

## CHAPTER 10

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# Plants ‘of the Ancestors’, Plants ‘of the Outsiders’: Ese Eja History, Migration and Medicinal Plants

MIGUEL N. ALEXIADES AND DANIELA M. PELUSO<sup>1</sup>

### Introduction

In their preface to *The Healing Forest*, Schultes and Raffauf (1990: 9) remark how indigenous pharmacopoeias have been accumulated through ‘experimentation over centuries by people living in intimate association with their environment and wholly dependent on their ambient flora and fauna for the necessities and ameliorants of life’. The view of indigenous medicinal plant knowledge as largely empirically based and archaic is widespread among ethnobotanists (see also Voeks, this volume). The Ese

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Eja,<sup>2</sup> an indigenous group of people living in southwestern Amazonia in the border areas between Peru and Bolivia, have an elaborate and diverse pharmacopoeia of plant, animal and mineral origin. Between 1985 and 1997, for example, we documented knowledge regarding the use of roughly 250 species of plants and animals in contexts relating to health and well-being (Alexiades 1999) – a repertoire comparable in size to those reported for other Amazonians.<sup>3</sup> Contrary to stereotypical views, however, this pharmacopoeia is not largely the product of knowledge accumulated through empirical observation and transmission across centuries. Indeed, Ese Eja explicitly disown much of this knowledge, linking it instead to contact with a range of ‘outsiders’ subsumed under the category of *deja* (*gente* or *mestizos*, in Spanish), social others associated with the extractive economy and with whom the Ese Eja began to interact early in the twentieth century, and directly as a result of colonisation and market penetration.

In this chapter we present evidence to suggest that Ese Eja medicinal plant knowledge can be more productively understood as historically contingent. We suggest that the ways in which Ese Eja think, talk about and interact with many medicinals reflects recent historical, social and ecological transformations. Specifically, we propose that the concatenation of twentieth-century downriver migration, sedentarisation and heightened involvement with agriculture and market-based forest extractivism is reflected in how plants are used, both symbolically and materially. We show how Ese Eja ascribe social identities to plants and to the contexts in which they are utilised. In this way, plants serve as symbolic resources through which Ese Eja position themselves, individually and collectively, socially and politically, within the shifting junctures of contact and exchange between different indigenous and non-indigenous societies. We also examine the reported increase in knowledge and reliance on plants used to treat specific disease symptoms in light of the ecological and epidemiological changes widely associated with recent downriver migration and with increased sedentarisation and urbanisation. The use of plants as social, political and pharmacodynamic resources underscores the complex multidimensionality of medicinal plant knowledge and use.

2. Ese Eja is an ethnonym whose widespread use is fairly recent. The more commonly used exonyms Chama and Huarayo, used in Bolivia and Peru respectively, are pejorative and confusing, as they are also used for other linguistic groups in western Amazonia.
3. See, for example, Balée (1994) for the Ka’apor, Boom (1987) for the Chácobo, Cavalcante and Frikel (1973) and Plotkin (1986) for the Tiriyo, Milliken et al. (1992) for the Waimiri-Atroari, Bennett et al. (2002) and Lowell (1994) for the Shuar, and Pinkley (1973) for the Kofán.

## The Ese Eja

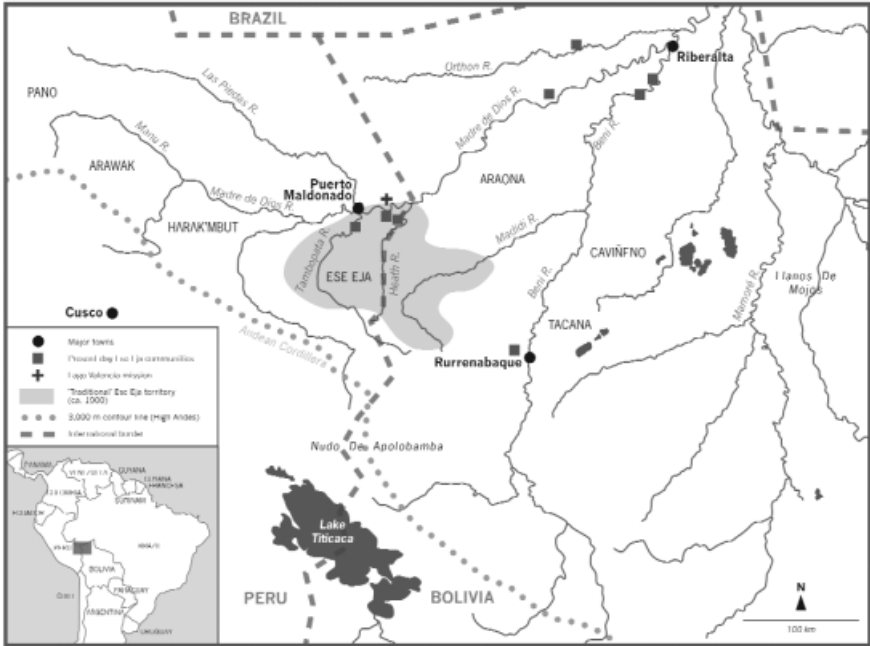
Numbering about 1,500, most Ese Eja live in nine titled communities widely dispersed along the Madre de Dios and Beni rivers and their tributaries in the border areas between Amazonian Peru and Bolivia (Figure 10.1). While subsistence strategies and the degree of involvement in market-based activities vary among individuals, households and communities, as well as countries, most Ese Eja practise swidden-fallow agriculture, hunt, fish, gather and process forest products, and are involved in commercial forest extractivism. Most men occasionally, and some frequently, work as labourers in the agricultural, extractive or service sectors. Increased market involvement, with its corresponding lowland, riverine and sedentary settlement, and a more agriculturally-based subsistence are twentieth-century phenomena, associated with post-rubber boom downriver migration (Shoemaker et al. 1975; see Zent this volume). Present-day settlement and subsistence contrast sharply with those which prevailed at the end of the nineteenth century. High levels of residential and circular mobility, and a heavy reliance on hunting, fishing and gathering, complemented by a dispersed form of plantain-based agriculture, together with a material and symbolic affinity with the headwaters (*eyobi*), are all additional characteristic features of the lifestyle and subsistence of the *etiikiana*, or ‘ancestors’ (*antiguos*, in Spanish).<sup>4</sup>

Net downriver migration and concentration around zones of contact with the regional market economy hinged on new kinds of relations with, in some cases different kinds of, people, plants, animals, environments and places, as well as a concomitant abandonment or transformation of old ones. History, then, is not only ‘spatialised in the landscape’ (Rival 2002: 49; see also Chernela 1988; Gow 1995; Santos-Granero 1998), but also in the plants and animals – specific and generic – with whom people have (dis)engaged over time, through their thoughts, words and actions (Rival 1998; Whitehead 2003).

## The Makings of Ese Eja Society: Migration and Ethnogenesis

Before examining the impact of twentieth-century migrations and social change on Ese Eja relations with plants, it is instructive to review what we

4. Unfortunately, we know very little about Ese Eja subsistence prior to the end of the nineteenth century. In any event, the settlement and subsistence patterns described at this time, and which the Ese Eja identify as ‘traditional’, could easily have been a reflection of the demographic, social and political disruptions associated – directly or indirectly – with colonisation along different temporal and geographical fronts.



**Figure 10.1. Ese Eja traditional territorial distribution and present-day communities in Peru and Bolivia.**

*Illustration:* Jana Traboulsi, 2007.

know regarding the origins of Ese Eja language and society, even though sources are scant and their significance, accuracy or reliability is often hard to interpret. Our hypothesis, tentatively sketched out in the summary below, is that Ese Eja ethnogenesis is linked to the process of social, political and spatial differentiation that ensued following contact between Takana-speaking peoples and pre-colonial (notably Andean), colonial (European) and, more recently, post-colonial states (Bolivia and Peru), along three major historical fronts of intermediation: the Andes to the south, the Llanos de Mojos to the east and, beginning in the late nineteenth century, the larger navigable rivers associated with the Madre de Dios-Madeira river basin to the north (Figure 10.1).

Ese Eja is one of four languages in the Takana linguistic family.<sup>5</sup> The similarities with the three other languages – Tacana proper, Cavineño and

5. In order to avoid confusion between the name of the language family and that of one of its constituent languages, we use ‘Takana’ to denote the former and ‘Tacana’ for the latter.

Araona – together with their geographically contiguous and circumscribed distribution, hint at a relatively recent process of sociolinguistic differentiation, centred in the border area of lowland Amazonian Peru and Bolivia, north of Lake Titicaca. The linguistic proximity between Takanan and the larger, and more widely distributed, Panoan language trunk suggests a common origin, geographically located in eastern Bolivia (Key 1968; Lathrap 1970; Girard 1971; Chavarría and Sánchez 1991). One hypothesis, based on linguistic and archaeological evidence, dates Panoan migrations west and north out of this area and into the neighbouring Ucayali river between the fourth and eighth centuries AD, providing one possible time frame for the initial splintering of Takana languages (Myers 1970, cited in Tournon 2002: 34; Noble 1965).<sup>6</sup> While the precise origins, timing and form of these early migrations remain largely conjectural, it is very likely that subsequent sociolinguistic differentiation among Takanan languages is, at least in part, colonial, an observation first made by Armentia (1883) over a century ago.

The Andes have been an important axis of contact for Takana-speaking peoples for a long time, though the intensity and form of contact have been uneven in time and space. The Inca, for example, were able to extend their physical presence deeper into the Beni river than along rivers further west, including the Tambopata river (Renard-Casevitz et al. 1988).<sup>7</sup> Archaeological evidence for the historical presence of the Inca on the Beni includes at least two forts, one near Ixiamas – west of Beni and close to the Madidi river – and another one on the confluence of the Beni and Madre de Dios rivers, suggesting that the Tawantinsuyu, or Inca state, extended well into the lowlands (Pärssinen et al. 2003). The links between Andean and lowland Takana-speaking groups in the Beni preceded the Inca, and included such intermediary societies as Kallawayá, Lecos and Aguachile (Dudley, this volume). Trade and exchanges between the Inca, for example, and Arabaona (subsequently linked to Araona), Uchupiamona and Eparamona (subsequently linked to the Tacana) are widely documented (Renard-Casevitz et al. 1988).<sup>8</sup> Indeed, early descriptions of the Takana-speaking peoples of the upper Beni suggest significant Andean influences, both material and symbolic (Montaño 1987; Hissink and Hahn 2000).

6. D'Ans (1973), on the other hand, proposed the Ucayali as the geographical centre of origin for Panoans.
7. Renard-Casevitz et al. (1988) note how, paradoxically, Inca penetration into the lowlands was weaker closer to the heart of the empire, where the piedmont is topographically abrupt and inaccessible, in contrast to the open valleys of the *selva central* further to the north, or the savannahs to south, for example.
8. The intensive interactions between the Kallawayá- and Tacana-speakers are thought to have included the trade and exchange of medicinal plants as well as of ritual and shamanistic knowledge, and it is in this context that the peripatetic Kallawayá healers may have emerged (Renard-Casevitz et al. 1988).

In contrast to these Takana-speaking groups (Brinton 1892: 47ff.) and to other neighbouring piedmont groups, however, there is little linguistic or ethnohistorical evidence to support the notion of widespread or prolonged exchanges between the ancestors of Ese Eja with Quechua-speaking Inca or the Aymara.<sup>9</sup> In other words, pre-Hispanic intermediation along the Andes may have already polarised Takana-speaking peoples, with some groups seeking to establish regular exchanges with Andean states, and others actively avoiding them.

Even though the Spanish conquest and the collapse of the Inca empire signified the relative disarticulation of the Andes and Amazon (Dudley, this volume), the former remained an important axis for colonial penetration, albeit uneven in time and space (Moore 2006: 19). The seventeenth-century Franciscan Misiones de Apolobamba, for example, began concentrating Takana- and Quechua-speaking peoples in several missions along parts of the upper Beni and Madidi rivers, further contributing to Tacana and Cavineño ethnogenesis through their direct incorporation into colonial modes of production and intimate contact with Quechua-speaking peoples (Anonymous 1771; Metraux 1948; Montaña 1987). In contrast to these groups, other Takana-speaking peoples actively avoided missionisation.<sup>10</sup> These groups, which include the ancestors of the Ese Eja, retreated to the more inaccessible tributaries and headwater areas, raiding Tacana and Cavineño missions in order to obtain highly valued metal tools (Armentia 1883; Metraux 1948).<sup>11</sup> Two short-lived extractive booms linked to gold and quinine bark or *cascarilla* (*Cinchona* sp.), during the late sixteenth and mid-eighteenth centuries respectively, also led to brief colonial incursions into the region along the Andean border, though the extent to which Ese Eja interacted or avoided contact with this front of colonial expansion is not clear. Moore (2003: 79) observes that the successive expansion and contraction of these extractive fronts created 'an elastic frontier', to which piedmont societies responded by relocating up- or downriver, accordingly (see also Dudley, this volume).

The tropical savannah region of Llanos de Mojos, adjacent to the Mamoré river acted as another important axis of contact and intermediation in pre-colonial and colonial times, though we lack information on the extent and

9. The lack of any reference to the Inca in Ese Eja oral narratives contrasts sharply with those of neighbouring Harakmbut, pre-Andean Arawak and Panoan groups (Camino 1977; Gray 1997; Renard-Casevitz et al. 1988; Kennsinger 1995).
10. Attempts to missionise the Ese Eja, which included that by the Misión de Santiago de Pacaguaras, abandoned in 1840, were only partly successful (Metraux 1948). Likewise, attempts to establish long-term missions in the area around Carabaya, in what is now Peru, were not as successful, particularly in the lowlands (Fernández, 1952: 192).
11. These attacks on the missions in Bolivia continued as late as the early twentieth century (Fawcett 1911: 378).

precise nature – if any – of the interactions between Takana-speaking groups and the Arawak Mojos chiefdoms, famous for the extensive system of mounds and ditches (Denevan 2001; Renard-Casevitz 2002).<sup>12</sup> The accessibility of the Llanos de Mojos facilitated their early colonisation and the establishment of large Jesuit missions in the seventeenth century, which in turn led to the demise of the Mojos polities, and to a concomitant wave of indigenous westward and northward migrations (Renard-Casevitz et al. 1988; Block 1995). Subsequent Jesuit incursions into the Beni led to further displacement of Ese Eja westwards and into the Madidi (Armentia 1883). As was the case along the Andes then, European expansion from the Llanos de Mojos may have contributed to Ese Eja ethnogenesis by favouring the displacement and concentration of Takana-speaking peoples westwards and into the more inaccessible river and headwater regions.

Early colonisation along parts of the Mamoré most certainly set off a wave of epidemics and depopulation upriver along the Beni and Madre de Dios rivers. Archaeological and ethnohistorical evidence strongly supports the notion that large sections of these major rivers were densely populated in pre-hispanic and early colonial times (Arnold and Prettol 1988; Gonzáles del Río 1973, cited in García 2003; Pärssinen and Siiriäinen 2003: 40). By the mid-eighteenth century these areas were largely de-populated. Around this time, and before the onset of the rubber boom, Ese Eja were apparently expanding out of the Tambopata and Heath rivers and into the Madre de Dios river itself, taking advantage of the very rich aquatic resources there. This downriver migration was sharply and dramatically interrupted by the onset of the rubber boom, leading to a retreat towards the headwaters (Alvarez 1937). In any event, by the mid-nineteenth century then, Ese Eja were established along several tributaries of the upper sectors of the Madidi (for example, *natawa* and *nao'o*), parts of the Hundumo river (*epawatewe*), as well as the entire Heath (*sonene*) and Tambopata (*baawaja*) drainage systems.<sup>13</sup>

12. The presence of black soils associated with abundant pottery shards in certain non-flooded areas of the Beni (Michael Riepma, personal communication 1994), together with the presence of earthworks (Arnold and Prettol 1988), substantiates early historical accounts (Alvarez Maldonado [1596] 1906, cited in Pärssinen and Siiriäinen 2003: 40; Recio de León [1623] 1906, cited in Pärssinen and Siiriäinen 2003: 40), and suggest that parts of the Beni were intensively occupied in pre-Columbian times.
13. There are slight phonemic differences associated with the dialects spoken in the three river basins. Within each of these river basins, a number of ethnonyms were used to distinguish different subgroups, according to tributaries they occupied or which they traced their origins to. The *na'wo'o'kuiñaji* ('people of the Malinowski river'), the *ibabi-anijikuiñaji* ('people of the Tabar river') and the *kuishokueikuiñaji* ('people of the La Torre river'), for example, are the ethnonyms used for different Ese Eja that used to live on three different tributaries of the Tambopata river, the descendants of whom refer to themselves as *baawajakuiñaji* ('people of the Tambopata river').

The exploration of the Beni, Madre de Dios and Tambopata rivers in the late nineteenth and early twentieth century opened up the region to the rubber-based extractive wave that had already swept through much of Amazonia (Heath 1883; Villalta 1904b). In contrast to the previous gold and quinine extractive fronts, however, rubber was not associated with the Andean mountains or piedmont but, rather, with lowland Amazonian forests. Despite its late arrival in the region (1881 in Beni, Bolivia and 1902 in Madre de Dios, Peru) and its relatively short duration (the international price for rubber collapsed in 1912), the effects of the rubber boom were dramatic, profound and long-lasting. Large numbers of labourers from other parts of Peru, as well as Ecuador and Bolivia, poured into the region. Rubber bosses (*caucheros*) sought to enlist local indigenous labour, often through the use of violent, coercive means, epitomised in the infamous slave-raids or *correras*. As a result, Panoan-, Arawak- and Harakmbut-speakers living in areas with the richest stands of rubber (*Hevea brasiliensis*) either died from introduced epidemics or else were eliminated by or assimilated with rubber-tappers or neighbouring rival groups (CORDEMAD 1986).

The impact of the rubber boom was not as severe on groups living in the southern tributaries of the Madre Dios, including the Ese Eja, mainly because stands of high-quality rubber are thinner there, with rubber tapping largely confined to the lower-quality caoutchouc (*Castilloa ulei*).<sup>14</sup> Even so, the rubber economy profoundly transformed Ese Eja society, creating demographic havoc and polarising it spatially and socio-politically. While some people retreated to less accessible tributaries and headwaters, others strategically positioned themselves along the more navigable, accessible and frequently travelled rivers, developing trading relations with rubber-tappers, learning Spanish and working as guides or boat operators (see, for example, Villalta 1904b; Fernández, 1933).<sup>15</sup>

The rubber boom thus marked the beginning of intensified relations between Ese Eja, the state and the regional market economy, a process that has continued and intensified, albeit unevenly, since then. The collapse in international prices for rubber in 1912, with the corresponding weakening of the extractive frontier and the end of slave-raids, marked a new phase in the incorporation of the Ese Eja into the extractive economy. In Peru this was mediated and encouraged first by Dominican missionaries and then

14. The Tambopata river, which served as the main axis of communication between Puerto Maldonado and the rest of the country, was, however, severely affected and depopulated of its indigenous population to a greater extent.
15. Fleeing to the inaccessible reaches did not provide full protection against raids from other Ese Eja or neighbouring indigenous groups, who sought to procure children for rubber-tappers in exchange for guns (Aza 1930: 51–52), at times with the complicity of the authorities (Fernández 1939).



by *patrones*, ‘bosses’ established in small agro-extractive estates along the Madre de Dios river and the lower reaches of its tributaries.

Between 1912 and 1939 Dominican missionaries, and most notably Father José Alvarez, sought – at times quite aggressively – to entice surviving bands of Ese Eja away from numerous tributaries and into the mission of Lago Valencia, in the lower Madre de Dios river (Fernández 1952; Barriaes 1973; see Figure 10.1).<sup>16</sup> By the time the Dominicans closed down Lago Valencia in 1943 to direct their efforts towards ‘the conquest of the Mashcos’, or Harakmbut (Fernández 1952), most Ese Eja in Peru had lived, at one point or another, in the Dominican mission.

The rubber boom was also formative, in that it established the social and political foundations for a regional extractive economy whose influence continues to this day. After the collapse of the international market for rubber, commercial extraction shifted to other natural resources, including animal furs, Brazil nuts and, in the second half of the twentieth century, timber and gold. Many of the social institutions put in place during the rubber boom, including the *habilitación* system of exchange between extractivists and the middlemen who advanced loans to them (*habilitadores*), remain in place to this day. *Patrones*, many previously involved in rubber extraction, acted as key agents of intermediation in Peru, particularly following the closing of the Dominican mission of Lago Valencia and up to the land reforms of the early 1970s.

In Bolivia, the legacy of the rubber boom was even more dramatic and prolonged, given that the rubber baron Nicolás Suárez ran an efficient, powerful and interconnected system of agro-extractive estates (*barracas*) until his death in the 1950s (Fifer 1970). During this time and up to the 1960s, when Summer Institute of Linguistics missionaries began to concentrate the Ese Eja in a mission post on the lower Beni, Ese Eja lived dispersed along parts of the Madidi and Beni rivers, usually close to, or within, the *barracas* established by the Suárez enterprise.

Differences between Peru and Bolivia notwithstanding, by the 1950s most Ese Eja were directly engaged by and often living close to extractive bosses (*patrones*), and thus participating – even if often rather peripherally – in the regional economy. In Peru, Ese Eja began to receive titled lands

16. Father José Alvarez, famous for his missionary work in Madre de Dios candidly reveals how:

We managed to gather several hundred savages in this mission, and would have been able to gather many more if it were not for our lack of more civilising, and coercive, elements, without which it is impossible to contain their wild instincts ... though there were other contributing factors too, among them epidemic illnesses, like flu, which have a devastating effect among these people ... in seven years we have had forty deaths. (Alvarez 1938: 51, translation ours).

(*Comunidades Nativas*) in the 1970s, a process that further catalysed sedentarisation and urbanisation through the provision of, and increased dependency on, state-run centralised services, such as schools, health posts and, more recently, development and conservation programmes (Peluso and Alexiades 2005). In Bolivia, where land reform did not reach the lowlands until the late 1990s and is still ongoing, Protestant missionaries from the New Tribes Mission and the Summer Institute of Linguistics filled the vacuum left by a weak or altogether absent state, acting as important catalysts for spatial concentration and sedentarisation, and substituting for the state in the provision of centralised services (Shoemaker et al. 1975).<sup>17</sup>

## Migration, Social Change and Subsistence

The process of twentieth-century downriver migration and incorporation into the regional economy was intermittent, gradual, multi-directional and yet unequivocal (see also Zent, this volume). Moreover, it entailed a parallel shift in social and ecological relations, itself underscored by several factors.<sup>18</sup> First, participation in the market economy necessarily created new needs, demands and possibilities regarding what and how resources were utilised. After the mid-twentieth century, for example, Ese Eja began spending more time harvesting commercially valuable forest species, such as rubber, Brazil nuts, leaf thatch and timber. They also began to intensify their agricultural production systems through the adoption of more labour-intensive crops and practices. New modes of production and consumption were in turn facilitated by the greater access to industrially manufactured tools, as well as by the arrival of new animal and plant domesticates – notably rice, domestic fowl and pigs.<sup>19</sup> The lower sectors of the rivers, with their more abundant and productive bodies of water, made fishing a much more important activity. Additionally, the incorporation of new technology such as metal hooks and nets not only made fishing more productive but allowed people to capture new species, such as the larger catfish (*hai*). This realignment of Ese Eja economic, social and ecological

17. Since the departure of the Summer Institute of Linguistics from Bolivia in 1980, the mission of Portachuelo has been run by New Tribes Missionaries.

18. For a more detailed account of the dynamics of twentieth-century social and ecological changes see Alexiades (1999).

19. Swidden-field agriculture became more important following the arrival of steel tools early in the twentieth century, which greatly facilitated the task of clearing forest. Nordenskiöld (1906: 532), for example, reports how Ese Eja favoured, and were somewhat limited to, sites that could be cleared more easily, such as bamboo forests (see also Denevan 2001). Commercial extraction of rubber, Brazil nuts or timber is likewise contingent on metal tools.

relations following downriver migration and decreased residential mobility, is reflected and expressed in the symbolic appropriation of plants and animals and their utilisation in the treatment of illness as well as, more generally, in the incorporation of new kinds of knowledge, habits, skills and, hence, identity.

## History, Migration and the Social Identities of Plants

One of the ways in which Ese Eja categorise plant resources and their associated uses is according to their ascribed social origin. Plants associated with life before Ese Eja had extensive contact with the regional society are known as plants ‘of the ancestors’ (*etiikianaha*). These plants, in turn, stand in contrast to those plants ‘of the outsiders’ (*dejaha*) which became incorporated into Ese Eja society following the twentieth-century downriver migrations. The spatial distribution of many important *etiikianaha* plants is restricted to the ‘headwaters’ (*eyobi*), since these are the areas that were most intensely occupied and used by ‘ancestors’ (*etiikiana*).<sup>20</sup> Examples include the prized fruit *chapa* (*Calatola* sp.) and a number of cultivated varieties of bamboo (*Guadua*), traditionally used to make arrowheads: *saki shape*, *sakihia* and *hinicho bikia*. Other plants, like *bekiobo* (*Gynerium sagittatum*) – used for numerous purposes, including roofing for temporary beach camps – or *mae* (*Bactris gasipaes*, peach palm) grow in the lower parts of the river too, but are still referred to by Ese Eja as *etiikianaha* because their relationships and interactions with these plants extend to, and even define, traditional subsistence.

In contrast, introduced species such as *Jatropha curcas* – an ornamental and medicinal – and rice – a recent food staple – are referred to as plants of ‘the outsiders’ (*dejaha*). These plants, along with many others, were incorporated by the Ese Eja after the 1930s, as part of their increased engagement with the regional market economy and their relocation downriver. Just as species associated with the ‘headwaters’, *eyobi*, or with

20. The term *eyobi*, as the name suggests, refers to the middle and upper sectors of the river, where ‘hills’ – the easternmost foothills of the Andes – become an important part of the visible landscape. In other words, the category extends to areas that are still relatively flat (with elevations as low as 300 metres above sea level in some rivers, but climbing up to 600 metres and more and flanked by hills 1,000 metres or more above sea level), but which are distinct in many ways from the lower sectors of the river, closer to the mouth. The clear, barely navigable, fast-flowing waters, the boulder-strewn beaches and the abundant rapids of the ‘headwaters’ (*eyobi*), for example, contrast sharply with the gentle, meandering riverine landscape of the lower sectors (*ekijati*), with muddy navigable rivers, large sand bars and fertile floodplain.

traditional subsistence are *etiikianaha*, so species associated with the lower sectors of the river (*ekijati*) or with 'outsiders' (*deja*) are *dejaha*. Ultimately, it is not just plants but also specific 'activity contexts' (*sensu* Balée 1994: 4–5) that are also labelled as *etiikianaha* or *dejaha*. The use of the forest vine *baweya*, *Philodendron lechlerianum*, for the treatment of snakebite, for example, is *dejaha* ('of the outsiders'). Even though, as a native plant resource, *Philodendron* has always been part of the botanical universe of the Ese Eja, its role in the treatment of snakebite is explicitly associated, in this case, to contact with *deja*. In some instances, the same medicinal resource will have some activity contexts or 'uses' associated with *deja* and others with Ese Eja. Hence, the use of *Salix humboldtiana*, *besiikwiji*, to treat *see-see*, diarrhoea, is *etiikianaha*, whereas its use for treating headaches is *dejaha*.<sup>21</sup>

The tendency for Ese Eja to classify treatments based on their social origin also means that some activity contexts – including for example, *kono* (intestinal parasites) – are broadly recognised as *dejaha*. Indeed, most Ese Eja, certainly up to the 1990s, did not consider intestinal parasites to be a serious health problem and so the treatment of gut worms is generally imbued with *dejaha* significance. Other activity contexts, such as treating stingray stings, for example, are not *dejaha* in and of themselves, but most of the medicinal resources associated with them are. Most activity contexts, including *see-see* (diarrhoea), *kiyo* (fever) and *oho* (coughs), include both *dejaha* and *etiikianaha* medicinals (Alexiades 1999).

The categories of *dejaha* and *etiikianaha* reflect the degree to which plants and the activities or knowledge associated with them are socially appropriated and internalised.<sup>22</sup> If plantains (*ejawi*) are a post-Columbian introduction, as indeed the orthodox view holds them to be (Strover and Simmonds 1987), then the fact that these are *etiikianaha* plants *par excellence* underscores this point. Plantains not only formed a cornerstone of traditional Ese Eja subsistence (Nordenskiöld 1906; Fawcett 1911; Weiss 1925: 77), but their importance is also unsurpassed in traditional symbolic and ritual life.<sup>23</sup> Not only are plantains one of the few plants explicitly named in the otherwise largely fauna-centred *corpus* of Ese Eja oral traditions, but they also formed the basis for a ritual beverage used in the

21. The term *dejaha shemeyo* is used to describe all 'outsider' medicines, including manufactured pharmaceuticals as well as medicinal plants.
22. There are also some medicinals with an ambivalent, uncertain or disputed status. There appears to be little agreement, for example, as to the status of *showé* (*Malvastrum coromandelianum*, Malvaceae), a common weed. This could be interpreted as a sign of the plant's transitional status between *dejaha* and *etiikianaha*.
23. The importance of bananas in Ese Eja subsistence is reflected in the large number of different varieties that are recognised and cultivated: In the 1990s we documented thirteen types, including both bananas (*weshe*) and plantains (*ejawi*).

several kinds of shamanistically mediated rituals, and most notably the *eshasha epowi* (Burr 1997; Peluso 2003). The banana groves that survive to this day in the headwaters of Ese Eja rivers, many of them dating to the early twentieth century, stand out as distinct reminders of the occupation and use of these areas by the ancestors, and exemplify the symbolic and material links between Ese Eja identity, history and the headwater regions.

The process of categorising plants according to their origins, and thus of projecting social identities on to plants, needs to be understood within a historical context. The missions and agro-extractivist estates established during the first half of the twentieth century along the Beni and Madre de Dios rivers and the lower parts of their tributaries, served as spaces of encounter and of social and ecological transformation. In terms of Ese Eja ethnogenesis, these early urban spaces effected a transformation from *etiikiana* ('ancestors') to contemporary Ese Eja, who now embody elements of *etiikiana* and *deja* personhood (Alexiades 2000, 2005; Peluso 2003). The adoption of regional and national language, clothing, technology, habits, embodied skills and forms of 'knowing', as well as of new ways of thinking about, and using introduced and native plants, marks important transformations in Ese Eja personhood and identity. In other words, the incorporation of new modes of production and consumption and the transformation of the social, ecological and ethnobotanical relations underpinning these imply the formation of 'new' kinds of persons.

Rival's observation that Huaorani sedentarised settlements are 'rooted in political processes, of which the intensification of gardening is just one of the manifestations' (Rival 2002: 160) also applies to Ese Eja. These political processes are also manifested in the way in which plants, through their pervasive importance in daily life and their complex and concatenating links to 'ancestors' or 'outsiders', 'upriver' or 'downriver', 'the past' or 'the present', become important political resources through which people express and negotiate their identity, and thus position themselves socially and politically (see Crandon-Malamud 1991).<sup>24</sup> Elsewhere, Alexiades (2005) argues that this ongoing process of transformation of social and ecological relations – and the corresponding appropriation of plants and habits – is consistent with an Ese Eja view of history, in which the world is continuously being remade and in which new beings and social forms are continuously created over time. The

24. Brosius (1997) illustrates how 'Western' interest in medicinal plants has shaped Penan views of these, and contributed to their use of them as symbolic and political resources. Like the Penan, Ese Eja have recently begun to mirror Western notions of ancestrally guarded knowledge of medicinal plants, using these as a rhetorical device in the construction of indigenous identity and associated struggles and claims for rights.

projection of social identities on to plants also exemplifies the extent to which indigenous ethnoecologies collapse social and ecological processes or, rather, view 'nature' and ecological processes in distinctly social terms (Descola 1994; Descola and Pálsson 1996; Viveiros de Castro 1996).

## Medicinal Plants and Ese Eja Ethnomedicine

Referred to as *shemeyo* (Ese Eja), *remedio* (Spanish) or, less commonly, *eshikuiji*, medicinals form a diverse, highly valued and, at least up to the 1990s, often utilised, set of resources. The concept of *eshawa* is central to Ese Eja notions of the efficacy, and as such merits some elaboration. *Eshawa*, which can be loosely translated as 'spirit' or soul, forms a core of personhood, and is shared by all beings, including humans, plants and animals (Burr 1997; Alexiades 1999; Peluso 2003; see also Viveiros de Castro 1998). *Eshawa* are and exist beyond and behind the illusory and transient nature of the visible and the material; they are the stable, essential and primordial life forces which animate the universe. As a result, the agency, intentionality, consciousness, knowledge and emotion embodied by 'the inter-intra subjective-objective *eshawa* [are] ultimately responsible for all physical causality' (Peluso 2003: 66).

Human or animal parts, including pieces of bone or blood stains, for example, dry leaves or seeds, thoughts, voice, gaze, shadow and images are some of the tangible and intangible forms, extensions and projections of beings that manifest ('have' or 'are') *eshawa*, and which can hence exert their power and agency over other beings and *eshawa*. Visible attributes or qualities, including physical appearance (for example, shape or colour), habits or behaviour, smell or taste (for example, bitter or sweet), reveal the particular traits, potentialities and dangers of underlying *eshawa*. Likewise, the effects of particular plants upon the environment or upon other plants, animals and people – including their thoughts and emotions – manifest particular qualities and agency of *eshawa*. In other words, the efficacy of medicinal plants relates to their ability to 'act' according to the power and disposition of their manifest *eshawa*, and it is this agency or power that can be wielded to shape particular outcomes, direct transformations or mould relationships.

In this way, for example, several plant and animal-based substances, generically referred to as *ñiñeji epoji* ('for having good aim'), are used to ensure success in hunting or fishing. Other substances are used to manipulate human perceptions, emotions or dispositions, and in contexts ranging from sexual seduction and marriage to physical or magical warfare or child-rearing. Still others are used to 'tame' wild animals, or to encourage children to grow fast or tall, for example. Most of these substances are applied externally, either in baths, by stroking, rubbing, or

simply by tying a part of the plant or animal around the neck or wrist. While this group of medicinals includes many substances and treatments ‘of the outsiders’, in general, it is a domain that appears to have been very well developed historically and is often mentioned as the specialised domain of *etiikiana*. Moreover, a lot of this knowledge – like other kinds of knowledge relating to foraging and collecting wild foods – has been lost.

Another important class of medicinals includes those that are used to treat specific symptoms or ailments (*emanomeeji*): diarrhoea (*see-see*), vomiting (*bowii*), ‘stomach-ache’ (*teenee*), fever (*kiyo*), coughs (*oho*) and colds (*wishi*) are common ones today. While many of these substances are applied externally, a significant proportion of them are ingested or, less commonly, inhaled. We shall now review the evidence suggesting how this class of medicinals, salient as it is in present-day Ese Eja ethnomedicine, appears to be a recent historical construct.

Unlike many other Amazonian groups, the Ese Eja language does not seem to have a generic term corresponding to the English ‘medicinal’; instead, people most frequently use the Spanish term *remedio*, or its Ese Eja derivative *shemeyo* (see Baer 1992: 84 for the Machiguenga; Langdon 1992: 46 for the Siona; Tournon 2002 for the Shipibo-Conibo). The other term that is occasionally used, *eshikuiji* (‘to rub for’), is, strictly speaking, and as the etymology suggests, limited to preparations that are rubbed over the affected part. The linguistic association between rubbing and medical efficacy is revealing. It is possible that *eshikuiji* corresponds to the term traditionally used for medicinals, especially since most appear to have been applied externally.<sup>25</sup> In addition, the verb stem for shamanistic curing (*mishi*) literally means ‘extracting pieces’ (M.C. Chavarria, personal communication, February 1998). Central to *eyamikekua* shamanistic healing is the extraction of the invisible pathogenic *edosikiana* arrows from the patient, which the *eyamikekua* (healer) did by massaging and pulling (‘rubbing’) the affected area. In short, there is a broad association between rubbing and pulling the skin of the patient, with or without using a medicinal substance, and healing. The incorporation of a significant number of medicinals involving an internal, as opposed to external,

25. We have documented specific instances of plant preparations that were ingested – most commonly to treat gastrointestinal upsets such as *tee-nee* (‘intestines-pain’) or *see-see* (‘diarrhoea’) – but these are relatively rare, certainly compared with plants that were used to bathe, rub, wrap or whip over the affected parts, including joint aches (*eyaminee*), headaches (*sapanee*), fever (*kiakiyo*) and blows and cuts, as well as in other contexts related to child-rearing, sexual and marital relations, hunting, war and sorcery. We have also occasionally encountered the term *ejashijakiji*, the precise gloss of which we are unsure about, but which is used by some as a generic for medicinals that are not explicitly rubbed on.

application may explain the displacement of the term *eshikuiji* by the Spanish label *remedio*. Whatever the historical relationship between Ese Eja and Spanish concepts of medicinals, the fact that the Spanish word is used most consistently indicates a close association between the concept of 'medicinal plant' and *deja* ('outsiders').

The notion that *remedios* have become increasingly important in recent history as a semantic category and activity context is supported by the large proportion of plants used to treat named symptoms, and which are explicitly linked to non-Ese Eja. Between 1994 and 1995, for example, we conducted a survey among eighty-five adults from four communities in Peru and Bolivia, where we asked people to name treatments for the most commonly cited named symptoms.<sup>26</sup> Around half of the treatments elicited were consistently classed as *dejaaha* ('of outsiders'). Of these, almost a half (a fifth of the total) corresponded to recently introduced, exotic plants (see Bennett and Prance 2000). The reliance on 'outsider' knowledge and plants is even higher in the context of what people actually use, as opposed to what they know (Alexiades 1999; D.M. Peluso, unpublished data).

Given the historical association between medicinal plants and outsiders, it is not surprising that the communities known to rely more heavily on medicinal plants and the individuals generally regarded as experts are those with a longer or more intimate history of contact with *deja*. Concomitantly, as the following testimonies from different elders in Peru and Bolivia illustrate, Ese Eja often emphasise the historically limited competence of and reliance upon plants used to treat specific ailments.

When I was a child we had no [cotton] clothing ... we wore bark clothing ... we ate everything roasted ... we had no illnesses, we bathed to cure ourselves.

When we first came here [before there were *deja*] there was no illness and we knew no medicines ... [all we did] was bathe with plants.

Our ancestors barely used any medicinal plants ... they cured themselves only with the *eyamikekua* ... it is through the *edosikiana* that the *eyamikekua* cured everything, all kinds of sickness [from the forest].

These statements reveal a certain pride in the reported historical detachment from medicinal plants and, in the last example, in the powers of Ese Eja healers, *eyamikekua*. The fact that *eyamikekua* cured only 'with their hands' and without using or ingesting any plants is also spoken of with pride and is seen as a testament of their superior skills and power.<sup>27</sup>

26. See Alexiades 1999 for a discussion of the methodology used.

27. The *eyamikekua* removes the invisible arrowheads shot into people by the *eshawa* – and most significantly the *edosikiana* – who 'hunt' humans with their bows and arrows, just as humans hunt certain animals (Alexiades 1999; Chavarría 2002).



The incorporation of *ayahuasca* in Ese Eja ethno-medicine exemplifies the transformation of Ese Eja healing practices and the symbolic dimensions that have followed from the acquisition of new forms of knowledge, power and agency through contact with powerful ‘others’. As among other neighbouring indigenous societies in the piedmont, the use of *ayahuasca* (a hallucinogenic admixture of *Banisteriopsis caapi* and *Psychotria laevis*) among Ese Eja dates to between the early and mid-twentieth century and is explicitly attributed to contact with non-Ese Eja (Hissink 1960; see also Feather, this volume; Gow 1994; Gray 1997).<sup>28</sup>

The emergence of *ayahuasca* and its use in Ese Eja healing and divination rituals has been accompanied by a simultaneous decline and recent extinction of the ‘traditional’ form of *eyamikekua* shamanism (Alexiades 2000). This transition is consistent with the transformation of a society from being symbolically and materially centred around animals and hunting to one more centred around agriculture and plant-based extractivism. Elsewhere, Alexiades (1999, 2000) describes how the iconography, language and etiologies associated with *eyamikekua* and *ayahuasca* shamanism reflect the spatial, social and ecological reorganisation of Ese Eja society over the past century. In the next section we examine the incorporation of medicinal plants by Ese Eja in another important context of social and environmental change: the epidemiological environment. We hypothesise that the increased significance of medicinal plants in Ese Eja society may be related to their pharmacodynamic activity and to a shift in the balance between Ese Eja and surrounding parasites and pathogens.

## Ese Eja Medicinal Plants, Epidemiology and Social Change

The limited emphasis historically placed by Ese Eja on plants used to treat specific ailments and symptoms is not unique. Gray (1997: 64), for example, observes a similar limited historical reliance on medicinal plants among the neighbouring Harakmbut on medicinal plants, as well as a more general distrust towards ingesting substances made with non-edible

28. *Ayahuasca* provides an accessible and highly valued, means to ‘see’, ‘know’, ‘learn’ (*ebaji*) and, therefore, act upon, the world of the *eshawa*, a world normally invisible, but in which potentiality and intentionality – and thus sickness and curing – takes place (Alexiades 1999). Observations among the Ese Eja in the upper Beni, Bolivia, in the 1950s suggests that *ayahuasca* was introduced from Peru, most probably by Tacana who accompanied the cattle drives from Reyes and Ixiamas to Puerto Maldonado, early in the twentieth century (Hissink 1960). The Sonene Ese Eja, on the other hand, recall learning to drink from a *patrón* (‘boss’) around the 1940s.

plants (A. Gray, personal communication, 1995). A number of authors have suggested that indigenous societies characterised by low population densities, high rates of spatial dispersion and mobility and a high dependence on foraging have more rudimentary pharmacopoeias than more sedentary, agriculturally based societies. Colchester and Lister (1978, cited in Milliken and Albert 1999), for example, noted a markedly limited herbal lore among San ma compared with their more sedentary neighbours, the Piraoa and Ye'kuana. Similar observations were made about the Yanomami (Chagnon 1968; Prance 1972; Plotkin 1993), although these were subsequently challenged by Milliken and Albert (1999).<sup>29</sup>

Davis and Yost (1983a, b) were among the first to interpret the putatively impoverished pharmacopoeias of the hunter-gathering Huaorani in evolutionary terms, hypothesising that these societies historically experienced a qualitatively and quantitatively different epidemiological environment from that of more sedentary or urbanised groups (see Rival, this volume). Contrasting the relatively restricted and narrow medicinal flora of the foraging Penan with that of their agricultural neighbours, Voeks and Sercombe (2000: 679) draw a similar causal link, emphasising that highly mobile foraging groups lack the pressure of 'crowd and lifestyle diseases that afflict settled, agricultural societies' (see also Brown 1985; Telban 1988; Milton 2001).

The link suggested by some authors between social atomisation and high mobility and a relatively low reliance, or at least cultural emphasis, on medicinal plants is consistent with our observations among Ese Eja. Nevertheless, this putative correlation has been the subject of some debate. Posey, for example, concurs that post-conquest social and demographic disruptions led to an increasing reliance on herbal medicine by the Kayapó, but sees this as a symptom of social and political re-adjustment. He notes how large numbers of specialist practitioners '(true shamans) died or were killed due to epidemics and inter or intra-group fighting' and that these were replaced by a growing number of 'plant knowers' (Posey 1994: 276). Posey thus saw the shift towards herbal medicine as 'stimulated by the loss of "true shamans" and, as a result, loss of medical advice during a time of increased illness' (*ibid.*).

Balée (1994), on the other hand, accepts the premise that highly mobile groups have impoverished pharmacopoeias, but interprets this as a consequence of cultural regression, and specifically as a result of the workings of low demographic density on the amount of information that can be retained by an oral society. In his own words, 'the profoundly low

29. Indeed, Milliken and Albert (1999: 102 ff.) show the Yanomami to have a sizeable pharmacopoeia, though the extent to which this reflects a relatively recent process of historical incorporation of knowledge through contact with their neighbours, especially Ye'kuana, is not clear.

demographic density of the Waorani reduces the breadth of interpersonal contacts upon which lexical entries about the biological world would depend' (Balée 1994: 114). Balée explicitly discounts the possibility that the putative differences in the sizes of Huaorani and Ka'apor pharmacopœias may reflect differences in their epidemiological histories, noting that most of the medicinals used by the Ka'apor in ways that seem compatible with a pharmacodynamic model are 'used to treat human diseases of pre-Columbian origin'. What Balée does not take into account, however, is that the differences in the epidemiological profiles between mobile, relatively isolated populations and those of sedentary agriculturalists are quantitative, as well as qualitative. In other words, the issue is not only whether or to what degree highly mobile hunter-gatherers have been historically exposed to Old World diseases, but rather, that a highly mobile lifestyle with a small band size and high levels of spatial dispersion entails exposure to much lower levels of infectious agents.

The evidence supporting this assertion is extensive and hard to discount, in both the New World and the Old, and both in recent history and across much deeper temporal horizons. First, there is the evidence linking high mobility and its demographic and socio-political correlates (low band size, high dispersion, relative isolation from direct contact with market-based social agents) with relatively good health and low pressure from infectious agents – certainly when compared with more sedentary populations (de Zulueta 1956; Black 1980; Kent and Dunn 1996; Early and Headland 1998; Froment 2001). These differences are quantitative as well as qualitative. While mobile hunter-gatherers appear to have high prevalence rates of intestinal parasites, for example, the parasite loads among these seem to be lower than those among sedentary populations (Dunn 1968, 1972; Neel et al. 1968; Larrick et al. 1979; Lawrence et al. 1980; Roberts et al. 1992). While more systematic data are needed, these differences – if indeed widespread – are significant because it is the intensity – as opposed to the prevalence – of infestation with helminthic parasites that appears to be directly correlated to anaemia, malnutrition, gastrointestinal disorders and lowered resistance to other diseases (Layrisse et al. 1967; Tripathy et al. 1971; Blumenthal and Schultz 1976; Stephenson 1980).

Secondly, we now know that numerous infections, including many existing in pre-Columbian times, are sensitive to various demographic and ecological parameters, and that as such they are directly influenced by human spatial and social organisation and associated dietary and living practices (Cohen 1989; Coimbra 1995). Transmission patterns of diarrhoeal diseases, for example, are closely related to diet, weaning, quality of water, waste disposal and housing, all of which are subject to changes following sedentarisation, increased crowding and other changes linked to social change (Coimbra 1995). Indeed, the deterioration of health conditions of

mobile indigenous groups following their increased sedentarisation and concentration is a fairly well established trend (CIBA Foundation 1977; Kroeger and Barbira-Freedman 1984; Wirsing 1985; Hern 1994; Shepard and Andris 1996; Dounias et al. 2004).

Thirdly, the transition from hunting and gathering to agriculture in the evolution of human subsistence, with the concomitant urbanisation, large-scale landscape modification and domestication of plants and animals, has been accompanied by an increase in the numbers, prevalence and intensity of infectious diseases (Fenner 1980; Cohen and Armelagos 1984; Kent 1986; Larsen 1995). Quite likely, the consumption of plant-based bioactive substances may have accompanied, in evolutionary terms, the process of domestication and selection for edible plants with low levels of bitter, bioactive, secondary compounds (Johns 1996). In other words, the emergence of medicine may have accompanied the evolution of agriculture, suggesting that the increased reliance on agriculture went hand in hand with an increased reliance on pharmacologically active plants.

If we accept, as the evidence clearly supports, that differences in subsistence, degree of mobility and spatial dispersion generate very different epidemiological environments, and if we accept, as indeed seems to be broadly the case, that there is an established pharmacological basis and adaptive value for many medicinal plants (Cox et al. 1989; Balick 1990; Moerman et al. 1999), then it is only logical that we accept, at least as a hypothesis meriting further attention, that the social changes associated with different historical phases of Amazonian societies may have shaped the characteristics of their ethnobotanical profiles.

This view does not necessarily contradict, but rather complements, the important explanations and dynamics identified by Balée and Posey, outlined above. Likewise, establishing that changes in the epidemiological environment may be an important factor in shaping indigenous responses to disease does not mean that they are the only one, or even the most important one, or that the changes or the social responses are the same everywhere. Rather, our point is that indigenous and folk ethnobotanies need to be understood in the context of the dialectical relations that exist between people and their environments, and that this relationship has temporal as well as a material, symbolic, political, ecological and economic dimensions.

## **Conclusions**

In this chapter we support the notion that plant knowledge, like all social knowledge, is historically contingent, dynamic, and embedded within broader and deeper social institutions and socioecological processes. Building on the premise that the attributes, roles and 'uses' of medicinal plants are complex, multidimensional and fluid, we have sought to

illustrate the symbolic and material dimensions of the historical appropriation of medicinal plants by Ese Eja.

While European and neo-European colonisation wrought demographic and social havoc in Amerindian societies, many have subsequently rebounded, engaging with their new social, political, ecological and epidemiological environments in innovative and dynamic ways (see contributions by Athayde et al., Micarelli and in this volume). Similarly, Ese Eja ethnobotany reflects an ongoing history of social exchange. A significant portion of the knowledge that is shared by people has been appropriated through contact with more 'acculturated' peoples, an inversion of the classical 'de-culturation' model of social change and ethnobotanical knowledge transmission. While the process of cultural erosion and loss of knowledge has frequently been discussed in the context of ethnobotanical knowledge and culture change (see, for example, selected contributions in Maffi 2001 and Stepp et al. 2002), few have explored another side of the contact process: the accumulation of ethnobotanical knowledge and the creative reconfiguration of human–environmental relations (but see Athayde et al. and Voeks, this volume).

We are not asserting that Ese Eja, through the process of twentieth-century sedentarisation today know 'more' or 'less' about plants than they used to a century ago. Rather, present-day Ese Eja seem to know, think about, represent and use plants in *different* ways. We also concur with Rival (this volume) that care needs to be exercised to avoid drawing broad generalisations from narrow semantic or epistemic domains, particularly as this may leave out important aspects regarding the intrinsic, comparative and dynamic aspects of ethno-biological knowledge systems.

Finally, we do not underestimate the prevalence and dangers of linguistic and knowledge erosion, or the need to implement effective strategies to document endangered knowledge and to reverse this global trend (Maffi 2001). Rather, we are emphasising the need to recognise that social change, in terms of both its causes and its effects, is complex, multi-directional and rarely linear. Statements such as 'ethnobotanical research optimally requires intact forest and intact cultures' (Bennett et al. 2002) reflect an entrenched and untenable set of assumptions regarding the nature of ethnobotanical knowledge and its relationship to social change and environmental disturbance (Voeks 2003). As a result, we feel, ethnobotanists should continue to direct their efforts at better understanding how human understandings of, and interactions with nature respond to, adapt and in turn shape, their surrounding social, political and ecological environments in an increasingly articulated world.

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