

Editorial

# Bridging the gap in Quaternary geology between East and West: The Brodzikowski heritage

## 1. Introduction

No such thing exists as a ‘scientific truth’. Even nowadays, some hypotheses that are considered by a great majority of scientists as ‘scientific truth’ are considered as fundamentally wrong by others. Where (and when) a true dialogue between those adhering different views is impossible, science suffers. We have witnessed such conditions in the recent past in Eastern European countries, where – in addition – the economic conditions hardly allowed any university to buy scientific literature from the West: the differences in price level were just too great. This does not imply that science in Eastern Europe at the time was of a lower quality than in the West. We are convinced that research in the natural sciences – including the earth sciences – was carried out at many eastern universities at a high level. The results were, obviously, published, but this happened, unfortunately, only rarely in a language that was accessible for scientists from western countries.

Since the scientists in Eastern Europe could not afford to buy western literature (and no such a thing as internet was available at the time!), and since Western scientists were not capable of reading the research results from their colleagues in the East, it was unavoidable that the directions of science in East and West diverged. These different developments were not commonly realised until before the ‘iron curtain’ fell. Only a few earth scientists were aware of it earlier, thanks to personal contacts with colleagues ‘on the other side’. These two-sided earth scientists were not always in the position – or willing – to take advantage of the ‘extra’ information that they had. In general, the earth scientists in the West were too busy applying for research grants and/or surviving the publisher-or-perish culture, whereas contacts with Western colleagues were not always appreciated in Eastern Europe.

## 2. Brodzikowski as an exceptional earth scientist

One of the few who actively tried – successfully – to bridge the discrepancies between eastern and western viewpoints and hypotheses was the Polish earth scientist Krzysztof Brodzikowski (Fig. 1). Having been a student in physical geography, his interest became increasingly focused on geological problems. Fortunately he found more than sufficient of such problems in the discipline that he had opted for: Quaternary geology. His work at the universities of, successively, Wrocław and Łódź testifies to his wide interest in this complex discipline. He dealt with, among other things, glacial sedimentation, glacial tectonics and soft-rock deformation. In addition, he was the only earth scientist who tried systematically to keep up with the huge amount of field data that became available during the removal of a thick Quaternary overburden (with at least seven glaciation phases) of a giant brown-coal mine in a graben in the central part of Poland. Several papers in this special issue are devoted to this mine, which provides most probably not only the largest exposure of Quaternary sediments in the world (walls of several kilometres long through a Quaternary overburden of up to some 250 m thick), but the ongoing exploitation made (and makes) it also possible to obtain a detailed 3-D picture of the complicated facies. This huge exposure, which was for a long time not to be mentioned in the literature (being an economic ‘secret’), was originally named (by Brodzikowski and others) ‘the Kleszczów Graben’. Nowadays, it is commonly – and more appropriately – called the ‘Bechatów mine’, which term is also used in the present issue.

Brodzikowski’s unheard of working power, in combination with his creative mind, would already have sufficed to make him a most productive, high-quality



Fig. 1. Prof. Dr. Hab. Krzysztof Brodzikowski (1950–1994).

earth scientist. But his knowledge of literature from eastern Europe and from western countries (where he also lectured and actively participated in conferences) made him really exceptional. This was hardly recognized at the time by his Polish colleagues, where he received much less recognition than he deserved (the fact that he published many of his more important works in English made these works inaccessible for the majority of his Polish colleagues). On the other hand, his exceptional insight into glacial processes and glacial sedimentary facies was recognised, indeed, by some of the western Quaternary geologists who noticed his work. As an example, his book ‘Glacial Sediments’ (1991), published in Elsevier’s book series ‘Developments in Sedimentology’, was reviewed not only as a “text that will remain a key benchmark for all succeeding texts for decades to come”, but was also recognized as a book that bridges the different viewpoints, hypotheses and data-collecting methods in East and West.

Only later, when English literature became more commonly read in eastern Europe, the Polish earth-science community became aware of his remarkable achievements.

### 3. The problem of bridge building between East and West

Brodzikowski’s efforts to combine eastern and western viewpoints revealed frequently how western and eastern sciences had driven apart. This always became obvious when he submitted a manuscript for publication: western referees criticized his ‘eastern’ approaches, methods, hypotheses and terminology, while eastern referees expressed just opposite views. His referees often paid more attention to such discrepancies in attitude towards science communication than to the science in his manuscripts itself.

It is remarkable that this has not changed fundamentally in the past decade. This became obvious during the preparation of this special issue: many western referees of ‘eastern’ manuscripts commented negatively upon the just-mentioned topics, and even on the form or layout (commonly not the scientific or technical quality) of figures. Apart from that, western referees commented also frequently in a negative way on the mixing of sedimentological and geomorphological data. The fact that a broad earth-scientific approach can greatly help solving problems in Quaternary geology that are not easily solved in another way, has not yet been generally accepted by western earth scientists.

It would be unjustified to suggest that the western referees of the ‘eastern’ manuscripts submitted for this special issue are to be blamed for their attitude. Their attitude is just a logical consequence of the ever increasing specialization that characterizes western science. In our opinion, the above-sketched situation only proves that there is no reason for the western scientific community to feel superior to the eastern community.

Obviously, the reverse is also true. It appeared that eastern referees of ‘western’ manuscripts also commonly adhered (and adhered possibly too much) to their own culturally-determined conventions. This came forward, for example, in suggestions to restructure manuscripts in a way that would have affected the IMRAD structure (Introduction, Methods, Results And Discussion) that is considered almost holy in the West. In addition, they sometimes suggested additional field work to gather data that might have been interesting, but that were not essential for the investigation. And, not surprisingly, eastern referees appeared not always to be aware of specialised western terminology (mainly because they had developed their own terminology in the course of time).

This all may seem very abstract, and therefore we will detail this – as one single practical example – by referring to Quaternary stratigraphy (we will, however, refrain from the current discussion about the term ‘Quaternary’ in

itself). It appeared that hardly any American referee was aware in any detail of the Western European chronostratigraphic terms, and they were not at all aware of the Eastern European Quaternary subdivision. On the other hand, European – and certainly the Eastern European – referees were insufficiently aware of the American age names. This makes one wonder whether literature from the other side is ever read, and – if it is read – whether it is understood well enough to be used to further one’s own research. For this reason, we include here an overview of the Pleistocene stratigraphic terminology from America and Western and Eastern Europe (Fig. 2), which can serve as a guide for all contributions in this special issue.

It is, in our opinion, particularly the still–present lack of sufficient effective ‘intercontinental science communication’ that hampers progress of international research projects. Brodzikowski was clearly far ahead of his time when he recognized this, and when he tried to gap the bridge between East and West.

#### 4. The heritage of Brodzikowski

Prof. Dr hab. Krzysztof Brodzikowski (1950–1994) died unduly young, after having suffered from several types of cancer. Even during the last phase of his life, however, he did his utmost best to help colleagues publish work that he had been involved in. It is now over 10 years ago that he died. And it is only now that his great contribution to the earth sciences becomes more and more acknowledged. The editors of this special issue – one of his students, a colleague and good friend, and an earth scientist who cooperated with Brodzikowski for over 25 years – found themselves some years ago suddenly being all employed at the same place (the Faculty of Earth Sciences at the University of Silesia in Sosnowiec, Poland) and considered this an excellent moment to devote a special issue of this journal to him.

The reason is certainly not only that we want to honour his memory, but rather that we think that his heritage should not be lost. This heritage that can be divided in two parts: a first part consisting of his work (for which reason an overview of his more importantly publications is presented below), but also – and more importantly – a second part that consists of his attitude towards science: always looking for new scientific problems, always trying to find explanations for the most complex field data, and certainly not afraid to launch hypotheses and to establish geological models that – as he knew so well himself – would raise a lot of criticism. Sometimes the criticism was justified; more commonly such criticism was delivered by earth scientists who did not yet have an overview of what was known in both the East and the West.

We have tried to expose his way of thinking by collecting contributions from earth scientists who either have known him personally, or who work on the same topics that Brodzikowski was so deeply involved in: the Quaternary geology – and particularly the 3-D facies analysis – of glaciation-related sediments in the Bechatów browncoal mine, the sedimentary characteristics of Quaternary sediments, soft-sediment deformations, and glacitectonics. Krzysztof Brodzikowski would have been happy to cooperate himself.

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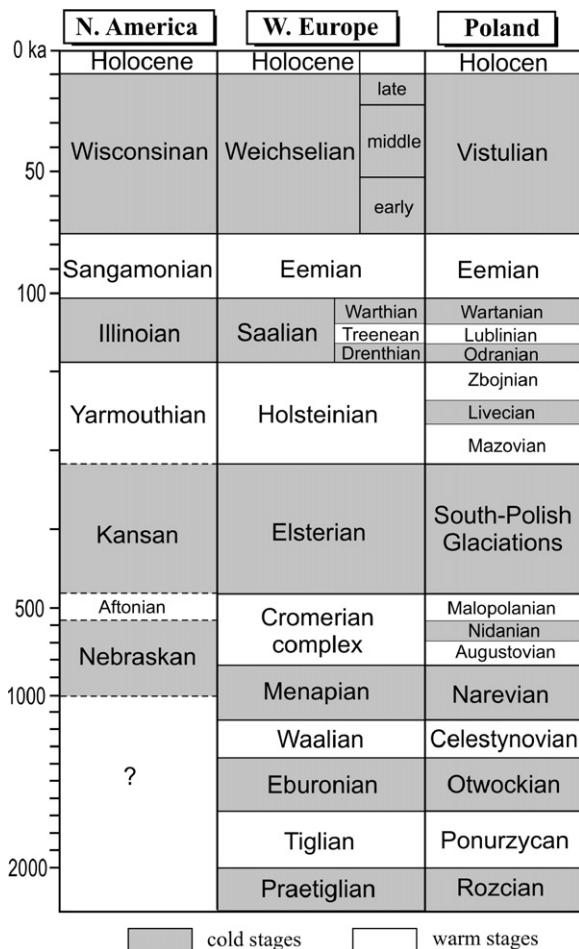


Fig. 2. Correlation between Polish, Western European and Northern American Pleistocene glacials and interglacials.

Hart, Daniel Paul Le Heron, Michael Houmark-Nielsen, David Huddart, Kees Kasse, Kurt Kjaer, Jasper Knight, Gary Kocurek, Johannes Krüger, Ida Lønne, Leszek Marks, Marshal McCabe, John Menzies, Edward Mojski, Wojciech Nemeč, Atle Nesje, Jan Piotrowski, Szczepan Porębski, Jim Rose, Hazen Russell, Hanna Ruszczyńska-Szenajch, Aline Saintot, John Shaw, Young Kwan Sohn, Barbara Woronko, Jef Vandenberghe, Tom van Loon and Witold Zuchiewicz. We are aware that the sometimes severe criticism of referees, asking for major revisions in what others might consider sound and well-prepared manuscripts, has not always been easy for the authors. We are also aware that many referees had to deal with manuscripts in a style that they are not used to. We appreciate their efforts and the discussions that we had with them. We consider it as a valuable reward that, in spite of the numerous culturally determined problems that were faced during the preparation, this issue could be published, and we hope that it will help both the western and the eastern earth-science community to better understand each other, thus facilitating mutual understanding to the benefit of the entire scientific society.

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