and as sound director at the Polskie Nagrania recording company (1956-1958). Professor Rakowski's efforts also brought a measurable effect in improving the acoustics at the Grand Theatre in Warsaw, where, as the acoustics consultant (1963-1970) he produced a design for correcting the acoustics of the stage and the auditorium. He was also responsible for the acoustic designs of the Grand Theatre's Chamber Hall, as well as a number of other concert halls. It was on his initiative that the "Artistic-Research Section" was created at what was then the Higher State School of Music; its remit is to look for solutions to the scientific and technical problems with the aim of improving the quality of Polish musical instruments. The Professor's wide range of activities also involves membership of the editorial boards of the Archives of Acoustica (Warsaw) and Musicae Scientiae (Brussels), as well as editing the Acousticians section in the Musical Encyclopaedia of PWM (Polish Music Publishing House).

Professor Rakowski's scientific and research publications, quoted throughout the world (more than 200 published works, including 2 authorial monographs, 2 volumes of which he was editor, and 1 textbook), reflect his three main areas of interest: music psychoacoustics, acoustics of musical instruments and concert halls, and general music education. The last of these areas of research interests include comparative studies on the effectiveness of music education systems in Poland and in other countries, and the issue of promoting general cultural values in Polish society, as part of the research project being realised by the Expert Team of the Polish Council for Music in Education; one should also add here his supervision, on behalf of the Scientific Research Committee, of the project relating to the optimisation of the model of the music teacher in general education. He has also authored an expertise on protecting the environment from noise in the light of European Union regulations (2005). The second of Professor Rakowski's areas of research interest, acoustics, resulted in a number of theoretical and applied works relating to analyses of the functioning and improvement of the quality of musical instruments, as well as the design and evaluation of acoustics of concert halls. Finally, his scientific work has for many years been focussed on the psychoacoustic measurement of elementary auditory impressions of pitch and sound colour, and on investigating the mechanisms which enable the structuring of these impressions within the communication code of music. Within this subject, he investigated the intonation of intervals intoned in isolation and within melodic contexts. One of his important achievements is the introduction of the concept of the categorical zone of intonation and intonation variant, and establishing some of the parameters of the functioning of the short-term and long-term memory

for pitch (including absolute pitch). He has also formulated important definitions, such as: the concept of audible frequency and the concept of pitch strength and strength of memory of a musical interval, and has proposed and implemented appropriate methods for measuring these dimensions. Professor Rakowski also investigates the impression scales of the identified dimensions of pitch and sound colour, including natural and chromatic pitch, sensory dissonance, roughness, brightness and oppressiveness of sound. He conducts experiments on the discriminatory ability of hearing in the areas of colour and pitch. He has created a model of multidimensional structure of music communication code and its relationship to the phonological code of language.

Rakowski's scientific and didactic work has included supervision of 15 Ph.D. graduates, and 4 of his students are independent researchers, with two of them heading research establishments in the USA and Canada. The research goals introduced by the Professor many years ago are now being pursued by a sizeable community of scientists in many centres both in Poland and abroad, as is evidenced by the number of citations of his publications. His contribution to Polish science has been recognised on many occasions, and includes the awards of Officer's Cross of the Order of Polish Revival in 2002 and the gold medal for Services to Culture *Gloria Artis* in 2010.

Highly respected and valued by the scientific and academic community, always attentive, friendly and sympathetic towards the young scholars in his charge – that is Professor Rakowski, who since 1998 has also been making a contribution to the work at the Chair of Musicology of the Adam Mickiewicz University in Poznań.

Justyna Humięcka-Jakubowska

Professor Andrzej Rakowski was one of the first employees of the State Higher Music School in Warsaw to take an active part in collaborating in psychological-musical research conducted there during the 1950s.

As a young assistant lecturer at the School's Department of Music Direction, he would personally record copies of Drake and Wing's tests of musical ability, and provide his own translations from English into Polish of the instructions to accompany the tests. He was the author of the translation from English into Polish of H. Wing's *Tests of musical ability and appreciation*, a work which still today stands as a model of scientific research into the construction and standardisation of tests of musical ability.

During the 1970s, first as Vice Rector and then as Rector of the Music School, he contributed significantly towards the creation of the Inter-

university Institute of Music Teaching and, within the Institute, he was actively involved in the development and research of the Section and the Chair of Psychology.

Professor Rakowski did not personally participate in our research on evaluation, but he supported us in our collaboration with the Department of Music Direction of the Fryderyk Chopin Music Academy.

Maria Manturzevska

Translated by Zofia Weaver

