Linguistic diversity is essential to the human heritage. Each and every language enshrines the unique cultural wisdom of a people. Therefore, loss of any language is a loss for all humanity. (UNESCO 2003:3)

It is estimated that of the more than 6,000 oral languages in use today (Grimes 1996), as many as 90 percent may be replaced by dominant languages by the end of the Twenty-first century (Krauss 1992; UNESCO 2003:4). The central thesis of the volume under review is that this predicted decline in linguistic diversity can only be prevented if the interdependence of linguistic, cultural, and biological diversity is recognised. This interdependence is reflected in the term BIOCULTURAL DIVERSITY. One aspect of culture and language which is under threat in many language communities is traditional ecological knowledge: the concepts and terminology which inform a community’s understanding of and interaction with the natural world. If a language ceases to be used in this domain, the associated knowledge is lost to the community, and when this knowledge is lost, so—often—is the way of life which it supported. With the loss of a way of life, it is a short step to the loss of other aspects of culture and ultimately to assimilation into the dominant language community, resulting in language death.

On Biocultural Diversity is based in part on papers given at the international working conference on “Endangered languages, endangered knowledge, endangered environments” held in Berkeley, California in October 1996. Not surprisingly there is a predominance of contributions dealing with the Americas, and some of the contributions are marred by incomplete data, weak conclusions, and limited coverage. Overall, however, the volume is of a high quality, and I will focus on the positive aspects in the following discussion, which is organised around some of the themes which emerge from the book. I will discuss these in two sections: general themes, and practical applications.
General themes

The first four chapters deal with what is meant by “diversity,” the importance of biological, cultural, and linguistic diversity, and the interdependence between these. Greville Corbett (pp. 82–94) then demonstrates the importance of linguistic diversity to linguistics through a typological overview of gender systems, grammatical number systems, and colour terms. Linguistic diversity is also the topic of Jane Hill’s contribution (pp. 175–189), which discusses functional, syntactic, morphological, and lexical attrition in languages undergoing “decay.”

The theme of biological, cultural, and linguistic interdependence is revisited in the final section of the volume. Darrell Posey (pp. 379–396) discusses the ethical and legal implications of the fact that many “wildernesses” are in fact managed environments and part of a “cultural landscape” (p. 384), and Luisa Maffi (pp. 412–432) notes that a holistic approach to culture and the environment is typical of the worldviews of many indigenous peoples, so much so that “the very distinction between ‘culture’ and ‘nature’ appears to be of little significance to indigenous peoples the world over” (p. 415).

Whilst the interdependence of language, culture, and the environment is a dominant theme, a complementary theme which emerges is the independence of biocultural systems with respect to one another. Although languages and cultures can borrow from one another in a way that biological lineages can’t (Brent Mishler, pp. 71–81), a number of studies suggest that the knowledge contained within indigenous languages is not easily replaced or transferred to other language communities. Using examples from Zapotec communities and recent settlements on small islands respectively, Eugene Hunn (pp. 118–132) and Peter Mühlhäusler (pp. 133–144) argue that endemic languages are better able to represent the biological diversity of their locations than nonendemic languages. That is, because of its long association with a particular locality, the level of detail found in the nomenclature of an endemic language is typically not to be found in the languages of communities which have entered the same area at a later date, or of communities which have shifted from the endemic language to another language. As the histories of Pitcairn Island and Norfolk Island show, along with the inability to adequately describe one’s environment comes the inability to adequately manage it.

In a very detailed analysis of one indigenous community and two nonindigenous communities living in the Maya lowlands of Guatemala, Scott Atran (pp. 157–174) shows how the recent arrivals differ in their ability to learn from the indigenous community. Interestingly, it is the Spanish-speaking Ladinos rather than the immigrant Q’eqchi’ Mayas who tend to have learnt more from the indigenous Itzaj Mayas concerning sustainable agricultural practices. Similarly, Katharine Milton (pp. 282–297) observes how there has been little sharing of ethnomedical knowledge among four forest-dwelling communities of the Brazilian Amazon, and that, contrary to expectation, the communities with more contact with outside influences have more ethnomedical knowledge (presumably in response to having come into contact with more diseases) than more isolated communities.

Two other closely related themes which emerge are the need for high-quality data, and the need to involve indigenous communities in environmental management. Traditional ethnobotanical knowledge is not limited to plant names and their uses; it also includes ecological knowledge
which is applied to environmental management. As Gary Nabhan (p. 145) notes, “certain Native American cultures developed land management practices that enhanced biological diversity locally at the same time that they developed lexicons that allowed them to describe precisely interactions among diverse plants and animals.” Unfortunately, much ethnobotanical fieldwork, not only by amateurs like myself but also by professional ethnobiologists, consists simply of lists of ethnobotanical taxonomies and plants uses, and so Nabhan’s contribution calls for researchers to record “genuine ecological knowledge from folk practitioners” (p. 150) and then to include indigenous communities in the management of their own environments. This view is also found in the excellent chapter by James Nations (pp. 462–471), who also appeals for high-quality data and participatory research:

We also need a new generation of professionally trained fieldworkers who are willing to learn indigenous languages, live in the field, and train their indigenous colleagues to record the centuries-old information that is evaporating with the death of traditional leaders and the acculturation of those who survive. Training graduate students to produce fusty, theoretical treatises on this year’s fad in social science is a waste of time and a waste of minds. Fashions in science come and go, but accurate field data lasts forever. (Nations, p. 469)

However, Nations stresses that not all indigenous communities are conservation minded, but only (and even then, not always) communities with “secure land tenure, low population density, and low involvement in the cash economy” (p. 468). By the cash economy, Nations has in mind activities such as forestry and cash-crop agriculture, which typically bring conflict with sustainable environmental management; ecotourism, on the other hand, is part of a cash economy in which the promotion of conservation and the sustainable management of local resources is central. Ben Blount (pp. 503–516) argues that no ecotourism project can be a success unless the local community is involved at every stage, bringing traditional ecological knowledge to bear on its design and implementation, and also sharing in its benefits.

Practical applications

This volume also contains a number of suggestions for practical applications of the biocultural approach to language research which may be of interest to field linguists, including SIL language project personnel. I will discuss language recordings, lexicography, health care, and education.

Denny Moore (pp. 433–445) describes a tape documentation project for native Brazilian languages. This contains a lot of practical information, including suggestions for appropriate audio and video recording equipment, and portable power supplies, with prices, plus tips on what to record. The question of what data to record when producing a dictionary or grammar is addressed by Andrew Pawley (pp. 228–247). Pawley endorses a “humanist” model of language, in which cultural knowledge is viewed as part of language, as opposed to a “grammar-based” model of language, in which social facts and frequency of use are irrelevant. He argues that lexicographers should pay particular attention to speech formulas (for example, for telling the time or calling a meeting to order) and collocations; this information is often of far more use to translators than definitions of individual lexical items. Similarly, he argues that dictionaries should contain encyclopedic knowledge, so that, for example, an entry for a plant should not just
contain a scientific identification, but also information about the plant’s social economic, and ritual value, and its ecological context. However, the long and detailed entries which he cites from a Kalam-English dictionary are clearly designed with English-speaking anthropologists in mind, rather than for the benefit of Kalam speakers, whereas the principle audience for minority language dictionaries in the SIL context is usually the minority-language speakers themselves.

Two chapters deal with the relevance of biocultural knowledge to health care. Thomas Carlson (pp. 489–502) puts a strong case for the integration of traditional healers and ethnomedical knowledge into national healthcare systems. Carlson presents evidence that much traditional botanical medicine is safe, effective, locally available, and often free, and notes that most ethnomedical knowledge is only available in local languages, such that “its persistence reinforces the community’s ethnolinguistic identity and can strengthen the value of conserving their biological, ecological, and linguistic diversity” (p. 494). Stephen Brush (pp. 517–530) addresses the related question of the ownership of ethnomedical knowledge, with the attendant dangers of “bio-piracy” and patenting of traditional knowledge. In a very well-informed contribution, Brush challenges the basic framework of intellectual property based on “possessive individualism,” and proposes a more flexible alternative with greater emphasis on the “public domain.”

Finally, a number of chapters deal with biocultural diversity in relation to education. Stanford Zent (pp. 190–211) shows a strong negative correlation among the Piaroa of Venezuela between exposure to formal education and ethnobotanical competence (the ability to identify plants and describe how they are used), concluding, “intrusive knowledge forms and activities are competing with and detracting from the learning of traditional environmental knowledge” (p. 209). What is needed is not to deny traditional communities educational opportunities (for as Nations (p. 469) notes, the education of women and girls in traditional societies plays an important role in reducing unsustainable population growth which ultimately leads to the demise of traditional societies), but to educate appropriately. Appropriate education in this context is education in the local language and in which traditional knowledge is valued. The right to use one’s own language is established as a human right by Article 27 of the UN International Covenant on Civil and Political Rights, but Tove Skutnabb-Kangas (pp. 397–411) stresses the need for strongly worded, ratified agreements, together with the use of minority languages in education (including teacher training), if this right is to be enjoyed by minority language speakers. Mother-tongue education is of central importance, because “[l]anguages that are not used as main media of instruction will cease to be passed on to children at the latest when we reach the fourth generation of groups in which everybody goes to school” (p. 410).

Herman Batibo (pp. 311–324) suggests that where minority languages are used as the language of instruction (as in the Mother Tongue Education policies that have been adopted and are being implemented in Kenya and Botswana), “indigenous knowledge should be used as the basis for teaching environmental sciences, geography, history, and other subjects. Developing the curriculum out of the community’s experience will give the languages a new purpose and ‘brighter’ future” (p. 320). This view is shared by Ian Saem Majnep, a Kalam from Papua New Guinea, who, with Andrew Pawley (pp. 343–357), describes how such education might look in practice:
Nowadays nearly all our children attend school where they sit at desks and study English and arithmetic and science. But learning by doing things oneself is more fun than sitting listening to a teacher or copying from a book. And in the case of biology and nature study, where better for children to start than with their home surroundings, looking at things that they know quite a lot about? Each local school and each class could compile its own reference sources describing the plants and animals and ecology of the local environment, recording names and locations, characteristics and uses, collecting and preserving plant and insect specimens and drawing illustrations and maps.” (Majnep and Pawley p. 355)

Conclusion

On Biocultural Diversity is a stimulating collection of articles, which provides a strong case for the value of accurate, detailed ethnobiological research in language maintenance. Although many field linguists may view ethnobiological research as beyond their competence and available time, they can still have a role to play as part of a team, with benefits in terms of literacy and language vitality. A few years ago a visiting short-term volunteer went out for a day with a friend of mine who was a traditional healer. Together they collected specimens of about a hundred medicinal plants with their local names. Our visitor passed through the capital city on her way home, and after a few hours with staff from the national museum had botanical names for most of the plant specimens. I then interviewed various traditional healers on the uses of these plants and was able to get accurate information on more than half of them, which I cross-checked with published sources. I then contacted the authors of these books for permission to use their illustrations and published a small book in the local language detailing around forty plants. The book has since been a local “best-seller,” and a reprint will soon be needed. The publication of the plants book has brought the language project for which I worked to the attention of the district and provincial cultural officers and raised the profile of the language. I hope that On Biocultural Diversity will encourage other linguists to take the holistic view and do much more than this.

Notes

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References

