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IN MEMORY OF WOJCIECH NEMEC (1950–2023)

Wojciech Nemec, a retired professor, in the Department of Earth Science at the University of Bergen, died suddenly on 26 September 2023 at his home in Loddefjord, Bergen, Norway. He was a man of many talents, a world-renowned sedimentologist, a researcher with an exceptionally broad scientific outlook, and foremost – our colleague, to whom we owe so much.

Wojciech Nemec, commonly known as "Wojtek" – the abbreviated form of his first name – was born in Opole, on 21 April 1950. His family had moved to Ozimek – near Opole, from the Lviv area after the Second World War, as part of the resettlement programme for Polish citizens from former Polish territories, incorporated into the Soviet Union. Wojtek spent his childhood and early education in Ozimek and later completed high school in Opole. In 1968, he began studies at the University of Wrocław, where he graduated in Geology in 1973. His extraordinary potential in geoscience research and exceptional communication skills were recognized by his university teacher, Professor Józef Oberc, who offered him a position at the Institute of Geological Sciences of the University of Wrocław. From 1973 to 1984, Wojtek served there as a technician, assistant and, finally, as senior lecturer. In 1979, he defended his PhD thesis, entitled 'Wulkanizm późnokarboński w niecce wałbrzyskiej (synklinorium śródsudeckie)' [in English: Late Carboniferous volcanism in the Wałbrzych Coal Basin, Intra-Sudetic Synclinorium], supervised by Józef Oberc.

In 1983, Wojtek was awarded a postdoctoral research fellowship from the Royal Norwegian Council for Scientific and Industrial Research (NTNF) and moved with his family to Bergen, Norway. Since then, his professional career was tied to the Department of Earth Science at the University of Bergen, where he initially took the position of Associate Professor and in 1993 became Professor of Geology. In 1998–1999, Wojtek served as a scientific advisor to Rogaland Research, in Stavanger, and in 2006–2007 was also employed as Adjunct Professor of Sedimentology at the University Centre, in Svalbard. In 1994, he was a Distinguished Lecturer of the Japan Society for the Promotion of Science. He ran also short courses and workshops at numerous scientific institutions in Croatia, Italy, India, Japan, Romania and, on a more regular basis, at the Jagiellonian University in Poland, between 2010 and 2019. Wojtek retired at the end of October 2017, without giving up his intensive scientific work.

Wojciech Nemec's research interests focused on the sedimentology of clastic rocks and basin analysis, although he also made successful detours into subjects as diverse as volcanology and karst geology. He was a researcher with very broad horizons. As he himself claimed, he dealt with essentially all clastic systems, except for the aeolian one (although he had apparently forgotten the Permian dunes that he had written about early in his career). He was interested above all in understanding processes and phenomena of a universal nature, and solving regional problems was the natural way to achieve this goal.

Wojtek exhibited a tremendous understanding of the nature of physical sedimentary processes, which was the result of his scientific intuition, in-depth knowledge of fluid hydraulics, and the physical mechanisms of grain transport, combined with insightful, extremely detailed observations. He loved fieldwork and displayed an incredible eye for numerous nuances, preserved in the rock record (Fig. 1). Wojtek maintained that he would continue to observe an

Fig. 1. Wojtek, risking his life on the steep cliff, while logging Cretaceous deltaic deposits in the Adventdalen area, Spitsbergen, 1981 (photograph by S. J. Porębski).

outcrop until he understood, or as he used to say, 'saw' in his mind how the rocks under investigation had formed. He was able to transfer all the details he observed with incredible precision from the field onto the pages of his notebooks (Fig. 2). His field sketches were works of art (Fig. 3). At the same time, he possessed the invaluable gift of placing a studied rock sequence within its broad palaeoenvironmental and palaeotectonic context. Furthermore, Wojtek was a perfectionist, a true master of the written word. His articles were polished to perfection; they contained clearly expressed ideas, presented in a logical and coherent sequence. Carefully selected and precisely drawn illustrations formed an integral and extremely important part of these articles. Wojtek believed that, in principle, one should have the illustrations ready, before writing a publication, and that the accompanying text would serve as a kind of expanded commentary on them. These talents resulted over many years in multi-faceted, seminal publications that became milestones for clastic sedimentology.

Fig. 2. Wojtek, drawing in the field, the Tatra Mts, Poland, 2017 (photograph by M. Gradziński).

In the early stages of his career, Wojciech Nemec conducted research on continental clastic sediments of the Upper Carboniferous and Permian in the Sudetes and their foreland. Simultaneously, he developed skills in statistical methods and other mathematical techniques – a competence that he later used extensively in facies analysis and numerical modelling. In the late 1970s, Wojtek teamed up with Ronald J. Steel to study Carboniferous resedimented conglomerates in the Sudetes (Fig. 4). Not only did this spark Wojtek's long-term interest in gravel-dominated systems, particularly fan deltas, but also, as he used to recall, the meeting with Ron was a landmark point in his professional career. While in Bergen, Wojtek plunged deeply into the mechanics of sediment-gravity flows and their fossil record. He then expanded his interest to glacio-marine systems and later to colluvial deposits, formed in both periglacial conditions and the Mediterranean climatic zone. Many of his works utilised the concept of sequence stratigraphy and addressed the link between sedimentology and tectonics, particularly in rift and foreland basin infills. Wojtek's field research was conducted in areas as diverse as Spitsbergen (Figs 5, 6), the North Sea, Greece, Italy, Croatia, Bosnia-Herzegovina, Bulgaria, New

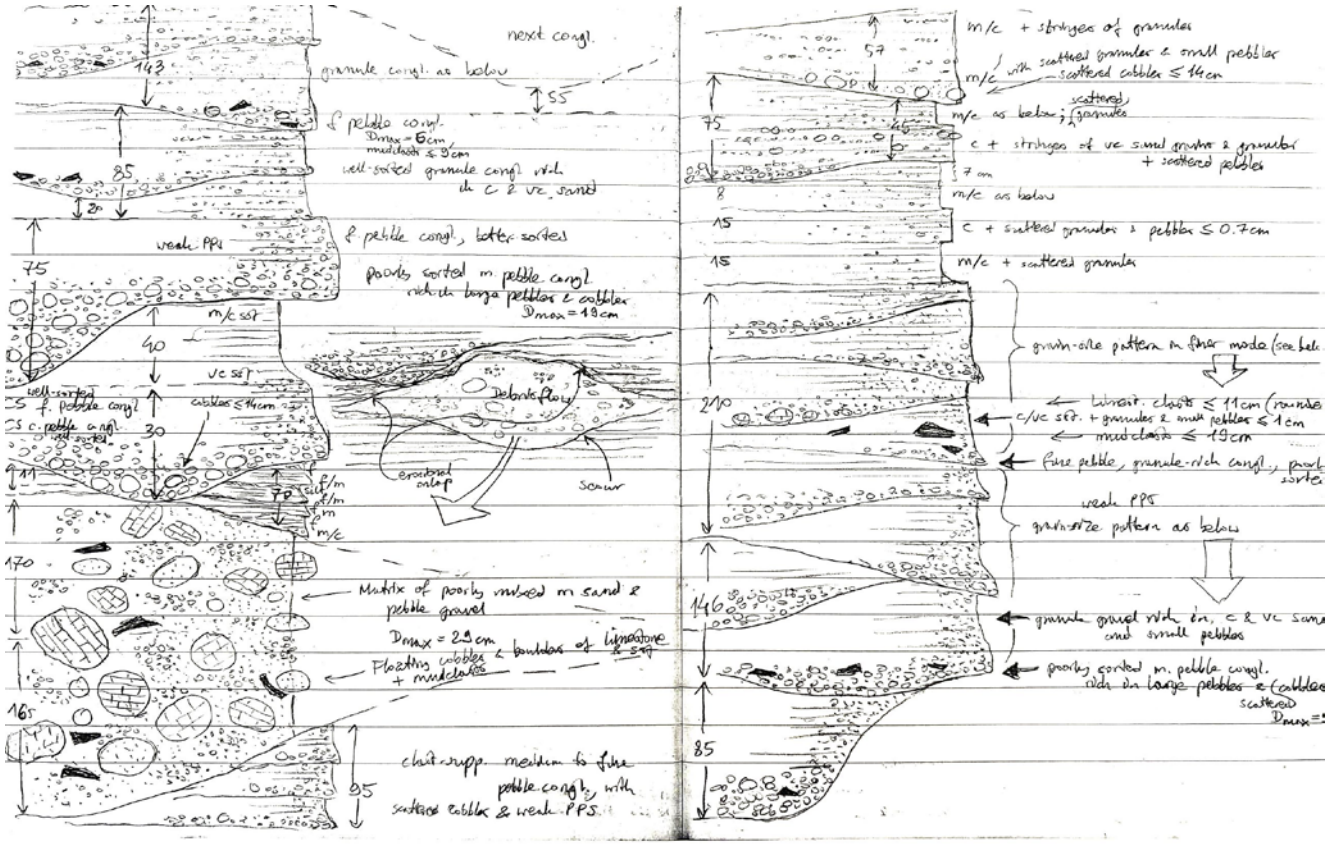

Fig. 3. An example of sedimentary logs Wojtek made in his notebook, while working in the field.

Fig. 4. Wojtek (centre), Andrzej K. Teisseyre (kneeling) and Ronald J. Steel, lunching in the field, somewhere in the Intrasudetic Basin, during a geological trip to the Sudetes in 1977 (photograph by S. J. Porębski).

Fig. 5. Wojtek in Isfjorden, during the field-course, Sedimentology and Facies Analysis, in the Bohemanflya Peninsula, Spitsbergen, 2007 (photograph by M. Warchoł).

Zealand, Slovakia, Spain, and Romania. Turkey occupied a special place on Wojtek's priority list, as he systematically carried out fruitful studies there for over three decades. In his last years, he continued research back in Poland again – in the Sudetes and the Carpathian Foredeep. The majority of his scientific projects were funded by petroleum companies, such as Hydro, Statoil (now Equinor), Elf (now Vår Energi), Norske Shell, and Lundin.

Wojciech Nemec authored and co-authored over 70 papers, which so far received ca. 8,600 citations (in Google Scholar). His most cited paper is about alluvial and coastal conglomerates (Nemec and Steel, 1984) and currently has 1,328 entries. A number of Wojtek's other achievements have been advanced with respect to the published state of the art and represent his ingenious contribution to the progress of sedimentology. They include, among others,

Fig. 6. Wojtek on the fluvial deposits of Helvetjafiellet Fm. during the field-course, Sedimentology and Facies Analysis, in the Bohemanflya Peninsula, Spitsbergen, 2007 (photograph by M. Warchoł).

Fig. 7. Wojtek, during a fieldtrip with Padova University students in the Boyabat Basin, Pontides, Turkey, 2011 (photograph by M. Cihat Alçiçek).

studies dealing with the mechanics of sediment movement on steep delta slopes (Nemec, 1990), the dynamics of deltaic mud-suspensions (Nemec, 1995), facies modelling of the calving-ice margin (Lønne and Nemec, 2011), and the anatomy of alluvial fan and fan-delta systems in various tectonic and climatic settings (Nemec and Steel, 1988; Nemec and Postma 1993; Lønne and Nemec, 2004). His pioneering insights into the origin of colluvial deposits (Blikra and Nemec, 1998; Nemec and Kazancı, 1999) have opened a new research area in sedimentology. His last process-oriented paper on turbidite deposition (Ge, Nemec, Vellinga and Gawthorpe, 2022) has already gained wide acclaim.

Wojtek shared also his knowledge at numerous scientific conferences and was often invited to deliver keynote addresses – one of the best measures of a researcher's visibility in the scientific community. They include presentations at the Arthur Holmes 1st European Conference on Deep Water Massive Sands, organized by the Geological Society of London in Cefalu, Sicily (1992), the 3rd International Workshop on Fan Deltas at the University of Seoul, in Pohang, South Korea (1993), the International Research Summit on Deep-Water Clastic Systems at the Statoil Research Centre, in Trondheim, Norway (1998), the IAS Meeting of Sedimentology in Alghero, Sardinia (2009), the 6th Latin-American Congress of Sedimentology, São Paulo, Brazil (2013), and the IAS Annual Meeting of Sedimentology in Kraków, Poland (2015).

As an academic teacher, Professor Wojciech Nemec was exceptionally dedicated. In Bergen, he lectured on sedimentology, stratigraphy, facies analysis, and geostatistics, and led several field courses. He was always keen to share his extensive knowledge and to patiently explain concepts (Figs 7, 8). He had the rare gift of being able to present even complex topics in an accessible way. At the University of Bergen, he supervised 57 master's students, 22 PhD students, and 10 post-doctoral researchers, as well as hosting numerous visiting students and researchers, arriving in Bergen from all over the world. Wojtek's office was always open to visitors, either those seeking professional advice or those, with whom he liked to spend time. Wojtek was a mentor and co-worker, whom you wanted to please. However, working with him, though always stimulating, was often not easy, as he expected standards as high as those, he adhered to himself, sometimes failing to recognize that this was expecting too much. He left behind a faithful group of graduates, who are pursuing academic careers at high-ranking universities in many countries, or hold prominent positions in oil companies, as well as in the Norwegian Geological Survey. Following Wojtek's death, a group of his former students and co-workers published a special issue of *Mediterranean Geoscience Review*, entitled: *Sedimentary Basin Evolution in the Taurus Range: In commemoration of Wojciech Nemec (1950–2023)* – as a tribute to him (Robertson *et al*., 2024). This issue contains also the last papers, co-authored by Wojtek.

Wojciech Nemec was also active as a conference organizer and editor. In 1987, he co-organized in Bergen the conference, *Fan Deltas – Sedimentology and Tectonic Setting*, and co-edited a volume (Nemec and Steel, eds, 1988), which was the outcome of this conference. In 1991, he edited the excursion guidebook of the 12th Regional Meeting of the International Association of Sedimentologists in Bergen. He made also a major contribution to the preparation of the 31st IAS Meeting of Sedimentology in Kraków, in 2015 (Fig. 9). From 2012 onwards, he worked in the editorial staff of *Annales Societatis Geologorum Poloniae*, where he took care on articles, dealing with clastic sedimentology. Many colleagues approached him for an informal preliminary review. He was always willing to help, and his contribution to the outcome – whether he was an official or unofficial editor – was always very significant. It happened sometimes that the authors themselves struggled to recognise their own manuscripts after Wojtek's insightful revision.

Fig. 8. Wojciech Nemec explains to the students how grains behave during transport, using the cigarette packet – his ever-present item – as an illustrative model, Witów, Poland, 2017 (photograph by M. Gradziński).

Fig. 9. Wojtek, enjoying a moment on the bank of Sękówka River, during a post-conference fieldtrip in the Carpathian Mountains, 31st IAS Meeting of Sedimentology, Kraków, Poland, 2015 (photograph by M. Cihat Alçiçek).

Fig. 10. Wojciech Nemec (centre) and Szczepan J. Porębski (right), accepting the Ludwik Zejszner Prize from the President of the Polish Geological Society, Rafał Unrug (left), during the Society's meeting at Zielona Góra in 1978 (photograph from the Society's archive).

In 1978, Wojtek was co-awarded the Ludwik Zejszner Prize of the Polish Geological Society for his contribution to the origin of the Permian Weissliegends sandstones in Poland (Fig. 10), published in *Rocznik Polskiego Towarzystwa Geologicznego* (now: *Annales Societatis Geologorum Poloniae*; Nemec and Porębski, 1977a, b). In 2022, he was also honoured with Medal of Merit for Polish Geology, on the 100th anniversary of the Polish Geological Society. He displayed this medal in a prominent place at his home.

Throughout the years, Wojtek received worldwide recognition for his work from the geological community. Yet, until the very end, he remained the same good-natured, unpretentious, friendly, and cooperative person, as always. Beyond the professional sphere, he was a fascinating friend. It was always a great pleasure to spend the evening with him, drinking wine and talking about geology, life, or his favourite topics, such as films and music. In his Polish years, Wojtek was a fan of John Mayall and Bob Dylan. At

his Norwegian home, he had a small studio, equipped with guitars and an amplifier, and sometimes would invite a visitor to play music along with him. Those happy days ended with the death of his beloved wife, Halina; he never fully recovered after her passing.

Wojtek is no longer with us, but memories of him will remain. We will all miss him.

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