



Journal of Sedimentary Research

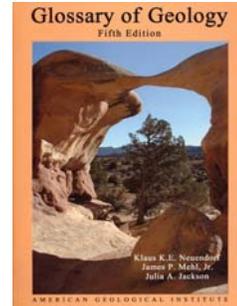
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Glossary of Geology (5th ed.), edited by Klaus K.E. Neuendorf, James P. Mehl Jr. & Julia A. Jackson, 2005. American Geological Institute, Alexandria (VA), USA. Hardcover, xii + 779 pages. Price USD 99.95 (AGI members USD 79.95). ISBN 0-922152-76-X. Also published by Springer Verlag, Haberstrasse 7, 69126 Heidelberg, Germany. Price EUR 99.95; GBP 77.00; USD 93.95. ISBN 3-540-27951-2.



The 4th edition of this glossary, edited by Julia Jackson, has served as some kind of standard work for almost a decade (it was published in 1997). Progress in the earth sciences goes so fast, however, that it can only be welcomed that a new, enlarged edition has been made available now. This new edition comprises some 3600 new terms (which brings the total at about 39,300!), whereas some 13,000 entries have been updated. Many definitions include a syllabification guide and background information, as well as helpful resources for a variety of problems, such as look-alike pairs (e.g. the mineral sylvanite vs. the rock type sylvinitic). The reference also indicates the origin of terms, the meaning of abbreviations and acronyms common in geoscience vocabulary, dates of first recorded usage of a term, prefix meanings, as well as the preferred term of two or more synonyms. The number of mineral names has been increased by about 1,000, to a total of over 5,300; their formulas are expressed now in a way that conveys information about the mineral's chemistry and structure, as well as its composition.

It is hardly surprising that all this work could no longer be achieved by Julia Jackson on her own. It has, in my opinion, been a wise decision to extend the editorship to three persons, and even these three editors would not have been able to cope with all the new developments without the help of more than 100 expert volunteers.

In the preface to this new edition, Klaus Neuendorf shows to be well aware that a volume like this cannot be perfect, asking the readers for additions and corrections. This raises the question of whether additions and corrections are needed, indeed. Asking this question is answering it: of course, additions and corrections are needed. It is, obviously, impossible to state how complete and correct the glossary is. Reading it completely and refereeing it in detail would imply that this review could be written only at a time when the 6th edition would be close to its publication! The degree of completeness and correctness can, therefore, only be estimated on the basis of some random tests. Carrying out such tests gives much pleasure, if only because one's eye is always attracted to other terms, so that automatically much is learned about topics that one has hardly ever heard of.

With respect to possible additions: these are, by definition, countless. Which minerals should be included on the basis of which criteria? I missed my "favourite" mineral pseudostilpnomelane, but I can hardly blame the editors for not including it. Much more serious is the omission of the term "soft-sediment deformations," as these play an increasingly important role in sedimentology, paleogeography, paleoseismicity research and comparable fields. No wonder that specific (relatively rare) soft-sediment deformation structures such as the gravifossus and the rocking hole are not included either. Browsing through the volume leads, however, to the conclusion that important omissions are truly scarce.

The question of whether an entry needs correction is more difficult to answer. One of the statements from the editors is that the terms included are dealt with according to North-American usage (unless otherwise noted). This is a somewhat strange statement in itself, because science communication should be unambiguous, and I'm sure that the editors do, in their statement, not refer to spelling. Terminology should, in my opinion, not play a role either, so what kind of North-American usage could be different from usage elsewhere in the world? It seems much more important to emphasize that the usage of terminology may differ between the various earth-science disciplines. So is the entry "Old Red Sandstone" described as "A thick sequence of nonmarine rocks ...". The term "sequence" is used in a context like this commonly by structural geologists, sometimes by stratigraphers, but it should not be used here by sedimentologists, who should—instead—use the term "succession" because the term "sequence" has a completely different sedimentological meaning. It is unfortunate that no attention is paid to such terminological aspects.

In other cases, entries have outdated descriptions. The term 'seismite', for instance, is described as "fault-graded beds that are interpreted as an earthquake record or "paleoseismogram" (Seilacher, 1969)". Already for a long time, the term is used for a layer that has been deformed in a non-lithified state as a result of an earthquake-induced shock. This is distinctly different from a fault-graded bed (which is an unfortunate term in itself). The (more or less) diagnostic criteria for the recognition of seismites are, unfortunately, not mentioned.

It is, in my opinion, only logical that omissions and imperfect descriptions can be found in such a work. It is not always clear, however, whether such omissions or imperfections are just a 'slip of the pen' or whether the editors have deliberately neglected current debates. I'm inclined to believe that the latter attitude has played a role. As an example, the Quaternary is described as "... Also the time during which these rocks were formed, the Quaternary Period, covering the time span between 1.75 Ma and the present." This description totally neglects the heated debates that have arisen—and that can hardly have escaped the attention of anybody in the earth-science community—after the proposal by the International Commission on Stratigraphy of the International Union of Geological Sciences to abandon the Quaternary as a separate period. Moreover, the description is in contradiction with the age of the lower boundary of the Quaternary that is commonly adhered to nowadays.

It seems to me that this is one of the few truly shortcomings that the editors are responsible for. Of course, there are more: why is—in the (43 page!) list of references cited the work by Van Straaten to be found under the letter V, whereas the work by Von Zittel is present under the letter Z? More small inconsistencies are, obviously, present, but few are truly annoying.

This leaves the question of the presentation of the book. The publisher can only be congratulated with it. The heavy book is well-bound and will probably survive even frequent consultation for many years. The text is printed almost without errors (I found only one (in the Introduction, where it is explained that the abbreviation "palyn" is used for the—apparently new and interesting—earth-science discipline of "palynology"), on paper that makes reading easy, also in a room with artificial light. A final aspect to be mentioned concerns the illustrations. I can be short about them: they are absent. This is understandable for far more than 99% of the entries, because illustrations would not add much information, while the volume would grow even thicker. There are, in my opinion, several entries that might have gained considerably by adding a small sketch.

The most remarkable with respect to the publisher(s) is that the book nowhere shows an ISBN. This is the more remarkable, because the book itself mentions that it is published by the AGI (and AGI provides on its website information that the ISBN is as quoted in the heading of this review), whereas also Springer mentions this book as "our new publication", with another ISBN (also quoted above). The confusion becomes still larger if it is found that the Springer price in euros is considerably higher than the AGI price (and Springer mentions even two different prices: EUR 106.95 and EUR 99.95), but that its price in American dollars is lower! Potential buyers would therefore be wise to contact both AGI and Springer to inform about the price.

Considering the wealth of information in this giant volume, and considering the relatively rare omissions and imperfections, I think that the price is certainly not too high. I will personally

frequently use it (and I did so in the past few weeks), but I can imagine that the book is probably too expensive for private use. Libraries that already have the 4th edition and that have noticed frequent use of it, should certainly buy the new edition: it contains sufficient new and updated material for such a decision. Libraries that did not buy an earlier edition now have the chance to buy this impressive new edition that should get a place where it can be consulted easily, quickly and frequently.

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