

Gletscherforschung am Nanga Parbat 1856-1990 by Wilhelm Kick1990. Publisher Wissenschaftliche Alpenvereinshefte Heft 30, Herausgegeben vom Deutschen Alpenverein, München, 1994 (153 pp) DM 36.00 ISBN 3-928777-01-7

Document Version

Final published version

[Link to publication record in Manchester Research Explorer](#)

Citation for published version (APA):

Braithwaite, R. J. (1998). Gletscherforschung am Nanga Parbat 1856-1990 by Wilhelm Kick1990. Publisher Wissenschaftliche Alpenvereinshefte Heft 30, Herausgegeben vom Deutschen Alpenverein, München, 1994 (153 pp) DM 36.00 ISBN 3-928777-01-7. *Journal of Quaternary Science*, 13(2), 182-183.
<http://onlinelibrary.wiley.com/doi/10.1002/%28SIC1%291099-1417%28199803/04%2913:2%3C182::AID-JQS354%3E3.0.CO;2-A/full>

Published in:

Journal of Quaternary Science

Citing this paper

Please note that where the full-text provided on Manchester Research Explorer is the Author Accepted Manuscript or Proof version this may differ from the final Published version. If citing, it is advised that you check and use the publisher's definitive version.

General rights

Copyright and moral rights for the publications made accessible in the Research Explorer are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Takedown policy

If you believe that this document breaches copyright please refer to the University of Manchester's Takedown Procedures (<http://man.ac.uk/04Y639>) or contact uml.scholarlycommunications@manchester.ac.uk providing relevant details, so we can investigate your claim.



in the introduction it becomes clear that the new version of the book has a more global perspective than the first one, and in subsequent parts it has included more information and comments on other parts of the World, in particular the USA and Great Britain, whereas the information on Germany has been reduced.

The book is subdivided into three sections.

After short introductory chapters on evidence of ice ages in the Earth's history and causes of ice ages, section I, General Quaternary Geology (pp. 11–51), deals with Glacier Dynamics.

A subsequent general section (section II, pp. 53–223) on Quaternary Deposits and Landforms deals with various terrestrial and marine environments and is concluded with a chapter on methods of investigations used with glacial and interglacial deposits. This last chapter includes texts that in the previous edition were spread over various parts, and further, additional investigation methods have been added. As a consequence the whole of section II has become more complete and easy to overview.

Section III (pp. 227–443) on Quaternary Stratigraphy starts with two short chapters on Principles of Stratigraphy and Dating Quaternary Deposits. The latter gives a perusal of the more common, non-biological methods. The concentration and inclusion of this information in two introductory chapters has led to a well structured and easily accessible section. The remaining chapters of section III have maintained the comprehensive, very informative, step-by-step perusals on the Quaternary glaciations and warm stages of northern Europe and the Alps. It is a pity that there are no maps to guide the reader to the many localities mentioned in relation to the various Quaternary Stages; and a map to show the extension of various stages of the glacial development in the Alps is wanting.

In the German book there was a short chapter on local glaciations in central Europe. This chapter has been omitted in the English edition, and instead a ca. 50 pp. chapter on the Quaternary of North America is included. As a parallel to the European chapters, this chapter has its emphasis on the formerly glaciated, rather than the periglacial, parts of the continent.

The outline of History of the Rivers has been changed considerably. From being a thorough, and unique, perusal of the developments of 12 large central European rivers and their tributaries through time, it now includes only the Danube and the Rhine from central Europe. Instead the Thames, some Siberian rivers and the Mississippi are dealt with.

The subsequent, and final, chapter on loess has its focus on central Europe, and includes a brief international outlook to America and Asia.

The reference list is very comprehensive and has grown from ca. 1500 to ca. 2200 titles. This is due mainly to more non-German references; also the Index has become even more impressive and useful with more than 3000 entries, and it seems to work well.

The format of the bound book is standard handbook size, yet it feels a bit to the heavy side. The reproduction of some figures would have benefited from a better paper quality, which should have been a possibility considering the price of the book.

It is fortunate that this textbook, section III in particular, is now available to the English reading part of the scientific geo-community, where it fills a gap in the European Quaternary and glacial geology. Its inclusion of developments in other parts of the World puts the central European developments in perspective, and the author – and the translator –

are to be congratulated on the result of their efforts. At the same time, it is regretful that the English edition has lost some of the real thrust of the original version by leaving out much of the specific information on central Europe contained in the first edition (the local glaciations and in particular the development of the central European rivers). This part I deemed to be of particular value to those non-German speaking readers, who are interested in classical European studies, because so much of the information contained in it is based upon literature in German.

This leads to a more general reflection: One may wonder how language barriers can be overcome and 'local' information made more generally available. The international scientific language is English, and usually non-English speaking authors submit to this rule and publish their major results internationally. There are still large amounts of data, however, that are not adequately accessible. In relation to information from Germany, for example, a book on the Quaternary of that country (Benda, 1995) was distributed internationally to the participants at the INQUA congress in Berlin 1995. A unique opportunity for a country to distribute such a high quality, relevant, up-to-date, elaborate account of its research to the international community, and thereby stimulate international scientific interaction. The text was in German.

References

- BENDA, L. (Ed.) 1995. *Das Quartär Deutschlands*. Gebrüder Borntraeger Berlin, Stuttgart. 408pp.
 EHLERS, J. 1994. *Allgemeine und historische Quartärgeologie*. Enke. 358pp.
 KOLSTRUP, E. 1995. *Allgemeine und historische Quartärgeologie*. *Journal of Quaternary Science*, **10**, 4, 403–404.

ELSE KOLSTRUP *Physical Geography*
Institute of Earth Sciences
University of Uppsala
 Sweden

Gletscherforschung am Nanga Parbat 1856–1990

WILHELM KICK

Publisher Wissenschaftliche Appenvereinshefte Heft 30, Herausgegeben vom Deutschen Alpenverein, München, 1994 (153 pp) DM 36.00 ISBN 3-928777-01-7

This is a remarkable book, despite its anonymous and rather unattractive field-grey covers, which make it look like an 'expedition report'. It describes nearly a century and half of research by mainly German-speaking glaciologists around Nanga Parbat in the upper valley of the River Indus, Pakistan, which is still one of the least accessible areas of the world. The initial date 1856 in the title refers to the pioneer visit to the Nanga Parbat region by the remarkable Schlagintweit brothers Herman (1826–1882), Adolph (1829–1857) and Robert (1833–1885) from Bavaria. Their observations provided a background for detailed surveying in 1934, which produced a 1:50 000 topographic map by terrestrial photogrammetry, repeated in 1954, 1958 and 1987, and supplemented with photographs taken by various mountaineering expeditions. The final date 1990 undoubtedly signals

the end of Wilhelm Kick's active research on these glaciers. However, it is obvious that the author wants to inspire others to carry on the research into the future and, not least, to provide them with useful archival information.

The layout is rather systematic, proceeding from the general to the more specific. The work starts (section 1) with a few remarks on global glacier variations in general. A discussion then follows of the peculiarities of glaciers in the Asian highlands, as typified by Nanga Parbat (section 2), glacier variations in the region (section 3) and a glacier inventory (section 4). There are then (section 5) detailed descriptions of the eight most important Nanga Parbat glaciers. The work concludes (section 6) by comparing the secular and decadal variations of the glaciers and suggesting that recent fluctuations of glaciers in Nanga Parbat have been more variable than in the Alps.

The main interest of glacier research in Nanga Parbat is that, thanks to Dr Kick and the many investigators to whom he refers, this is one of the better studied parts of the enormous ice masses of the Asian mountains. According to the World Glacier Inventory (Haeberli *et al.*, 1989), Pakistan and India alone support a glacier cover of 40 000 km², and Asia as a whole may account for nearly one-third of the total glacier cover outside of Greenland and the Antarctic. Asian glaciers are therefore of global interest. According to Dr Kick's glacier inventory, the Nanga Parbat area alone contains as much glacier ice volume as Austria, and nearly a third as much as Switzerland, and Nanga Parbat glaciers therefore have a local and regional importance. The most depressing fact of modern glaciology is that we know a lot about a few small glacier areas, and very little about much bigger areas.

One of the main peculiarities of glaciers in Nanga Parbat is that they are nourished mainly by avalanches from the steep surrounding topography rather than being fed by a large accumulation area, where firn is slowly transformed to ice as in most Alpine glaciers. This type of glacier was termed a *Kesselgletscher* or, in English a *kettle* or *cauldron* glacier, by the Schlagintweit brothers in the last century. However, I must admit that this term finds no resonance with me, possibly because both glaciology and cookery have changed in the last 150 yr. Modern glaciologists are now more broadminded about how glaciers should be nourished or, alternatively, the concept of avalanche-fed glaciers is now so well accepted that the analogy with an obsolete cooking pot is not as vivid as it was. However, potential reconstructors of Quaternary climates, and scientists who want to apply remote sensing methods, should be careful how they apply the concept of snow- or firnline to such glaciers. For example, accumulation area ratios (AARs) may be much smaller than the usual range of 0.5 to 0.7 found on European and North American glaciers. Another peculiarity of these glaciers is the enormous thickness of debris, which inhibits ablation and modifies the advance-retreat cycle as exemplified by debris-free glaciers.

The book is well illustrated, with many dated photographs and sketch maps, and future visitors to any of the glaciers described should be able to find out easily what has already been measured and where. The author has made a great effort to dig up many otherwise obscure references, and the work has obviously been a labour of love. However, some of us are not very familiar with the general geography of the Himalaya, and I would have valued a simple map showing political and hydrological divisions, e.g. as in Gardner (1986). In view of the high quality of the contents, the publishers could have furnished a brighter cover, and a

list of the other 29 volumes in the series, of which this is the 30th, would also have been interesting.

The main readers of this book will be German-speakers with a taste for scientific history and exploration, but it will also be essential reading for anyone planning long-term glacier monitoring in the Asian highlands. With a little bit of ingenuity, it ought to be possible to match modern techniques of remote sensing and surveying to the older data described by Dr Kick so that future glacier variations around Nanga Parbat can be related to a 1934 (or even 1856) datum. This will be of great value in studying the large glacier variations that may occur in the coming century due to expected global warming.

References

- GARDNER, J. S. 1986. Recent fluctuations of Rakhiot Glacier, Nanga Parbat, Punjab Himalaya, Pakistan. *Journal of Glaciology*, **112**(32), 527–529.
- HAEBERLI, W., BÖSCH, H., SCHERLER, K., ØSTREM, G. and WALLÉN, C. C. (eds) 1989. *World Glacier Inventory. Status 1988*. IAHS(ICS), UNEP and UNESCO.

ROGER J. BRAITHWAITE
Department of Geography
The University of Manchester
Oxford Road
Manchester M13 9PL
England

Glacial deposits in north-east Europe

JÜRGEN EHLERS, STEFAN KOZARSKI and
 PHILLIP GIBBARD (eds)

Publisher A. A. Balkema, Rotterdam, 1995 (ix + 626 pp)
 £92.00 ISBN 90-5410-189-X

This is the third book on the Glacial Deposits of Europe edited by Jürgen Ehlers and colleagues and published by Balkema of Rotterdam. The first appeared in 1983 on the *Glacial Deposits in North-west Europe*, followed in 1991 by a volume on the *Glacial Deposits in Great Britain and Ireland*, and all three volumes have the same format with multiple contributors presenting papers on aspects of glaciation and glacial deposits of particular regions, printed on A4 size pages, with abundant diagrams, high quality photographs, some of which are in colour, and a comprehensive reference list (40 pages in this volume) and index. Like the earlier books this is expensive, but Balkema do offer a very substantial discount to members of appropriate academic societies such as the QRA and DEUQUA, and members of these societies should look to their newsletters/circulars if they wish to purchase this text.

The seeds of this book were sown in the mid-1980s, but development was retarded by the political situation in eastern Europe, where access to many important Quaternary sites was prohibited, and the study of glacial deposits was restricted to a limited number of individuals for economic or strategic reasons. With the collapse of the Berlin Wall on 9 November 1989 the region gradually became accessible to scientists from other parts of the world and most important, scientists from 'Eastern Block' countries were able to com-