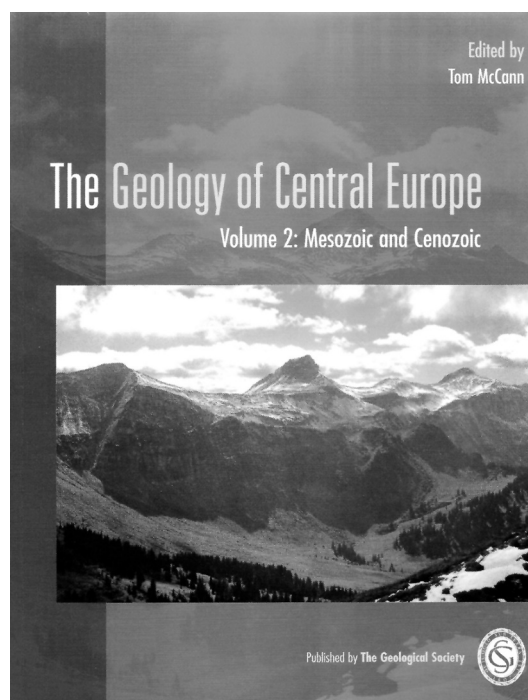
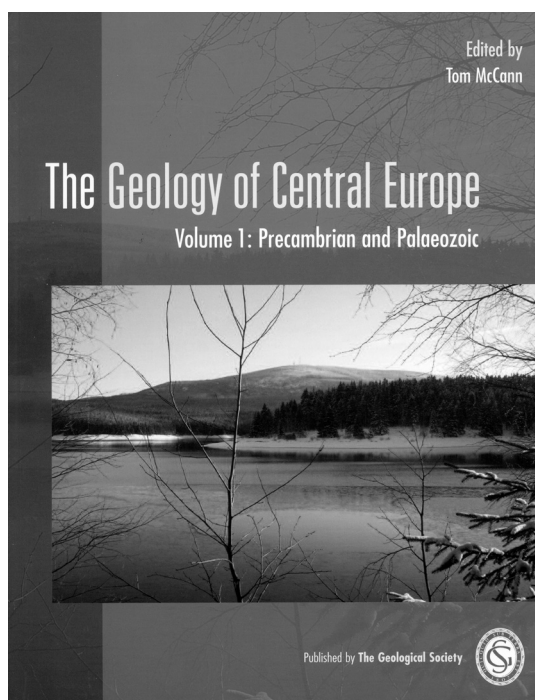


Book reviews

The geology of central Europe, edited by Tom McCann, 2008. Volume 1: Precambrian and Palaeozoic; Volume 2: Mesozoic and Cenozoic. Geological Society of London. Hardback: set price GBP 190.00; fellows price GBP 95.00; other societies price GBP 114.00. Paperback: set price GBP 90.00; fellows price GBP 65.00; other societies price GBP 00.00. Volume 1 hardback: XIII + 748 + LXXXVIII pages; price GBP 95.00 (fellows price GBP 47.70; other societies price GBP 57.00); ISBN 978-1-86239-245-8. Volume 1 paperback: XIII + 748 + LXXXVII pages; price GBP 45.00 (fellows price GBP 32.50; other societies price GBP 32.50); ISBN 978-1-86239-246-5. Volume 2 hardback: VIII + 699 + LXVIII pages; price 95.00 (fellows price GBP 47.50; other societies price GBP 57.00); ISBN 978-1-86239-264-9. Volume 2 paperback: VIII + 699 + LXVIII pages. Price GBP 45.00 (fellows price GBP 32.50; other societies price GBP 32.50); ISBN 978-1-86239-265-6.



This set of two books is by far the most extensive overview of the geology of central Europe published this far, and one can only admire Tom McCann for his courage to pick up the challenge of editing such a work. Considering that the idea for this work was born in 2004, one should also admire the fact that the over 1600 pages of the entire work were published only four years later. Over 200 authors have contributed, and streamlining the work

of so many authors with completely different backgrounds must have been a giant task, indeed.

Carrying out such a giant task in such a short time seems impossible, and it turns out that the speed of publication was too often at the cost of the quality. Let us be clear already: it is a book set that should be present in all geological libraries in central Europe (and elsewhere), but there are many shortcomings that must be ascribed

to insufficient time that was devoted to the preparation of this work. A first, but important, shortcoming is that the area covered changes from chapter to chapter. It is mentioned in the Introduction that central Europe is considered in these books to comprise Austria, Belgium, the Czech Republic, eastern France, Germany, Hungary, the Netherlands, Liechtenstein, Luxembourg, Poland, Slovakia, Slovenia and Switzerland. This is a remarkable list, for no geographer would consider Belgium, Luxembourg and the Netherlands as central European countries. And in various chapters other regions are included such as the Armorican Massif (p. 5), the Pyrenees (p. 555) and even Corsica (p. 60). The authors of the various chapters did apparently not receive clear instructions from the book editor what to include and what not, and this has, unfortunately, not been corrected during the editorial phase.

Before going into more detail about shortcomings and positive points of this work, it seems appropriate to pay some attention to the structure of the book. It was chosen not to handle the geology area by area, but per (large) time unit. Specific aspects that deserve extensive treatment get an individual chapter, immediately following the chapter to which the aspect belongs. So has Volume 1 the following 12 chapters (after acknowledgments and a 5-page list of contributing authors): (1) Introduction and Overview, (2) Precambrian, (3) Cadomian tectonics, (4) Cambrian, (5) Ordovician, (6) Silurian, (7) Caledonian tectonics, (8) Devonian, (9) Carboniferous, (10) Permian, (11) Variscan events, and (12) Palaeozoic magmatism. An index (covering both volumes) follows. The second volume, which shows that both volumes should be considered as an integrated entity, as shown by ongoing chapter numbers and even ongoing page numbers!, includes the following chapters: (13) Triassic, (14) Jurassic, (15) Cretaceous, (16) Permian to Cretaceous tectonics (apart from the Alpine realm), (17) Palaeogene and Neogene, (18) Alpine tectonics of the Alps and Western Carpathians, (19) Alpine tectonics north of the Alps, (20) Quaternary, and (21) Fossil fuels, ore and industrial minerals. This volume contains the same index as Volume 1 (which is a great help), and is supplemented

with a CD containing a map (1:2.500.000). It is clear from the above that particularly the main tectonic phases are considered of great importance, and this seems justified considering their influence on the present-day occurrence (particularly at the surface) of most rock units from the various times.

The various chapters are each subdivided into sections devoted to a specific area. It is obvious that not all chapters can follow the same subdivision into areas, as rocks from a specific period are not present in each of the areas. Yet, the choices of the areas seem not to follow any logical scheme. Rather they have been chosen by the various authors, which resulted in an almost equal number of different approaches. Not really amazing, as some chapters have been composed by a large number of authors. This lack of a general approach avoids, however, that the reader can follow the geological development of a specific area by going to the relevant sections from chapter to chapter. In other respects, however, there is extremely good information about developments in time, for instance in the form of the positions of specific areas (or continental masses) on a global scale. Figures 2.5, 2.6, 2.7 and 2.8, for instance, provide a wealth of information about continental drift in the Precambrian.

There are more positive points to mention: the chapters dealing with the successive periods first provide a general overview of the development of sedimentation in the light of global, regional, and local events. We find here introductory information, remarks on the lower boundary, palaeoclimate regimes and palaeogeographical setting, sea-level changes, stratigraphic background, various geological events (e.g. mass extinctions, volcanic activity, rifting, local tectonics); then they do so for the various (not consistently chosen) smaller geographic/palaeogeographic units. These units consist mostly of sedimentary basins. The chapters subsequently provide more details about the sedimentary formations; it would have been logical if this were done for each of the main sedimentary basins, but unfortunately this is done more commonly by country. Charts, tables and maps provide a sound basis for further interpretations of the sedimentary and tec-

tonic history, and this is commonly well done. It is even one of the best aspects of the work. The explanation of the sedimentary and tectonic history in terms of modern plate-tectonics knowledge is a second good point, and the presentation of the state-of-the-art of current investigations is a third one. The summaries that are given at the end of each chapter should also be considered of great value, as they help to get a good overview in a simple way.

Although many detailed descriptions of the numerous subsections are very concise, clear and informative, there are also considerable (and too many) shortcomings, for instance in the form of inconsistencies, incomplete data, and ambiguous phrases. To mention just a few: the area of central Europe is different in every chapter; the stratigraphy of the Jurassic is described as geological events with their sedimentological consequences (Denmark), as lithostratigraphical units with their interpretation (Netherlands), and as chronostratigraphical units with their lithology and interpretation (Germany, Poland). This makes the geology of these areas almost incomparable. Another shortcoming is the highly insufficient treatment of some important aspects. The section (p. 1041) on palaeomagnetism in the Chapter on the Palaeogene and Neogene comprises only one sentence: "Palaeomagnetic results from this area have been presented by Kuhlmann (2004) for the Pliocene of the central North Sea". The same chapter (but the same holds for other chapters) is inconsistent in its approach. It states, for instance, that the "Neogene development can be subdivided into four phases (Figs 17.5, 17.6 & 17.7)" but Figure 17.5 shows the chrono- and biostratigraphy, Figure 17.6 the lithostratigraphy, and Figure 17.7 the palaeogeography, all without any subdivision into phases!

Such inconsistencies show a lack of editorial supervision (and correction). This is also shown in the captions of figures. A caption "Photograph of" (Fig. 3.20) is, to say it neatly, the text of an unexperienced author. Even worse is that some figures have incomplete or misleading legends (e.g. Figs. 13.38; 14.12, 14.13 & 14.13; 17.7; 19.32). The lack of thorough editing becomes also visible in the terminology. Litho- and chronostratigraphic

terminology are frequently mixed up, even on the backside cover. Moreover, numerous sentences are grammatically incorrect, such as the sentence "and the surface geology is probably better known than anywhere else in the world" (Introduction). Such a sentence may be understandable, but particularly from a high-reputation publisher such as the Geological Society of London, one might expect more careful desk editing.

Of course, editing a massive work like this cannot be done without some mistakes. But it seems that many problems result from the exceptionally large number of authors from numerous countries (for example, Chapter 17 has been written by 46 authors). They make reading and understanding the contents somewhat difficult in places. This is also because general stratigraphic names and local names are too frequently mixed up. On the other hand, so many authors also have an advantage: they show a wide variety of ideas, methodological concepts, research approaches and degrees in their development, which is also very interesting.

A chapter that got, justifiably, a special approach is Chapter 20 (Quaternary). It presents the history of the latest glaciations, separately for the northern part of central Europe and the Alps, in a concise and interesting way. The first area is subdivided into glacially affected and periglacial environments. Detailed examples of the development of sedimentation come, however, from Germany only and they are not compared with other areas, which is regrettable and a missed chance. In contrast, the extensive and satisfactory description of the Quaternary volcanic activity is far better than in any other chapter.

Also special is the last chapter, which provides an overview of the most important mineral deposits in central Europe. The description is arranged chronologically, starting from the Variscan cycle. Fossil fuels, ores, sulphates, salts and other useful mineral deposits are classified and discussed in terms of their basic characteristics and origin. Genetic questions are well explained in the context of plate tectonics and regional events.

In general, the work is an interesting, up-to-date summary of the evolution of central Eu-

rope, showing not only the geology, but also the wide spectrum of 'geological schools'. Taking into account the numerous aspects mentioned above, it can be recommended for professionals, and to a lesser extent to students. One may hope that the book sells so well that a second edition will be prepared. More atten-

tion should then be paid to consistency and editorial accuracy.

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