The Origin of Mountains. Cliff Ollier and Colin Pain. Routledge, London. October 2000. 368 pp. Price: US $ 49.95 (paperback).

Mountains intrigue and inspire earth scientists and laymen alike. If you enjoy mountains, you will enjoy this book too. It is a thought-provoking work by two well-known geomorphologists, who discuss and describe mountains from all over the world and all tectonic settings. Their main message is that (i) in fold belts, the folding and rock deformation have nothing to do with mountain building; (ii) the production of mountain topography is a much later event than rock deformation; (iii) the cartoons abundant in many textbooks and research papers, depicting a lithospheric slab subducting beneath another plate and thereby causing both folding of rocks and mountain formation are completely unrealistic; and (iv) folding and rock deformation are always followed by peneplanation, then uplift of the peneplain produces a plateau, and it is the erosion of such uplifted plateaus which produces mountain topography. Thus, mountains appear to be due to 'epeirogeny' followed by erosion, and not by 'orogeny' – the latter etymologically means mountain formation, but has largely been applied to folding and rock deformation.

The book has thirteen chapters: 1, Introduction; 2, Simple plateaus and erosional mountains; 3, Fault block mountains; 4, European mountains; 5, Western North America; 6, The Andes; 7, Asian mountains; 8, Mountains with gravity structures; 9, Volcanoes and granite mountains; 10, Mountains on passive margins; 11, Plains and planation surfaces, drainage and climate; 12, Problems of mountain tectonics; 13, Science and the origin of mountains. The book is rich in illustrations, with a nice colour photograph of the Chilean Andes on the cover and numerous black and white photographs inside, which are mostly clear. The line drawings and geographic maps are all quite clear and neat, though a weak point and a somewhat substantial one, is that many of the geographic (location) maps do not show either a scale (e.g. figure 4.23), or latitudes and longitudes (e.g. figure 3.4), or both (e.g. figures 4.17, 11.23). In such a situation a reader unfamiliar with that particular area may find it difficult to grasp its exact location and extent, and thereby the arguments of the authors. Some vertical profiles of local areas (e.g. figures 8.2, 8.8) do not have the trend of the profile (N-S or E-W) or the depths/heights of the sections shown. Line sketches of Mt. Snowdon (Wales) (figure 2.13) and Stone Mountain (Georgia, USA) (figure 2.21) do not convey to the reader an idea of their size. This nice work would have been even better had the line drawings been without these flaws, though of course there are many line drawings here that do not have these shortcomings.

The authors' arguments are based primarily on geomorphologic evidence from mountains, but nonspecialists in geomorphology could also learn a lot here. Several related topics in geomorphology (planation surfaces, drainage patterns, etc.) are described, with worldwide examples. A useful index and a bibliography of well over 400 references (up to year 2000) are given. The authors should consider a glossary of technical terms for future editions.

I have a few more criticisms besides the one about the line drawings, and these relate to some minor errors and some of the interpretations. For one, the authors observe (chapters 7, 8) that many major rivers in fold belts follow the axes of anticlines, and argue that the anticlines may have formed *after* the formation of the river valley, due to isostatic uplift resulting from river erosion and gravity unloading. I am not convinced that this is so for every river following the axis of an anticline. As I understand it, folding at shallow depths produces brittle deformation in the form of pervasive cleavage parallel to the axial plane of a fold, and on large regional anticlines such cleavage could well lead to selective fluvial erosion, downcutting and the production of a major river valley. The authors refer to the Mexican volcano Popocatépetl (misspelt as Popacatapetl) as extinct (chapter 5), but Popocatépetl is quite active; the other two large Mexican volcanoes Pico de Orizaba (Citlaltépetl) and Iztaccíhuatl are inactive. In fact, in the Nahuatl language of the Aztecs, Popocatépetl means 'smoking mountain'. And strictly, Mexico is a part of North America, not Central America (though the *Journal of South American Earth Sciences* from Elsevier includes papers on Mexican geology!) Furthermore, the volcano Oldoinyo Lengai (chapter 9) is in Tanzania, not Kenya. Coastal monoclines on passive margins (chapter 10) are not all with gentle 2° dips – the Panvel monoclinal flexure of the Deccan Traps on the western Indian coast, for one, shows dips of 18° or more.

I share the authors' view expressed in the Preface: 'Sadly, in our opinion, Earth Science has become too concerned with theory, models, and dogma . . . . We hope, in our small way, to encourage people, from students to professionals, to have a new look at mountains, without reference to pre-conceived theories, but with attention to what can readily be seen.' The last chapter is about theories and bandwagons, the neglect of landscape evidence in prevalent models of mountain formation, and orthodoxy and disregard for ground truth. The authors feel (pp. 300–301) that 'plate tectonics as a general principle has been enormously helpful in many aspects of geology, but its practitioners have neglected the ground surface, and have often been uncritical in their time scales . . . we are not totally converted to the religion [plate tectonics]. You can believe what you like, but please don't send missionaries!'

In summary, with its few weaknesses, I find this book worth its price because of the scientific material and good production. It is a work worthy of careful reading by everyone interested in and impressed by mountain landscapes, and it is a work which deserves a place in every Earth Science library.

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International Relations and Global Climate Change. Urs Luterbacher and Detlef F. Sprinz (eds). MIT Press, c/o Triliteral LLC, 100 Maple Ridge Drive, Cumberland, RI 0284-1769, USA. 2001. 343 pp. (paperback).

This volume is a 'critical review of the social science and international relations literature on the climate change issue'. The aim of the authors, drawn mostly from the fields of law and political science, is