

## Gillian R. Foulger, Donna M. Jurdy (eds): *Plates, Plumes and Planetary Processes*

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The first thing which needs to be noted about this volume is that although it is presented as a record of the 'Great Plume Debate' in 2005, in Fort William, Scotland, the original plan was to publish a special issue of *Chemical Geology* containing ~20 papers on 10 themes pertinent to the debate, with each theme having a plume sceptic and plume advocate paper. However, as detailed in Campbell and Kerr (2007) the editors of this Special Paper decided late in the day to renege on this agreement and publish their own volume. The original *Chemical Geology* special issue was still published (*Chemical Geology*, 241, issues 3–4, 2007) but only one group of plume sceptics had the courage of their convictions to contribute a paper. This special issue is as valid a record of the Fort William meetings as 'Plates, Plumes and Planetary Processes', but the Editors of this book somewhat disingenuously and, it has to be said, ungraciously, make no mention of the *Chemical Geology* special issue in their Preface. I would therefore urge everyone who reads *Plates, Plumes and Planetary Processes* to also read the *Chemical Geology* special issue.

*Plates, Plumes and Planetary Processes* is a weighty tome that runs to almost 1000 pages and is divided into the following main sections: plates and plumes; mantle convection and seismology; heat and temperature; geochronology, hotspot fixity and reference frames; oceanic melting anomalies; continental melting anomalies and planetary evolution. Although this book purports to represent both sides of the debate, it is clear that most of the papers are from the plume sceptic side of the debate, a feature which is

unsurprising given the fact that many of the leading plume advocates chose to publish their papers in the special issue of *Chemical Geology*. This is however, not a criticism, per se, of *Plates, Plumes and Planetary Processes*, merely an observation. The main criticism I have of this book is that it is a half to a third thicker than it really needs to be. It is fair to say that the papers in this volume are of highly variable quality: there are good number of papers which are very pertinent to the 'Great Plume Debate' and are sufficiently broad to be of international interest and will be well cited. On the other hand, the volume also contains a number of papers which are of a very parochial nature or, are based on a limited amount of data, and would have been unlikely to have been published in a major international journal. I feel that the editors have done this volume a disservice by not being more selective over the contributions. I can't help but wonder what the rejection rate was for papers submitted to this volume, but I suspect it was significantly less than the ~40% rejection rate of many international earth science journals.

An interesting feature of the volume is that when the finalised manuscripts were posted on the web, people were invited to comment on the papers and the authors encouraged to write a reply. These comments and replies are published in the volume. While this is a novel initiative (in recent times at least) and a good idea in principle, my distinct impression is that it has not worked as well as it might have done, and would have benefited from more rigid editorial control. There are two main issues in this regard: Firstly, restrictions should have been placed on the number of papers that each individual could comment on. As it is, one particular individual has commented on almost a third of the papers in the volume (a significant number of these comments are well outside their own subject area and so are not particularly authoritative and, more worryingly, sometimes misrepresent information). Indeed, the cynic in

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me wonders if the idea for this feature of the volume actually came from this individual. Secondly, I feel that each commenter should have been restricted to one comment per paper and the author to one reply. As it is, some papers have a set of two to three comments from one individual with each having a reply from the author. Unfortunately, this scientific 'ping-pong' of claim and counter-claim has, in most cases generated a lot of heat and relatively little light or insight. Furthermore, it looks like some of the comments have undergone little in the way of *external* peer review, other than that provided by the editors.

The lasting worth and usefulness of this volume is difficult to call and, as noted previously, a shorter more succinct volume would, I feel, have worked much better.

There is much hype on the GSA bookstore website about this volume, and some rather grandiose claims made about it, many of which are essentially unwarranted. However, I have no doubt that this will be a useful reference volume and so I would encourage you to get your librarian to order a copy but, to paraphrase what Dr Johnson said about a possible visit to the Giants Causeway in the 18th century: 'worth reading, yes, but not worth buying to read'—particularly at a price tag of \$180 for non-GSA members.

### Reference

Campbell IH, Kerr AC (2007) The great plume debate: testing the plume theory. *Chem Geol* 241:149–152