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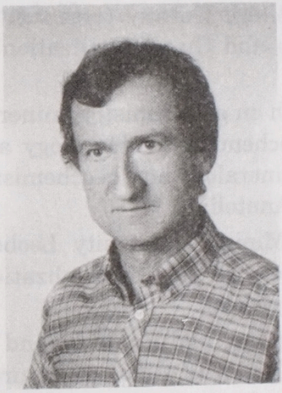
THE VAN DEN BROEK CENTENARY MEDAL FOR HENRYK KUCHA

On 26 February, 1997, Professor Henryk Kucha received the centenary Van den Broek Medal granted by the Belgian Geological Society for his outstanding contribution to mineralogical sciences during the past ten years. The official ceremony took place in the lecture hall of the Royal Belgian Institute for Natural Sciences in Brussels, and was followed by a lecture given by the medalist on 'Significance of sulphur and gold valencies in gold metallogeny'.



Born on 8 April, 1945, Henryk Kucha studied geology at the Faculty of Geological Prospection, University of Mining and Metallurgy in Kraków, Poland. Graduated in 1969 (M.Sc.), he rose through the ranks of his mother-faculty, successively obtaining his Ph.D. in 1973, passing habilitation in 1982, and becoming a Professor of University of Mining and Metallurgy in 1994; eventually Henryk Kucha received the rank of a Full Professor in 1995. Currently he works at the Department of Environmental Protection, Faculty of Geology, Geophysics and Environmental Protection.

Very active in research, he has published so far 110 scientific papers, mostly in journals covered by Scientific Citation Index (SCI), and prepared numerous industrial reports (among them: 35 for Polish copper industry, 18 for Irish Base Metals, 3 for Merl Clouthier Prospector, Vancouver, Canada, 2 for Equatorial Mining). Between 1986 and now, he led in Poland several UNESCO and Europen Science Foundation projects.

Professor Kucha is a member of the Society of Geology Applied to Mineral Deposits (GSA) and the Society of Economic Geologists (SGA).

Among Professor Kucha's main research achievements the most important are discoveries of three new minerals, approved by the IMA Commission on New Minerals and Mineral Names:

- eugenite $Ag_{11}Hg_2$ from Lubin (Poland),
- hibingite $Fe_2(OH)_3Cl$ from Hibing (Minesota, USA), and
- viaeneite $(Fe,Pb)_4S_8O$ from Engis (Belgium).

During these investigations, he developed a new method of determination of cell parameters and crystal symmetry of new minerals, using TEM (Transmission Electron Microscope) for a single crystal study.

Having specialized for many years in the electron microprobe technique, he also developed a method of determination of valencies of various elements by EPMA (Electron Probe Microanalyser). This kind of research on gold has led to the discovery of natural Au thiosulphates, and has been coupled with intensive studies on valencies of sulphur, iron and arsenic.

His studies on Kupferschiefer in Poland have brought about the first discovery of platinum group elements and gold in the Lower Silesian black shales (in the Lubin area mines).

Professor Kucha's finding of domain structures in iron and zinc dolomites is also widely acclaimed.

Professor Kucha is a recognized scientist, well-known in and outside Poland. He held numerous fellowships:

➢ Ireland, Irish Base Metals and University College Galway (research on geochemistry, mineralogy and prospection for Zn, Pb and Cu mineralization in carbonates),

➢ Belgium, Katolieke Universiteit Leuven (research on geochemistry, mineralogy and origin of Zn-Pb deposits in Belgium, on geochemistry, mineralogy and metal mobility in Zn-Pb dumps in Belgium, and on mineralogy and geochemistry of Roman iron slags and ceramics from Sagalassos, Anatolia),

➢ Austria, Austrian Academy of Sciences and Mining University Leoben, (research on geochemistry of Alpine fahlore and associated gold mineralization, followed by that on gold mobility in oxysulphide complexes),

➢ Australia, universities of: Melbourne, New England, and Ballarat, and at Pasminco, CRAE, BHP, North Mining, Acacia, and Niugini (a series of lectures, and research on gold transport and precipitation, development of a microprobe method for determination of valencies of gold and arsenic).

Professor Kucha's other scientific activities have involved, among others, the following topics in the scope of geology and geochemistry of ore deposits:

1) stratabound Zn-Pb mineralization in carbonates,

2) black shale (Kupferschiefer) copper deposits with a special reference to Au and platinum group elements,

3) role of oxysulphide and polysulphide complexes in transporting gold and base metals,

4) pegmatite and hydrothermal deposits of Th, REE and Au.

His current work is centered on crystallochemical problems and new research techniques, and a selection of them includes:

1) crystallochemistry of natural compounds with mixed and intermediate sulphur valencies,

2) transport of gold by oxysulphide and polysulphide complexes,

3) mineralogy and geochemistry of PGE's in the black shale environment,

4) special applications of PIXE, synchrotron microprobe and transmitted electron microscopy in mineralogy and geochemistry,

5) determination of valencies of elements by microprobe.

Such a wide spectrum of scientific problems and results obtained by Professor Henryk Kucha has earned him a number of recognized, Polish and international awards. They are as follows:

1) the prize of the Geological Society of Poland for the best paper published in 1976 in Annales de la Société Géologique de Pologne (v. 46, no 3, 363—417);

2) the nomination for the lecturer of the year 1993 by the Society of Economic Geologists, and the associated fellowship to perform a lecturing tour across West-European universities and geological surveys;

3) the South Africa Gold Fields Premium in 1994 for the paper published in Transactions of the Institution of Mining and Metallurgy (Sect. B: Appl. Earth Sci., v. 103, 197—205).

On this occasion, *Mineralogia Polonica* extends its congratulations to Professor Henryk Kucha and wishes him many further successes.