

***Arbeiten aus Nepal. Erwin Schneider zum Gedächtnis*, edited by the Arbeitsgemeinschaft für Vergleichende Hochgebirgsforschung. [Series] *Hochgebirgsforschung (High Mountain Research)*, vol. 9. Innsbruck: Universitätsverlag Wagner 2004. ISBN 3-7030-0390-1. 180 pp., 27 maps and figures, 18 plates, 3 fold-out figures, 8 tables and 5 map supplements.**

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Eighteen years after his death in 1987, a few months after his 81<sup>st</sup> birthday, the Austrian mountaineer and mapmaker Erwin Schneider emerges as a figure of almost mythical proportions in the lore of Himalayan exploration. His portrait on p. 8 of the book shows a facescape as stern and craggy as the terrain that he loved to roam and made his life mission to survey. Those who knew him personally or collaborated with him remember him as a strong, resourceful, but unassuming personality. (The present reviewer had unfortunately only one encounter with him in Kathmandu in 1982.)

The Munich-based Association of Comparative Alpine Research brought out this book to commemorate the man and his contribution to research on Nepal. It is a collection of articles focusing not only on Schneider's life and work, but also on the investigations that have benefited from his maps and aerial photographs. Most chapters are to a greater or lesser extent based on previously published material. The authors – anthropologists, geographers and cartographers from Austria, Germany and France, and most of them members of the Association of Comparative Alpine Research – belong to a circle of scientists who closely collaborated with Schneider, especially during the last decade of his life.

Robert Kostka, who assisted Schneider since 1981 and now carries on his legacy, certainly maintained the closest ties. He has contributed two chapters to this book: a biographical essay and a paper on the photogrammetric method used and further developed by Schneider. Both are excellent reading, not only because of Kostka's competence due to his professional training and intimate association with Schneider, but also thanks to the author's considerable stylistic abilities and wry Austrian humour. We learn that Schneider's life and work were determined by his unconventional lifestyle and abhorrence of any level terrain. Born in 1906 in what is today the Czech Republic but was then part of the Austro-Hungarian Empire, Schneider developed an early passion for mountaineering, which was so consuming that his father sent him to Berlin to study mining – far away from mountains and the distraction they might offer. However, he underestimated the iron will of his son – one of his defining characteristics

according to those who worked with him – and was, moreover, ignorant of the existence of the Academic Alpine Association of Berlin, of which Schneider immediately became a member. As a member of this organization Schneider participated, while still a student, in three major international mountaineering expeditions, and developed three main characteristics of his approach to mountaineering: his preference for extreme mountaineering, the combination of mountaineering with scientific activities, notably surveying and mapping, and the global sweep of his alpine pursuits. As a cosmopolitan mountaineer who loved to experience the extremes of terrain difficulty and endurance, Schneider climbed peaks in the Alps, the Himalayas and other mountain complexes of Central Asia, the Andes and East Africa. Many of them were in the 7000 m altitude range, and this earned him the nickname “Schneider of the seven-thousand meter peaks”.

His career as a mountaineer came to a sudden end in 1939 when he lost all ten toes to frostbite. He was, however, in no way subdued by this handicap, and launched with a vengeance on his career as surveyor and cartographer of extreme mountain landscapes and extreme altitudes. His interest had further been kindled by his association with the famous cartographer Richard Finsterwalder who introduced him to the method of terrestrial photogrammetry during the Alai-Pamir expedition of 1928. Schneider pursued a brief academic career as assistant professor at the Institute of Geodesy in Hannover and at the Institute of Photogrammetry in Berlin, but soon embarked on his career as a freelance surveyor and cartographer, hiring his services out to a variety of contractors, most importantly to the Austrian and German Alpine Associations. Contact with the Austrian Alpine Association led to his participation in the International Himalaya Expedition of 1955 under N.G. Dyrhenfurth and the production of the 1:25,000 Mount Everest map. This map immediately made him renowned as a specialist for mapping in the 8000 m region, and laid the seed for the production of the well-known Schneider Maps of East Nepal under the umbrella of the Nepal Himalaya Research Scheme directed by W. Hellmich from 1960 onwards. Participants in this enterprise, including Schneider, founded, in 1967, the Association of Comparative Alpine Research for the promotion of interdisciplinary research in mountains all over the globe.

Nepal, which Schneider had visited for the first time in 1930 as a participant in the Kangchenjunga expedition led by G. O. Dyhrenfurth, remained the focus of his work until his death, but he also carried out mapping in other parts of the world, e.g., on Mount Kenya and in the Andes. Terrestrial photogrammetry was increasingly supplemented and eventually replaced by aerial photogrammetry. Aerial photographs were utilized by Schneider for the first time in the production of the 1:50,000 Khumbu Himal map of 1965, and became a major data source for his map-making from 1971 onwards, when he shot the aerial photographs for his set of

1:10,000 maps of the Kathmandu Valley. In the years following the Kathmandu Valley flights, Schneider developed his own system of surveying – the famous “Schneider System” – which involved the simultaneous use of Hasselblad cameras for vertical and oblique photography, and was applied intensively from 1981 onwards. Another special feature of this system was the use of colour film, which provides a much better basis for the interpretation of aerial photographs. In this last period of his career, Schneider worked for the multidisciplinary Nepal Research Programme of the German Research Council, producing large-scale study maps and surveying cultural sites, such as the stupas of Swayambhunath and Bodhnath in the Kathmandu Valley.

Three contributions to this book are by members of the team of the geographer Willibald Haffner who cooperated very closely with Schneider under the aegis of the Nepal Research Programme, namely Willibald Haffner himself, Ulrike Müller-Böker and Perdita Pohle.

Haffner’s article deals with Schneider’s cartographic legacy. He explains the specific qualities that set Schneider maps apart from other products, and gives valuable information on the enormous physical and analytical effort that went into producing them. He also discusses why accurate maps are such a crucial element for research on geomorphology, vegetation cover, settlement patterns, etc. To this list, one should add research on land use change, such as that carried out by Johannes Ries (1994) in the context of his studies on soil erosion in the Sherpa village of Bhandar. Ries devoted himself to comparing land use at the time of his own earlier fieldwork with the land use pattern of 1965, which had been recorded on a Schneider base map by W. Limberg. In elucidating the significance of the Schneider maps for research in Nepal, Haffner raises the intriguing question of the influence that these maps had on the choice of sites for research. He provides evidence that in many cases, site selection was guided by the availability of the highly accurate Schneider maps, most significantly in the Mt. Everest region, which is one of the most intensively researched areas in Nepal. A table on p. 32 lists the researchers and authors who have relied on the two Schneider maps of this region for their own work. Seen in this light, Schneider’s contribution to research in and on Nepal has been much more than just providing maps that could then be used by scientists. It also consists in guiding or “luring” research to areas for which his maps were available, thereby contributing to the emergence of regional research foci. Later in his life, as a member of the Nepal Research Programme, Schneider assumed a different and more auxiliary role by supplying large-scale maps of pre-selected study sites.

Perdita Pohle’s focus is on the potential and value of the aerial photographs taken and left to posterity by Schneider. This is done in the context of a broader discussion of the role of air photo interpretation for geographical research in high mountain areas in an age where satellite imagery provides the bulk of remote sensing data. She comes to the

conclusion that the value of air photos lies in the fact that they still provide more detail and precision in the large-scale range, especially in mountainous terrain, where the oblique photographs by Schneider to supplement vertical photography are capable of recording features that other devices cannot capture. Her discussion of Schneider's survey techniques repeats some of Kostka's elaborations, but adds a valuable list of Schneider's survey flights in Nepal. The second part of her paper contains exemplary interpretations of three aerial photographs – both vertical and oblique, but of different locations – based on research for the author's doctoral thesis (which, however, does not appear in the reference list) on the adaptation of people in Manang district to the conditions of a high mountain environment. Her interpretation of the aerial photographs, which are juxtaposed on the same page and completed by beautifully executed interpretation sketches, is rich in detail obtained through field research and from secondary sources, albeit somewhat descriptive and static. Instead of presenting the reader with a fully prepared set of image content, a more interesting alternative could have been to let the reader partake in how the mind of a geographer, who is confronted with such images, actually works: how structure and pattern lead to recognition or speculation, and eventually to ground verification. It would have been especially interesting to set side by side oblique and vertical photographs of the same location in order to highlight how these complementary elements of the much-praised "Schneider System" actually complement each other. To sum up, a rather process- than content-oriented approach to air photo interpretation would have made the case study component of this otherwise well-prepared contribution more instructive.

From among the members of the Haffner team, it is Ulrike Müller-Böker who has worked with Schneider maps and photographs most extensively. Her article provides a summary of the many ways in which her work has benefited from, or contributed to, work by Schneider. It begins with her studies of Newar settlements in the Kathmandu Valley, which utilized the layout plans of settlements from the 1:10,000 Kathmandu Valley map; continues with her work based on the large-scale Gorkha-Sirdi Khola study map – the first of a series of study maps that provided the basis for various mapping exercises, such as the recording and mapping of place names or the mapping of the distribution of ethnic groups and castes; and concludes with an analysis of aerial photographs supplied by Schneider to the author in 1983 and 1984 for her study of the ethnoecology of the Tharu people in Chitwan. In contrast to most other contributions to this book, Müller-Böker's article allows for an occasional surfacing of the human qualities of Schneider, e.g., his habit of signing his letters with the motto "forget me". This captivating detail is reminiscent of another self-effacing Austrian mountaineer/cartographer, Peter Aufschnaiter, who preferred to blend in, rather than stand out from, the setting of Central Asia, and who (misrepresented in the Hollywood movie "Seven Years in Tibet", by the way)

acquired fame beyond the inner circle of alpinists only due to his being associated with Heinrich Harrer. It should be added that Aufschnaiter's early attempt at mapping the Langtang Himal area was taken up and brought to conclusion by Schneider and his successors (see below).

The value of aerial photographs documenting large-scale objects and their particular importance, once taken in a time series and interpreted for an understanding of dynamics and change, is beautifully demonstrated by Corneille Jest's contribution on settlement development around the stupa of Bodhnath. Based on Schneider's aerial photographs of 1971 and 1986 and on Jest's intimate familiarity with this place, which supplements observations up to the year 2002, the article paints a picture of chaotic growth generated by the religious significance of the place, the influx of Tibetan refugees from the 1950s onwards and their economic success, as well as by the basically unregulated nature of urban development in the Kathmandu Valley as a whole. Jest's short essay is like the tantalizing sketch of an expert draughtsman, that begs to be executed in more detail by a thorough study.

Several contributions refer to the problem of recording place names and rendering them correctly in a map. In particular, the articles by those members of the Haffner team who had been actively engaged in such work, and the article by the co-authors of the Langtang Himal map discuss the difficulty posed by those names which are collected in a multilingual – and even multiscriptural – setting. This is also the topic of the paper by András Höfer who collaborated for many years in the preparation of Schneider maps. He pleads for a uniform system of transliteration of place names on the basis of the Devanagari script and with the help of local informants. The procedure proposed by Höfer appears complicated and time-consuming; the practicability of his suggestions, however, has in the meantime been confirmed by the new series of Nepalese maps of the Eastern Nepal Topographic Mapping Project, which have adopted a system of transliteration very close to the one advocated by Höfer.

Georg Miehe's annotated vegetation map of the Khumbu Himal highlights the importance of an accurate base map for vegetation research. A famous precedent is Carl Troll's vegetation map of Nanga Parbat, which had been drafted onto the 1:50,000 map by Richard Finsterwalder and provided the model and inspiration for Ulrich Schweinfurth's vegetation map of the Himalaya. Miehe's vegetation map is superimposed on Schneider's 1:50,000 Khumbu Himal map, and was compiled on the basis of field research over two and a half months in 1982. The shortcomings of a vegetation map based – as far as visual documentation is concerned – on slides instead of air photos, satellite imagery or photogrammetric vegetation records is readily conceded by the author. However, this is more than compensated for by the extremely detailed description of vegetation types recorded on the map, and the competent analysis of their distribution and structure in the accompanying text. All this betrays the unparalleled field-experience of the

author not only in this region, but over many years in various locations of the Nepal-Himalaya and adjacent parts of Central Asia. It is to be regretted that the meticulous descriptions are not supported by photographs. A novel element is the representation of the distribution of lichen cover on a vegetation map, which reflects the author's interest in the indicator value of lichen, more fully elaborated in his book on the vegetation of the Langtang Valley (Miehe 1990).

Erwin Schneider was that rare phenomenon: a man on the threshold of technology change, who knew how to make the best of both worlds and act as a link between the ages of terrestrial and aerial surveying, combining in this process the prowess of the mountaineer with the sophistication of what in his time was high technology. Schneider was also on the threshold between the ages of mountain exploration and mountain research for development and conservation. Complex and physically challenging landscapes for the explorer or researcher, such as mountains where the third dimension plays an overwhelming role (as was fully recognized and systematically explored by C. Troll and his students), require a multidimensional approach in order to be perceived and comprehended. Schneider, who combined mountaineering and science as well as terrestrial and aerial photogrammetry and also recognized the importance of the fourth dimension by laying the foundation for multi-temporal studies through repeat photography, is a perfect example of this approach. His achievement was to create a combination of old and new technologies that was appropriate for the challenges of extreme terrain and the capacities of an underdeveloped country.

The combinatory character of Schneider's work, which has persisted beyond his death, is epitomized by the 1:50,000 Langtang Himal map. An initial survey had been carried out by Schneider in 1968, and the map was completed by his collaborators and successors in 1990. Kostka, Moser and Patzelt contribute a short article on this project and expound the difficulty of producing a map from non-homogeneous data from a border area. The map is based on photogrammetric measurements from the years 1970 and 1971 and Schneider's aerial photographs of 1974 and 1975, as well as on material compiled by those who stepped in when Schneider handed the map project over to the German and Austrian Alpine Associations. His successors added data from other photogrammetric surveys, official maps of Nepal and China, and space photographs from the NASA-Skylab 4 Mission of 1973. The work of integrating data from such diverse sources, a procedure that spans and incorporates three technology changes, was truly in the spirit of Schneider. Yet it proved so difficult and time-consuming that the authors feel prompted to describe their endeavour as a "horror without ending", in adopting one of Schneider's favourite sayings.

The book is lavishly endowed with maps and illustrations. Five maps (only four maps are listed on the cover page) have been added as a

supplement, namely the Langtang Himal map, Georg Miehe's vegetation map of the Khumbu Himal, two maps based on the first of the large-scale study maps (Gorkha-Sirdi Khola) produced in the last phase of Schneider's career, and finally a map of caste distribution in Newar settlements of the Kathmandu Valley. The most captivating illustrations in the text are, of course, the beautifully reproduced aerial photographs by Schneider himself.

A personality and career as unique and unconventional as that of Schneider deserved to be commemorated by a book with a more captivating title. "*Arbeiten aus Nepal: Erwin Schneider zum Gedächtnis*" is bland and only informative for the insider. Except for those already familiar with Schneider and his work, anyone chancing upon this title in a catalogue will get no clue as to who Schneider was or about the nature of his work in Nepal. He would quite probably pass it over. The book's preface expressly states that its aim is to publicize Schneider, his life and accomplishments for a wider circle of readers, directly defying his aversion to publicity. This aim has been well served by the excellent overall quality of this book, but may be imperilled by the choice of a title that is as unassuming as Schneider himself was throughout his life.

### References

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