

23 (Tobin and Montz) addresses human vulnerability to natural hazards and shows how technology helps in both research and policy of hazard risks.

The last section, Part V, is a summary focused on technological issues and society. Chapter 24, by Jerome Dobson, describes trends and ideas about future societal implications that applications and science in GIS may bring to the community. The closing chapter (Chapter 25, by Michael Curry) discusses a very important, albeit usually considered straightforward question: Is technology a necessary element of geography? This closing chapter concludes with the assertion that one should be careful that technology does not obscure the way in which geographic questions are asked.

Overall, the book is well edited and I could not find any major editorial mistakes. The sequence of chapters is coherent and, in general, they are fluently read. The book provides innovative research as well as comprehensive review works. It is especially interesting that this collection covers a wide array of technologies that affect geographic ideas and knowledge and it is not solely focused on geographic information technologies, although these do play an important role in the book.

Geography and Technology can be useful for geography students and scholars, as it summarizes today's insights on technologies that have had and will have a strong impact on geographical issues from the end of the twentieth century and onward. This book can also be a valuable source for professional geographers who are interested in the potential use of technologies in geographical fields.

REFERENCE

Haggett, P. (2001) *Geography—A Global Synthesis*. Harlow, UK: Prentice Hall.

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SCALE AND GEOGRAPHIC INQUIRY: NATURE, SOCIETY, AND METHOD edited by Eric Sheppard and Robert B. McMaster. Oxford: Blackwell, 2004.

The volume *Scale and Geographic Inquiry*, edited by Eric Sheppard and Robert B. McMaster, joins a group of publications that rethink basic concepts in geography. It focuses our attention on the concept of scale, traditionally presented in introductory textbooks as one of the basic concepts of the discipline. In the introductory and the concluding chapters, the editors set forth the argument for a reconsideration of the concept of scale, along with some generalizations concerning the place of scale in contemporary geographical analysis. The middle chapters set out to explain how scale is treated in various geographic sub-disciplines, from physical to social to cyber-geography. The editors argue that the concept of scale has received a renewed

attention in the past year, mainly because of new research techniques and differing practices in physical and human geography.

Traditionally scale has been understood mathematically in the context of cartography. Recently, though, the concept has been used in three additional ways. Operational scale is used to investigate the logical scale in which certain geographical processes take place. For example, there are geographers who argue that the city is no longer the relevant scale for studying the search for work; rather the metropolis has become the proper scale for the understanding of labor fields. The concept of scale in spatial resolution deals with the extent of basic study areas, a question that has become crucial in GIS studies. Last, scale may relate to the level of the regionalization of any geographical investigation.

Another tradition about scale is that it has been perceived within the framework of hierarchy theory. In many cases the concept of *Holons*, vertically and horizontally ordered, have been introduced. Holons are the parts that constitute the whole on a higher level in a hierarchy, and at the same time the wholes of Holons in lower hierarchical levels. This study assumes that phenomena can be separated into distinctive time-space scales, that different processes may operate on different scales, and that multi-scalar analysis may improve our understanding of geographic questions and that it has the potential of simplifying the complexity of the world. In such analyses it is assumed that processes on a higher scale are slower and more widely spread, and may therefore be treated as constraints. Processes on a lower scale are so capricious, quick and local, that they may be treated as noise. However, geographical problems may be analyzed concurrently on three different scales, juxtaposing the impacts of more or less local forces, each within the context of its own independent logic.

Current discussions on the topic of scale highlight the different approaches prevalent in physical and human geography. The papers on physical and bio-geography in the volume tend to adopt traditional concepts of scale, emphasizing the better explanations that may be achieved by means of the concurrent analysis of three scales with sophisticated methods involving such tools as hierarchical regression and chaos theory. The papers on human geography call for a reconceptualisation of traditional definitions in several ways. First, systems on all scales are socially constituted and defined; they are also dynamic and exposed to frequent change. Therefore, scales cannot be predefined *a priori*; boundaries between scales should be determined as part of research conclusions. Second, they demonstrate how Holons in different scales have relatively open boundaries, being exposed to multiple internal and external influences. Therefore, Holons should be treated as complex, unstable, and self-organizing systems. As open and self-organizing systems, the hierarchical order of scale may collapse in such a way that any scale may be affected not only by adjacent scales, but also by any Holon at any scale.

These conclusions have far-reaching impacts on studies of scale. Scale is no longer considered in a descriptive research context, but as a basic explanatory principle of geographic processes. Forces at different scales must be considered in understanding

such phenomena as glocal lifestyles in human geography or tele-connections in climate analysis. Scaled orders can no longer be treated as stable, but rather as unpredictable and changing. Change may be measured in terms of relative significance, spatial extent, and temporal stability. Research methods such as changing fractal relations and bifurcation analysis in chaotic systems are suggested in order to deal with such complexities.

The editors recommend trying to reunite physical and human geography around the concept of scale, suggesting that physical geography may gain from the new insights projected into our understanding of scale in human geography. They also believe that such a reunion invites a return to observational research supported by quantitative methods, permitting the study of chaotic and dynamic complex systems by means such as GIS and remote sensing. The focus on scale in all four senses of the concept, representing both patterns and processes may improve our understanding of geographic phenomena.

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DISPUTED TERRITORIES: LAND, CULTURE AND IDENTITY IN SETTLER SOCIETIES Edited by David Trigger and Gareth Griffiths, Hong Kong: Hong Kong University Press, 2003.

Cultural geography has come to the fore of interdisciplinary research in the social sciences. Its argument, that culture assumes spatial dimensions tightly connected to a 'sense of place', has become the platform of many disciplines, such as history, anthropology, literature, culture and art studies. It deals with place as the cornerstone of the concrete values, representations of landscape and the environment. The individual or the group are familiar with the place, and have an important role in shaping identities. The new approaches expose 'ideological sediments' buried in the landscape, and refuse to look at it as 'natural'. The renewed iconography approach sets the way to observe landscape as a multi-layered text. The scholars see the essence of the landscape as historically and geographically contingent and its importance is anchored in the symbolic and the representational, as well as the material. Consequently, its duty is to study the production of space from a critical point of view, especially, when the subject revolves around contested landscapes and ethno-hierarchical societies.

Disputed Territories fits into this theoretical framework. It focuses critically on constructing identity in settler societies in the Southern Hemisphere. The colonial histories created complex hybrid identities as an outcome of settler and indigenous cultural confluence. This book is an assembled collection of chapters that, when read together, make explicit both the sharp differences and the overlaps between set-