scrutiny, editing and processing. In spite of these limitations, the editor deserves congratulations for bringing out this book in quick time. This volume is a valuable addition to ophiolite literature and is strongly recommended for procurement by all earth science libraries.

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CONSTRUCTION AND DISPLAY OF GEOSCIENTIFIC MAPS DERIVED FROM DATABASES. Compiled by R. Vinken, Reihe A, Geologisches Jahrbuch, Heft 104, (1988), pp. 1-474.

This volume published from West Germany contains the proceedings of the International Colloquium held at Dinkelsbuhl/FRG in December, 1986. The papers presented include contributions from the working groups of different disciplines (geology, geomorphology, soil sciences, ecology, computer sciences, communication engineering, remote sensing and cartography) under the project 'Digital Geoscientific Maps' as well as papers of invited speakers from several countries. 41 papers included in this volume deal mainly with geoscientific maps, cartography, environment, information systems and computer-aided modelling of geoobjects for generating various types of maps.

The objectives of the 'Digital Geoscientific Maps'—a research project of the Deutsche Forschungsgemeinschaft (German Research Foundation), as understood from the many papers published in this volume, is to build up a 'digital basic map' from which any specific map or thematic map can be derived and it is mentioned that the map itself functions as a documentation system. It is also possible to produce a 2-dimensional map and cross-section from a 3-dimensional geomodel. The application of artificial intelligence machines has no doubt marked rapid strides in the evaluation of databases to produce geoscientific base maps as parts of an information system. But Renier Vinken (an acknowledged leader of a team of scientists in FRG, working on concepts and methods of computer-aided construction of geoscientific maps), who has compiled this volume, strikes a note of caution by stating that the quality and efficiency of some of the systems become rather weak after a close examination and testing. He mentions that some of these systems originally started from digitized conventional maps or rasters of remote sensing pictures and not from 3-dimentional spatial models, which are in most cases, the geo-reality. However, the rapid advances in the development of CAD software for the geoobject modelling have resulted in making the complex or laborious work easier,—such as producing fence diagram, block diagram, panel box diagram and utilization of borehole data for making slice maps etc. Other interesting papers relate to the use of shaded volume models as a tool for the display of geological data to understand the geometric features of geological objects; use of 3-D raster and raster graphics for modelling complicated subsurface geological features; use of advanced raster techniques for preparation of geological maps and land-use planning maps; and, feasibility of an image processing strategy combined with digital cartography to produce 'Spectral Maps' having a wide variety of

applications—e.g., evaluation of hydrothermally altered areas and possibly associated ore deposits marked by Fe^{2+}/Fe^{3+}, OH^- CO_3^{2-}, SO_4^{2-} and H_2O. Another interesting paper is on the assessment of the mineral resource potential of the Northern Fennoscandia using qualitative data integration techniques. This volume is, therefore, informative as it covers a wide spectrum of topics related to earth sciences. In a way, it presents the state-of-the-art on the subject in which very limited progress appears to have been achieved in India.

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GEOLOGY OF HIGHER CENTRAL HIMALAYA. Edited by Anshu K. Sinha, Wadia Institute of Himalayan Geology, Dehra Dun. A Wiley Interscience Publication, John Wiley and Sons, (1989) pp. 1-219. Price $ 220.

Authored by an active Himalayan geologist, this reference work gives a detailed account of the geology of one of the most inaccessible areas (above 3000-4000 m) in Higher Central Himalaya. The monograph is an outgrowth of work done by the author in southern Lesser Himalaya, particularly in the Shimla-Solan region of Himachal Pradesh. Since the inception, Wadia Institute of Himalayan Geology has been organizing expeditions—multidisciplinary and multi-institutional in the earlier stage—to explore the unknown regions of the Higher Himalaya. These expeditions were later followed by solo excursion of the author to the inaccessible zone behind the Nanda Devi (7820 metre) massif, identified as the priority area, for the only notable information from this region was available from the works of C. L. Greisbach (1891), and Arnold Heim and Augusto Gansser (1939).

The monograph is divided into 10 chapters, besides an exhaustive list of references and an index. Sketches, panoramas and maps are kept in three slip-cases. Chapter I provides description of cultural and historical backgrounds of the region called 'Uttarakhand', where are located many centres of pilgrimage and the highest peak of India, Nanda Devi. There are also accounts of climatic condition, flora and fauna as well as of glaciers and the drainage pattern. Chapter 2 presents, in brief, the historical background of researches carried out since 1842 up to the present.

Chapter 3 brings out the geological work done in the Lesser Himalaya, Himadri and Tethys Himalayan zones—in Kumaun as well as the Shimla hills of Himachal Pradesh, where the concept of nappe and thrust tectonics was first introduced. The Vaikrita Group of the Great Himalaya has been differentiated in five different valleys, bringing out three distinct phases of magmatic emplacement in the high-to low-grade metamorphics. A new biostratigraphic column highlighting and incorporating testimonies of scolecodont, acritarch, coccolith, dinoflagellates and other—mega and microfossils is presented for the Tethyan zone. The discovery of a new stratigraphic horizon in the Palaeozoic time-span, the extention of the age of uppermost (Cretaceous) flysch to Eocene, and a new tectonic interpretation backed