

Reviews of Web Sites, Films, Books

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Web sites on ecotourism

Web surfers quickly discover that searching for "ecotourism" turns up a plethora of hits that feature individual destinations or groups of destinations. Although the vast majority of "ecotourism" sites on the Internet are commercial sites aimed at the prospective ecotourist, the following sites have items of interest to ecotourism managers, operators, and researchers.

www.ahs.uwaterloo.ca/rec/ecotour.htm

Paul F. J. Eagles, University of Waterloo (Canada), professor and Chair of the Task Force on Tourism and Protected Areas (IUCN Commission on National Parks and Protected Areas) has posted his 1997 paper "International Ecotourism Management: Using Australia and Africa as Case Studies." It provides a detailed analysis and a global overview of ecotourism dimensions, issues, and motivations at the time. This is a discussion of ecotourism in general, rather than mountain ecotourism.

www.bigvolcano.com.au/ercentre/ercpage.htm

This site bills itself as "a comprehensive guide to ecotourism practice, ecologically sustainable development and general tourism, and travel best practice management sites worldwide." It provides links to many ecotourism organizations (some in mountain areas), a group of Australian, Alaskan, and Latin American codes of practice, and opportunities for volunteering. The site concentrates on Australia.

www.ecoclub.com

Aimed almost entirely at operators and potential ecotourists, this site features ecotourism news, events, publications, trends, and statistics—with few specific references to mountains. It includes a booking facility for "ecolodges," many in mountain areas.

www.eco-tip.org

This is a bare-bones site with no fancy graphics, offering information in English and German. "Eco-tips" includes an extensive list of examples of sustainable tourism projects in Europe, some in mountain areas and some detailed with partners, objectives, and results obtained. A discussion of ecolabeling is presented. There is a very lengthy list of links, many with no further description or with brief descriptions in German. The site offers the opportunity to post projects of interest to other site users and a bulletin board for internship opportunities.

www.ecotourism-mountains.at

This site documents the September 2001 Ecotourism in Mountain Areas conference held in Salzburg as part of European preparation for the International Year of Ecotourism. Presented in English, French, and German, it includes a 5-page PDF file with conclusions from the conference: issues, concerns, and possible directions for ecotourism, with a main focus on the European mountain context. A brief but very well-organized list of links leads to other ecotourism resources, in categories such as best practice and mailing lists.

www.ecotourism.org

This colorful, quick, and well-designed site is the home of the International Ecotourism Society (TIES). Paid members can access newsletters, receive discounts on books, and be listed in the TIES directory. The site offers an ecotourism bookstore, access to courses for ecotourism operators and managers, information for travelers on how their travel choices make a difference, and a Speakers' Bureau. The site features several stories on mountain ecotourism, mountain travel, and mountain destinations.

www.mtnforum.org

The Mountain Forum's on-line library and reference database

offers 204 hits on ecotourism, from detailed "how-tos" such as "Evaluating Ecotourism Operators and Agents" to case studies, detailed policy documents, and explorations of legal issues.

www.planeta.com

Hosted by Ron Mader, a tireless journalist and on-line pioneer based in Mexico City, Planeta concentrates on nature- and culture-based tourism in Latin America. The site includes links to organizations in Mexico, Honduras, Costa Rica, and Ecuador. There is a bibliography of ecotourism guidebooks, directories, and monographs, many of which are reviewed by the site host. Articles by the site host review aspects of ecotourism in Latin America. An Ecotourism Forum is offered, although it does not yet appear to be extremely active.

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Videos

Leslie Taylor, Guest Editor for the Development section of this issue, asked Patrick McCloskey, a video producer based in Canmore, Alberta, in the Canadian Rockies, to review 2 films produced in India. Patrick McCloskey has won numerous awards nationally and internationally for his work dealing with themes of natural and cultural heritage. *Ed.*

Pastoral Politics: A Film on the Gaddi Herders of Himachal Pradesh

By Moving Images, New Delhi, India, 1997. Codirected by Sanjay Barnela and Vasant Saberwal. Duration: 29 minutes. Language: English and Hindi with English subtitles. Available in VHS cassette (PAL/NTSC) and VCD. US\$75 plus US\$15 shipping.

Pastoral Politics: A Film on the Gaddi Herders of Himachal Pradesh and *Turf Wars: Conservation Claims in the Great Himalaya National Park* (see below) are 2 thought-provoking videos from the New Delhi-based production company Moving Images. They provide sensitive and intelligent treatments of complex issues, in which the key players are given the opportunity to speak for themselves. The videos demonstrate the company's prime interest in producing films that deal with the interaction of the natural environment and human culture.

Pastoral Politics profiles the Gaddi herders of the mountainous Himachal Pradesh area of northern India. These people leave their villages annually to move their herds up to lush alpine meadows, often at great peril as they traverse glaciers and passes over 4500 m (15,000 feet). In autumn, they drive the herds down to farmland in the lower valleys where they have estab-

lished a symbiotic relationship with local farmers: the fallow fields provide grazing sites for the Gaddi's sheep and goats, and the animals prevent the grasses from overtaking the fields while they simultaneously provide free fertilizer for the farms. Profits from the sale of wool form the bulk of the herd owners' income. For many Gaddi families, this self-sufficient way of life goes back almost 200 years.

The trouble is, government officials from the Forestry Department complain that the herds have degraded the alpine meadows and have decided to restrict their access to the meadows, closing some land to grazing and reforesting it. However, an environmentalist argues that the government did not do an adequate study and has not proven that the herds damage the environment. He and others are suspicious that there is something else at work here: a viewpoint that they feel originated with the British and that is carried on by their administrative heirs, in which they see Gaddi herders and others of their ilk as throwbacks to an earlier time, practicing a way of life that should be ended. A historian at the Jawaharlal Nehru University says that the British view, which he claims is now held by the Forestry Department, is that:

work which did not add to the productivity of the soil is considered unproductive and therefore pastoralists [herders] were lazy, unproductive beings, whose way of life had to be transformed into productive individuals living within an ordered society.... Uncontrolled, untamed nature was the embodiment of primitive life. So if any way of life was subject to natural rhythms, that in itself was primitive. So a pastoral life, a forest life, which adjusted to the rhythms of nature, was essentially primitive in this conception, because it could not

express man's control and mastery over nature.

Indeed, as 1 government official says, the Gaddi will, with more training, see the light. "With more dialogue... [they will] certainly appreciate the good intentions of the government, and they will come into the mainstream and try to lead a normal life."

The Gaddi disagree. Despite the tendency of some young people to want to leave for more "modern" ways of life, many Gaddi are content with both the income and the lifestyle that herding affords them. They worry about losing their independence if they have to work for someone else. As 1 herder says about those who give up this way of life, "they'll become servants somewhere or will steal if they don't get work." They claim that the government can't give work to them all and fear the corruption that would see jobs going to the children of government officials and not to them. The film points out that the choice should be up to them and not be forced on them by a distant and apparently uncaring bureaucracy.

This is a story that has been told in many countries around the globe. It brings to mind, for instance, the Canadian government's efforts to put an end to the nomadic life of the Inuit of the Canadian Arctic by bringing them into settlements and the earlier measures to confine other First Nations peoples, many of them nomadic, in reserves, often with disastrous social results.

Elsewhere in India, too, the government has forcibly convinced nomadic people to abandon their way of life in the belief that it is unsustainable, only to find later that a settled community did far more damage because according to an environmentalist, "the ecosystems in which they were forced to settle can't take settled agriculture. And that is why they were 'shifting

cultivators' in the first place. So a possibly sustainable way of life has been changed to an unsustainable one.... We should learn from these failures and not attempt to do these kinds of forcible changes without really understanding the basis of the livelihoods, and what possibilities there are to help them to maintain those livelihoods while achieving ecological sustainability."

In a final plea, the narrator asks, "will we continue to assume that irrational, primitive herding practices must make way for the dictates of scientific forestry... and that in this day and age of fast-paced technology, we have nothing to learn from a traditional community that has been managing these lands for a lot longer than the scientific foresters who call for their displacement?"

Turf Wars: Conservation Claims in the Great Himalaya National Park

By Moving Images, New Delhi, India, 2001. Codirected by Sanjay Barnela and Vasant Saberwal. Duration: 39 minutes. Language: English and Hindi with English subtitles. Available in VHS Cassette (PAL/NTSC) and VCD. US\$75 plus US\$15 shipping.

Turf Wars is similar in tone and intent to *Pastoral Politics* (see previously), looking at the contradictions in policies that governments impose from a distance with little or no input from the locals who are most affected. It portrays the anger and confusion of people who have been making traditional use of the land for a long time and are then told that they no longer have the right of access to that land—with few if any backup plans to help them make a transition to another sustainable livelihood.

Like *Pastoral Politics*, this story takes place in the mountains of

Himachal Pradesh in northern India. The Great Himalaya National Park was established primarily for reasons that most of us would applaud: the protection and preservation of wildlife, some of which are famous and endangered, like the snow leopard. The park administrators feel they have to keep out villagers, whom they accuse of setting traps, in order to protect the animals. They also claim that sheep are trampling the vegetation in the park, ruining biological diversity, though, according to the video, there are no studies to prove that.

Locals, though, have long used the meadows in the area to gather herbs that are sold to India's burgeoning pharmaceutical and cosmetics industries. So rich are the meadows that a month's work can support a family for the year. The meadows are also used for grazing their herds of sheep and goats. The villagers vehemently deny setting traps, pointing out that the traps would ensnare animals in their herds and that they can ill afford to lose any of their flock. And they are angry that only a small percentage of the locals are getting compensated for their loss of livelihood and that most of the World Bank money that was supposed to be used to develop alternative employment was used instead to construct buildings in the park, buildings that were so poorly built that in many cases they were dilapidated before they could ever be used. No roads or other facilities that the villagers feel would be of use to them have been built.

The knife in the back for the locals, though, is another government project in the area: a hydroelectric development for which 10 km² of the park (an area that was prime habitat to an endangered bird, the Western Tragopan) was released. Villagers feel that the massive operation, with its heavy equipment, roads, and thousands of workers, will do far more to scare off the wildlife than their own activ-

ities ever could. An environmentalist claims that several smaller operations on the river, which would have far less impact, would deliver the same power as the larger project. Moreover, most of the construction jobs are going to workers imported by the construction company, rather than to locals who have already lost their livelihoods. The government is accused of sacrificing biodiversity for the cause of national development, while acting indifferently to the plight of the locals.

Tension between the park and the locals continues. Public protest by locals got the park administration to relax the rules and let them bring their herds back in for grazing; but a park official says that if the locals push too far, the park will bring in paramilitary personnel. But as a representative of the non-governmental organization "SAVE" says, "deploying paramilitary forces means you are regarding the people as enemies of the forests, whereas the strategy should have been to increase their sense of ownership of the forests.... You are talking of disengaging people from their livelihood sources. We believe that the way a fish relates to water, is the same way that people here relate to the forests. If you cut off their relationship with forests, it will be difficult for them to survive."

Again, India is not alone. The filmmakers are telling a story that has resonated in other parts of the globe: that of a distant bureaucracy, acting with the ostensibly good intentions of preserving land and wildlife, failing to take into account local needs. To use a Canadian example again, when the Forillon National Park was created in the 1970s, fishing families who had been in the area for generations were paid a pittance for their houses and were moved across the bay while their former homes were bulldozed. The administration then declared that the park's theme was "Man, the Land, and the Sea," rebuilt the houses at a cost 10 times

greater than they had paid for them, and hired the fishers back to work at the fish drying racks to demonstrate to visitors their former way of life.

Some lessons were learned in this, and the Canadian government has since made far greater efforts to take into account traditional use (and de facto stewardship) of the land. For instance, in Gwaii Haanas National Park Reserve off the west coast of British Columbia, the indigenous Haida people have been equal partners with the federal government in decision-making and operation and in the protection of land and cultural sites.

The stories in these 2 videos tell a cautionary tale of the requirement for government administrators, who are charged with the important task of protecting their country's ecodiversity, to be sensitive to and respectful of the needs and knowledge of local people who have lived in the area for generations and whose livelihoods are entwined with that environment. Both films raise interesting and important issues around the need to balance ecological concerns with traditional use and caution against top-down solutions that fail either to understand or to take into account either the local environment or lifestyles.

The videos are well shot and competently edited (and show those of us who have never been there the beauty of this mountainous area of India); but their greatest strength lies in their commitment to telling the stories of people who would not otherwise get an audience beyond their village.

The Web site for Moving Images is www.movingimagesindia.com.

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Books

Anti-environmentalism and Citizen Opposition to the Ozark Man and the Biosphere Reserve

By J. Sanford Rikoon and Theresa L. Goedeke. Lewiston, ID: Edwin Mellen Press, 2000. xvii + 207 pp. US\$89.95. ISBN 0-7734-7758-6.

Around the world, UNESCO has designated 411 biosphere reserves within the Man and the Biosphere (MAB) program; 157 of these are in mountain areas. As stated in the Statutory Framework of the World Network of Biosphere Reserves, they are meant to be "sites of excellence to explore and demonstrate approaches to conservation and development on a regional scale" (UNESCO 1995, p 16). In the current form of the concept the involvement of local communities is a key element in their designation and implementation, and many recently designated mountain biosphere reserves—as well as many nominations in progress—have been driven by local people's recognition that the area they live in is special. Increasingly, biosphere reserves are expressions of cultural identity, as well as areas of importance for the conservation of biological diversity, with potential for scientific research.

Rikoon and Goedeke's book is about a biosphere reserve that never came to exist in the Ozark Highlands of the United States, an area inhabited by people with a very strong sense of cultural identity. It is also an area with high biological diversity. In 1988, discussions began among the concerned federal and state agencies and the conservation nongovernmental organizations (NGOs) toward the nomination of the area as a biosphere reserve. In 1991 a feasibility study was undertaken, supported by a wide range of

sponsors, none of whom represented local stakeholders in the form of local government or NGOs. A telephone survey was conducted, and in late 1993 a public meeting was held. On the basis of the positive results, the nomination was further developed and in early 1994, was almost ready to be endorsed by the US national committee for the MAB program. In 1995 the person who had been the major proponent retired from the National Park Service. By the end of 1996 the nomination was abandoned; yet, public anger at a process that had been conducted with almost no public consultation led to both a backlash that put back environmental policies in the region and a draft legislation in the US Congress to ensure that no American soil would be designated under any UN program.

Leaving aside the somewhat surreal conspiracy theories about UN domination and Gaia worship that developed during a late stage in this process, this story provides many lessons for anyone who is planning any type of protected area, and the authors spell these out on pages 69–74, 100–110, 154–159, and 163–170. The process was exclusive and externally driven by the participating agencies, which saw the benefits of a biosphere reserve mainly in terms of increasing resources for cooperative scientific research. Local people were regarded as recipients to be educated in "sustainable" resource management practices rather than as partners. When the idea's main proponent, employed by a federal agency, retired, the process ground to a halt, and in the meantime, local people found out about it and perceived that it implied threats to their property, and potentially other, rights. In an area where alliances based on regional identity could have been a key element in the nomination, an effective lobby developed, using exactly the tools of public consultation and awareness—public meetings, diverse

media, and the then new Internet—that could have been mobilized to support the nomination. “Failure to reach out to the general public left [the proponent agencies] defending a dead program against a silent, but watching, Ozark audience” (p 108). Political pressure then led the agencies to completely withdraw their support; some denied they had ever supported the idea.

Rikoon and Goedeke place this detailed case study, based on a variety of sources, in the broader context of antienvironmentalism (or anticocracy). They point out that many people in the Ozarks support many of the ideals embodied in the biosphere reserve concept. But as they were barely consulted over the 6 years over which the nomination was developed—in spite of a strong recommendation to this effect in the feasibility study—they and their elected representatives found the idea of a biosphere reserve impossible to support when it finally became public knowledge. As one local journalist noted, even if the nomination had been endorsed by UNESCO, perhaps no one would have known that a biosphere reserve existed in the Ozarks. This is unfortunately the case for many of the world’s mountain biosphere reserves and the reason why a periodic review process was included in the Statutory Framework in 1995. Nevertheless, there are effective biosphere reserves, fulfilling the 3 functions of conservation, research, and (sustainable) development in many mountain areas, including the Appalachians of the United States (Peine 1999). The resource management literature is full of “success stories”—but not enough failures that we can learn from. This book presents such a failure very well. Though it seems to have been produced rather inexpensively, it is not cheap and is perhaps best recommended for library purchase. It is hoped that those concerned with both existing and new biosphere reserves—and other conservation

initiatives—will learn from the debacle in the Ozarks, an area with much potential where all could have gone right, but nothing did.

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Mountain Environments and Communities

By Don Funnell and Romola Parish.
London and New York: Routledge,
2001. xiv + 415 pp. £19.99. ISBN
0-415-181012-X (pbk); 0-415-
18101-1 (hbk).

Mountain Environments and Communities is a step forward in the treatment of mountains by academics for it enters the policy agenda and, at least in part, attempts to explore the international “corridors of power” that eventually led the United Nations to designate 2002 as the International Year of Mountains. It also aims to redress the physical geographic leanings of several earlier publications and much of the main body of mountain geographical research.

There have been only 2 previous attempts in the English language to produce a mountain geography text, as the authors indicate. Roderick Peattie published the classic *Mountain Geography: A Critique and Field Study* in 1936; Larry W. Price produced *Mountains and Man: A Study of Process and Environment* in 1981. Now, we have the current volume. Funnell and Parish refer to 2 other books that seek to encompass mountains worldwide (Stone 1992; Messerli and Ives

1997) but understandably set them aside because of the context of their production—as responding to a particular political agenda and severely constrained by time limitations. A further contribution is the excellent physical geography textbook *Mountain Environments* (Gerard 1990).

Funnell and Parish seek to distance themselves from Peattie and Price because of their supposed overwhelming physical bias, influenced by environmental determinism, and allude to Hewitt’s (1988) devastating criticism of Price. Nevertheless, Peattie’s book, at least for its time, reads as if written by a “well-rounded” geographer. In the foreword to *Mountains and Man* (1981) this reviewer wrote: “the nature of the work exceeds the capacity of one individual.” One could add that the nature of the task (a treatise on mountains) exceeds the capacity of 2 individuals, but more of that later. Nevertheless, both the Peattie and Price fore-runners, while very valuable in their time, are now well out-of-date, whereas the present volume is virtually up-to-the-minute.

Funnell and Parish divide their text into 4 parts. Part One, “The study of mountains,” outlines the evolution of geographical enquiry and shows how many of the various approaches emerged and came together for the Rio de Janeiro Earth Summit of 1992. Part Two, “The components of mountain environments and livelihoods,” contains 3 chapters, on the physical environment, the cultural framework, and the significance of the physical environment for livelihoods. Part Three is labeled “Mountains in transition” and includes 3 chapters, on environmental change, demographic transformation, and economic and political development. Part Four, “Mountain policy and intervention,” is devoted to deforestation and degradation, conservation, and policy and development issues.

Chapter 2, “The physical environment of mountains,” is an unfortunate hotchpotch and would have been better left unwritten. This criticism, of course, is the antithesis of Hewitt’s criticism of *Mountains and Man*, Hewitt citing the inadequacy of the “human” section in Price’s book, whereas I am concerned with the weakness of the Funnell and Parish treatment of the “physical” aspects in theirs.

Chapter 3 presents an outline of the framework of mountain cultures and is well written. Chapter 4 is a valuable contribution, as are Chapters 5–7. Chapter 8 is a perfunctory synthesis and discussion of the *Himalayan Dilemma* (Ives and Messerli 1989), although it does not wholly live up to its promise of introducing the more recent additions to this ongoing debate. The final chapters provide the reader with an account of the entry of the mountain issue into the political arena; this contains some misstatements and unfortunate biases.

At the outset the authors explain that their own experience has led to a strong emphasis on the European Alps, the Atlas, and the Himalaya. This is reasonable, even laudable, because mountains constitute an unnervingly large topic. The text does, moreover, include innumerable short commentaries, comparative descriptions, and references to mountain areas and problems worldwide. The book, however, is seriously marred by some very poor writing. There are many tortuous sentences, some unintelligible to this reviewer; the text needed more rigorous editing. There are also an alarming number of mistakes, slips, or misrepresentations that add to the editorial difficulties. Here are a few examples:

the IGU Commission on High-Altitude Geoecology, which led to the influential Man and the Biosphere (MAB) programme. The theoretical advances ... were not necessarily deep but

consisted of attempts to formalise some of the key relationships embedded in earlier notions (page 14)

[The IGU Commission did not lead to the initiation of MAB-6.]

The upper limits of tree growth (timberline) tend to be higher on continental interiors, partly as a result of the greater distance from sources of moisture. In many arid region mountains ..., therefore, a lower limit of tree growth occurs as a result of the increase in moisture up-slope compared with the more arid lowlands. (page 40)

Valleys perpendicular to prevailing winds, protected by a ridge, may be more fully sheltered than those perpendicular to the prevailing winds. (page 51)

the Inca and Aztec societies of the Andean range (page 77)

In the case of rainfall, the water arrives directly on the fields but must be carefully directed off the fields without inducing runoff. (page 123)

In the Andes, the seasonal nature of the growing period means that cultivation can occur continuously. (page 142)

Between 1950 and 1993, whilst population growth rates declined in the already urbanized zone of the Front Range [Colorado], the mountain areas have shown strong resilience to the vacillations of economic fortunes. (page 216)

For the Himalayas, Thompson and Warburton (1985b) suggest six solutions — ... and reclaiming the sediment islands deposited in the Bay of Bengal. (page 307)

[This is not a serious recommendation by Thompson and Warburton (1985).]

Members of the Agenda team had published widely with their concerns about how to tackle mountain problems (Ives and Messerli, 1989). However, the Agenda discussion side-stepped one of the most radical critiques of development in mountains, containing no direct reference to the seminal work of Thompson et al (1986). (page 344)

The ‘Agenda team’ was not formed until December 1990. Michael Thompson, Michael Warburton, and Tom Hatley are referenced extensively in Ives and Messerli (1989), and there is emphatic credit afforded to Michael Thompson in both the book’s Preface and Acknowledgements and in Ives and Ives (1987). Furthermore, I was personally responsible, as the editor of *Mountain Research and Development*, for ensuring publication of the 3 eminent papers that formed the core of Thompson et al’s (1986) contribution. The inference that this outstanding work has been “side-stepped” is misleading; personally, I find it offensive. Perhaps the reference is simply a misunderstanding because of ambiguous use by Funnell and Parish of the phrase, “members of the Agenda team.”

Funnell and Parish provide very few illustrations; in this sense their presentation compares unfavorably with that of Larry Price. Furthermore, for the most part the reproduction of their photographs is conspicuously substandard. Even the nice cover photograph is tilted.

It is reassuring to see that the quarterly journal *Mountain Research and Development* and *Mountains of the World: A Global Priority* (1997) have been used extensively, as well as the numerous publications of Martin Price (no relation to Larry Price) and his coauthors and coeditors.

The list of references included in the book is very extensive and especially valuable.

In conclusion, I must express disappointment. The most serious gap in mountain studies—a treatise on the human geographic aspects of mountains—has not been filled. Funnell and Parish have stumbled heavily by producing vapid and sometimes alarmingly superficial “physical geography” that is far inferior to the work of either Price (1981) or Gerrard (1990). If mountains are to be seen as an important part of our terrestrial environment, any attempt to analyze their fascinating cultural, socioeconomic, and political realities requires a first-class “physical,” or natural science, base.

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Llamas, Weavings, and Organic Chocolate: Multicultural Grassroots Development in the Andes and Amazon of Bolivia

By Kevin Healy. Notre Dame, IN: University of Notre Dame Press, 2001. xv + 485 pp. US\$30.00. ISBN 0-268-01326-8.

This book is an inspiring and personal account of over 30 years in the community development trenches by someone who was by turns, a Peace Corps volunteer, a PhD researcher, and now for many years, a Foundation representative for Bolivia for the Inter-American Foundation (IAF). Those who know the author, Kevin Healy, have been waiting for this book for a long time, and it has been well worth it. It is at once a penetrating critique of western development, an entertaining personal account of one man's development travels in time and space in Bolivia, a history of grassroots development in Bolivia over more than 2 decades, and a masterful analysis of global cultural dynamics.

The first 5 chapters cover rural development, macroeconomic structures and policies, grassroots movements, and the emergence of nongovernmental organizations (NGOs) in Bolivia. The chapters 6 through 14 present 9 detailed histories of small-scale development projects carried out by grassroots organizations and NGOs. A final chapter shows how facile and ill-informed some postmodernist critiques of development are, draws the lessons for successful grassroots development from the 9 case studies, and, in a final section on the global interpenetration of cultural trends, shows that globalization goes both ways. (Although there are still a lot of sheep in highland Bolivia, Bolivia is having its revenge

with an estimated herd of 115,000 llamas in the United States as of the mid-1990s.)

Healy effectively catalogs the staggering arrogance and ignorance that constituted mainstream development thinking in the earlier periods. An influential report by a US development expert in the 1940s recommended upgrading pasture, and sheep and cattle stock, without once mentioning the vast herds of camelids (llamas, alpacas, and vicuñas) that grazed the altiplano and mountain valleys. Artisanry skills in crocheting and embroidery were taught while ignoring the ancient traditions of handwoven textiles. Traditional medical practices were outlawed in Bolivian cities. The people who had developed 3000 varieties of potatoes were force-fed US surplus wheat.

Healy shows how, slowly, over the last 2 decades, in a kaleidoscope of organizational forms and initiatives in agriculture with native crops and livestock, native trees, medicinal plants and native medicine, weavings, and ethnic music and related cultural expressions, multicultural Bolivia has been showing how development must be done in the Bolivian context—and it has little to do with sheep. But, while emphasizing how crucial it is for the local traditions and dynamics to take precedence, he also points out the key role played by outside organizers and foreigners in advising and supporting these local efforts. Grassroots development does not happen on its own or by itself.

There are many lessons here, and anyone who has worked in international development or done research in rural areas of less developed countries will find much to inspire them. One important lesson is the need for long-term follow-through and monitoring in development support. Healy's long-term view of the ups and downs of many grassroots projects shows that one can never predict when an apparent-

ly failed project will suddenly accumulate enough learning, find its place in the market, and really take off. The case of a cooperative that produces quinoa, the now trendy boutique grain, is a good example. When the IAF first received a proposal from a cooperative interested in producing quinoa for the market in a particularly remote and desolate region of Bolivia, it was only an obscure Andean grain. The IAF first funded the project in 1983, but by 1987 it had fallen into disarray and disorganization, and funding was terminated. Yet, by 1993, with some help from the Inter-American Development Bank, and the maturing of health food markets for quinoa, the cooperative was back on its feet and was exporting 90 tons of quinoa a year.

Perhaps, Healy's single most important point is that indigenous culture can be an important tool for economic development, and not a barrier, as it has been regarded historically. Drawing upon the rich stores of local knowledge and local organizational forms can provide a basis for successful competition in local, national, and world markets. What Healy calls "multicultural development" is the key for bringing rural Bolivia and the hinterlands of other less-developed countries to full integration into a market economy while retaining many aspects of traditional cultural practices. For example, in the case study of the El Ceibo cacao production cooperative (a reworked version of case studies originally published in the IAF journal *Grassroots Development*), he shows how El Ceibo has been able to effectively combine a western cooperative model with distinctively indigenous organizational practices, such as instituting an equal wage rule and having a regular rotation in all leadership positions.

As Healy notes, "This volume ... offers a picture of small-scale projects as important crucibles in which indigenous cultural resources

become rediscovered, reworked and imbued with value for the purposes of achieving community-friendly development and broader social and economic change in a society. Local projects are the turf where multiculturalism and biodiversity meet and cross-fertilize" (p 401). In effect, Healy's book is also a history of the IAF in Bolivia and, thus, also a case study of how one small US foreign assistance agency managed to find a niche supporting all these efforts. This history also makes it particularly sad that, in recent years, the IAF has lost its way because of mismanagement, and its Bolivian portfolio is only a shadow of its former significance. Nonetheless, we have Healy's book to show us what has been accomplished by local energies and appropriate external support. It is an inspiring story, one that shows that we have indeed come a long way from the 1950s and that there is hope for a multicultural and sustainable future for Bolivia and for the planet.

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The Great Arc: The Dramatic Tale of how India was Mapped and Everest was Named

By John Keay. New York: Harper-Collins Publishers, 2001 (paperback). 208 pp. £6.99. ISBN 0006531237

John Keay (born in 1941) is a British author and an authority on the exploration history of British India. He has several books to his credit, including his first book, *Into India* (1971), the 2-volume *Explorers of the Western Himalayas (When Men and Mountains Meet, 1977; and The Gilgit Game, 1979)*, *India Discovered* (1981), *The Honourable Company: A History of the English East India Com-*

pany (1991), and the present volume, *The Great Arc*.

The Great Arc is subtitled: "The Dramatic Tale of How India Was Mapped and Everest Was Named." The title is quite self-explanatory, but what people rarely know is that the Survey of India throughout the 19th century was one of the most prolonged and arduous scientific projects ever taken in human history. Indeed, "big science" projects such as NASA missions and the Genome are 20th-century phenomena. Before that, the Survey of India was unique in its scale—both temporal scale (it lasted more than a century) and spatial scale (it covered nearly the entire 2500-km length of the Great Indian Arc of Meridian plus the Himalayan mountains).

The Survey began in 1800, a year after Tippu Sultan of Mysore was defeated by the East India Company's forces led by Arthur Wellesley. William Lambton, who had been picked by Wellesley himself, began the first trigonometric survey in southern India—initially around Bangalore and then beginning in 1802 from coast to coast equipped with a huge theodolite. Lambton's dream was to cover the entire country. However, it was not an easy task. The theodolite, meant to be moved from spot to spot, weighed nearly half a ton; the terrain had jungles and mountains, tigers and snakes, and also occurrences of floods and fevers. Nonetheless, it was an imperfect survey. This program was officially called the Great Trigonometric Survey (GTS) in 1818, when George Everest succeeded Colonel Lambton as the Surveyor-General. By 1841 the GTS from Cape Comorin to the Himalayan foothills in Dehra Dun was completed, and Everest retired in 1843.

William Lambton (1756–1823) and George Everest (1790–1866) are the main characters of *The Great Arc*; the book narrates the fascinating story from the inception of the GTS to the naming of Mt Everest. The GTS was Lambton's brainchild,

and its success was because of Everest. Everest was knighted by Queen Victoria and became Sir George (although back in India, the Survey people were called “Compass-Wallahs”). The Earth’s highest mountain (originally marked as Peak XV on the map of the Indian Survey) was named in his honor in 1856 at the suggestion of Andrew Waugh (George Everest’s successor). However, Lambton has not been given due attention. Even his grave is located in an obscure spot at Hinganghat (in the Maharashtra state in southern India). John Keay, who rediscovered Lambton’s tomb, has paid homage (by writing this book) to Lambton’s contribution to “measure a subcontinent, and compute the precise curvature of the globe.” Therefore, here we also read a popular story of geodesy mingled with India and Himalaya.

Not many books are available on this subject. Clement Markham’s *A Memoir of the Indian Surveys* (London, 1871) is itself a piece of history. R.H. Phillimore’s *Historical Records of the Survey of India* (Dehra Dun, 1950–1968) is not only technical but also less accessible (indeed its first volume, covering the period 1843–1860, was withdrawn by the Indian authorities on security grounds). John Keay’s *Great Arc* fills this gap in our geoliterature to the extent that it deals with the first 5 decades (the heroic age) of the Survey of India, leading the story to the location and height of Mount Everest.

Reading this delightful book gave me a glimpse of humanity’s individual and collective genius and diligence in understanding our home planet. Measuring the globe also gives rise to an appreciation that this globe connects us all, and herein lies our hope for a peaceful Earth with mountains to scale and hardship to overcome.

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Snow Cover and Avalanches in Tien Shian Mountains

Edited by Igor V. Severskiy and Xie Zichu. Almaty: VAC Publishing House, 2000. 179 pp. ISBN 9965-520-31-3.

This book is a collection of contributions on snow conditions in the Tien Shan, involving 7 authors from Russia and the People’s Republic of China. It is encouraging to see such transborder collaboration between scientists in Kazakhstan and the People’s Republic of China on the problems of the Tien Shan. There are chapters on avalanche formation, snow cover conditions, the factors influencing snow cover distribution, the role of snow cover in avalanche formation, and avalanche hazard.

Chapter 1 describes the geography, climate (circulation, temperature, and precipitation), and relief and slope effects on avalanche formation, including seasonal ground freezing. Chapter 2 discusses snow conditions: climate, snow-line characteristics, calculated firn line adjusted to 40°N, snow accumulation at this firn line, snowfall on glaciers, snow cover season, and snow water equivalent and its variability in space and time. Chapter 3 treats the influence of slope factors, vegetation, and wind redistribution on snow cover distributions. The last 2 chapters address the role of snow cover and its characteristics in avalanche formation, and avalanche activity and hazards in the Tien Shan.

The translation is generally of a high level; however, the Russian “snezhnost,” which has no direct English equivalent, is better translated as “snow cover characteristics” and not “snowiness” (p 29). There are a few typographical errors; on p 9 line 4 (right), “exaration” should probably read as glacial “excavation.”

The information is throughout presented in depth, with numerous diagrams and tables. There is a thorough bibliography of 277 publications, with translations of the original Russian and Chinese titles. The book should certainly be in libraries for mountain geographers and glaciologists; snow scientists may wish to have their individual copy.

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