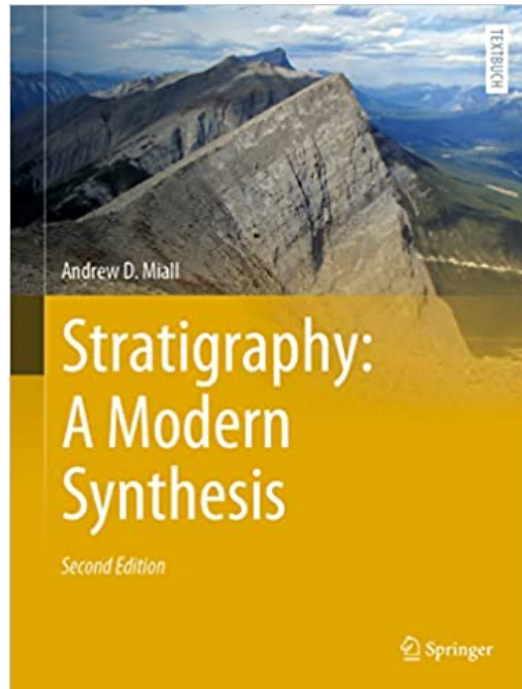


New book by Professor Andrew D. Miall



This advanced textbook and research-level text was first published in 2016. The second edition has just been published and is available in hard copy, or as an e-book. Individual chapters may also be purchased separately in digital format.

The impetus for writing this book was twofold. As an instructor, I was not satisfied with the textbooks available for teaching stratigraphy and sedimentology and set out to correct that. Secondly, recent advances in several important areas, including sequence stratigraphy, basin analysis and geochronology convinced me that the time had come to demonstrate how stratigraphy had become a fully-integrated discipline. The second edition includes new work in all these fields, and in particular, serves to summarize the research that has been underway recently on the issue of “strata and time.”

Table of Contents:

1. The scope of modern stratigraphy,
2. The stratigraphic-sedimentologic data base
3. Facies analysis
4. Facies models
5. Sequence stratigraphy
6. Basin mapping methods
7. Stratigraphy: the modern synthesis
8. The future of time

Chapter 1 includes a history of the development of the major concepts in stratigraphy and sedimentology, and a description of the types of projects that graduate students and professionals

may encounter. In the introductory Stratigraphy-Sedimentology course I taught until 2019 I would cover the material in Chapters 2 to 4, with an introduction to Chapter 5 and an introductory version of Chapter 7 (which deals with geochronology, including an introduction to biostratigraphy). My senior undergraduate course on basin analysis dealt with Chapters 5 and 6 in more detail, plus material not dealt with in this book on the tectonics of sedimentary basins and the geology of petroleum.

Chapter 8 includes the results of research by myself and colleagues (see references to recent publications below), which has confirmed long-held suspicions that the stratigraphic record is very fragmentary, but that careful attention to the field context of the rocks, particularly preserved sedimentological details, can lead to highly sophisticated reconstructions of stratigraphic processes and geologic history. This chapter is written at an advanced level, and may be considered a jumping-off point for various strands of graduate research.

Recent research

- Bhattacharya, J. P., Miall, A. D., Ferron, C., Gabriel, J., Randazzo, N., Kynaston, D., Jicha, B. R., and Singer, S., 2019, Balancing sediment budgets in deep time and the nature of the stratigraphic record: *Earth Science Reviews*, v. 199, 102985, 25 p.
- Holbrook, J. M., and Miall, A. D., 2020, Time in the Rock: A field guide to interpreting past events and processes from siliciclastic stratigraphy: *Earth Science Reviews*, v. 203, 103121, 23 p.
- Miall, A. D., 2015, Updating uniformitarianism: stratigraphy as just a set of “frozen accidents”, in Smith, D. G., Bailey, R., J., Burgess, P., and Fraser, A., eds., *Strata and time: Geological Society, London, Special Publication 404*, p. 11-36.
- Miall, A. D., 2016, The valuation of unconformities: *Earth Science Reviews*, v. 163, p. 22-71.
- Miall, A. D., Holbrook, J. M., and Bhattacharya, J. P., 2021, The Stratigraphy Machine: *Journal of Sedimentary Research*, v. 91, p. 595-610.