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CHAPTER 18

# Indigenous Environmental Knowledge, the History of Science and the Discourse of Development

Roy Ellen and Holly Harris

There are a number of recent books extolling the virtues of "indigenous knowledge," by which we mean here indigenous *environmental* knowledge. The concept—or its terminological cognates—is now widely employed in development studies, environmental conservation programs, and in the political rhetoric of international funding agencies and national governments. It is also being increasingly adopted by "indigenous" minorities and regional movements throughout the developing world as part of a defense against the expropriation of intellectual or cultural property. The paper, of which this is a summary,[1] does not seek to demonstrate the superiority, or even the complementarity, of local knowledge over dominant scientific knowledge in particular instances, nor does it seek to enter into the polemical discourse suggesting the converse. We are already persuaded that indigenous environmental knowledge (hereafter IK) can be advantageous in development contexts, and has applications in industry and commerce as well. Most professional anthropologists also accept that the claims made for the environmental wisdom of native peoples have sometimes been ignorant and naive, replacing denial with effusive blanket endorsement presenting an "ecological Eden" to counter some European "world we have lost." Rather, we try here to present a dispassionate examination of the status of, and claims made for, IK in the discourse and practice of different academic disciplines, and as found in different political contexts (ranging through environmental movements, states, NGOs and indigenist activism), and in the transfer of ideas between these.

What is meant by "indigenous knowledge" is by no means clear, and part of the purpose of the longer versions of this paper has been to examine the variable uses of the terminology and concept through its East-West and local-global cultural refractions. IK is increasingly criticized for its lack of organizing themes, as well as for the apparent ease with which its proponents are prepared to extract the part from the whole: the tendency to remove knowledge from its particular context and turn it into generalizable and empirically applicable lessons. Moreover, the distinction indigenous non-indigenous has many highly specific regional and historical connotations that are not always appropriate to particular Western or Asian contexts. Some even argue that the category of IK is wholly compromised by the "hegemonic opposition" of the privileged *us* to the subordinated *them*, and therefore is morally objectionable as well as practically useless.

The West often assumes that it has no IK that is relevant, in the sense of "folk" knowledge; that it once existed but has now disappeared, and that somehow science and technology have become its indigenous knowledge. Certainly, there is plenty of evidence showing that the existence of, for example, codified pharmacopoeias, displaced local knowledge and oral tradition extensively in Europe and the Mediterranean from the early modern period onwards. But Western folk knowledge is arguably just as important as it ever has been, just different: informed by science where appropriate, and located in different contexts (e.g., in situations as varied as pigeon-fancying, computer-person interfaces and high-tech deep sea fishing). The folk are no less creative. Moreover, in parts of Europe, urbane folk actively seek out the authoritative knowledge still regarded as being present in their own peasant traditions, as in truffle-hunting, geese-rearing or the preservation of rare breeds of sheep. Peasant or rural knowledge becomes, in this latter context, Europe's own inner indigenous other.

In Asia, by comparison, indigenous knowledge is variously that of some great tradition (e.g., Ayurvedic medicine), or more often that of myriad little local traditions. Where the two merge is unclear, and as in the European case there is historical evidence to suggest, for example, that the great Asian herbalist traditions have been systematically absorbing and then replacing local folk knowledge. IK is constantly changing, being produced as well as reproduced, discovered as well as lost, though we may describe it in different ways. What passes for scientific knowledge is often simply the knowledge of culturally dominant agencies of government. We ask if it is possible to effectively define the shifting boundaries between science and folk knowledge, and whether the distinction is in any way helpful. We examine what the differences between *indigenous*, *local* and *folk* knowledge might amount to (if anything), and whether there is a difference between folk knowledge and folk science. Is there just good and bad science, or is science qualitatively different in its underlying cognitive organization? Is it all applied common sense, the only difference being that one is practiced by the folk and the other by professionals? In other words, is it an outcome of some division of intellectual labor? Alternatively, is folk knowledge hopelessly embedded in particular symbolic patterns of thought, while *real* science is a distinctive kind of uncommon sense, driven by a logic that often results in demonstrating its counter-intuitive character? At this point, of course, the trail leads us into the familiar anthropological thicket of the rationality and relativism debate. In our paper we have deliberately avoided getting too entangled in these issues, though we believe it is necessary to acknowledge the intellectual link.

In the developing world, contemporary reliance on indigenous knowledge has been a combination of economic necessity and tradition. In many countries, the state sector and NGOs have, however, moved from colonial hegemonic denial towards the positive acceptance of the utility of local knowledge in medicine and sustainable development, partly for political and economic reasons. Individual native peoples, though less so in Asia than in, say, the Americas, have seen indigenous knowledge as part of their own identity. Both LDC states and Western NGOs have sought to protect indigenous rights to such knowledge, and this has given rise to a whole set of new issues in merging the philosophies, legal traditions, and discourses of East and West, North and South.



Another major theme that emerges is the often contradictory and changing scientific and moral attitudes towards indigenous knowledge. Much Western science and technology emanates from European folk knowledge (e.g., herbal cures) and knowledge acquired in a colonial context. The nomenclature and classificatory schema employed by Linnaeus, for example, depended extensively on Asian folk knowledge as this was absorbed into the writings of colonial naturalists working in the seventeenth and eighteenth centuries. During the nineteenth and twentieth centuries such knowledge was increasingly tapped and codified, acknowledged and yet somehow denied. Explicit and full recognition, together with the rights that are deemed to accompany this, has only come in the West with the quest for appropriate and cheap technologies for development, and the rise of ethnobotany in the pharmaceutical industry—at a time when the environmental movement has become morally committed to the notion of indigenous environmental wisdom. No wonder then that at this precise historical moment, when IK (via intellectual property rights), and the rights of "indigenous" peoples in more general terms, are higher on the political agenda than they have ever been before, "indigenous" as a label is being reclaimed by the protagonists themselves in pursuance of their own interests.

A final problem we face is what some recent writers have called "time-space compression." What, for example, does the implicit distinction between West and "other"—used throughout our paper—encode? More particularly, global-local distinctions are now blurring and we are told that we inhabit a world of "transcultural discourse." However sloppy some may find the conceptual apparatus offered to cope with these issues, it does directly address the question as to whether it is still possible to regard local knowledges as something discrete, even less pristine, or whether we are trapped by the representations of such in global (Western) media and their reformulation by indigenous people who learn it from, and who raise their consciousness of it through, Western sources. Should we continue to try to separate local knowledge from global knowledge on the assumption that one or other is superior in a particular context, or should we give preference to the mixture of local and global which most indigenous peoples now rely on? It is this blurring that results in neologisms such as "glocal," and a new analytical emphasis on how people shift the geographical context of their knowledge. For Piers Vitebsky the problem is encapsulated in the historical simultaneity of shamanism expiring on the tundra just at that moment that it is taken up by new agents. Can indigenous knowledge survive such appropriations? We take the view that IK, in the sense of tacit, intuitive, experiential, informal, uncodified knowledge, will always be necessary and will always be generated, since, however much we come to rely on literate knowledge that has authority, the validation of technical experts, and what is systematically available, there will always be an interface between this kind of expert knowledge and real-world situations. Such knowledge will always

have to be translated and adapted to local situations and will still depend on what individuals know and reconfigure culturally, independent of formal and book knowledge.

## Notes

1. The original published paper of which this is a summary appeared as *Concepts of indigenous environmental knowledge in scientific and development studies literature: a critical assessment*, (APFT Working Paper No. 2, October 1997) University of Kent at Canterbury: Avenir des Peuples de Forêts Tropicales, (See also http://lucy.ukc.ac.uk/Rainforest/SML—-files/Occpap/indigknow.occpap—TOC.html). A modified version by the same authors was also published in 2000 as "Introduction," in *Indigenous environmental knowledge and its transformations: critical anthropological perspectives*, edited by Roy Ellen, Peter Parkes and Alan Bicker Amsterdam: Harwood Academic Publishers, Studies in Environmental Anthropology, vol. 5.

CHAPTER 19

# Two Reflections on Ecological Knowledge

Tim Ingold

I have written this paper in two relatively independent parts. Each, so far, is little more than a sketch of ideas that still need to be properly thought out. The first is about organisms, persons, and ecological relations. Here I try to replace the conventional idea of organisms and persons as distinct, substantive entities with a view of the organism-cum-person as a position or nexus—situated within an unbounded field of relations—where growth is going on. This leads me to suggest that the kinds of relations we are used to calling "ecological" are not really *between* organisms and their environments, as though each were initially "given" independently of one another, but rather constitute the very existential foundation from which organisms grow. The second part is about knowledge. I argue against the idea that the knowledgeability of practitioners committed to making a living within a certain environment lies in the accumulation of received mental content—that is, of rules and representations that are available for transmission in advance of their application in practice. Instead, I maintain that the essence of practitioners' environmental knowledge lies in skills, that is in developmentally embodied capacities of awareness and response built up through a history of involvement with the land and its inhabitants. Thus the growth of knowledgeability is an aspect of the growth of the organism-person in his or her environment.

There is a connection between the two parts, though it is not yet worked out as fully as I would like. It is most easily seen in terms of the link between the respective views *against* which I argue in each part. If the organism or person is regarded as a discrete entity, and the living world as an aggregate of such entities, then every one of them must be specifiable in its essential nature—as a "thing-in-itself"—independently of, and prior to, their mutual involvement. Whence, then, come the components of these specifications? The general answer is that they are "passed on" by way of some mechanism of inheritance. This passing on, in turn, defines recipients as descendants of those from whom the components were received, in genealogical succession. Thus organisms are said to receive a set of biological specifications through genetic inheritance, while persons receive a parallel set of cultural specifications through a "second track" of cultural inheritance or traditional transmission. The first guarantee that the genetic offspring, for example, of human parents will themselves be human beings, regardless of the circumstances of their life in the world. The second furnish these offspring with additional information which "closes the gap," as Clifford Geertz once put it, "between what our body tells us and what we have to know in order to function.[1]" Knowledge, then,