LITERATURE

Hungarian Geographical Bulletin 59 (2) (2010) pp. 231–233.

Kenneth J. Gregory: The Earth's Land Surface. SAGE Publications, London, 2010. 348 p.

There has been a marked specialization in geomorphological book publishing in recent decades. The contents of university text-books are increasingly different from those of handbooks and monographs. The former tend to focus on evolutionary concepts, systems operation and interaction rules, methodology (primarily interdisciplinary approaches) in an easily digestable form, while the latter remain to be the sources of facts, descriptive data on geomorphic processes and landforms. Ken Gregory's text-book for undergaduates is a reference book of a particular kind. In the Preface author explains the paucity of illustrations, which is obvious from the first sight (in spite of some interesting colour plates towards the end). He claims that most of the figures, charts and maps necessary to understand the basics of geomorphology are now available for students through 'googling' on the world-wide web. Consequently, there is no need to publish all of them as a hardcopy any more and, thus, more space can be devoted to the verbal explanation of regularities which are not always clear and coherent enough in the entries of Wikipedia or other common electronic sources of knowledge. (It may be remarked, however, that other authors feel the opposite way and do their best to block verbalism for the sake of a wealth of illustrations in our age of visual culture.) It is remarkable that author does not even refrain himself to refer to Wikipedia for additional information, a practice often criticized. However, there would have been even more opportunities to direct readers to web sources giving URL references. After each chapter thought-provoking questions offer topics for discussion.

Anyhow, in Chapter 1, a historical review of the discipline entitled "Visualizing the land surface", nobody lacks figures but one finds several tables, a mode of transmitting information particularly favoured by Professor Gregory. The total number of tables, which in other books are applied to provide quantitative information, amounts to 81 here but not more than 24 of them serves the above purpose, the overwhelming majority are for summarizing, sytemizing and comparing theories (e.g. the historical evolution of geomorphological thought), methods (like dating techniques), views as well as environments, geomorphic processes, landforms and everything else. They are often not really tables but information boxes – although in the present book this category is reserved for the presentation of major figures in geomorphology and the related disciplines. (The inclusion of some great scientists outside geomorphology, like Charles Darwin, is certainly justified. His microgeomorphological field experiments, however, should have been mentioned.) In an undergraduate text-book the concepts central to the discipline have to be formulated clearly. The present volume also excels in this respect. The distinction between erosion and denudation, however, is not expressed successfully. The systems theory and the ecological approach is manifest in every chapter (for instance, in the treatment of fluvial processes referring to the river continuum, serial discontinuity and other concepts). One of the most important tables, number 2.5, is a very useful summary of author's views on paradigm shifts. The debate on the significance of extreme events is presented through meaningful case studies. On other occasions the tabulated data, however, are not absolutely correct. For instance, the list of leading geomorphological

journals does not show the year when the Zeitschrift für Geomorphologie started (new series in 1957) and the French Géomorphologie: relief, processus et environnement appears under its old name, Revue de Géomorphologie Dynamique.

In subsequent chapters it is evidenced again that geomorphology is not only a science of space but also of time – and the latter aspect raises the really serious problems (e.g. dating various processes). Later on it is emphasized that a crucial property of environmental change is its rate as it controls human adaptation. The treatment of geomorphic environments and processes is balanced – although author is slightly biassed towards fluvial and anthropogeomorphology. (A remark on the use of the adjective 'anthropogenic': it had been used by German scientists before it spread in the Russian literature.) In the section on karst processes minor misspellings occur (Kweilin instead of Guilin, lapis instead of lapiés). Table 5.9 is a brave attempt to present most recent directions in environmental modelling – treated with criticism.

In Part III landscape evolution is introduced in a state-of-the-art systems theory approach. A novel appreciation of the impacts of the last glaciation arouses the readers' interest. With a strong focus on authors from the English-speaking world, an intention to give credit to scentists from other regions, also to Russians and even to Eastern Europeans (e.g. the Polish school of periglacial geomorphology) is traceable here. When permafrost sensitivity to climate change is investigated, the use of internet sources is encouraged. The palimpsest analogy of Olav Slaymaker is borrowed to shed light on the complexity and paradoxical nature of periglacial studies. The inheritance of Pleistocene landforms, vegetation sequences as well as human impact are also described systematically. Dealing with arid environments, it is emphasized that dust transport is much more important in geomorphology than previously thought.

Part IV is on the geographical zonality of geomorphic processes in a historical perspective. (Unfortunately, the pioneer of vertical zonation studies, Alexander von Humboldt, is left without mention.) The treatment of geomorphic processes by climatic belts instead of their origins indicates that author turns away from rigid process geomorphology. The description of geomorphic processes in the various belts begins with polar regions. (Vatnajökull in Iceland mentioned on p. 167 is not a valley glacier but an ice cap – as it appears correctly some pages later.) Some results of latest research are also included, e.g. on the subglacial drainage systems of Antarctica. Less convincing is the chapter on temperate environments but this is explained by their transitional character. (The Vistula River is not typically a river of the maritime province.) In the humid tropics weathering processes are highlighted. Table 10.2 is a comprehensive summary of all terms related to the savanna landscape.

It must have been a demanding task for Professor Gregory to present the urban landscapes in the slightly more than 20 pages of Chapter 11. However, he manages at least to define the most important terms as well as to present the problems of cities in a broad perspective within this limited space. The perception of the urban environment and the processes shaping it are different from those in all other landscapes. A special attention is paid to urban hydrology, the creation of impervious surfaces, stream channelization, and their ecological consequences. The opportunities for urban water management are also presented in a well-constructed table. Chapter 12 is on the future of the discipline and highlights basics in environmental auditing, Environmental Impact Assessment, land evaluation and geomorphological design (soft engineering). This is an appropriate end to a book which is comprehensive in its topics, logical in explanations but at the same time easy to read for both undergraduates and the interested public. A true reflection of Prof Gregory's professional enthusiasm and rich experience.

Dénes Lóczy