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Endangered Forest, Endangered People: Environmentalist Representations of Indigenous Knowledge

J. Peter Brosius[1]

Since 1987, Penan foragers in Malaysia have been increasingly affected by the activities of logging companies, and have protested this with blockades. Simultaneously, they have become the focus of a broad-based international environmental campaign. This paper examines the rhetoric of that campaign. In particular, I examine the ways in which Western environmentalists have constructed Penan land rights with reference to Penan knowledge of the landscape and of the biotic elements which exist there. Further, I consider how environmentalists have drawn on ethnographic accounts, and how those accounts are transformed in the process of generating images deployed in the campaign.

KEY WORDS: rainforests; environmentalism; indigenous knowledge; Penan; Borneo.

> Dawat took a deep breath and came wondrously alive. His eyes and arms almost danced as he made an impassioned plea for his forrest and his people. For nearly an hour the power of the forest spoke through him, and when he ended there was an abrupt silence. For a few moments all of us sat quietly as the jungle sounds of distant birds and drumming cicadas filled the air. Although the details of what he said came only several months later when the interview was translated, we all sensed in our hearts that we had heard something both poetic and profound. (Henley, 1990, p. 94)[2]

INTRODUCTION

In the early 1980s, timber companies in the Malaysian state of Sarawak, on the island of Borneo, began moving into interior upland areas

[1]Department of Anthropology, University of Georgia, Athens, Georgia 30602-1619.
[2]I translated this interview in 1989 for the Davis and Henley volume for which Dawat Lupung, the individual interviewed, was awarded the Reebok Human Rights Award.

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inhabited by various groups of Penan hunter-gatherers. In 1987, the Penan began to actively resist these incursions by establishing a series of blockades. Since that time the Penan have become the focus of a broad-based international environmental campaign to assert their land rights and preserve the Sarawak rainforest. This campaign has been very high profile indeed, covered widely in the media, and supported by numerous political figures and celebrities.[3] Environmental organizations in the U.S., Canada, Japan, Australia, England, Germany, Switzerland, Austria, Sweden, Denmark, the Netherlands, Belgium, and elsewhere have been involved in various aspects of the Sarawak campaign. What is perhaps most remarkable about this campaign is that it is not the product of central coordination, but instead developed almost spontaneously as the situation of the Penan became more widely publicized.[4] In a series of interviews I conducted with European and American environmentalists, Penan resistance to logging was repeatedly cited as an exemplar of how indigenous peoples can assert control over their own destinies and, in the process, halt the loss of global biodiversity. In short, the Penan have become icons of resistance for environmentalists worldwide.[5]

In the present discussion I consider the rhetoric of this campaign. In particular, I examine the ways in which Western environmentalists have constructed Penan land rights with reference to Penan knowledge of the landscape and of the biotic elements which exist there. Further, I consider how environmentalists have drawn on ethnographic accounts in the process of constructing or describing certain domains of indigenous knowledge, and how those accounts are transformed in the process of generating images deployed in the campaign. I focus on one text in particular, a book entitled

[3]In the U.S., for example, the issue of logging in Sarawak has been covered in *Newsweek, Time, The New Yorker, The Wall Street Journal,* and *Rolling Stone*; on National Public Radio, NBC Evening News, CNN, and on the programs *National Geographic Explorer* and *Primetime Live*. Figures as diverse as Al Gore, Jerry Garcia, and Prince Charles have spoken out on behalf of the Penan.

[4]In this sense, referring to it as a "campaign" is inaccurate, since this would seem to imply centralized coordination. Certain organizations acted as clearinghouses for information or promoted particular strategies, but no single organization choreographed all the events that have transpired over the matter of logging in Sarawak since the mid-1980s. I refer to it as a campaign only as a matter of convenience. I must also stress that although most environmental organizations have focused their attention on the Penan, many environmentalists have insisted that this not be seen as a Penan issue exclusively. They argue that the concern should be for indigenous rights in Sarawak in general.

[5]In the following discussion, reference to *environmentalists* should be understood to refer both to representatives of environmental organizations such as *World Wide Fund for Nature* and *Greenpeace*, as well as to representatives of indigenous rights organizations such as *Survival International* and *Cultural Survival*. Though these two types of organizations have at times been at odds, there has been some movement in recent years toward a convergence of interests.

Penan: Voice for the Borneo Rainforest by ethnobotanist Wade Davis and environmental activist Thom Henley (Davis and Henley, 1990b).[6] Through focusing on the work of Davis and Henley, and to a lesser extent on other works by Davis (Davis, 1992, 1993), this discussion applies to environmental and indigenous rights rhetoric more broadly: the Penan case is but one instance of a more general discourse.[7]

THE PENAN, BLOCKADES AND THE GROWTH OF THE INTERNATIONAL CAMPAIGN

The Penan of Sarawak are divided into two distinct populations, the Eastern and Western Penan (Needham, 1972, p. 177).[8] The Eastern Penan comprise all those groups living to the north and east of the Baram river, as well as in the upper Limbang watershed. The Western Penan include all those in the Belaga District, as well as communities in the Silat River watershed and at Leng Beku. Though in broad outline the forest adapta-

[6]Davis received his PhD in Ethnobotany from Harvard University under the supervision of the prominent ethnobotanist Richard Schultes, and is most well-known as the author of *The Serpent and the Rainbow* (Davis, 1985). In the late 1980s, a controversy developed around Davis' work on Haitian voodoo (see Booth, 1988; Yasumoto and Kao, 1986). Henley, before he became involved in the Sarawak issue, was instrumental in organizing the campaign to protect the Queen Charlotte Islands, one of Canada's most historically significant environmental campaigns. Within the context of the Sarawak campaign, Henley's most active role was in organizing the 1990 *Voices for the Borneo Rainforest World Tour*, a series of events that brought two Penan and one Kelabit activist to Australia, Japan, North America and Europe—some 18 countries in all. Henley and Davis, along with several other individuals, co-founded the *Endangered Peoples Project*, a foundation "dedicated to the promotion of biological and cultural diversity" (Henley, 1990, p. 93).

[7]In discussing how Western environmentalists have represented the Penan, it is not my intention to question the validity of the concerns that motivate those within the environmental movement: I share their concern with ecological degradation and its effects on indigenous peoples. My comments are directed at particular theoretical strategies: not at the broader concerns that underlie them. Furthermore, whatever my misgivings about the forms of rhetoric examined here, I feel it is important to acknowledge the positive contribution that individuals such as Wade Davis and Thom Henley have made in bringing the situation of the Penan to the attention of the public in the U.S. and Europe.

[8]Eastern and Western Penan in Sarawak together number some 7000 individuals. The Eastern Penan total some 4500 in approximately 50 communities, while Western Penan total some 2500 in 18 communities. These figures are updated from figures I have provided in previous publications and reflect estimations of population growth since 1987, when I carried out a census of Western Penan. In addition to Eastern and Western Penan, there are also several small groups of Penan who have been settled for a century or more and who have little interaction with either Eastern or Western Penan. These include the Penan Nyivung, Penan Bok, Penan Suai, and Penan Jelalong (for more information on Penan in Sarawak, see Arnold, 1958; Brosius, 1986, 1988, 1990, 1991a,b, 1992, 1993a,b, 1995, 1995–96; Harrisson, 1949; Huehne, 1959; Kedit, 1978, 1982; Langub, 1972a,b, 1974, 1975, 1984, 1988, 1989, 1990; Needham, 1954a,b,c,d, 1965, 1972; Nicolaisen, 1976a,b, 1978; Urquhart, 1951, 1957, 1959.

tions of Eastern and Western Penan are similar, there are significant differences between these two groups with regard to subsistence technology, settlement patterns, social organization, and in the tenor of social relationships (see Brosius, 1990, 1991a, 1992, 1993a; Needham, 1972). Western Penan communities are characterized by long-term stability and a strong sense of internal cohesion. Eastern Penan bands, on the other hand, are much more fluid with respect to composition and much more ephemeral with respect to long-term historical identity. Western Penan communities tend to be much larger than those of Eastern Penan, with 60 to 200 members.[9] Eastern Penan communities average only 20–40 members. Western Penan bands occupy much larger foraging areas than do Eastern Penan, on the order of 1500 km^2, as opposed to 400 km^2 for Eastern Penan. Both Eastern and Western Penan conceive of their territories as a shared corporate estate over which all members of a community have rights.

Logging has a dramatic effect on the lives of Penan, both nomadic and settled.[10] The most immediate effect is on the forest resources upon which they depend for subsistence and trade. Sago palms (*Eugeissona utilis*) are uprooted by bulldozers, fruit trees are felled and rattan destroyed, and severe river siltation occurs. It is this situation, and the blockades that have resulted from it, that has attracted worldwide media attention.

Almost without exception, all the communities that have resisted logging with blockades have been Eastern Penan. Western Penan, by comparison, have been conspicuously acquiescent to the activities of logging companies. The reasons for this contrast are complex and derive from a mix of political, historical, and social factors. One such factor has been that the Baram and Limbang Districts—those areas occupied by Eastern Penan—have been visited by numerous Malaysian and Western environmental activists.

This began in 1982 when the Malaysian environmental organization *Sahabat Alam Malaysia* (SAM, *Friends of the Earth Malaysia*) set up a field office in the upriver town of Marudi. Then, in 1984, Swiss artist Bruno Manser took up residence with a group of nomadic Eastern Penan in the upper Tutoh River area. He remained among various nomadic groups for over 6 years. It is Manser, along with *Sahabat Alam Malaysia*, who is most

[9]These figures refer to band size prior to settlement. Both Eastern and Western Penan communities tend to experience growth once settlement occurs (see Arnold, 1958; Needham, 1972; Urquhart, 1951).

[10]Among both Eastern and Western Penan the trend toward sedentism has accelerated greatly since about 1960. I estimate that in 1960, 70–80% of all Eastern and Western Penan were still nomadic. Of 7000 Eastern and Western Penan today, fewer than 400 Eastern Penan in the vicinity of the Magoh, Tutoh, and upper Limbang River areas remain fully nomadic, approximately 5% of the total. The last nomadic Western Penan settled ca. 1970.

responsible for bringing the situation of the Penan to world attention. Beginning in 1985, Manser began sending letters out to a range of environmental organizations, and it was not long before reporters, filmmakers and environmentalists began to seek him out in the forest. As Manser was making their situation known outside of Sarawak, he was simultaneously acting as an instrument of encouragement for the normally retiring Eastern Penan to resist. Manser traveled widely throughout the Baram and Limbang areas and arranged large meetings which were attended by representatives from numerous communities. Along with SAM, Manser provided Penan the opportunity to internationalize their cause.

It was after striking images of the Penan blockades began to circulate in 1987 that the Penan began to become more well-known and a concerted international campaign began to be waged, both by Manser and by SAM.[11] The first Penan blockades were established not long after the founding of the *Rainforest Action Network*, which highlighted the plight of the Penan in its earliest campaigns. Numerous other rainforest groups were also forming in Europe, the United Kingdom, Australia, and Japan, in response to a more general awareness of the scale of tropical deforestation.[12] The Penan became iconic of forest destruction for many of these organizations.

Associated with the acceleration of the international Sarawak campaign were efforts by numerous individual environmentalists to visit Eastern Penan in order to gain first-hand information on their situation and document it for international distribution. A number of Western environmentalists managed to sneak into what had become a closed security zone. In their visits to Penan communities, these individuals frequently told Penan of efforts made on their behalf in Europe, Australia, and the U.S. Their mere presence (and in many cases it was indeed merely a presence, since Penan describe numerous visits by persons with whom they were unable to communicate) confirmed for the Penan the legitimacy of their cause.

[11]In addition to SAM another local NGO, the *Sarawak Indigenous Peoples Alliance* (SIPA), also played a key role in the campaign for a short time. SIPA was forced to disband by the Sarawak government in 1992 after founder Anderson Mutang Urud was arrested.

[12]Among the environmental and indigenous rights organizations who have been involved in the Sarawak campaign are *Rainforest Action Network* (U.S.), *Friends of the Earth*, *Greenpeace*, *Western Canada Wilderness Committee*, *Japan Tropical Forest Action Network*, *Rettet den Regenwald* (Germany), *Robin Wood* (Germany), *Society for Tthreatened Peoples* (Austria, Germany, Switzerland), *ProRegenwald* (Germany), *Nepenthes* (Denmark), *Global 2000* (Austria), *Bruno Manser Fonds* (Switzerland), and the *Rainforest Information Center* (Australia). Their activities have ranged from letter-writing campaigns to attempts at tropical timber boycotts, protests at Malaysian embassies, ship blockades in Europe and Australia, and direct actions in Sarawak itself.

Davis and Henley were two such visitors. Henley traveled to Sarawak twice in 1989 in order to visit Penan. It was on his second visit that he was joined by Davis. Davis and Henley stayed with both settled Eastern Penan living in the vicinity of Long Bangan, Long Iman, and Batu Bungan, as well as with nomadic Penan in the Ubung River. During this visit, Davis collected information on medicinal plants, and it was his wish to conduct further ethnobotanical research. This proved impossible because of the tense political situation in the area. In early 1993, Davis traveled to Sarawak again with a screenwriter from Warner Brothers in conjunction with plans to produce a film telling the story of Bruno Manser. On the basis of these brief trips, Davis and Henley published a series of items on the Penan (Davis, 1992, 1993; Davis and Henley, 1990b). In each of these accounts there is a considerable degree of textual overlap.[13]

THE REPRESENTATION OF PENAN KNOWLEDGE: RESOURCE MANAGEMENT, LANDSCAPE, AND MEDICINAL PLANTS

In examining environmentalist discourse on the significance of indigenous knowledge it is necessary to consider precisely what is meant by the word *knowledge* itself. In fact, we can identify two rather distinct conceptions of indigenous knowledge: one which we might term the objectivist conception, and one the environmentalist conception.

As it is used by ethnoecologists, the word *knowledge* is generally applied to discussions of indigenous understandings of the natural world: systems of classification, how various societies cognize or interpret natural processes, what such groups know about the resources they exploit, and so forth. Brush has suggested that the forms that the study of indigenous knowledge has taken have changed considerably, and that four distinct, historically-situated approaches can be discerned: descriptive historical particularism, cultural ecology, cognitive anthropology, and human ecology (Brush, 1993, p. 658). Each of these presupposes a different set of starting assumptions regarding the nature of indigenous knowledge, and the purposes and epistemological bases for studying it. Central to the latter two approaches in particular has been a concern with the structural or systemic

[13]As this article was under review, I received from Davis a copy of his most recent book on the Penan, co-authored with Ian Mackenzie and Shane Kennedy (Davis, Mackenzie, and Kennedy, 1995). Though it retains some of the romanticized language that appears in previous works by Davis and Henley, in this most recent piece an effort was made to provide a more realistic portrait of the Penan by a more balanced use of ethnographic material and by the inclusion of numerous translated Penan commentaries.

nature of indigenous knowledge (ibid, p. 658) and its utilitarian or adaptive significance (ibid, p. 659). Such is the objectivist notion of knowledge.

Brush also describes how, after 1980, addition of the word "indigenous" produced a more politicized discourse concerned with the issue of rights, and which has culminated in contemporary controversies over indigenous intellectual property rights (ibid, pp. 659–660).[14] Politicized though it was (and is), the discourse of indigenous intellectual property rights has adhered strongly to the objectivist conception of knowledge. This is necessary given the goal of defining indigenous knowledge as an entity subject to statutory recognition and framed with reference to metropolitan forms of legal textualization.

In certain other forms of environmentalist discourse, on the other hand, *knowledge* is transformed into something quite different. My purpose here is to focus on the nature of that transformation by examining what it is that writers such as Davis and Henley have defined and represented to their audience as "indigenous knowledge."

In order to understand how this transformation occurs, it is necessary first to recognize the sources from which such representations of indigenous knowledge emerge. For the most part, they derive from two sources. First, environmentalist representations of indigenous people and the landscapes they inhabit are often based on travel to those areas by activists, generally for periods of weeks or months. Such individuals often lack knowledge of local languages and are thus not able to communicate effectively with indigenous peoples. They are nevertheless able to document current conditions and, perhaps with the help of a translator, to record local perceptions and concerns and collect accounts of abuses by government authorities.[15] Second, environmentalists frequently draw upon available ethnographic information in order to enrich their accounts and lend them an aura of authority. In point of fact, environmentalist texts seem very often to result from a combination of personal and ethnographic accounts, producing a textual interweaving of personal travel narrative and ethnographic minutiae. This is the strategy employed by Davis and Henley.

Such texts and images, once produced, are dispatched. The course they may take thereafter is quite variable: they may go through numerous transformations as they are repeatedly produced, reproduced, and at last distributed to a larger audience through networks such as the Internet and Econet, through faxes, through documentaries picked up by television net-

[14]See Brush and Stabinsky (1996) for a comprehensive overview of issues involved in establishing a legal basis for the recognition of indigenous intellectual property rights.

[15]Bruno Manser is a conspicuous exception here; having lived with Penan for over 6 years he became a fluent speaker of the Eastern Penan language.

works, by fundraising letters, and in books such as that by Davis and Henley.[16]

These are not texts or images produced for mere aesthetic appreciation. They are deployed to make an argument and mobilize support, and intended to empower those they represent. They are, in short, tools of persuasion: they may be asking us to write letters, to send money, or to provide some other form of support. In order to serve as such tools of persuasion, they must *present* the Penan (or the Kayapo, or the Asmat) in ways that make us care and want to do something. They must also connect them to that other thing that is endangered: the forest.

There are any number of ways to achieve these ends. Arguments have been made about the value of the rainforest in terms of global warming, the preservation of biodiversity, and the potential for discovering new medicines. This is still evolving: new arguments continually emerge. Perhaps the most prevalent argument, and the one in which the most direct linkage is made between the fate of forests and peoples, is to assert the importance of indigenous knowledge for preserving biodiversity and to raise the specter of its loss. According to activist Alan Durning, indigenous peoples:

> . . . possess, in their ecological knowledge, an asset of incalculable value: a map to the biological diversity of the earth on which all life depends. Encoded in indigenous languages, customs, and practices may be as much understanding of nature as is stored in the libraries of modern science. (Durning, 1992, p. 7)

Another observer argues that:

> The extinction of biological diversity is inextricably linked with the destruction of cultural diversity. With the loss of native cultures, there is also disappearing the vital and important knowledge of a way of living in balance with the earth and the value system in which it is encoded. To approach the process of restoration, it is essential to learn to see the earth through native eyes. (Ausable, 1994, p. 211; see also Barriero, 1991; Brush, 1996; Burger, 1990; Gray, 1991a,b; IWGIA, 1993–94; Kemf, 1993; Suzuki, 1990; Suzuki and Knudtson, 1992; Taylor, 1990)

A second strategy is to link indigenous knowledge to the sacred or ineffable, partaking of a semantic shift that transforms "knowledge" into wisdom, spiritual insight, or some other such quality. This sort of shift is evident in a 1991 *Time* magazine cover story entitled "Lost Tribes, Lost

[16]The process by which campaigns develop is extremely complex, particularly with respect to the relationship between the initial analysis of a particular context, decisions about how to proceed in a campaign, and the representations that are ultimately produced and deployed. Most environmental and indigenous rights organizations are self-consciously aware of the contrast between the images they purvey and the realities of a given situation, but they must also necessarily provide persuasive images. In any event, it is a mistake to equate the often bold simplicity of campaign images with the processes of analysis and debate that both precede and follow their deployment.

Knowledge" (Linden, 1991). The subtitle of this story is "When native cultures disappear, so does a trove of scientific and medical wisdom." According to Linden:

> The prevailing attitude has been that Western science . . . has little to learn from tribal knowledge. The developed world's disastrous mismanagement of the environment has somewhat humbled this arrogance, however, and some scientists are beginning to recognize that the world is losing an enormous amount of basic research as indigenous peoples lose their culture and traditions. Scientists may someday be struggling to reconstruct this body of wisdom to secure the developed world's future. (ibid, p. 48)

Likewise in *Millennium: Tribal Wisdom and the Modern World*, anthropologist David Maybury-Lewis, states that:

> Western science . . . is only now beginning to understand that peoples who had no "science" of their own could nevertheless have developed a profound knowledge of their corner of the natural world. This is nowhere more true than in the rainforests, yet it is in the rainforests that the clash between Western arrogance and traditional wisdom is most violent. (Maybury-Lewis, 1992, p. 46)[17]

Both of these valorizing strategies—one linking indigenous knowledge to the preservation of biodiversity, the other transforming "knowledge" into "wisdom"—require the deployment of a discourse that places indigenous knowledge at its center. It is the latter transformation in particular that I examine here.

In the following discussion, I provide several examples of the transformation that occurs as ethnographic texts are transformed into environmentalist texts, and how in the process the substantive properties of indigenous knowledge are also transformed. In doing so, I focus on three examples: (1) Penan resource management, particularly as it applies to the *molong* concept, (2) knowledge of the landscape, and (3) the rhetoric of medicinal plants. I focus on these topics because, except in the case of medicinal plants, I myself first documented much of this and published it in a number of articles (Brosius, 1986, 1988, 1990, 1991). This material was subsequently picked up and elaborated on by environmentalists, Davis and Henley among them, and incorporated into campaign materials. With respect to the case of medicinal plants, I provide this example because it illustrates the kind of rhetorical traffic that occurs when indigenous peoples themselves adopt and deploy transnational environmental rhetoric.

[17]In a recent conference paper Anna Tsing examines the emergence of this paradigm, in which the concept of the tribe has reappeared "with a newly powerful international political valence" (Tsing, 1995, p. 2) and in which "tribal wisdom" is accorded a privileged status.

Resource Management and the *Molong* Concept

Sago, derived from the palm species *Eugeissona utilis*, is the carbohydrate staple of both Eastern and Western Penan. The factor which more than any other determines the nature of their distinctive settlement systems—the location of camps and the frequency and distance of movement—is the availability of sago. Penan have a clear idea of the relative abundance and location of sago groves throughout their foraging areas and locate themselves in proximity to sago concentrations. Rather than simply harvesting *Eugeissona*, Penan exploit it in a manner which maintains its long-term availability.

I first described the principles underlying Western Penan resource use in a 1986 article in the *Sarawak Museum Journal* entitled *River, Forest and Mountain: The Penan Gang Landscape* (Brosius, 1986). When I first wrote about these principles, in particular the *molong* concept, they had not yet been described. My primary purpose in writing this article—at a time when an increasing number of Penan communities were being dispossessed by the activities of logging companies—was to demonstrate that they did not wander aimlessly through the forest as was supposed by so many government authorities, but rather had well-established principles of land tenure and a sophisticated system of resource management. I deliberately published this article in a local journal so that it would be available to civil servants and government officials in Sarawak.

In this article, I described Penan conceptions of landscape, particularly with respect to the role that rivers play in organizing landscape knowledge. I also described the significance of trees, and it was in this context that I first described the *molong* concept:

> . . . the Penan landscape is filled with particular trees which are either the property of the whole community or which are recognized as belonging to specific individuals. Of significance here is the concept of *molong*, to preserve.[18] This generally applies to fruit trees of various types, to sago clumps, or, for instance, to large trees which are suitable for boat building. Frequently when traveling in the forest a person will spot a tree which has not been claimed, and will then mark it in some manner, thus reserving it for future harvest or use. In the case of fruit trees, whether they

[18]Since providing this initial definition "to preserve," I have further clarified the semantic content of the term *molong* (Brosius, 1991a, 1992, 1993a). It conveys the sense of fosterage as well as preservation. The *molong* concept does not constitute ownership of resources: rather, it encompasses a somewhat individuated, proprietary concept of stewardship. Other members of the community may exploit resources which are individually claimed, but they must inform the individual who has claimed that resource. The *molong* system does two things: (1) it serves as a way to monitor information on the availability of resources over vast tracts of land, and (2) it prevents the indiscriminate cutting of fruit trees and sago, resources which might otherwise be seriously depleted. In one sense, the entire Western Penan settlement system may be seen as a temporalized manifestation of the *molong* concept.

> are *molong* by an individual or by the community is dependent on the particular species . . . . Even young children actively claim trees, and by adulthood may have accumulated several dozen fruit trees and sago clumps. Significantly, there are a large number of trees . . . which are specifically named . . . . Many of these trees are recognized as having been *molong* by long-dead ancestors and are thus a further source of continuity between past generations and the present. (Brosius, 1986, pp. 175–176)[19]

Having defined the *molong* concept, I then proceeded to describe the process of sago production, contextualizing this with reference to the reproductive ecology of *Eugeissona*. I described how *Eugeissona* reproduces both by seeds and vegetatively and concluded that:

> . . . while the processing of sago in a particular area over a period of several months may lead to temporary depletion, this harvesting strategy does not negatively affect its long-term growth. It appears likely that the thinning of *Eugeissona* in the process of exploitation may actually enhance the production of starch and viable seed . . . . This is not to say that *Eugeissona* cannot be over-harvested and thus depleted. Indeed it can, particularly when the harvesting cycle in a particular sago stand is too short and clumps are not allowed to sufficiently recover before being re-harvested. For this reason the Penan are concerned to maintain a sound harvesting strategy which avoids a foreshortened harvest cycle. When the sago in one area has been depleted, it is left to recover over a period of years. The Penan attitude with regard to *Eugeissona* resources is one of explicit stewardship. (Brosius, 1986, p. 177)

Finally, I discussed the implications of Penan resource use for development policy. My purpose in doing so was to demonstrate "the inadequacy of the notion of the Penan as a people without a sense of place, existing in an anonymous landscape" (ibid, p. 179). I noted that "a sense of stewardship constantly informs the manner in which they exploit their environment" (ibid, p. 179), and ended with the statement that "the Penan are conscientious resource managers, fully aware of sustained-yield principles. They exploit their environment in a way that preserves its long-term ecological integrity" (ibid, p. 182). Given the intent of the article (which also contained a number of specific policy recommendations and suggestions for principles upon which Penan land claims might be legally encoded), I felt it was important to make a clear case for the validity of Penan principles of resource management. Whatever the shortcomings of this article, the information provided is firmly grounded in field research, and constitutes an accurate description of Penan landscape knowledge and principles

[19]It should be noted that Eastern Penan do not *molong* resources to the same degree as Western Penan. Eastern Penan do employ the word *molong* (and the synonym *mulah*), but the concept plays a relatively minor role in Eastern Penan notions of resource management, particularly in its individual aspects. This is not to say that Eastern Penan lack any sense of stewardship over the resources in their foraging areas. It is simply that Eastern Penan concepts of resource management are less formalized and individuated than those of Western Penan.

of resource use. Let us now turn to the way that this description has been transformed in the process of Davis and Henley's (re)presentation.

In each of Davis' individual essays (Davis, 1990, 1992, 1993), and in the essay co-adhered by Davis and Henley (Davis and Henley, 1990a), the issue of Penan resource management is addressed. In one essay, referring generally to the significance of Penan botanical knowledge, Davis states that "For the Penan all of these plants are sacred, possessed by souls and born of the same earth that gave birth to the people" (Davis, 1990, pp. 98–99). In reference to the usage of *Eugeissona*, Davis and Henley state that:

> If there is a pattern to the Penan migration, it is determined by the sacred growth cycle of the sago palm. It is a journey that may take twenty years to complete, an itinerary first described by the ancestors at a time when the earth was young and still wet with the innocence of birth. (1990a, p. 106)

Broadening this description to general principles of resource use, they suggest that:

> Their biological adaptation, together with their spiritual beliefs, demand that they exploit the forest in a sustainable manner. Central to their worldview is a sacred obligation to bequeath to the following generations a healthy forest fully capable of providing life to its human inhabitants. (ibid, p. 107)

Finally, Davis and Henley provide a rather embellished description of the *molong* concept:

> This Penan notion of stewardship is encapsulated in *molong*, a concept that defines both a conservation ethic and a notion of resource ownership. To *molong* a sago palm is to harvest the trunk with care, insuring that the tree will sucker up from the roots. *Molong* is climbing a tree to gather fruit, rather than cutting it down, harvesting only the largest fronds of the rattan, leaving the smaller shoots so that they may reach proper size in another year. Whenever the Penan *molong* a fruit tree, they place an identifying sign on it, a wooden marker or a cut of a machete. It is a notice of effective ownership and a public statement that the natural product is to be preserved for harvesting at a later time. In this way, through time, the Penan have allocated specific resources—a clump of sago, fruit trees, dart poison trees, rattan stands, fishing sites, medicinal plants—to individual kin groups. The Penan acknowledge these as familial rights that pass down through the generations. In many cases the identifying mark on a particular tree takes the form of two parallel sticks—a sign that acknowledges ownership while inviting the wayfarer to share at the proper time in the bounty of the resource. It is the equivalent of a private property sign that reads "please share wisely" rather than "no trespassing." (ibid, p. 114)

Close examination of the preceding statements reveals a number of inaccuracies: the fact that Davis and Henley do not acknowledge the distinction between Eastern and Western Penan, that they infer a system of direct inheritance, and that they include such things as fishing sites and medicinal plants in their discussion of the *molong* concept. More disconcerting, however, is an apparent need to embellish their description with

reference to a form of ecological etherealism that is derived entirely from the Western romantic tradition and has little relation to any set of ideas that would be recognizable to Penan.

Concepts of Landscape

The same characteristics present in Davis and Henley's description of resource management are also evident in the way they describe Penan concepts of landscape. Again this is derived largely from material published by this author. In my 1986 article, I described something of the depth of Penan knowledge of the landscape: the richness of vocabulary for talking about landforms and rivers, the way in which rivers form the skeleton around which environmental knowledge is organized, and how river names incorporate geographical, ecological, historical, and genealogical information. My intent was to demonstrate how Penan encode ecological information in the naming of landscape features, and to demonstrate the coherence existing between the physical landscape, history, genealogy, and the identities of individuals and communities. I described Penan landscape knowledge as follows:

> A conspicuous feature of the Penan environment is rivers . . . . The importance of rivers to the Penan can scarcely be underestimated. In an environment where visibility seldom exceeds 200 ft, these rivers and streams form the skeleton around which environmental knowledge is organized . . . . When traveling in the forest, Penan are always cognizant of their precise location relative to various rivers. This keen sense of spatial relationships derives from an awareness of the relative size of rivers, the angle of flow of one river to another, the topography between particular rivers, the proximity of headwaters of different rivers, and other sorts of environmental cues . . . . To Penan however, the landscape is more than simply a vast, complex network of rivers. Above all it is a reservoir of detailed ecological knowledge and a repository for the memory of past events. (Brosius, 1986, pp. 174–175)

I then proceeded to describe how rivers are named—for persons, for landscape features, for ecological features, or for particular events—and how, in turn, the deceased are spoken of with reference to rivers. I also described the significance of such naming practices in establishing the "cultural density" of the landscape:

> . . . the landscape itself serves as an idiom of the maintenance of historical and genealogical information. This idiom is more than a trivial mode of expressing nostalgia . . . . It is an important mnemonic device for the maintenance of social relationships . . . . At the same time it serves to establish the rights of Penan communities to exploit the resources of a given area. The rivers in which the ancestors are buried are the source of livelihood for their living descendants. (ibid, p. 175)

This discussion of the nature of Penan knowledge of the landscape is altogether transformed by Davis and Henley. Davis states that "For the Penan this forest is alive, pulsing, responsive in a thousand ways to their physical needs and their spiritual readiness" (Davis, 1990, p. 98). Trees are "blessed with spirits, the animals imbued with magical powers" (ibid, p. 99). Discussing the Penan's skill as "naturalists," Davis suggests that it exists because they identify "both psychologically and cosmologically with the rainforest" (ibid, p. 99). Further, "for Penan, every forest sound is an element of a language of the spirit" (ibid, p. 99). Davis states that:

> To walk in God's forest is to tread through an earthly paradise where there is no separation between the sacred and the profane, the material and the immaterial, the natural and the supernatural. (ibid, p. 99)

Davis and Henley maintain that "Fearful of the heat of the sun, ignorant of the seas, insulated from the heavens by the branches of the canopy, their entire cognitive and spiritual world became based on the forest" (Davis and Henley, 1990a, p. 106). Finally, in a more recent work, Davis asserts that:

> The Penan view the forest as an intricate, living network. Imposed from their imagination and experience is a geography of the spirit that delineates time-honored territories and ancient routes that resonate with the place names of rivers and mountains, caves, boulders, and trees. (Davis, 1993, p. 25)

What we observe in the statements above is a strategy by which a pattern of recognizing landscape and encoding knowledge about that landscape is transformed into an obscurantist, essentializing discourse which in fact elides the substantive features of that knowledge. The implications of this will be considered in the discussion to follow.

The Rhetoric of Medicinal Plants

A central element of environmentalist rhetoric on rainforest preservation concerns the value of such forests for the potential medicines they might provide Western science, and the importance of indigenous knowledge as a key to the discovery of those medicines. In the film *The Penan: A Disappearing Civilization in Borneo*,[20] the narrator provides the following commentary:

> The greatest reason for protecting this rainforest is perhaps found in the Penan's knowledge of forest products with medicinal purposes. The stem of a certain leaf cures stomach pains, the inner bark of a tree reduces headache and fever within

[20]Produced by the Endangered People's Project (Mill Valley, CA) and the Congressional Human Rights Foundation (Washington, D.C.), written by Thom Henley, and released in 1989.

> seconds of being applied to one's forehead. When asked if there are any plants nearby that are good for medicine, the Penan will reach for a dozen or more where they stand and explain their use.
>
> With more than 40,000 years of experimentation and observation, the Penan have enormous medical knowledge which Western scientists cannot duplicate. Today less than one percent of the world's tropical forest plants have been tested for pharmaceutical properties. Yet 25% of all our medicine comes from the rainforest. Three-quarters of all anti-cancer drugs are rainforest derivatives. As hundreds of thousands of acres of Sarawak's primary forests are succumbing to chainsaws, the world is coming to realize that this is the tragedy affecting us all.

Likewise, in a televised segment on the Penan from the program *Primetime Live*, narrator John Quinones says that:

> . . . for the Penan all plants seem to serve a purpose. Often they are lifesaving. The bark from this shrub . . . heals snake bites. The Penan have identified fifty medicinal plants here. Scientists say there are thousands more. Like an Old World pharmacist, Balandang had us tasting plants that he says will cure all kinds of ailments.

Though in these cases referring to the Penan, such statements are common in contemporary rainforest conservation rhetoric more generally.

Given his background in ethnobotany and ethnopharmacology, Davis was particularly interested in documenting Penan knowledge of medicinal plants. On his first visit to Sarawak, Davis devoted considerable attention to collecting medicinal plants and to talking with Penan about their uses. According to Davis and Henley:

> Preliminary ethnobotanical surveys suggest that the Penan employ over fifty medicinal plants which they harvest from the primary forest . . . . The first challenge in assessing the potential of other Penan pharmacopoeia entails understanding the belief system that mediates their use of medicinal plants. (Davis and Henley, 1990a, p. 117)

Davis and Henley then proceed to expand on what they mean by "belief system":

> In general indigenous medicine is based on a thoroughly non-western conception of the etiology of disease in which health is defined as a coherent state of equilibrium between the physical and spiritual components of the individual. Health is wholeness, which in turn is perceived as something holy . . . . (ibid, p. 117)

They proceed to discuss a melange of Penan/indigenous theories of disease and, in so doing, again make a plea for the preservation of Penan medicinal knowledge:

> With a spirit world that is alive, the Penan quest for healing and well being is rooted both in magico-religious belief and a perspicacious knowledge of pharmacologically active plants. Understanding their folk medicine and identifying those of their plants that may ultimately serve the needs of all human societies is a complex and time consuming task. Unfortunately, as in the case of indigenous societies throughout the world, the traditional knowledge is being lost at a tremendous rate. Logging activities are destroying the source of the medicines even

> as the forces of acculturation disrupt the integrity of the belief system itself. (ibid, p. 118)

Finally, referring to the complaints of one Penan featured in their 1990 book about the ineffectiveness of medicines provided by the government, Davis and Henley state, "What Dawat is saying is that a synthetic drug cannot replace the spirit of the plants, imbued as they are with the power to heal" (ibid, p. 118).

One of the more interesting consequences of the environmentalist rhetoric of medicinal plants—evident in the preceding quote—is that this rhetoric has itself suffused back to the Penan and been adopted by them as their own. When one visits Penan today, in those areas where blockades have occurred, one of the consequences of forest destruction they most commonly decry is the loss of medicinal plants. As my data collection among Eastern Penan in blockade areas proceeded, I was struck by the frequency with which I heard such statements. In 3 years with Western Penan in the 1980s—in a non-blockade area, and in a mostly pre-blockade era—I rarely heard medicinal plants mentioned or discussed in any context. Certainly Western Penan knew of several, but these tended to be few and to be used for a very broad range of illnesses. I encountered none of the nonstop commentary on the value of traditional medicinal plants that is so evident today when one walks through the forest with Eastern Penan. When I first began working among Western Penan, I fully expected that I would hear much more on this subject. In 1980, I conducted fieldwork among Pinatubo Atya in the Philippines, who have an enormous knowledge of medicinal plants (Fox, 1952) and who constantly pointed them out. What struck me about Western Penan in the 1980s is that they showed so little interest in medicinal plants. In the 1990s, Western Penan in the Belaga District still did not, yet Eastern Penan in the Baram District—that is, in those areas visited by environmentalists—did so with remarkable consistency.[21]

Davis and Henley are not alone in stressing the richness of Penan knowledge of medicinal plants. Other environmentalists writing about the Penan also frequently mention this. Part of the reason for this is that they are told about such plants by Penan. I believe that what we are observing here is what might be termed the "Plotkinization" of the discourse of indigenous knowledge of medicinal plants. Mark Plotkin, of course, has been a leading figure in developing an awareness of the depth of ethnobotanical

[21]I do not mean to imply that the Penan are lacking ethnobotanical knowledge. Indeed, their knowledge of forest plants is considerable. However, this knowledge tends to focus on plants whose utility is rather mundane: fruit trees, trees that are suitable for firewood, varieties of rattan useful for making particular types of items, and the like. It is for this reason that the contemporary Eastern Penan emphasis on the threat to medicinal plants is so remarkable.

knowledge of medicinal plants among indigenous peoples in Amazonia.[22] This awareness has diffused into the rhetoric of rainforest conservation in many ways: it has now become standard practice to describe the depth of knowledge of medicinal plants of particular rainforest societies. Such knowledge may exist in other indigenous societies, but it is much less significant among Penan than recent statements would lead one to expect. This is a kind of ethnographic hall of mirrors; drawing on rhetorics derived from an Amazonian context, environmentalists have brought assumptions derived from a familiarity with Plotkin's work to the Penan, who then repeat it back to other environmentalists, who take it as an exemplar of the depth of indigenous knowledge. Precisely how this has occurred is nearly impossible to reconstruct, but it would seem that it occurs in the myriad conversations that have occurred between Penan and the environmentalists who have visited them. Penan take note of the Western gaze on medicinal plants and turn it back to them as commentary. One anecdote serves as an illustration of this process. I was walking along a ridge with a group of nomadic Penan, when we passed through a small patch of *Belaßan* trees (*Tristania* sp.). One of the Penan I was with stopped, pointed at these trees, and said that one environmentalist who had spent some time with them had said that in trees like these there were medicines, and that that is one reason the forest should be saved—to search for such medicines. Though this anecdote does not refer directly to the matter of Penan knowledge of medicinal plants, it does reflect something of the kinds of conversation that have fostered this element of Penan discourse.

DISCUSSION

Drawing mostly on the writings of Davis and Henley as an exemplar of a more general phenomenon, I have attempted to show in one ethnographic context how indigenous "knowledge" is represented and transformed. It has not been my goal to simply provide a particularistic critique of how one group of people have been portrayed and to describe what Penan are "really" like. Nor is this discussion intended as a critique of Western representations of the "other." That would hardly be very original. Rather, this case raises several fundamental questions about how objective conceptions of knowledge are appropriated and deployed in environmental campaigns, and what the consequences of this might be.

[22]Like Davis, Plotkin was trained by Richard Schultes. Long before the theme of indigenous knowledge of medicinal plants became an element of rainforest conservation rhetoric, Schultes impressed upon his students the potential importance of studies focusing on this topic among native Amazonians.

There are, in fact, several ways in which the objectivist conception of knowledge has been transformed in the texts I have provided. I have focused on one in particular in the first two cases discussed above: how indigenous "knowledge" is linked to the sacred or ineffable. As noted, it is transformed into wisdom, spiritual insight, or some other such quality. This transformation serves a certain purpose. In describing peoples such as the Penan, the problem for environmentalists and indigenous rights activists is twofold. First, how does one make a society narratable? That is, what must one do to be able to talk about it? However one defines indigenous knowledge, it is not easily accessible. It is not something that can be picked up in a few short weeks, particularly for individuals lacking linguistic competence. The problem for environmentalists is how, nevertheless, to create texts about peoples such as the Penan, and how to talk about the knowledge which they hold to be so valuable without actually comprehending much about that knowledge. Second, how does one create value? Environmentalist and indigenous rights campaigns are generally concerned with peoples who are "endangered" precisely because they, their institutions, and their systems of land-tenure are disvalued by national governments. The Malaysian government considers the Penan a national embarrassment, a people who represent precisely those things they are trying to overcome in their national development efforts. The goal of environmentalists then is axiological: to demonstrate both to the government and to Western audiences what is at stake if the forest, and the Penan, are destroyed.

By reducing Penan knowledge to the sacred or ineffable, the Penan are made both narratable and valuable. In linking knowledge to the sacred, commentators acquire a way to construct meta-commentaries about the *meaning* of a body of knowledge, rather than about that knowledge itself. The danger, of course, is that such meanings may only be interpolated and may, in fact, be Western in origin.

In short, the discourse of the sacred serves to make Penan narratable, all the while serving to elide gaps in understanding. At the same time it also imbues them with value: a value that authors themselves feel in a most profound way, but cannot otherwise articulate. It makes land, resources, and people inviolable, and it does this by appealing to preexisting categories of value: the endangered, the last whisper of an ancient past. As David Suzuki said of one Penan "Listen to Dawat. He is what we once were" (Suzuki, 1990, p. 8).

The meta-commentary on the sacred or ineffable has a number of pernicious effects. The most obvious is that it imposes meanings on Penan "knowledge" that may be quite imaginary. In imposing some meanings, it expunges others. Penan certainly have some sense of the ineffable, and this is expressed in a range of concepts relating to power, avoidance, respect,

and so forth (see Brosius, 1992, 1995, 1995–96). But it is nothing like the obscurantist sanctity Davis and Henley describe. Reducing the ineffable to "sacred" transforms and distorts it.

Second, it paradoxically makes generic precisely the diversity that it is trying to advance. Whatever else sanctity is, it is not a universal category. In presenting Penan knowledge as wisdom or insight having a sacred quality, one is imposing a falsely universalized quality on a range of peoples, and thereby collapsing precisely the diversity that defines them. The Penan are transformed into a homogenous "indigenous people," or "forest people." This is a very common—and often quite explicit—element in contemporary commentaries on indigenous rights. For instance, Durning states that "Amid the endless variety of indigenous belief, there is striking unity on the sacredness of ecological systems" (Durning, 1992, pp. 28–29). According to Native American activist Winona LaDuke:

> Traditional ecological knowledge is the culturally and spiritually based way in which indigenous peoples relate to their ecosystems. This knowledge is founded on spiritual-cultural instructions from "time immemorial" and on generations of careful observation within an ecosystem of continuous residence. (LaDuke, 1994, p. 127)

Suzuki describes "this ancient, culturally diverse aboriginal consensus on the ecological order and the integrity of nature [which] might justifiably be described as a 'sacred ecology' . . ." (Suzuki, 1992, p. 18). Barreiro asserts that:

> Indigenous cultures are rich in ecological concept. "Our Mother the Earth" is a reality in the cosmologies of virtually every native people in the world . . . . It is one of the currents of thought that make up Pan-Indigenous philosophy and a basic message of the Indian peoples. (Barreiro, 1991, p. 200)

And Wade Davis describes the Penan as "Related in spirit to the Mbuti pygmies of Zaire and the wandering Maku of the Amazon" (Davis, 1993, p. 24).

The discourse of medicinal plants is something else again. I do not mean to suggest that Eastern Penan lack knowledge of medicinal plants. Rather, what is significant is the way in which Penan presently emphasize and elaborate on this domain of knowledge as a central element of their objections to logging, a product of environmentalist involvement with Penan. Indigenous knowledge of medicinal plants forms a highly narratable domain and invests environmentalist statements about the Penan with an aura of authority. As such, it becomes a locus around which environmentalists and Penan can converse. One might argue that those domains of indigenous knowledge that are most accessible in this manner are elevated to a particularly important status in the discourse of endangered knowledge.

In the preceding discussion, I have attempted to show how, in an effort to make a people narratable and to create value (all the while essentializing

them as "forest people"), environmentalist discourse about indigenous knowledge has the potential to transform that knowledge into something it is not. To save something, or to mobilize an audience to want to save something, requires that it be made beautiful or profound, or have some transcendent value. In creating that value, however, the thing itself is transformed. Thus the rich, if generally mundane, Penan knowledge of the forest landscape by being transformed into something that is sacred, valued, and thus to be saved, is constructed in terms of categories that are Western in origin. We see here a hall of mirrors of representation—simulacra—as Penan knowledge is transformed into something that it is not, and Western discourses are transported to Penan, who again convey them to Western interlocutors. The essential—and diverse—qualities of indigenous knowledge are lost along the way. As the future of the forests, other biomes, and indigenous peoples is negotiated in the years ahead in a plethora of post-Rio international fora, the issue of who talks for whom and who constructs representations of whom is critical.

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