Devolved, Diverse, Distinct?

Hunter-Gatherer Research in Borneo

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Abstract In this chapter, past and present research on Borneo hunter-gatherers is reviewed briefly, followed by a general discussion of the category referred to as the hunter-gatherers of Borneo, their presumed origin/s, their distinctiveness, or their inclusion in wider sociopolitical contexts. It is suggested that our descriptions, besides emphasising techno-economic factors, often emanate from rather simple dichotomies, where people and subsistence strategies are sorted into more or less ideal and homogenous types. Today, however, no simple picture of Borneo hunter-gatherers, past or present, can be put forward. Not only is our knowledge of hunter-gatherers in Borneo limited, it covers a very thin layer of time. Even though the huge data gap that exists between historic and prehistoric hunter-gatherers will never be bridged, present and future research in social or natural sciences (e.g. anthropology, archaeology, linguistics, palynology, paleobiology and genetics) will almost certainly generate an increasingly complex and ambiguous picture of Borneo hunter-gatherers, transcending any single grand theory and thereby reshaping and enriching our perception of the past, as well as the present.

Keywords Borneo • Hunter-gatherers • Social science • Social transformation • Subsistence system • Punan

6.1 Introduction

Hunter-gatherers are, as the name implies, a category that is defined by the way in which they primarily subsist.[1] By utilising wild, natural resources through fishing, hunting and gathering, they also represent the most ancient way in which humans have made a living. Therefore, people designated as hunter-gatherers are often judged by not only the way in which they subsist but also by our visions of their distant past. This prehistoric dimension lurks constantly in the background when contemporary hunter-gatherers are discussed, sometimes leading even researchers to make simple, underlying assumptions about the authenticity of these groups.

Hunter-gatherer studies, however, leave very little room for simplistic assumptions. As a category, hunter-gatherers represent a truly elusive and 'unruly class of human society, with ambiguous boundaries' (Ames 2004: 364), and research conducted in recent decades has painted an increasingly complex picture of hunter-gatherers in different times and in different parts of the world. Although there are similarities in the ways in which they have gained a livelihood, groups of hunter-gatherers, both past and present, show a considerable degree of cultural diversity, variation and elusiveness (Ames 2004; Biesbrouck et al. 1999; Kent 1996; Kelly 1995; Lourandos 1997; Woodburn 2000). In addition, this variation is accompanied by a truly wide variety of basic assumptions,

[1] The concept of hunter-gatherers is used in this chapter as a heuristic device. Although there are several alternative terms, with a similar meaning, frequently used in the Borneo literature, e.g. 'nomads', 'foragers' or even 'forest dwellers', the concept of hunter-gatherers is probably the most well known and widely used.

theories and opinions characterising the scientific study of hunter-gatherers. Actually, everything about them seems to 'evoke vigorous differences of opinion', says James Woodburn (2000: 78). Their elusiveness makes 'facts... hard to obtain, and even when obtained, become matters of dispute' (ibid.). Hunter-gatherer studies often seem to reveal more about ourselves, and the age in which we live, than about the people we claim to portray. In the words of Warren Shapiro (1998: 489), hunter-gatherer studies are 'profoundly embedded in ideology'.

This chapter focuses particular attention on hunter-gatherer research in Borneo, an area with roughly 25,000 (former/contemporary) hunter-gatherers, who represent a linguistically, socially and culturally diverse and heterogeneous category of indigenes. To what degree they represent a clearly distinct category of people has been questioned. Some would even argue that they are merely an imaginary category and a 'fanciful image' (Hoffman 1983a: 1).

It has also been questioned whether it has ever been possible to survive solely by hunting and gathering in tropical rainforests. Data from twentieth-century rainforest hunter-gatherers worldwide indicate that most of them rely heavily on agricultural produce, either cultivated by themselves or obtained from neighbouring agricultural communities (i.e. Bailey et al. 1989; Headland 1987). If this is generally the case then Borneo is an interesting exception. Perhaps the most convincing evidence that humans can actually subsist in tropical rainforests by no other means than hunting and gathering is to be found in the ethnographic record from Borneo (cf. Brosius 1991). It is therefore even the more surprising that precisely these Borneo hunter-gatherers are those who are sometimes accused of being one of the least genuine among Southeast Asian groups of hunter-gatherers, not primarily because of doubts concerning their way of making a living but because their physical appearance casts doubts on their (pre-)historic record.

Hunter-gatherer research in Southeast Asia often attributes particular significance to the distinction between two phenotypes: hunter-gatherers displaying 'Negrito' physical features, on the one hand, and those who display 'Mongoloid' features, on the other (cf. Sercombe and Sellato 2007: 2–3). As the 'Negritos' often have dark skin, tight curly hair and short stature, they appear as clearly distinct from surrounding populations, while the 'Mongoloid' groups often are, more or less, physically inseparable from their Asian/Malay neighbours. This has often been regarded as a reliable indication of their origin. It has been argued that people with 'Mongoloid' features started to populate the Southeast Asian archipelago only during the last 5000 years, possibly bringing with them a Neolithic culture; it is therefore assumed that hunter-gatherers sharing these physical features are more recent arrivals, while the physically distinct 'Negrito' groups would be possible descendants of the prehistoric ('Australoid') foragers, who had physical features resembling those of the Negritos, and who were living in Borneo and elsewhere already some 40,000 years ago.

The 'Negrito' category is represented by hunter-gatherers living in peninsular Malaysia (e.g. Semang, Batek, population 2500), the Philippines (e.g. Agta, popula-

tion 30,000) and the Andaman Islands, whereas the 'Mongoloid' category are found in Borneo (e.g. Punan, Penan, population 25,000), Sumatra (Kubu, Orang Rimba, population 5,000),[2] Sulawesi (Toala) and on the Southeast Asian mainland (e.g. Mlabri, Saoch, Tuc-cui).[3] The 'Mongoloid' category also includes the sea nomads (e.g. Sama Dilaut, Bajau, Moken), some of whom fit the category of maritime foragers.

Thus, the hunter-gatherers of Borneo are not phenotypically distinct from their agricultural neighbours, which is also the reason why Borneo hunter-gatherers, such as Punan and Penan, are sometimes classified as 'devolved agriculturalists' (Blust 1989) or as 'secondary' hunter-gatherers (Hoffman 1983a: 195), and therefore as less 'genuine' and 'pristine' than the Negrito groups (Bellwood 2007: 131, 134). The phenotypical characteristics are thus seen as a product of isolation, in the case of the present-day Negritos, and as a product of devolution from an agricultural past, in the case of the hunter-gatherers of Borneo and Sumatra.

In general, descriptions of hunter-gatherers often seem to emanate from surprisingly simple dichotomies, where people are sorted into more or less ideal and homogeneous types. Today, however, we see a situation of current research in which no simple picture of Borneo hunter-gatherers may be put forward. In the present chapter, it is proposed that contemporary and future research (in anthropology, archaeology, linguistics, palynology, paleobiology and genetics) will generate an increasingly complex and ambiguous picture of Borneo hunter-gatherers, transcending any single grand theory and thereby reshaping and enriching our perception of the past, as well as the present.

6.2 Hunter-Gatherer Research in Borneo

From the second half of the nineteenth century onwards an ever-increasing number of publications appeared in which Western adventurers, travellers, explorers, scientists, missionaries or colonial officers portrayed the forests and peoples of Borneo (cf. King 1993: 7–17). However, even though Borneo nomads were already mentioned in literary sources 200 years ago (Hildebrand 1982: 11),[4] surprisingly little was written about them before the last quarter of the twentieth century. Although Borneo hunter-gatherers are noted in many of the earlier publications about the peoples of Borneo (e.g. Furness 1979 [1902]; Haddon 1901), these accounts are scanty in detail and often based on second-hand information. A few accounts, published before the 1950s, are based on first-hand

[2] If we include the agricultural 'Orang Batin Kubu', or 'Kubu jinak' (tame Kubu), the overall population figures for Kubu would reach close to 20,000 people (Sager 2008: 11).

[3] The Soach (i.e. former hunter-gatherers of Cambodia), are an intermediate category between Negrito and non-Negrito, according to David Bulbeck (2013: 96). For more information and additional references, see Peter Sercombe and Bernard Sellato (2007) and Robert L. Winzeler (2011).

[4] According to Harmut Hildebrand, the earliest known sources describing Borneo hunter-gatherers appeared in 1790 and in 1814. The latter source is the first one mentioning the name 'Punan' (although misspelt as 'Puman').

experiences with groups of hunter-gatherers, either living in Kalimantan (Bock 1881; Elshout 1926; Lumholtz 1920; Nieuwenhuis 1904–1907; Pauwels 1935; Sitsen 1932; Stolk 1907; Tillema 1939) or in Sarawak (Harrisson 1949; Hose and McDougall 1993 [1912]; Urquhart 1951).[5]

When discussing the development of anthropological research in Borneo, it is next to impossible not to mention the importance of Edmund Leach. In 1947, several years before the publication of *Political systems of highland Burma* (Leach 1954), Leach conducted a 6-month social survey in Sarawak, where, in a new and innovative way, he described the ethnic mosaic of interior Borneo (Leach 1950). He also presented recommendations for further research on major ethnic groups, several of them would, in just a few years' time, result in excellent and now classic monographs (e.g. Freeman 1955; Geddes 1954; Morris 1953). With reference to Borneo hunter-gatherers, Leach (1950: 38) made the following recommendation.

A further group that clearly invites study is the nomadic Punan. Practically nothing is known of the way of life of these people and to the anthropologist they are particularly interesting because they are one of the few nomadic groups in Southeast Asia which are not of negrito race. Technically, the problem of such a study presents great difficulties and I cannot suggest how these should be overcome.

Despite the anticipated difficulties, Rodney Needham managed to carry out 12 months' fieldwork among the Penan in Sarawak in 1951–1952, the first long-term ethnographic field study to be conducted among any group of Borneo hunter-gatherers. Although this pioneering study soon resulted in a doctoral thesis (Needham 1953), it was never published or otherwise made available.[6] Instead, Needham chose to present his major findings in a series of articles dealing with, for example, ethnic classification (1954a, 1955), cosmological ideas (1954d, 1964), social organisation and the significance of death names among the Western Penan (1954b, 1954c, 1959, 1965, 1966). A number of important early papers on Borneo nomads were also published by Tom Harrisson (1949, 1959), W.H. Hühne (1959), I.A.N. Urquhart (1951, 1957, 1959)—all three government employees in Sarawak—and by Guy Arnold (1956, 1957, 1958, 1959), the leader of a multidisciplinary Oxford expedition who spent approximately 6 months in the remote Usun Apau area in Sarawak in 1955.

It would take until the early 1970s before anyone would undertake an equally intensive field study as that accomplished by Needham. This field research was conducted by Johannes Nicolaisen, a Danish anthropologist who spent 12 months among the Western Penan in Sarawak in 1973–1975. Like Needham's study, the outcome of this research appeared in a series of journal articles (1974/1975, 1976a, b), but never as

[5] For a more complete review of the literature on Borneo nomads, see Hildebrand (1982) and the introductory chapter to Sercombe and Sellato (2007).

[6] As mentioned in an obituary in the *Guardian* on 16 January 2007, Needham (1921–1980) 'placed an embargo on both his Oxford BLitt thesis and his DPhil thesis'. For a short summary of his thesis, see Needham (1972).

a monograph.[7] In the 1970s Harrisson (1975)[8] and Needham (1971, 1972) made their final contributions, at the same time as a new generation of anthropologists began publishing reports and articles dealing specifically with different groups of Penan in Sarawak (Kaboy 1974; Kedit 1978, 1982; Langub 1974, 1975). It is interesting to note that almost all publications up to the 1970s dealt with groups of Penan in Sarawak, mostly Western Penan. Important exceptions are a few publications that deal specifically with the Beketan (Sandin 1967/ 1968) and the Punan Busang (Ellis 1972; Sloan 1972) in Sarawak, or groups of hunter-gatherers living in Indonesian Borneo (King 1974, 1975a, b, 1979; Simandjuntak 1967; Sinau 1970; Whittier 1974). Of interest are also the works of Clifford Sather (1971, 1978), who conducted fieldwork among sea nomads (Bajau Laut) in northern Borneo in the mid-1960s and on several occasions thereafter (also cf. Sopher 1977 [1965]).

The first major work on Borneo hunter-gatherers to be made widely available was published in the early 1980s (Hildebrand 1982). Like Stefan Seitz (1981, 1988, 2007), Harmut Hildebrand never conducted any field research in Borneo, but his contribution nonetheless represents a very useful compilation and discussion of all written sources on Borneo hunter-gatherers available up to 1980. The early 1980s was also a time of growing 'revisionism' in hunter-gatherer studies in general (e.g. Schrire 1984). In the context of Borneo, the idea of the 'pure' hunter-gatherer was especially challenged by Carl L. Hoffman (1981, 1982, 1983a, b, 1984, 1986), who instead argued that Punan and Penan are not hunter-gatherers by origin, but agriculturalists who have left farming in order to become specialised in the collection of forest products for trade. Although Hoffman visited several groups of Punan in East Kalimantan, he normally stayed for only a few days in each settlement. This may be one reason why his ethnographic material has been accused of containing many flaws (Brosius 1988; Kaskija 1988; Sellato 1988). Hoffman nonetheless pushes his arguments in a straightforward, categorical and often provocative manner, which has given him a rather large international circle of readers. I will return to his arguments later in this chapter.

The first popular books about Borneo hunter-gatherers appeared in the late 1980s and early 1990s (e.g. Chen 1990; Davis 1992; Davis and Henley 1991; Davis et al. 1995; Lau 1987; Manser 1992, 1996; Rain and Rain 1992). This was also a time when documentaries for television and/or cinema were produced, such as *Blowpipes and bulldozers* (Kendell and Tait 1988) and *Tong Tana: a journey into the heart of Borneo* (Röed et al. 1990). This media attention, which was substantial towards the end of the 1980s, focused mainly on the urgent issue of deforestation in Sarawak and its consequences for the (Eastern) Penan. The ethnographic accounts of the Penan that were presented by environmental activists and in popular books, articles and films were often 'obscurantist and romantic' (Brosius 1999: 280), possibly for the sake of

[7] Johannes Nicolaisen (1921–1980) may have had the intention of writing a monograph on the Penan, but this was made impossible by his untimely death in 1980.

[8] Tom Harrisson died in an accident in 1976, at the age of 65.

a good cause. Although this critique of romantic essentialism also applies to Bruno Manser (1992, 1996), he nonetheless resided with the Eastern Penan in Sarawak for almost 7 consecutive years (1984–1990), sharing their everyday life on equal terms. For that reason we should probably count him, next to Jayl Langub, Peter Brosius and Bernard Sellato, as one of the most dedicated fieldworkers with a deep interest in Borneo hunter-gatherers.

The 1980s was also the time when Brosius (1986, 1989a, b, 1990) and Sellato (1980, 1984, 1986, 1989) began publishing their findings. While Brosius spent 3 years (1984–1987) among the Penan Geng, a group of Western Penan, and an additional 7 months among Eastern Penan (1992–1993), Sellato criss-crossed the Müller Mountains and neighbouring areas in Kalimantan for 8 years between 1973 and 1990, first as a field geologist and later, from 1979, as an anthropologist. During this time he collected a substantial body of ethnographic and ethnohistoric data on the peoples surrounding the Müller Mountains, an area that connects several of the major river basins in Borneo (i.e. Kapuas, Mahakam, Kayan and Rejang). As Sellato has focused his attention on an area that is a kind of social crossroads in central Borneo, his ethnography has become particularly rich in ethnohistoric detail, situating a number of nomadic groups in a larger social and political context of migrations, warfare, socioeconomic transformations and processes of ethnogenesis, thereby painting a highly dynamic and complex picture of the social life of Borneo hunter-gatherers in the eighteenth, nineteenth and twentieth centuries. Brosius, on the other hand, with his deep familiarity with the Western Penan, and especially the Penan Geng, has produced an ethnography that is exceptionally rich in depth and detail, especially when it comes to environmental knowledge, social organisation and, not least, *The axiological presence of death: Penan Geng death-names*, which is the title of his doctoral thesis (Brosius 1992). During the 1990s and well into the present, Brosius has been particularly interested in environmental issues and the political ecology of Sarawak (1993, 1995, 1997, 1999a, b, c, 2006, 2007), while Sellato (e.g. Sellato 1993a, b, 1994a, 1999, 2001, 2002, 2005, 2007) and Langub (e.g. Langub 1989, 1993, 1996a, b, 2001, 2004, 2008) have continued—now for roughly 40 years—their research on Borneo hunter-gatherers. Besides publishing a large number of reports, articles and books, too many to be mentioned here, both have also played an important role in their support of new generations of researchers with an interest in Borneo hunter-gatherers.

During the last two decades a significant number of new researchers have conducted extensive fieldwork among groups of hunter-gatherers in Borneo. In Sarawak, Shanthi Thambiah (1995, 1997, 2007) has directed her full attention to the Bhuket; Henry Chan (2007a, b) has conducted extensive field research among the Punan Vuhang (Busang), and Yumi Kato (2008, 2011, 2013) among the Sihan, a group of former hunter-gatherers in the Belaga area in Sarawak. Of interest is also Tim Bending (2006), who published a book on 'contentious narratives in upriver Sarawak', dealing particularly with the Penan. In Brunei Darussalam, Peter Sercombe (1996, 2007, 2013) and Robert Voeks (1999, 2007) have engaged in anthropological research on the Eastern Penan. In In-

donesian Borneo, Rajindira Puri (1997b, 1998, 2001) has conducted anthropological and ethnobiological research in various parts of Kalimantan throughout the 1990s. In his major fieldwork his attention is exclusively directed to the hunting knowledge of the Penan Benalui, a group of Western Penan living in the Bahau area (Puri 1997a, 2005). In the neighbouring Malinau-Tubu' river basin, Nicolas Cesard (2007, 2009, 2013), A. Klintuni Boedhihartono (2004, 2008) and I (Kaskija 1995, 1998, 2002, 2007, 2011, 2012, 2013) have carried out field research among Punan groups living in different parts of this area. Important contributions have also been made by local Punan, for example K.A. Klimut (Klimut and Puri 2007) and Dollop Mamung (1998); the latter has also co-authored a number of important reports dealing with Punan (e.g. Sitorus et al. 2004). In addition, a substantial number of reports, at least partly dealing with Borneo hunter-gatherers, have been published during the last two decades by non-governmental organisations and research institutes, such as World Wildlife Fund for Nature (WWF) and the Center for International Forestry Research (CIFOR) (e.g. Sitorus et al. 2004; Eghenter et al. 2003; Levang et al. 2007; Persoon and Osseweijer 2008; Sellato 2001).

In general, Punan groups in Indonesian Borneo living in the interior parts of East Kalimantan (including what is now part of the newly established province of North Kalimantan) have received more attention from social scientists than groups living in either West Kalimantan or in the coastal areas of East Kalimantan. Besides Victor T. King (1974, 1975a, 1979), Sellato (e.g. Sellato 1994a) and Mering Ngo (1986, 2007), few scholars have done research among hunter-gatherers in West Kalimantan. With reference to groups residing closer to the east coast of Borneo, Hoffman (1983a) gives special attention to those Punan who occupy the coastal zone between the deltas of the

Kayan and the Berau Rivers. In the 1980s George Appell (1983) and Laura Appell (1985) provided information on the Punan Bulusu' of the Sekatak area, and Antonio Guerreiro (1985) added to our knowledge on the Punan Kelai. The first major work, however, based on long-term anthropological fieldwork among hunter-gatherers in the Berau area, was written by Katherine Holmsen (2006) and deals with Punan groups of the upper reaches of the Kelai River (i.e. Punan Kelai and Punan Suluy). Of interest is also the ongoing research by Guerreiro (2004) among east coast hunter-gatherers (Punan Kelai, Basap, Lebbu, Suku Darat), and the linguistic research that Antonia Soriente is conducting among a broad collection of Borneo hunter-gatherers (2013, forthcoming).

6.3 Subsistence Systems and Continua

Contemporary groups of hunter-gatherers in Borneo gain their livelihood primarily from a combination of basically forest-orientated activities, such as hunting and gathering, collection of and trade in non-timber forest products, small-scale horticulture,

rice cultivation, and by acting as porters, guides or assistants to anyone in need of their services, as well as by the occasional selling of wild meat, fruit and handicrafts, such as skilfully plaited rattan mats and baskets. In addition, individuals may engage in wage labour, for shorter or longer periods of time, or devote time to gold digging or the cultivation of cash crops. The subsistence economy of these modern hunter-gatherers can thus be characterised as truly versatile, showing much local variation in time and space, and in response to changing circumstances.

Although tropical rainforest environments are truly diverse, the hunter-gatherers of Borneo generally tend towards a surprisingly small range of key food resources. The most highly valued prey is the bearded pig (*Sus barbatus*). This has been the primary prey species in Borneo in all times, from prehistory to the present (Barker 2005: 97). This wild pig species is a migratory animal and its movements are closely linked to the mast fruiting of dipterocarp trees. At certain times of the year the wild boar may therefore be completely absent locally for several weeks, while being surprisingly abundant at other times. Although certain groups of Borneo hunter-gatherers, such as the Eastern Penan, hunt a 'greater variety of prey species' (Brosius 1991: fn. 24), to most groups the wild boar is an animal of such great social, emotional, symbolic and nutritional value that other prey animals are of limited interest as long as wild pigs are to be found (cf. Brosius 1986: 178; Pfeffer and Caldecott 1986; Puri 2005; Seitz 1981: 285; Sellato 1994a: 122–128).

The most important source of carbohydrate food in Borneo has historically been the pith of several species of wild sago palms, belonging to the genera *Caryota*, *Corypha* and *Arenga*, and especially *Eugeissona utilis* (Borneo hill sago), which is the most important food source (see Sellato 1994a; Brosius 1991; Puri 1997b; Langub 1988). The *Eugeissona* palms have, for at least 40,000 years, been of crucial importance for the livelihood of people living in interior Borneo (Barton and Denham 2011: 19). The increased cultivation of alternative food sources, especially cassava and rice, has resulted in the gradual decline in the importance of the Eugeissona palm over the course of the last century, but it is nonetheless important to remember that this sago palm, as well the bearded pig, represent resources that ultimately made it possible for hunter-gatherers and others to survive, for shorter or longer periods of time, solely on hunting and gathering in the forests of Borneo. Tropical rainforests are generally 'game-rich and plant-food poor' (Griffin 1984: 115–118), and this general lack of starch-producing species in tropical forests has led the proponents of the 'green desert' theory to argue that hunter-gatherers may never have been able to survive in rainforests without reliance on cultivated foods (i.e. Bailey et al. 1989; Headland 1987). Borneo here seems to be an exception, and the reason is particularly linked to the presence of wild sago palms. Graeme Barker (2005: 98) has pointed out that archaeological research in Sarawak indicates that prehistoric foragers were able to 'extract high-energy carbohydrates' and to 'exploit tropical rainforests effectively', and Brosius (1991: 145) has demonstrated that the Penan of Sarawak have subsisted successfully in tropical forests 'without recourse to agricultural supplements'. If the Penan are accepted as a

valid exception to the green desert argument, it depends mainly on whether or not they are considered to be cases of sufficiently 'pure' hunter-gatherers. Although Penan do not plant or cultivate sago trees, they still 'actively manage the Eugeissona palm, and their exploitation of this resource has a further impact on the demography of this resource' (ibid: 146). If their stewardship of palm groves thereby is regarded as a form of incipient cultivation, they may be considered to have transgressed the imaginary and symbolically significant boundary between foraging and farming.

This particular dichotomy between foragers and farmers is often emphasised and given special significance. The real situation, however, is indistinct and ambiguous. Smith (2001) has convincingly argued that it is almost impossible to consistently describe the large territory between hunting-gathering and agriculture in even the simplest conceptual or developmental terms. Roy Ellen (1988), in his study of the Nuaulu of central Seram, Indonesia, provides an illustration of the futility of trying to draw sharp and unambiguous boundaries between hunting-gathering and farming. The forager-farmer dichotomy may assume the existence of ideal types but, in reality, where do we find 'pure' hunter-gatherers and 'pure' farmers? Even among some of the most successful swidden rice agriculturalists in Borneo—such as the Kantu', the Iban or the Bidayuh (Land Dayak)—the number of households that fail to harvest sufficient rice for 1 year's needs often comprise as much as 60–70 %ofa community (Dove 1993: 146). Among these and other groups of prominent agriculturalists, such as Kenyah, the wild resources of rivers and forests have often been more, or at least equally, important food sources as agricultural products (Chin 1985; de Beer and McDermott 1989: 54).

In addition, the efficient forms of hill rice (and wet rice) agriculture that characterise late twentieth-century ethnic groups in central Borneo, such as Kayan, Kenyah and Kelabit, may have evolved in the last 300–400 years. Sellato has suggested that the spread of rice cultivation throughout the interior of Borneo coincided with the expansion of large dominant groups, such as Kayan in central Borneo, Iban in western Borneo and Ngaju in south-central Borneo (Sellato 1993a).

Brian Hayden (2011) has suggested that rice, until quite recently, has mainly been a kind of luxury food, used primarily at feasts and in order to gain prestige. In terms of subsistence, however, sago has a higher economic return rate than hill rice,[9] and it is less risky and therefore more reliable than swidden rice (Barton 2009). Before the eighteenth century the local economies of central Borneo utilised a wide range of economic possibilities, where sago processing (*Metroxylon* in coastal areas, and *Eugeissona* and *Arenga* further inland) and tuber cultivation probably played a much more significant role than rice (cf. Barton 2012; Barton and Denham 2011; Harrisson 1949: 142, 1959: 66; Eghenter and Sellato 2003: 23).

[9] According to Huw Barton (2009), the economic return rates from sago palms (3600 kcal/h) are significantly higher than those from swidden rice fields (400–1500 kcal/h). In reference to the Kelabit, Barton states that 'the point of growing rice is ... to show exceptional ability. If they wanted only to survive, they could make sago or grow root crops' (ibid.).

Even as late as the twentieth century, rice was of limited importance to many central Borneo groups, such as the Kajang (Ida Nicolaisen 1983, 1986) in Sarawak. Several groups, such as the Kenyah Leppo' Ke, still rely heavily today on taro for their diet, which they mix with rice (Sellato 1995). Cassava was probably introduced in central Borneo in the eighteenth century, and it immediately became very popular and spread quickly throughout the island. In the 1930s cassava was the most important crop among several groups such as the Tingalan and Bulusu' in the Malinau area (Schneeberger 1979: 21–22; Lundqvist 1949: 24). Rice was, as a source of food, of no or very little importance at that time, which is 'a possible indication of a rather recent adoption of *ladang* rice cultivation' (Schneeberger 1979: 22). The Tingalan, Tidung, Bulusu' and other Murutic groups probably subsisted on sago flour from *Metroxylon* palms in the past, but with the introduction of cassava they started to replace sago with flour extracted from cassava (Sellato 2012). Other examples of horticultural societies with little focus on rice cultivation includes 'the Siang and Ot Danum of the upper Barito River who are still derogatorily called "tuber eaters" by the Kayanised peoples of the upper Mahakam' (Sellato 2002: 125). We may also mention the Melanau—closely related to the Kajang—who inhabit the swampy plains of coastal Sarawak, where they have, for as long as we know, primarily been producers of sago (*Metroxylon* sp.) for subsistence as well as for export (Morris 1953).

Groups in Borneo designated as agriculturalists, or horticulturalists, have never been 'purely' agricultural, but have sustained themselves through a combination of subsistence systems, including fishing and hunting-gathering of wild resources. The presumed 'purity' of prehistoric groups of hunter-gatherers is also quite debatable. According to Barker (2008), 'people have been shaping and changing rainforest from more or less when they first encountered it, in this case 50,000 years ago'. We know that groups of Borneo hunter-gatherers, at least at certain points in time, have subsisted solely on the wild resources of the forest, but we also know that hunter-gatherers in Borneo have managed and manipulated particularly valuable resources of the forest for several thousand years, perhaps since the late Pleistocene period (ibid.). With reference to groups of Negrito foragers in the Philippines, Fox (1952: 250, cited in Nicolaisen 1974/1975: 423) argues that certain crops, like taro, yam and banana, were probably already cultivated several thousand years ago; these crops can, just as cassava, easily be adjusted to a nomadic lifestyle. With the introduction of sweet potato and corn, the cultivation of these plants spread rapidly also among the Negritos of the Philippines, just as the cultivation of cassava was quickly adopted by all people in Borneo. In a well-reasoned discussion of foragers and farmers in the Philippines, Griffin (1984: 115) suggests that

a wide range of foraging economic strategies may have come and gone as specific conditions of population, group contact, and resource availability fluctuated. More precisely, nonhorticultural foragers may not have existed in the past several thousand years. Farming societies emphasising cultivation over hunting may or may not have any great antiquity.

This conclusion may also have validity in Borneo. Based on what has been said in this section, it is probably useful to view swidden rice agriculture, horticulture and hunting-gathering as forming mixed subsistence systems, i.e. what Sather (1995: 257) has referred to as 'a continuum of stable combinations of rice agriculture, domesticated sago and tuber cultivation, orchard crops, forest foraging, hunting and marine collection'. Sellato (1994b, cf. 1993a: 116, 176–177) has devoted a full article to the subject of continua of livelihood systems in interior Borneo, and Barker and Janowski (2011) have conceptualised the same phenomenon as an 'entanglement' of foraging and farming. With increased knowledge about local subsistence practices, past and present, the overall picture has become increasingly complex, and concepts such as 'continuum' or 'entanglement' of foraging and farming evidently appear much more accurate than simple dichotomies.

6.4 Central Borneo as a Social System

If subsistence systems are characterised by great complexity and entanglement, with fuzzy and fluid boundaries, this is even more the case when we try to comprehend the social, cultural and ethnic mosaic of Borneo. There have been numerous attempts at subdividing the peoples of central Borneo into neat categories on the basis of language, origin, culture or ethnicity, but none of them has proved successful. Leach (1950) made the first attempt in Borneo at studying all (stratified) groups within a single river basin, the Balui, as one sociopolitical system. What he referred to as the 'Kenyah-Kayan-Kajang complex' was 'in earlier classifications... subdivided into anything up to a hundred tribes and sub-tribes' (Leach 1950: 55). The notion of ethnic groups as bounded, separate, stable and basically timeless was seriously challenged by Leach (1950, 1954), as well as by Fredrik Barth (1969), who shifted focus from the cultural content of ethnic groups to the very processes by which ethnic boundaries within regional systems are maintained, altered or erased.

With reference to Borneo, Tim Babcock (1974: 198) proposed a 'Leachian analysis of interethnic relations in certain areas in particular historical periods', and Victor King (1982: 41) considered it important to include all groups within a larger area of Borneo and to analyse them as a 'single socio-political system' (cf. King 1985: 125). Unlike Leach, who excluded groups of hunter-gatherers from his 'Kenyah-Kayan-Kajang complex', King included the forest nomads, as well as the coastal Muslim communities, into his single regional system, as these 'various populations have been interrelated and interconnected for a very long period of time' (King 1993: 38). Several studies depicting river basins in Borneo as integrated social systems have, in particular, emphasised the importance of trade networks as the most important vehicle for bringing together a diverse population living along a major river and consisting of Malay polities at the downriver end and scattered groups of forest nomads at the headwaters (cf. Black 1985; Lindblad 1988; Magenda 1991; Sellato 2005).

The most elaborate and detailed study along these lines in Borneo appeared in 1990, when Jérôme Rousseau (1990) analysed the whole of central Borneo as a single social system, or society. In his analysis 'each river basin forms a network which brings together not only stratified agriculturalists, but also nomads, other Dayak, and Malays' (ibid: 301). Among studies with a wider regional focus, the historically most detailed studies dealing with hunter-gatherers are those of Sellato (1986, 1989, 1994a), where a diverse collection of nomadic groups in central Borneo is situated within a larger and highly dynamic sociopolitical context. Of interest is also Sather's (1995) discussion of the long history of complex trading networks in the Indo-Malaysian archipelago and the ethnogenesis of sea nomads, such as Sama Dilaut (Sather 1984), as well as rainforest nomads, such as Punan. Sather is thereby placing a very broad range of Borneo foragers in a wider historical and political framework. More recent and mainly politically orientated approaches include Tania Murray Li's (2004 [1999]) exploration of marginality in rural Indonesia as a 'relational concept', and Anna Lowenhaupt Tsing's (1993) study of 'marginality in an out-of-the-way place', where the people of the Meratus Mountains of South Kalimantan are situated within a wider regional and national context.[10]

The idea that the population of central Borneo shares a common sociopolitical universe comes, in some respects, close to arguments proposed by the (historical) revisionists in hunter-gatherer studies. Instead of seeing hunter-gatherers as isolated, separate and timeless, they are analysed as part of a larger regional whole that includes all people within a wider area. Especially from the early 1980s numerous anthropologists worldwide began emphasising the long history of interaction between hunter-gatherers and their pastoral or agricultural neighbours (e.g. Bahuchet and Guillaume 1982), thereby questioning the notion of the isolated and timeless 'tribe' (cf. Wolf 1982). By demonstrating that hunter-gatherers have not been living in isolation, not even a thousand years ago, it seemed obvious that they also had a long history of change. Why would hunter-gatherers, as opposed to all other human societies, be 'permitted antiquity while denied history'? (Wilmsen 1989: 10) From a revisionist standpoint it is a complete mistake to conceive of contemporary hunter-gatherers as relics from the past who have preserved, more or less intact, a traditional and archaic way of living. The use of ethnic labels and clear-cut subsistence dichotomies as static designations 'convey a false sense of continuity', as pointed out by James Scott (2013), 'vastly understating the fluidity of ... ethnic boundaries' and local subsistence systems.

Hunter-gatherer revisionism in the context of Borneo is mainly represented by Hoffman, who questioned the idea that Borneo hunter-gatherers are 'distinct, outside, and apart from the general pattern of Borneo's traditional life' (Hoffman 1983a: 101). Groups, such as the Punan, do not only have a long history of interaction with

[10] The Bukit of the Meratus range of South Kalimantan are not considered as belonging to the category of hunter-gatherers, although the question of their origins is enigmatic and 'indeed an intriguing one' (Sillander 2004: 40). In their marginality, however, they have very much in common with groups of hunter-gatherers in Borneo.

their agricultural neighbours, according to Hoffman, they are actually related to and share the same origin as these neighbours. To Hoffman, the ethnogenesis of groups of hunter-gatherers in Borneo is an outcome not of 'devolution' or some other form of 'cultural retrogression' but of an 'economic specialisation' (Hoffman 1984: 145), whereby sedentary agriculturalists, at some unspecified point in time, became nomadic, professional collectors of commercially valuable forest products (Hoffman 1983a: 197). Borneo hunter-gatherers are thus not an aboriginal, autochthonous population, as they all 'derive... from sedentary agricultural peoples' (ibid.: 195).

6.5 Origins of Borneo Hunter-Gatherers

Unlike historical revisionists in general, Hoffman's attempt at historical reconstruction is rudimentary. Besides the historic-linguistic data presented by Robert Blust (1976), Hoffman's conclusions are almost entirely based on the occurrence of phenotypical, linguistic, cultural and technological similarities between contemporary hunter-gatherers and their sedentary neighbours. To Hoffman, these similarities strongly suggest a common origin.

In his thesis and subsequent articles, Hoffman isolates several factors that, according to him, support his hypothesis regarding the origin of the Punan. He argues, for example that each group of Punan 'has tended to confine itself to a tract of primary forest adjacent and contiguous to an area occupied by a specific sedentary agricultural people' (Hoffman 1983a: 47, cf. 104). While having close relations with their sedentary neighbours, Punan in general 'cannot recall having had much of any contact with other Punan at all' (ibid.: 112). Even a slight familiarity with the ethnographic record of Borneo will uncover a far more complex reality. Brosius has pointed out that 'whereas groups such as Agta and Semang live and forage in close proximity to agricultural settlements, Penan inhabit areas in the deep interior, usually one to four days' walk from the nearest agricultural settlements' (Brosius 1991: 136, cf. Rousseau 1984: 88). Johannes Nicolaisen states that 'very close contact and some marriages are contracted even between members of

> [Penan] groups living very far from each other' (1976b: 41). But even where the distance between Punan and agricultural Dayaks is quite short, this does not necessarily mean that there are regular contacts (Needham 1965: 71).

Another important indication of origin is, in Hoffman's view, the linguistic and cultural heterogeneity of Borneo hunter-gatherers. The Punan do not comprise a 'single, uniform people' (Hoffman 1983a: 40). They 'do not share a single, common language' (ibid.: 37) and their languages are not distinct from those spoken by groups of sedentary agriculturalists (ibid.: 40). According to Hoffman, the cultural diversity of Borneo hunter-gatherers is just as obvious, as are the cultural similarities between different

groups of hunter-gatherers and their sedentary neighbours. Even if this argument would be true in every single case, it would still prove very little. Even different groups of African Bushmen speak different languages, and they display differences in kinship organisation, religious beliefs, settlement patterns and hunting strategies (Kent 1992: 48–49). The same applies to the Negritos of the Philippines (Headland and Reid 1989) and the Pygmies of Africa (Biesbrouck et al. 1999). This is a common feature among hunter-gatherers worldwide. An alternative, and I would say more likely explanation, is that they readily adopt cultural features, language or almost anything from neighbouring peoples, and therefore often share many similarities with their immediate neighbours. Among some groups of hunter-gatherers 'cultural loss has gone so far as to have led to the loss of the original language' (Brunton 1990: 675). It is therefore not surprising that not even 'primary' hunter-gatherers can be described as a 'single, uniform people'.

There are, however, groups of Punan or Penan who speak languages that are identical to those spoken by their immediate sedentary neighbours and where the reason may be a common origin. One example is the Punan Kelai and Punan Segah, who speak the same language as their agricultural neighbours, the Ga'ai/Segai. Mika Okushima (2008), just like Hoffman, considers these groups to be former agriculturalists who have become 'secondary' hunter-gatherers through a process of 'Punanisation'. Sellato has suggested that Punan Kelai and other groups of hunter-gatherers in the Berau area may partly consist of the descendants of slaves imported from outside Borneo (2007: 72; Sercombe and Sellato 2007:12).[11] A second example are the (Eastern and Western) Penan of Sarawak,[12] who speak a language that is more or less identical to that of certain groups of sedentary Kenyah (Needham 2007: 51, 1972; Brosius 1988: 84). In this case, however, the linguistic similarities have been interpreted not as an indication of Penan being former Kenyah agriculturalists, as suggested by Hoffman, but rather as an indication of Kenyah being former hunter-gatherers, as suggested by Whittier (1973: 23):

> I am suggesting that the Kenyah were hunting and gathering (similar to the Punan) in their early history in the Iwan [River] and that they learned swidden rice agriculture, most likely from the Kayan. This kind of process is still going on today, as we noted in the case of the Punan Oho' who now prefer to be called Kenyah. (cf. also Ida Nicolaisen 1976a: 76; Sellato 1988; Brosius 1988: 84, 1992: 53–54; Sather 1995: 253)

This interpretation appears to be the most likely, as during the last 300 years—a time period from which we have at least some data—there has been an ongoing and gen-

[11] See also Rousseau (1990: 242), who mentions the enslavement of groups of hunter-gatherers in Borneo.

[12] Eastern and Western Penan speak different dialects of the same language. Brosius (1988: 84) has described these two dialects as 'significantly different' but 'mutually intelligible'.

eral process whereby nomads have become increasingly sedentary (Sellato 1994a; Brosius 1988: 87). Thus, whereas linguistic similarities between groups of hunter-gatherers and their sedentary neighbours may give some support to Hoffman in the case of the Punan Kelai/Segah, the opposite seems to be true for the Penan of Sarawak. Besides these two large clusters of Punan/Penan, there is a broad range of Borneo hunter-gatherers for whom the linguistic situation is particularly intriguing. Based on his own linguistic data, Sellato (1993a) points out a number of lexical items that are shared by this broad range of Borneo hunter-gatherers but 'not found in the languages of the main settled ethnic groups' (Sellato 2002: 120). What is significant is that some of these hunter-gatherer groups are 'spatially very remote from one another' (ibid.). This includes groups of hunter-gatherers in the northeastern part of central Borneo (e.g. Punan Malinau, Punan Tubu', Punan Mentarang, Punan Bulusu', Punan Batu, Basap and Punan Bahau), as well as groups further south and west (e.g. Punan Lisum, Punan Busang, Punan Kereho, Bukat, Beketan and Sihan), including mixed hunter-gatherer/non-hunter-gatherer groups (e.g. Aoheng, Kajang and Seputan), and groups of non-hunter-gatherers (i.e. Melanau and Bidayuh/Land Dayak). Sellato suggests that the lexical items he mentions 'belong to an ancient lexical substratum' that is 'a part of an old Punan linguistic entity' (ibid.: 121).[13] This has been further discussed by Alexander Adelaar (1995), who identifies lexical and phonological similarities between the Aslian (i.e. Mon-Khmer) languages of the Orang Asli of peninsular Malaysia and the language of the Bidayuh of western Borneo. I will return to this circumstance in the next section.

As Hoffman sees Borneo hunter-gatherers as a product of 'economic specialisation', it is no surprise that he suggests that trade in forest produce is 'what these "Punan" of Borneo are all about' (Hoffman 1983a: 164); 'Punan do not trade in order to remain nomads; they have instead remained nomads in order to trade' (ibid.: 171). According to a number of Borneo specialists, all groups of Punan have been, more or less, involved in trade, but this trade has never been 'what these "Punan" of Borneo are all about'. Sellato refers in detail to a number of specific historical cases from central Borneo that give very little support to Hoffman's basic hypothesis (Sellato 1988, 1993a, 1994a). Although the importance of trade is very much at the core of Hoffman's argument, the opportunities for trade in central Borneo 'are usually too limited to make it the centre of nomadic economy' (Rousseau 1984: 90). According to Hoffman, the settlement patterns of the Punan are dictated by their involvement in trade. However, it is often pointed out that movements and settlement patterns have a much more complicated background, and cultural and ecological factors—especially the availability of key forest resources—play, or at least have played, an important role (Brosius 1988: 98–100; Huhne 1959: 201; Kedit 1978: 18–24; Needham 1972; Johannes Nicolaisen 1976b).

[13] The only languages spoken by groups of Borneo hunter-gatherers that do not contain the lexical items identified by Sellato are, as far as we know, those of the Eastern/Western Penan and the Punan Kelai/Segah. They are thus not part of this 'old Punan linguistic entity'.

Although Hoffman's thesis on the Punan has been frequently cited in international scientific publications dealing with hunter-gatherers, among Borneo specialists the criticism has been scathing (e.g. Brosius 1988, 1991; Sellato 1988). According to Brosius (1988), Hoffman not only 'seriously misrepresents the ethnographic record' (ibid.: 82), he uses available literature in a remarkably selective manner and even makes a 'purposeful attempt to obscure the shortcomings of his data' (ibid.: 103). In addition, the question of hunter-gatherer origins, which lies at the very core of Hoffman's thesis, is 'a non-problem, in that it is unresolvable, except by resorting to the most tenuous sort of conjectural history' (Brosius 1988: 87, cf. King 1993: 41). Researchers in archaeology and historical linguistics, however, have a different opinion. Peter Bellwood (2007 [1985]) and Blust (1996) are rather confident that basic conclusions can be drawn regarding the origin of Borneo hunter-gatherers, and both of them seem to conceive of Hoffman's assumptions as broadly accurate and credible.

6.6 Borneo Hunter-Gatherers and Austronesian History

From the archaeological record, especially from the Niah Caves in Sarawak, we know that humans were already present in Borneo 40,000–50,000 years ago (Zuraina 1982: 31; Bellwood 1992: 8; Barker 2005, 2008). We also know that these early hunter-gatherers were not of the Mongoloid phenotype, as the present population, but of Australoid or Australo-Melanesian (Bellwood 1992: 9, 2007 [1985]: 71), which means that they shared certain physical features with the Negritos of the Philippines and the Malay peninsula (cf. Bellwood 2007 [1985]: 71–72).[14] The question is: What happened to these early inhabitants of the island of Borneo?

According to the out-of-Taiwan hypothesis—which is the currently most accepted hypothesis—the Austronesian languages originated in Taiwan and began spreading southwards into the Philippines around 4000 bp (Reid 2013), or perhaps 5000 bp (Blust 1996; Bellwood 2007 [1985]), reaching Borneo more than 3000 years ago (cf. Benjamin 2013; Bellwood 2009; King 1993: 77). Both the Punan of Borneo and the Negritos of the Philippines speak Austronesian languages today, just as their agricultural neighbours do. As the Negritos inhabited the Philippine islands long before the first Austronesian speakers arrived, itis assumed that they once spoke other languages. The fact that all of them speak Austronesian languages today therefore indicates that they have had close relations with neighbouring Austronesian-speaking communities for a long time. Therefore, these Negritos 'must be seen as an adaptive product of prolonged contact' (Sather 1995: 230).

[14] For more detail on the complex issue of the Negritos, see the special issue of *Human Ecology* (2013) 85(1/3), edited by Phillip Endicott. `http://muse.jhu.edu/journals/human_biology/toc/hub.85.1-3.html`.

Based on linguistic evidence, Blust argues that the Austronesian speakers were agriculturalists at the time of their arrival. They already cultivated rice 6000 years ago, while still in Taiwan, and they had domesticated pigs, water buffaloes, dogs, perhaps chickens, made pottery and 'were familiar with some metals' (Blust 1996: 31). Bellwood (1992: 11) states that the Austronesians were cultivators who 'expanded rapidly around the coasts and up the rivers with little resistance from the existing but sparse foraging populations'. This theory thus implies that the Austronesian-speaking arrivals completely displaced or absorbed previous populations in Borneo, which would then explain the absence of Negritos.

6.6.1 Attempts at Reframing the Early History

By combining genetic, linguistic and archaeological data, Mark Donohue and Tim Denham (2010) challenge this picture of Austronesian speakers who in large numbers came to dominate insular Southeast Asia, replacing not only local languages but also local cultures and subsistence strategies with a Neolithic cultural package. It is certainly true that insular Southeast Asia 'has witnessed massive language replacement' (ibid.: 232), but there is 'no genetic evidence for a large-scale population replacement, displacement, or absorption' (ibid., cf. Bulbeck 2013). According to Sather (1995: 240), the successful spread of Austronesian languages is not an indication of 'a mass movement of people' but is probably 'linked to trade itself'; the Austronesian languages were simply 'the dominant languages of trade' (Sather 1995: 240, cf. Reid 2007). This is also a reason for being cautious when referring to 'the Austronesians' as an ethnic entity; we should regard this term as referring not to people but strictly to languages.

A factor of probably great importance is the rise of the sea levels that occurred as a consequence of deglaciation in the northern hemisphere. Approximately 20,000 years ago, the sea levels were at their lowest and 120 metres below the present levels in Southeast Asia. At this time, the islands of Borneo, Java and Sumatra were connected by land and formed a large extension of the Southeast Asian mainland. This landmass has been called 'Sundaland'. As a consequence, between 20,000 bp and 7000 bp 'around half of the land area of the continent of Sundaland was lost to the sea ... with a concomitant doubling of the length of coastline as the resulting archipelago was formed' (Soares et al. 2008: 1209; cf. Voris 2000). This fact 'triggered major displacement of human groups living on the Sunda coastline and had an important role in shaping subsequent life in the region, in particular its maritime orientation and the development of sailing technology' (Soares et al. 2008: 1215).

This has led Stephen Oppenheimer (1998, 2006) to argue against the out-of-Taiwan hypothesis proposed by Bellwood and others, suggesting instead that 'island Southeast Asia was more likely to have been the Holocene homeland of maritime expansion

in the southwest Pacific than the target' (Oppenheimer 2006: 715).[15] Seen in this perspective, it seems plausible 'that island Southeast Asia was a zone of considerable maritime interaction before the appearance of Austronesian languages' (Donohue and Denham 2010: 223), which casts doubts on the idea that the early pre-Austronesian populations mainly consisted of scattered bands of simple, undifferentiated and 'sparse foraging populations' (Bellwood 1992: 11). The existence of early networks for trade and barter between various parts of insular Southeast Asia indicates the presence of rather diversified economies regionally. There are even, according to Barker (2008), indications of early rice cultivation in certain lowland areas in Borneo by 8000 bp, that is, several thousand years before the first Austronesian speakers are supposed to have arrived. It thus seems that the early pre-Austronesian populations were less homogenous and their subsistence practices far more diverse and sophisticated than previously assumed. Barker (2008) confesses that '[t]he archaeology of Island Southeast Asia ... is opening a Pandora's box... It was all so much simpler when all we had to worry about were the Austronesians!'

It can also be questioned whether the early Austronesian speakers were fully fledged (rice) agriculturalists (cf. Sather 1995; Sellato 1993). It has been suggested that they probably practised 'a comparatively broad spectrum of economic activities', including foraging, horticulture and trade (Sather 1995: 236). In addition, although rice cultivation may have been practised to some extent locally, where environmental conditions were particularly suitable, it was probably not an option in the rainforest environment without the necessary technological equipment. Important metals, like bronze and iron, did not appear in Borneo before 2000 bp (Sellato 2002: 124; King 1993: 6–7). Sellato therefore speculates that the early Austronesian speakers 'probably remained coast-bound, practicing a mixed economy of forest foraging (particularly wild sago) in low plains, coastal foraging and fishing, and perhaps some horticulture (cultivated sago and tubers). Others penetrated farther inland to make a living strictly on forest foraging' (Sellato 1993). Jan Ave and King (1986: 14–15) paint a similar picture, suggesting that the early Austronesian speakers probably did not rely on rice agriculture, but mainly utilised 'the large expanses of sago palms (Metroxylon sp.) in coastal areas.. Over time, other cultivated crops entered the inventory of these coastal dwellers: the tuber called taro, and also rice'. With the expansion further inland, the utilisation of the coastal *Metroxylon* sago was replaced by other palm trees with edible pith, in particular *Eugeissona* (ibid.). For sea traders in tropical Southeast Asia sago from *Metroxylon* (presumably in the form of dry cooked pellets) may actually have been the staple food from the very start of circum-island navigation (cf. Sellato 2001; Warren 1981). In general, as pointed out by Ellen (2011), the utilisation of sago palms has

[15] The ideas presented by Stephen Oppenheimer are partly inspired by Wilhelm Solheim's (1996, 2006) Nusantao maritime trading and communication network, a hypothesis that he developed 40 years ago, although modified and developed continuously since then.

been of central importance to local economies in much of insular Southeast Asia since ancient times.

Recent research thus questions the existence of a clear dichotomy (other than linguistic) between pre-Austronesian foragers and incoming Austronesian farmers (Barker 2008). The subsistence economies of the pre-Austronesian populations and the incoming Austronesian speakers may have been of equal complexity and sophistication. It has been pointed out that headhunting and feuding were widespread among the early Austronesian speakers, who were 'a murderous bunch' (Reid 2013: 348), but this did not prevent people from interacting. According to Donohue and Denham (2010: 232), the genetic evidence is 'more suggestive of prolonged interaction and mixing among populations'. The resulting linguistic and phenotypical mixtures and continua may never be sorted out, but ongoing and future research will almost certainly add many new pieces of data to this puzzle of entanglements.

Of particular interest in the context of Borneo hunter-gatherers are the lexical and phonological similarities between Aslian (i.e. Mon-Khmer) languages of the Orang Asli of peninsular Malaysia and the West Borneo languages of the Bidayuh and a broad collection of groups of hunter-gatherers mentioned earlier. For example, the word for 'to die', *kobis,* is closely related to northern and central Aslian languages in peninsular Malaysia, for example *kabas, kobis, kabih* (Sellato 1993, Adelaar 1995). This word also has cognates (i.e. *kefoh*, *kavo*, *mekefoh*) in languages spoken by several groups of hunter-gatherers in Borneo. This opens new and intriguing alleys of research, which may eventually help to better comprehend the complex histories of migration and interaction of people and languages in Southeast Asia.

Geoffrey Benjamin (1986: 5) has suggested, in reference to the early history of peninsular Malaysia, that the distinction between foragers and farmers may have been much less pronounced in the past: 'The differentiation of the two came about only much later, through a process of "mutual socio-cultural dissimilation"' (ibid.: 15). Although our data from Borneo are extremely meagre on this point, it is nonetheless possible that the seventeenth-century expansion of large, socially stratified groups, such as Kayan, led to a process of increased differentiation between foragers and farmers, while the expansion of more egalitarian groups, such as Iban, led to a process (in the opposite direction) to increase assimilation of hunter-gatherers. This may also provide an important clue to the distribution of Borneo hunter-gatherers in the twentieth century, which corresponds roughly with the distribution of major stratified groups, such as Kayan, Kenyah and Ga'ai. The Iban societies competed with hunter-gatherers for non-timber forest products, then eventually absorbed them. The stratified societies, however, did not integrate hunter-gatherers, as it was in the interest of leading aristocrats to have groups of hunter-gatherers remaining as nomads and collectors of commercially valuable forest products (cf. Sellato 1994a: 203, 212–220; Sercombe and Sellato 2007: 31; Brosius 1993a: 53).

The crucial question is how to connect pieces of archaeological or linguistic data with the recorded ethnohistory of contemporary groups. There is a huge chronolog-

ical gap separating the historic narrative of the last century from the fragments of information we have on Borneo's early human history. To Brosius (1988: 87), as we have seen, this is something unresolvable. Even Sellato, who has consistently aimed at historical depth in his hunter-gatherer studies, has repeatedly pointed out the serious lack of historical information, especially for the precolonial times (Sellato 1994a: 116, 2002: 117). This historical dimension is intrinsically problematical in hunter-gatherer studies in particular. The genealogical and historical memory of hunter-gatherers is often rather shallow, seldom reaching beyond the names of single great-grandparents. There are exceptions, of course, but even among the Western Penan, well known for their extensive genealogies, 'very few individuals ... possess this knowledge' (Brosius 1992: 74, cf. Kaskija 2002: 52). Therefore, it is very difficult to reconstruct the history of hunter-gatherers 'more than a century or two' (Sellato 1994a: 125). Archival sources may bring additional data, besides providing a broader political context, but our ethnohistoric accounts, however thick, remain shallow in time depth. Beyond the reach of living memory and written documents, other disciplines, with a far more extensive time depth, take over: archaeology, historical linguistics and a wide range of biosciences, including genomics. This provides us with important pieces of new information from a very distant past, but it also brings seemingly insurmountable methodological problems (cf. Lye 2013: 418).

6.7 Distinct, or Not? What Is Special about the Punan?

According to Shapiro (1998: 489), hunter-gatherer studies often emphasise 'techno-economic factors in human life at the expense of "ideology"'. This is often the case and rainforest hunter-gatherers are usually described with particular reference to their subsistence practices, and also frequently to the environmental knowledge upon which these practices are built. In Borneo, however, up until recently, all indigenous ethnic communities utilised, to varying degrees, the rich resources of the rainforest through hunting and gathering, using more or less the same tools and techniques. In this respect there is very little that makes the Punan/Penan unique and distinct, apart from the fact that most of them used to spend more time on hunting and gathering than the average member of primarily agricultural groups.

Although research has confirmed the depth of the environmental knowledge of Borneo's nomadic groups, there is no indication that they have a significantly greater knowledge of their rainforest environment than non-hunter-gatherer Dayaks in general. If 'environmental knowledge' is used in a narrow sense, referring mainly to the number of wild plant and animal species that are recognised and classified by local informants, then this kind of knowledge is of a similar scope and magnitude among the various indigenous groups in Borneo (cf. Voeks and Sercombe 2000; Voeks 1999, 2004, 2007;

Puri 1997a, b, 1998; Koizumi and Momose 2007). Although minor differences have been noted, this is still not a reason to place groups of Punan/Penan in a separate and more intimate relationship with the non-domesticated environment. Punan are not essentially closer to nature than farmers (cf. Sellato 2005).

Despite these similarities in subsistence techniques and environmental knowledge, characteristic of all indigenous groups along the forager-farmer continuum, and despite the cultural, linguistic and phenotypical similarities discussed earlier, many scholars still commonly view and depict groups of Borneo hunter-gatherers as distinct and clearly identifiable cultural units. The ethnographic literature contains many examples illustrating various elements of this 'sociocultural' distinctiveness. Barker (2008), for example, remarks that 'the cosmologies and world views of the Kelabit [rice farmers] and [their] Penan [neighbours] are strikingly different'. Langub and Janowski (2011) have noted that similar things are given different meaning among the Penan than among farming groups, such as Kelabit. This has been exemplified in great detail by Brosius (1992: 25–26, 1006), who points out that the Penan's expressions of death and their complex system of death names, although common (usually in simpler form) among all groups of people in central Borneo, are nonetheless 'elaborated in a completely different direction' and given a radically different meaning among the Penan than among neighbouring agricultural groups. Brosius (ibid: 161) also points out that Penan organise their understanding of the surrounding landscape in a way that is 'more densely textured' and more 'dimensional' than is the case among their sedentary Dayak neighbours.

Moreover, Sellato (2002: 107) talks about 'a core of social values and behaviour patterns' among groups of Punan 'that plays an important role in perpetuating their way of life through historic vicissitudes and cultural interactions'. Sellato (1994a: 210) refers to these values as an 'ideological core', consisting of characteristics such as 'openness, mobility, autonomy, flexibility, opportunism, [and] an inclination to individualism' (ibid.: 211). Thambiah (1995: 1, 102–115) suggests that the Bhuket of Sarawak—even though they now are skilled rice farmers and cash crop cultivators, many also being chainsaw operators, lorry drivers, clerks or teachers—are still to be regarded as hunter-gatherers, mainly because of 'the persistence of their flexible attitude to life' and their capacity for change.

The distinctiveness of groups of Borneo hunter-gatherers is, according to Sellato (1994a: 211), expressed 'most clearly, in the economic sphere', for example in their sharing practices and their preference for activities that give an immediate return. These features are seen as parts of a cultural 'toolkit' that allows formerly nomadic people to make their way, sometimes more efficiently than farmers, through a fast-changing world (Sellato 2007: 86–87); at other times the same features are described as obstacles and a troublesome handicap. In a recent article, Koizumi et al. (2012) ask, in reference to Penan Benalui, whether the culture of these hunter-gatherers should be regarded as 'a major hindrance to a settled agricultural life'. One problem among these Penan is an 'absence of savings because of excessive spending and extensive sharing'

(ibid.: 1). An interesting parallel is Ida Nicolaisen's (1986: 105–106) portrait of the Kajang[16] as having an economy that is in a 'permanent state of bankruptcy', mainly because of their sharing practices and their tendency to spend and consume, and to 'venture into activities which pay off instantaneously'.

A recurrent theme is also that of an oscillation between avoidance and contact (Kaskija 2012; Lye 2013: 436), between 'a mixed economy ... in the frontier and a foraging economy away from it' (Gardner 1993: 129), between autonomy and an 'ideology of patronage' (Bending 2006), between self-reliance and an attitude of dependence and 'assistedness' (Sellato 2007: 88).

An equally recurrent theme is that of variation. Each hunter-gatherer group is unique in many respects, mainly due to unique historical experiences. While some groups lived far away from their nearest agricultural neighbours (Nicolaisen 1976b: 35–40; Rousseau 1984: 88; Needham 1971: 178), some of them with limited interaction with outsiders (Sellato 1988: 116), others have had very close external contacts, to the point of partial assimilation (e.g. Punan Tubu'), or even complete subordination, as among certain groups on the east coast (Kaskija 2011). While some groups are still nomadic, such as a few Eastern Penan, others may never have been nomadic at all (e.g. Punan Batu). Some groups, early in time, became excellent blacksmiths and even learned iron smelting, while other groups never practised metallurgy at all (Sellato 2015; Needham 1953). Some groups have been extremely peaceful and subservient, while others have, as small bands, defended themselves and even waged guerrilla warfare against powerful aggressors (Sellato 1994a: 138; Thambiah 2007: 94–97). An interesting example is Brosius's (2007) description of the differential response of Eastern and Western Penan to the logging industry, which he explains with reference to the diverging colonial histories of the Baram (Eastern Penan) and Balui (Western Penan) areas in Sarawak. However, why the Western Penan, as compared to the Eastern Penan, have significantly larger and more stable communities, why their intercommunity relations are characterised by competitiveness, or why their leaders are more outspoken and prominent, we do not know. The historical processes through which these distinctive features were generated have remained inaccessible and therefore unexplored.

Not least because of distinctive features, such as those mentioned above, itis often assumed, at least implicitly, that the cultures of Borneo hunter-gatherers have developed over a long period of time and very differently from those of the major swidden cultivators. While earlier this was generally regarded as an outcome of isolation and a fidelity to age-old traditions, itis today rather seen in the context of the interaction of a broad range of people within a wider regional or nation context, and in the diverse

[16] The Kajang may have no historical tradition of ever having been nomadic (Brosius 1992: 56), but they are referred to as a 'composite ethnic group' by Sellato (1994a: 212), and an example of the historically common amalgamation of groups of hunter-gatherers and (non-stratified) horticulturalists: 'The sharing of geographical space, of ancient ties, and probably of the same lingua franca, and the threat of common enemies contribute to the formation of an ethnic "melting pot" in which nomads and horticulturalists blend' (ibid.).

and complex historical processes through which these relations have been formed and transformed (cf. Kaskija 2013). It is quite possible that most groups of Borneo hunter-gatherers are, just as African hunter-gatherers, 'descendants of groups that have a long history of hunting and gathering' (Woodburn 1988: 61), but this says nothing about the length of this history.

It can be expected that additional research will emphasise an increasingly complex and ambiguous picture of human populations in Borneo history and prehistory. Simple dichotomies, such as Australoid versus Austronesians, foragers versus farmers, traditional versus modern, seem unable to accommodate various kinds of new data, which paint a rather confusing and fluid picture of great social and economic diversity and entanglement.

Our understanding of Borneo hunter-gatherers often seems to be intimately connected to our perceptions of their past and their presumed origin. They are, in a way, defined by the past, or rather by our images of the past. It is in this context that the ongoing reframing of the (pre-)Austronesian history becomes important. By drawing a map—not only one that talks about Austronesian immigrant farmers as the forefathers of the whole indigenous population of Borneo, but instead one of great complexity and entanglements—we open up a whole range of new possibilities. Even though our images of historic and pre-Neolithic hunter-gatherers have been dissociated, and the gap between 5000 bp and 300 bp is a no man's land that will never be bridged—except by 'resorting to the most tenuous sort of conjectural history' (Brosius 1988: 87)—we now know that not even pre-Neolithic hunter-gatherers were 'pure'. The image that is now appearing is one of the mixed livelihood systems (foraging-fishing-food production) persisting through time and genetic and linguistic replacement—of which Borneo hunter-gatherers were and still are one component.

References

Adelaar, K. Alexander. 1995. Borneo as a cross-roads for comparative Austronesian linguistics. In *The Austronesians: historical and comparative perspectives*, eds. Peter S. Bellwood, James J. Fox, and Darrell T. Tryon, pp. 75–95. Canberra: Australian National University, Department of Anthropology, Research School of Pacific and Asian Studies.

Ames, Kenneth M. 2004. Book review essay: Supposing hunter-gatherer variability. *American Antiquity* 69(2):364–374.

Appell-Warren, Laura P. 1985. Resettlement of the Bulusu' and Punan in Indonesian Borneo: policy and history. *Sarawak Museum Journal* 17:10–20.

Appell, George N. 1983. Ethnic groups in the northeast region on Indonesian Borneo and their social organization. *Borneo Research Bulletin* 15(1):38–45.

Arnold, Guy. 1956. Prehistory of Usun Apau. *Sarawak Museum Journal* 7:166–189.

Arnold, Guy. 1957. Nomads of the Borneo jungle. *Country Life* 14 February.

Arnold, Guy. 1958. Nomadic Penan of the upper Rejang (Plieran), Sarawak. *Journal of the Malayan Branch of the Royal Asiatic Society* 31(1):40–82.

Arnold, Guy. 1959. *Longhouse and jungle: an expedition to Sarawak*. London: Chatto and Windus.

Ave, Jan B., and Victor T. King. 1986. *Borneo: the people of the weeping forest: tradition and change in Borneo*. Leiden: National Museum of Ethnology.

Babcock, Tim G. 1974. Indigenous ethnicity in Sarawak. *SarawakMuseum Journal* (22)43:191–202.

Bahuchet, Serge, and Henri Guillaume. 1982. Aka-Farmer relations in the northwest Congo basin. In *Politics and history in band societies*, eds. Eleanor Leacock, and Richard Lee, 189–211. Cambridge: Cambridge University Press.

Bailey, Robert C., Genevieve Head, Mark Jenike, Bruce Owen, Robert Rechtman, and Elzbieta Zechenter. 1989. Hunting and gathering in the tropical rain forest: is it possible? *American Anthropologist* 91(1):59–82.

Barker, Graeme. 2005. The archaeology of foraging and farming at Niah Caves, Sarawak. *Asian Perspectives* 44(1):90–106.

Barker, Graeme. 2008. *Footsteps and marks: transitions to farming in the rainforests of island Southeast Asia*. New Haven, CT: Yale University Agrarian Studies Colloquium Series 3.

Barker, Graeme, and Monica Janowski, eds. 2011. *Why cultivate? Anthropological and archaeological approaches to foraging-farming transitions in Southeast Asia*. Cambridge: McDonald Institute for Archaeological Research.

Barth, Fredrik. 1969. Introduction. In *Ethnic groups and boundaries*, ed. Fredrik Barth, 99–38. Oslo: Universitetsforlaget.

Barton, Huw. 2009. The social landscape of rice within vegecultural systems in Borneo. *Current Anthropology* (50)5:673–675.

Barton, Huw. 2012. The reversed fortunes of sago and rice, *Oryza sativa*, in the rainforests of Sarawak, Borneo. *Quaternary International* 249:96–104.

Barton, Huw., and Denham, T. 2011. Prehistoric vegeculture and social life in island Southeast Asia and Melanesia. In *Why cultivate? Anthropological and archaeological approaches to foraging-farming transitions in Southeast Asia*, eds. Graeme Barker, and Monica Janowski, 17–25. Cambridge: McDonald Institute for Archaeological Research.

Beer, Jenne H. de, and Melanie J. MacDermott. 1989. *The economic value of Non-Timber Forest Products in Southeast Asia, with emphasis on Indonesia, Malaysia and Thailand*. Amsterdam: Netherlands Committee for IUCN.

Bellwood, Peter. 1992. The prehistory of Borneo. *Borneo Research Bulletin* 24:7–16.

Bellwood, Peter. 2007 [1985]. *Prehistory of the Indo-Malaysian Archipelago*, rev. ed. Canberra: ANU EPress.

Bellwood, Peter. 2009. Reply: Rethinking the origin of agriculture. *Current Anthropology* 50 (5):707–708.

Bending, Tim. 2006. *Penan histories: contentious narratives in upriver Sarawak*. Leiden: KITLV Press.

Benjamin, Geoffrey. 1986. Between isthmus and island: reflections on Malayan palaeosociology. Working Paper 71. Singapore: National University of Singapore, Department of Sociology.

Benjamin, Geoffrey. 2013. Indigenous migrations, Southeast Asia. In *The encyclopedia of global human migration*, ed. Immanuel Ness, Online edition. Oxford: Wiley-Blackwell.

Biesbrouck, Karen, Stefan Elders, and Gerda Rossel, eds. 1999. *Central African hunter-gatherers in a multidisciplinary perspective: challenging elusiveness*. Leiden: Research School for Asian, African, and Amerindian Studies (CNWS) Leiden University.

Black, Ian. 1985. The 'Lastposten': Eastern Kalimantan and the Dutch in the nineteenth and early twentieth centuries. *Journal of Southeast Asian Studies* 16(2): 281–291.

Blust, Robert. 1976. Austronesian culture history: Some linguistic inferences and the relations to the archaeological record. *World Archaeology* 8(1):19–43.

Blust, Robert. 1989. Comments. *Current Anthropology* 30(1):53–54.

Blust, Robert. 1996. Austronesian cultural history: the window from language. *Transactions of American Philosophical Society* 86(5):28–35.

Bock, Carl. 1881. *The headhunters of Borneo*. London: Sampson Low, Marston, Searle and Rivington.

Boedhihartono, A. Klintuni. 2004. Dilemme à Malinau, Bornéo: être ou ne pas être un chasseur-cueilleur Punan. Evolution et transformation d'une communauté de chasseurs-cueilleurs. PhD thesis, Paris.

Boedhihartono, A. Klintuni. 2008. Punan hunter-gatherers and the Heart of Borneo initiative. In *Reflections on the heart of Borneo,* eds. Gerard A. Persoon, and Manon Osseweijer, 159–174. Wageningen: Tropenbos International.

Brosius, J. Peter. 1986. River, forest and mountain: the Penan Geng landscape. *Sarawak Museum Journal* 36(57):173–184.

Brosius, J. Peter. 1988. A separate reality: comments on Hoffman's *The Punan: hunters and gatherers of Borneo. Borneo Research Bulletin* 20(2):81–106.

Brosius, J. Peter. 1989a. The Penan encounter with development in Sarawak, East Malaysia. Paper presented at the Economic Change and Development in Southeast Asia: Local Issues, Midwest Conference on Asian Affairs, 28–29 October.

Brosius, J. Peter. 1989b. Landscape and society in Borneo: Penan hunter-gatherers of Sarawak. Paper presented at the Rainforest: Life in a Canopied World, the University Museum of Archaeology and Anthropology, University of Pennsylvania, 4 February.

Brosius, J. Peter. 1990. Penan hunter-gatherers of Sarawak, East Malaysia. *Anthro-Quest* 42:1–7.

Brosius, J. Peter. 1991. Foraging in tropical rain forests: the case of the Penan of Sarawak, East Malaysia (Borneo). *Human Ecology* 19(2):123–150.

Brosius, J. Peter. 1992. The axiological presence of death: Penan Gang death-names. 2 vols. PhD thesis, University of Michigan.

Brosius, J. Peter. 1993. Between development and deforestation: negotiating citizenship in a commodified landscape. *Akademia* 42/43:87–104.

Brosius, J. Peter. 1995. Bornean forest trade in historical and regional perspective: the case of Penan hunter-gatherers of Sarawak. In *Society and non-timber forest products in tropical Asia*, ed. Jefferson Fox, 13–26. Honolulu: East-West Center Occasional Papers Environmental Series 19.

Brosius, J. Peter. 1997. Endangered forest, endangered people: environmentalist representations of indigenous knowledge. *Human Ecology* 25(1):47–69.

Brosius, J. Peter. 1999a. Analyses and interventions: anthropological engagements with environmentalism. *Current Anthropology* 40(3):277–309.

Brosius, J. Peter. 1999b. Locations and representations: writing in the political present in Sarawak, East Malaysia. *Identities* 6(2/3):345–386.

Brosius, J. Peter. 1999c. Green dots, pink hearts: displacing politics from the Malaysian rain forest. *American Anthropologist* 101(1):36–57.

Brosius, J. Peter. 2006. Between politics and poetics: narratives of dispossession in Sarawak, Malaysia. In *Reimagining political ecology*, eds. Aletta Biersack and James B. Greenberg, 281–322. Durham, NC: Duke University Press.

Brosius, J. Peter. 2007. Prior transcripts, divergent paths: resistance and acquiescence to logging in Sarawak, East Malaysia. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 289–333. Copenhagen: NIAS Press.

Brunton, Ron. 1990. The cultural instability of egalitarian societies. *Man* n.s. 24(4):673–681.

Bulbeck, David. 2013. Craniodental affinities of Southeast Asia's 'Negritos' and the concordance with their genetic affinities. *Human Biology* 85(1/3):95–134.

Césard, Nicolas. 2007. A sociohistorical transition: trade in forest products and bride-price among the Punan Tubu of Eastern Kalimantan. *Anthropos* 102(2):455–477.

Césard, Nicolas. 2009. Des objets en partage. Produits forestiers, prestations matrimoniales et transformations sociales chez les Punan Tubu, Kalimantan-Est. Indonésie. PhD thesis, Ecole des hautes études en sciences sociales.

Césard, Nicolas. 2013. Acculturation or continuity? The adoption of marriage payments among the Punan Tubu Indonesia. Paper presented at the 10th Conference on Hunting and Gathering Societies CHaGS, Liverpool, 25–28 June.

Chan, Henry. 2007b. History and the Punan Vuhang: response to economic and resource tenure change. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 192–226. Copenhagen: NIAS Press.

Chan, Henry. 2007a. *Survival in the rainforest: change and resilience among the Punan Vuhang of eastern Sarawak, Malaysia*. Helsinki: Helsinki University Press.

Chen, Paul C.Y. 1990. *Penans: the nomads of Sarawak*. Petaling Jaya: Pelanduk Publications.

Chin, S.C. 1985. Agriculture and resource utilization in a lowland rainforest Kenyah community. *Sarawak Museum Journal* 35(56):1–322. Special Monograph 4.

Davis, Wade. 1992. Bruno Manser and the Penan struggle for the Borneo rain forest. *The Gettysburg Review* 5(4):613–625.

Davis, Wade, and Thom Henley. 1991. *Penan: voice for the Borneo rainforest*. Vancouver: Western Canada Wilderness Committee-Wild Campaign.

Davis, Wade, Ian Mackenzie, and Shane Kennedy. 1995. *Nomads of the dawn: the Penan of the Borneo rain forest*. San Francisco: Pomegranate Artbooks.

Donohue, Mark, and Tim Denham. 2010. Farming and language in island Southeast Asia: reframing Austronesian history. *Current Anthropology* 51(2):223–256.

Dove, Michael R. 1993. Uncertainty, humility, and adaptation in the tropical forest: the agricultural augury of the Kantu. *Ethnology* 32(2):145–167.

Eghenter, Cristina, and Bernard Sellato. 2003. Introduction. In *Social science research and conservation management in the interior of Borneo: unravelling past and present interactions of people and forests*, eds. Cristina Eghenter, Bernard Sellato, and G. Simon Devung, 1–34. Bogor: Center for International Forestry Research.

Eghenter, Cristina, Bernard Sellato, and G. Simon Devung, eds. 2003. *Social science research and conservation management in the interior of Borneo: unravelling past and present interactions of people and forests*. Bogor: Center for International Forestry Research.

Ellen, Roy. 1988. Foraging, starch extraction and the sedentary lifestyle in the lowland rainforest of central Seram. In *Hunters and gatherers.* vol. 1: *History, evolution and social change*, eds. Tim Ingold, David Riches, and James Woodburn, 117–134. Oxford: Berg.

Ellen, Roy. 2011. Sago as a buffer against subsistence stress and as a currency of inter-island trade networks in eastern Indonesia. In *Why cultivate? Anthropological and archaeological approaches to foraging-farming transitions in Southeast Asia*, eds. Graeme Barker, and Monica Janowski, 47–60. Cambridge: McDonald Institute for Archaeological Research.

Ellis, D.B. 1972. A study of the Punan Busang. *Sarawak Museum Journal* 40/41:235–299.

Elshout, Jacob M. 1926. *De Kenja-Dajaks uit het Apokajan gebied: bijdragen tot de Kennis von Centraal-Borneo*. 's-Gravenhage: Nijhoff.

Fox, Robert. 1952. The Pinatubo Negritos: their useful plants and material culture. *Philippine Journal of Science* 81(3/4):173–391.

Freeman, J.D. 1955. *Iban agriculture: a report on the shifting cultivation of hill rice by the Iban of Sarawak*. London: Her Majesty's Stationary Office, Colonial Research Studies 18.

Furness, William Henry. 1979 [1902]. *The home-life of the Borneo head-hunters: its festivals and folk-lore*. New York: AMS Press.

Gardner, Peter M. 1993. Dimensions of subsistence foraging in South India. *Ethnology* 32(2):109-144.

Geddes, W.R. 1954. *The Land Dayaks of Sarawak*. London: Her Majesty's Stationery Office, Colonial Research Studies 14.

Griffin, P. Bion. 1984. Forager resource and land use in the humid tropics: the Agta of northeastern Luzon, the Philippines. In *Past and present in hunter gatherer studies*, ed. Carmel Schrire, 95121. Orlando: Academic Press.

Guerreiro, Antonio J. 1985. An ethnological survey of the Kelai River area, Kabupaten Berau, East Kalimantan. *Borneo Research Bulletin* 18(2):106–120.

Guerreiro, Antonio J. 2004. A rejoinder to Herwig Zahorka's 'Basap cave dwellers in Mangkalihat' and some additional notes on the Basap and resettlement in East Kalimantan. *Borneo Research Bulletin* 35:83–98.

Haddon, Alfred C. 1901. *Headhunters: black, white and brown*. London: Methuen.

Harrisson, Tom. 1949. Notes on some nomadic Punans. *Sarawak Museum Journal* 5(1):130–146.

Harrisson, Tom. 1959. *World within: a Borneo story*. London: Cresset.

Harrisson, Tom. 1975. Further notes on Sarawak and Kalimantan Punan (and Penan). *Borneo Research Bulletin* 7(1):3–4.

Hayden, Brian. 2011. Rice: the first Asian luxury food? In *Why cultivate? Anthropological and archaeological approaches to foraging-farming transitions in Southeast Asia*, eds. Graeme Barker, and Monica Janowski, 75–94. Cambridge: McDonald Institute for Archaeological Research.

Headland, Thomas N. 1987. The wild yam question: How well could independent hunter-gatherers live in a tropical rainforest environment? *Human Ecology* 15(4):463–491.

Headland, Thomas N., and Lawrence Reid. 1989. Hunter-gatherers and their neighbors from prehistory to the present. *Current Anthropology* 30(1):43–51.

Hildebrand, Harmut K. 1982. *Die Wildbeutergruppen Borneos*. Munich: Minerva Publikation.

Hoffman, Carl L. 1981. Some notes on the origin of the 'Punan' of Borneo. *Borneo Research Bulletin* 13(2):71–75.

Hoffman, Carl L. 1982. Implications of economics: the wild Punan of Borneo. Paper to the 81st Annual Meeting of the American Anthropological Association, Washington, DC, 3–7 December.

Hoffman, Carl L. 1983a. Punan. PhD thesis, University of Pennsylvania.

Hoffman, Carl L. 1983b. An essay on the Punan religion. *Borneo Research Bulletin* 15(1):30–33.

Hoffman, Carl L. 1984. Punan foragers in the trading networks of Southeast Asia. In *Past and present in hunter gatherer studies*, ed. Carmel Schrire, 123–150. Orlando: Academic Press.

Hoffman, Carl L. 1986. *The Punan: hunters and gatherers of Borneo*. Ann Arbor, MI: UMI Research Press.

Holmsen, Katherine. 2006. Out of the forest and into the market: social and economic transformations in a Bornean foraging society. PhD thesis, University of Arizona.

Hose, Charles, and William McDougall. 1993 [1912]. *The pagan tribes of Borneo*, New York: Oxford University Press, 2 vols.

Hühne, W.H. 1959. A doctor among 'nomadic' Punans. *Sarawak Museum Journal* 9(13/14):195-202.

Janowski, Monica, and Graeme Barker, eds. 2011. *Why cultivate? Anthropological and archaeological approaches to foraging-farming transitions in Southeast Asia*. Cambridge: McDonald Institute for Archaeological Research.

Kaboy, Tuton. 1974. The Penan Aput. In *The peoples of central Borneo*, ed. Jérôme Rousseau, special issue of *Sarawak Museum Journal* 22(43):287–293.

Kaskija, Lars. 1988. Carl Hoffman and the Punan of Borneo. *Borneo Research Bulletin* 20(2):121-129.

Kaskija, Lars. 1995. Punan Malinau: the persistency of an 'unstable' culture. MPhil thesis, Uppsala University.

Kaskija, Lars. 1998. The Punan of Borneo: cultural fluidity and persistency in a forest people. In *Voices of the land: identity and ecology in the margins*, ed. Alf Hornborg, and Mikael Kurkiala, vol. 1, 321–360. Lund: Lund University Press.

Kaskija, Lars. 2002. *Claiming the forest: Punan local histories and recent developments in Bulungan, East Kalimantan*. Bogor: Center for International Forestry Research.

Kaskija, Lars. 2007. Stuck at the bottom: opportunity structures and Punan Malinau identity. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 135–159. Copenhagen: NIAS Press.

Kaskija, Lars. 2011. Encapsulation and solidarity in northeast Borneo: Punan of the Malinau area. In *Anarchic solidarity: autonomy, equality, and fellowship in Southeast Asia*, eds. Thomas Gibson, and Kenneth Sillander, 202–225. New Haven, CT: Yale University Southeast Asia Studies Monograph 60.

Kaskija, Lars. 2012. *Images of a forest people: Punan Malinau—identity, sociality and encapsulation in Borneo*. Uppsala: Uppsala Studies in Cultural Anthropology 52.

Kaskija, Lars. 2013. Sociality and livelihood among Punan of Borneo. Paper presented at the 10th Conference on Hunting and Gathering Societies CHaGS, Liverpool, 25–28 June.

Kato, Yumi. 2008. Ethnohistory of Sihan subsistence and their concern with sedentarisation. Paper presented at Borneo Research Council 9th Biennial International Conference, Universiti Malaysia Sabah.

Kato, Yumi. 2011. Change and resilience of a hunter-gatherer society in Sarawak, Malaysia: a case study of the Sihan. PhD thesis, Kyoto University.

Kato, Yumi. 2013. Resilience and flexibility: history of hunter-gatherers' relationships with their neighbors in Borneo. Paper presented at the 10th Conference on Hunting and Gathering Societies CHaGS, Liverpool, 25–28 June.

Kedit, Peter M. 1978. *The Gunung Mulu report: a human-ecological survey of nomadic/settled Penan within the Gunung Mulu National Park area, 4th/5th Divisions, Sarawak*. Kuching: Sarawak Museum.

Kedit, Peter M. 1982. An ecological survey of the Penan. *Sarawak Museum Journal* 30(51): 225–279.

Kelly, Robert L. 1995. *The foraging spectrum: diversity in hunter-gatherer lifeways*. Washington: Smithsonian Institution Press.

Kendell, Jeni, and Paul Tait. dirs. 1988. *Blowpipes and bulldozers*. VHS film. Nimbin, NSW: Gaia Films.

Kent, Susan. 1992. The current forager controversy: real versus ideal views of hunter-gatherers. *Man* n.s. 27(1):45–70.

Kent, Susan. ed. 1996. *Cultural diversity among twentieth-century foragers: an African perspective*. Cambridge: Cambridge University Press.

King, Victor T. 1974. Notes on Punan and Bukat in West Kalimantan. *Borneo Research Bulletin* 6 (2):39–42.

King, Victor T. 1975a. A note on Bukitan in West Kalimantan. *Sarawak Gazette* 101(1403):2–3. King, Victor T. 1975b. Bukitan in Enthoven: a further note. *Sarawak Gazette* 101(1407):94–95. King, Victor T. 1979. Research on former nomads in West Kalimantan. *Bulletin of the International Committee on Urgent Anthropological and Ethnological Research* 21:89–98.

King, Victor T. 1982. Ethnicity in Borneo: an anthropological problem. In *Ethnicity in Southeast Asia*, eds. V.T. King, and W.D. Wilder, special issue of *Southeast Asian Journal of Social Science* 10(1):23–43.

King, Victor T. 1985. Symbols of social differentiation: a comparative investigation of signs, the signified and symbolic meanings in Borneo. *Anthropos* 80:125–152.

King, Victor T. 1993. *The peoples of Borneo*. Oxford: Blackwell.

Klimut, K.A., and Rajindra K. Puri. 2007. The Punan from the Tubu' River, East Kalimantan: a native voice on past, present, and future circumstances. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 110134. Copenhagen: NIAS Press.

Koizumi, Miyako, and Kuniyasu Momose. 2007. Penan Benalui wild-plant use, classification, and nomenclature. *Current Anthropology* 48(3):454–459.

Koizumi, Miyako, Dollop Mamung, and Patrice Levang. 2012. Hunter-gatherers' culture, a major hindrance to a settled agricultural life: the case of the Penan Benalui of East Kalimantan. *Forests, Trees and Livelihoods* 21(1):1–15.

Langub, Jayl. 1974. Adaptation to a settled life by the Punan of the Belaga Sub-District. In *The Peoples of Central Borneo*, ed. Jérôme Rousseau, special issue of *Sarawak Museum Journal* 22 (43):295–301.

Langub, Jayl. 1975. Distribution of Penan and Punan in the Belaga District. *Borneo Research Bulletin* 7(2):45–48.

Langub, Jayl. 1988. The Penan strategy. In *People of the tropical rain forest*, eds. Julie Sloan Denslow, and Christine Padoch, 207–208. Berkeley: University of California Press.

Langub, Jayl. 1989. Some aspects of life of the Penan. *Sarawak Museum Journal* 40(61):169–185.

Langub, Jayl. 1993. Hunting and gathering: a view from within. In *Change and development in Borneo,* ed. Vinson H. Sutlive, 101–109. Williamsburg, VA: Borneo Research Council, Proceedings Series 1.

Langub, Jayl. 1996a. Penan response to change and development. In *Borneo in transition: people, forests, conservation, and development*, eds. Christine Padoch, and Nancy Lee Peluso, 103120. Kuala Lumpur: Oxford University Press.

Langub, Jayl. 1996b. Penan and their surroundings. In *Penan and their surroundings*, ed. Hood Salleh, 1–13. Bangi: Universiti Kebangsaan Malaysia, Institute for the Environment and Development.

Langub, Jayl. 2001. *Suket: Penan folk stories. Suket Penan.* Kota Samarahan: Universiti Malaysia Sarawak, Institute of East Asian Studies, Oral Literature Series 2.

Langub, Jayl. 2004 [1999]. Leadership among the Penan of Belaga District in Sarawak, Malaysian Borneo. *Contributions to Southeast Asian ethnography* 12:187–217.

Langub, Jayl. 2008. Penan and the Pulong Tau National Park: historical links and contemporary life. *Borneo Research Bulletin* 39:104–127.

Langub, Jayl., and Monica Janowski. 2011. Footprints and marks in the forest: the Penan and the Kelabit of Borneo. In *Why cultivate? Anthropological and archaeological approaches to foraging-farming transitions in Southeast Asia*, eds. Graeme Barker, and Monica Janowski, 121–132. Cambridge: McDonald Institute for Archaeological Research.

Lau, D. 1987. *Penans, the vanishing nomads of Borneo.* Kota Kinabalu: Inter-State.

Leach, Edmund R. 1950. *Social science research in Sarawak.* London: His Majesty's Stationery Office.

Leach, Edmund R. 1954. *Political systems of highland Burma.* Cambridge, MA: Harvard University Press.

Levang, Patrice, Saoduon Sitorus, and Edmond Dounias. 2007. City life in the midst of the forest: a Punan hunter-gatherer's vision of conservation and development. *Ecology and Society* 12(1).

Li, Tania Murray. 2004. Marginality, power and production: analysing upland transformations. In *Transforming the Indonesian uplands: marginality, power and production*, ed. Tania Murray Li, 1–44. London: Routledge.

Lindblad, J. Thomas. 1988. *Between Dayak and Dutch: the economic history of Southeast Kalimantan, 1880-1942.* Dordrecht: Foris, KITLV, Verhandelingen 134.

Lourandos, Harry. 1997. *Continent of hunter-gatherers: new perspectives in Australian prehistory*. New York: Cambridge University Press.

Lumholtz, Carl. 1920. *Through central Borneo: an account of two years' travel in the land of the head-hunters between the years 1913 and 1917*, 2 vols. London: T.F. Unwin.

Lundqvist, Eric. 1949. *Dajak.* Stockholm: Folket i Bilds Forlag.

Lye Tuck-Po. 2013. Making friends in the rainforest: 'Negrito' adaptation to risk and uncertainty. *Human Biology* 85(1): Article 19.

Magenda, Burhan. 1991. *East Kalimantan: the decline of a commercial aristocracy*. Ithaca, NY: Cornell University, Southeast Asia Program, Modern Indonesia Project, Monograph Series 70.

Mamung, Dollop. 1998. *Kamus Punan-Indonesia. Bah Ngguh Punan Tufu'. Kamus Bahasa Punan Tubu* [A Punan Tubi and Indonesian dictionary]. Samarinda: Pusat Kebudayaan dan Alam Kalimantan, WWF-Indonesia, Proyek Kayan Mentarang.

Manser, Bruno. 1992. *Stimmen aus dem Regenwald: Zeugnisse eines bedrohten Volkes*. Bern: Zytglogge Verlag.

Manser, Bruno. 1996. *Voices from the rainforest: testimonies of a threatened people*. Petaling Jaya: Bruno Manser Foundation and Institute for Social Analysis.

Morris, H.S. 1953. *Report on a Melanau sago producing community in Sarawak*. London: Her Majesty's Stationery Office.

Needham, Rodney. 1953. The social organisation of the Penan: a Southeast Asia people. DPhil thesis, Oxford University.

Needham, Rodney. 1954a. Penan and Punan. *Journal of the Malayan Branch of the Royal Asiatic Society* 27(1):73–83.

Needham, Rodney. 1954b. The system of teknonyms and death-names of the Penan. *Southwestern Journal of Anthropology* 10(4):416–431.

Needham, Rodney. 1954c. Reference to the dead among the Penan. *Man* n.s. 54:10.

Needham, Rodney. 1954d. A note on the blood pact in Borneo. *Man* n.s. 54:90–91.

Needham, Rodney. 1955. Punan Ba. *Journal Malayan Branch Royal Asiatic Society* 28(1):124-136.

Needham, Rodney. 1959. Mourning-terms. *Bijdragen tot de Taal-, Landen Volkenkunde* 115 (1):58–89.

Needham, Rodney. 1964. Blood, thunder and mockery of animals. *Sociologus* 14(2):136–149.

Needham, Rodney. 1965. Death-names and solidarity in Penan society. *Bijdragen tot de Taal-, Landen Volkenkunde* 121(1):58–76.

Needham, Rodney. 1966. Age, category and descent. *Bijdragen tot de Taal-, Landen Volkenkunde* 122(1):1–35.

Needham, Rodney. 1971. Penan friendship-names. In *The translation of culture: essays to E.E Evans-Pritchard*, ed. T.O. Beidelman, 203–230. London: Tavistock.

Needham, Rodney. 1972. Penan. In *Ethnic groups of insular Southeast Asia*, ed. Frank M. LeBar, vol. 1, 176–180. New Haven: Human Relations Area Files Press.

Needham, Rodney. 2007. Penan. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 50–60. Copenhagen: NIAS Press.

Ngo, Mering. 1986. Orang Bukat: penghuni hutan lebat Kalimantan Barat [The bukat: dwellers of the deep forest of West Kalimantan]. *Mutiara* 37(7):15–16.

Ngo, Mering. 2007. Nested disputes: building mediation procedures for the Punan in West Kalimantan. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 160–176. Copenhagen: NIAS Press.

Nicolaisen, Ida. 1983. Change without development: the transformation of Punan Bah society. *Sarawak Museum Journal* 32(53):191–230.

Nicolaisen, Ida. 1986. Pride and progress: Kajang response to economic change. *Sarawak Museum Journal* 36(57):75–116.

Nicolaisen, Johannes. 1974/75. The Negritos of Casiguran Bay: problems of affluency, territoriality and human aggressiveness in hunting societies of Southeast Asia. *Folk* 1617:401–434.

Nicolaisen, Johannes. 1976a. The Penan of Sarawak: further notes on the neo-evolutionary concept of hunters. *Folk* 18:205–236.

Nicolaisen, Johannes. 1976b. The Penan of the Seventh Division of Sarawak: past, present, and future. *Sarawak Museum Journal* 24(45):35–61.

Nieuwenhuis, Anton W. 1904–1907. *Quer durch Borneo: Ergebnsse seiner Reisen in den Jahren 1894, 1896-97 und 1898-1900.* Leiden: Brill, 2 vols.

Okushima, Mika. 2008. Ethnohistory of the Kayanic peoples in northeast Borneo (part 2): expansion, regional alliance groups, and Segai disturbances in the colonial era. *Borneo Research Bulletin* 39:184–238.

Oppenheimer, Stephen. 1998. *Eden in the east: the drowned continent of Southeast Asia.* London: Weidenfeld & Nicolson.

Oppenheimer, Stephen. 2006. Response to Peter Bellwood and Jared Diamond (2005): 'On explicit "replacement" models in Island Southeast Asia: a reply to Stephen Oppenheimer'. *World Archaeology* 38(4):715–717.

Pauwels, P.C. 1935. Poenan's in de onderafdeeling Boeloengan [Punans in the subdistrict of Bulungan]. *Koloniaal Tijdschrift* 24:342–353.

Persoon, Gerard A., and Manon Osseweijer, eds. 2008. *Reflections on the heart of Borneo.* Wageningen: Tropenbos International.

Pfeffer, Pierre, and Caldecott, Julian. 1986. The bearded pig (*Sus barbatus*) in East Kalimantan and Sarawak. *Journal of the Malaysian Branch of the Royal Asiatic Society* 59(2):81–100.

Puri, Rajindra K. 1997a. Hunting knowledge of the Penan Benalui of East Kalimantan, Indonesia. PhD thesis, University of Hawaii.

Puri, Rajindra K. 1997b. Penan Benalui knowledge and use of tree palms. In *People and Plants of Kayan Mentarang,* eds. Kim Worm S0rensen, and Belinda Morris, 194–226. London: WWF and UNESCO.

Puri, Rajindra K. 1998. *Assessment of the biodiversity of the Bulungan research forest in East Kalimantan: an introduction to the ethnoecology of the Punan Tubu*. Bogor: Center for International Forestry Research and Wildlife Conservation Society.

Puri, Rajindra K. 2001. *Bulungan ethnobiology handbook*. Bogor: Center for International Forestry Research, Prosea and East-West Center.

Puri, Rajindra K. 2005. *Deadly dances in the Bornean rainforest: hunting knowledge of the Penan Benalui*. Leiden: KITLV Press.

Rain, Andy, and Nick Rain. 1992. *The Penan: Borneo's hunters and gatherers*. Kuala Lumpur: S. Abdul Majeed.

Reid, Lawrence A. 2007. Historical linguistics and Philippine hunter-gatherers. In *Piakandatu ami Dr. Howard P. McKaughan*, eds. Loren Billings, and Nelleke Goudswaard, 6–32. Manila: Linguistic Society of the Philippines and SIL Philippines.

Reid, Lawrence A. 2013. Who are the Philippine Negritos? Evidence from language. *Human Biology* 85(1/3):329–358.

Röed, Jan, Björn Cederberg, Kristian Petri, and Fredrik von Krusenstjerna. 1990. *Tong Tana: a journey into the heart of Borneo*. VHS film. Stockholm: Roed-Krusenstjerna Film.

Rousseau, Jérôme. 1984. Review article: Four theses on the nomads of central Borneo. *Borneo Research Bulletin* 16(2):85–95.

Rousseau, Jérôme. 1990. *Central Borneo: ethnic identity and social life in a stratified society*. Oxford: Clarendon Press.

Sager, Steven. 2008. The sky is our roof, the earth our floor: Orang Rimba customs and religion in the Bukit Duabelas region of Jambi, Sumatra. PhD thesis, Australian National University.

Sandin, B. 1967–1968. The Beketans. *Sarawak Museum Journal* 15/16(30/31):32–33.

Sather, Clifford. 1971. Kinship and domestic relations among the Bajau Laut of northern Borneo, PhD thesis, Harvard University.

Sather, Clifford. 1978. The Bajau Laut. In *Essays on Borneo societies*, ed. Victor T. King, 172192. London: Oxford University Press.

Sather, Clifford. 1984. Sea and shore people: ethnicity and ethnic interaction in southeastern Sabah. *Contributions to Southeast Asian Ethnography* 3:3–27.

Sather, Clifford. 1995. Sea nomads and rainforest hunter-gatherers: foraging adaptations in the Indo-Malaysian archipelago. In *The Austronesians: historical and comparative perspectives*, eds. Peter S. Bellwood, James J. Fox, and Darrell T. Tryon, 229–268. Canberra: Department of Anthropology, Research School of Pacific and Asian Studies, Australian National University.

Schneeberger, William F. 1979. *Contributions to the ethnography of Central Northeast Borneo (parts of Kalimantan, Sarawak and Sabah)*. Berne: University of Berne, Institute of Ethnology.

Schrire, Carmel. 1984. Wild surmises on savage thoughts. In *Past and present in hunter gatherer studies*, ed. Carmel Schrire, 1–26. Orlando: Academic Press.

Scott, James C. 2013. Crops, towns, government. Review of *The world until yesterday: what we can learn from traditional societies* by Jared Diamond. *London Review of Books* 35(22):13–15.

Seitz, Stefan. 1981. Die Penan in Sarawak und Brunei: ihre Kulturhistorische Einordnung und Gegenwärtige Situation. *Paideuma* 27:275–311.

Seitz, Stefan. 1988. Die Penan Punan. In *Borneo: Mensch und Kultur seit ihrer Steinzeit*, ed. H. Harrer, 163–191. Innsbruck: Pinguin-Verlag.

Seitz, Stefan. 2007. Game, pets, and animal husbandry among Penan and Punan groups. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 177–191. Copenhagen: NIAS Press.

Sellato, Bernard. 1980. The upper Mahakam area. *Borneo Research Bulletin* 12(2):40–46.

Sellato, Bernard. 1984. Collective memory and nomadism: ethno-historical investigations in Borneo. *Indonesia* 57:155–174.

Sellato, Bernard. 1986. Les nomades forestiers de Bornéo et la sédentarisation: essai d'histoire économique et sociale. Thèse de Doctorat, Ecole des hautes études en sciences sociales, Paris.

Sellato, Bernard. 1988. The nomads of Borneo: Hoffman and 'devolution'. *Borneo Research Bulletin* 20(2):106–120.

Sellato, Bernard. 1989. *Nomades et sédentarisation à Bornéo: histoire économique et sociale*. Paris: Editions de l'Ecole des hautes études en sciences sociales.

Sellato, Bernard. 1993a. The Punan question and the reconstruction of Borneo's culture history. In *Change and Development in Borneo,* ed. Vinson H. Sutlive Jr., 47–82. Williamsburg, VA: Borneo Research Council.

Sellato, Bernard. 1993b. Myth, history and modern cultural identity among hunter-gatherers: a Borneo case. *Journal of Southeast Asian Studies* 24(1):18–43.

Sellato, Bernard. 1994a. *Nomads of the Borneo rainforest: the economics, politics, and ideology of settling down*. Honolulu: University of Hawaii Press.

Sellato, Bernard. 1994b. Forêts tropicales et sociétés traditionnelles à Bornéo: vers une histoire régionale 'en continu' de l'environnement et des systèmes de subsistance. *Ecologie Humaine* 12(2):3–22.

Sellato, Bernard. 1995. The culture and conservation program in the Kayan Mentarang Conservation Area, East Kalimantan, Indonesia Borneo. *Borneo Research Bulletin* 26:54–68.

Sellato, Bernard. 1999. L'ethnologue entre l'écologiste et le bon sauvage: de l'usage de la recherche en sciences humaines pour la praxis des ONG et le développement durable. In *L'homme et la forêt tropicale*, eds. Serge Bahuchet, Daniel Bley, Hélène Pagezy, and Nicole Vernazza-Licht, 89–98. Chateauneuf-de-Grasse: Editions de Bergier.

Sellato, Bernard. 2001. *Forest, resources and people in Bulungan: elements for a history of settlement, trade, and social dynamics in Borneo, 1880–2000*. Bogor: Center for International Forestry Research.

Sellato, Bernard. 2002. *Innermost Borneo: studies in Dayak cultures*. Singapore: Singapore University Press.

Sellato, Bernard. 2005. Forests for food, forests for trade, between sustainability and extractivism: the economic pragmatism of traditional peoples and the trade history of northern East Kalimantan. In *Histories of the Borneo environment: economic, political, and social dimensions of change and continuity*, ed. Reed L. Wadley, 61–86. Leiden: KITLV Press, Verhandelingen van het KITLV 231.

Sellato, Bernard. 2007. Resourceful children of the forest: the Kalimantan Punan through the twentieth century. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 61–90. Copenhagen: NIAS Press.

Sellato, Bernard, ed. 2012. *Plaited arts from the Borneo rainforest*. Singapore: NUS Press, Lontar Foundation.

Sellato, Bernard. 2015. Crafts, culture, and economics, between resilience and instability: borrowing from and trading to farmers among Borneo's nomads. In *The arts of hunter-gatherers: collecting, crafting, constructing*, ed. Lye Tuck-Po, special edition of *Hunter-Gatherer Research* 1(2).

Sercombe, Peter, and Bernard Sellato, eds. 2007. *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*. Copenhagen: NIAS Press.

Sercombe, Peter. 1996. Ethnolinguistic change among the Penan of Brunei: some preliminary observations. *Bijdragen tot de Land-, Taalen Volkenkunde van Nederlandsch-Indië* 15 (22):257–274.

Sercombe, Peter. 2007. Continuity and adaptation among the Penan of Brunei. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 227–261. Copenhagen: NIAS Press.

Sercombe, Peter. 2013. Penan folk tales: themes, forms and functions. Paper presented at the 10th Conference on Hunting and Gathering Societies CHaGS, Liverpool, 25–28 June.

Shapiro, Warren. 1998. Ideology, 'history of religions' and hunter-gatherer studies. *Journal of the Royal Anthropological Institute* 4(3):489–510.

Sillander, Kenneth. 2004. 'Dayak' and 'Malay' in southeast Borneo: some materials contesting the dichotomy. *Suomen Antropologi* 29(4):35–47.

Simandjuntak, M. 1967. *Masjarakat Punan ketjamatan Kelaij kabupaten Berau propinsi Kalimantan Timur* [The Punan of Kelay District, Berau Regency, East Kalimantan]. Samarinda: Akademi Pemerintahan Dalam Negeri.

Sinau, Marcus. 1970. *Usaha meningkatkan taraf kehidupan dan penghidupan suku Dajak Punan ketjamatan Malinau Kabupaten Bulungan* [The endeavour to upgrade the standard of life and livelihood of the Dayak Punan in Malinau District, Bulungun Regency]. Samarinda: Akademi Pemerintahan Dalam Negeri.

Sitorus, Saodan, Patrice Levang, Edmond Dounias, Dollop Mamung, and Darif Abot. 2004. *Potret Punan Kalimantan Timur: Sensus Punan 2002-2003*. Bogor: Center for International Forestry Research.

Sitsen, M.H.A. 1932. *Memorie van overgave van de onderafdeeling Tidoengse landen*. The Hague: Algemeen Rijksarchif.

Sloan, C. 1972. A study of the Punan Busang, III: Punan hunting methods. *Sarawak Museum Journal* 20:262–269.

Smith, Bruce D. 2001. Low-level food production. *Journal of Archaeological Research* 9(1):1–43.

Soares, P., J.A. Trejaut, Loo Jun-Hun, C. Hill, M. Mormina, C-L. Lee, Y-M. Chen, G. Hudjashov, P. Forster, V. Macaulay, D. Bulbeck, S. Oppenheimer, M. Lin, and M.B. Richards. 2008. Climate change and postglacial dispersals in Southeast Asia. *Molecular Biology and Evolution* 25(6):1209–1218.

Solheim, Wilhelm G. 1996. Nusantao and north-south dispersals. In *Indo-Pacific: the Chiang Mai papers*, vol. 2, eds. Ian C. Glover, and Peter Bellwood, special issue of *Bulletin of the Indo-Pacific Prehistory Association* 15(2):101–10.

Solheim, Wilhelm G. 2006. *Archaeology and culture in Southeast Asia: unraveling the Nusantao*. Quezon City: University of the Philippines Press.

Sopher, David E. 1977 [1965]. *The sea nomads: a study of the maritime boat people of Southeast Asia*. Singapore: National Museum Publication.

Soriente, Antonia. 2013. Undergoer voice in Borneo: Penan, Punan, Kenyah and Kayan languages. *NUSA: Linguistic Studies of Languages in and around Indonesia,* 54:175–203.

Soriente, Antonia. Forthcoming. Hunter-gatherers of Borneo and the case study of the Penan Benalui. In *Hunter-gatherers and linguistic history: a global perspective*, eds. Tom Guldemann, Patrick McConvell, and Rich Rhodes. Cambridge: Cambridge University Press.

Stolk, J.J. 1907. Opsporing van de zwervende stam der Penjabong-Poenan's, op de waterscheiding der Barito met de Mahakam en Kapoeas (Midden-Borneo) in October 1905. *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap* 24:1–27.

Thambiah, Shanthi. 1995. Culture as adaptation: change among the Bhuket of Sarawak. PhD thesis, University of Hull.

Thambiah, Shanthi. 1997. Household formation and egalitarian gender relations among the Bhuket of Central Borneo. *Asian Journal of Women's Studies* 3(3):101–126.

Thambiah, Shanthi. 2007. The emergence of the ethnic category Bhuket: diversity and the collective hunter-gatherer identity in Borneo. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 91109. Copenhagen: NIAS Press.

Tillema, H.F. 1939. Jagerstammen op Borneo [Hunting peoples of Borneo]. *Onze Aarde* 12:76–83, 135–142, 203–212, 228–232, 262–269.

Tsing, Anna Lowenhaupt. 1993. *In the realm of the diamond queen: marginality in an out-of-the-way place*. Princeton, NJ: Princeton University Press.

Urquhart, I.A.N. 1951. Some notes on jungle Punans in Kapit District. *Sarawak Museum Journal* 5(3):495–533.

Urquhart, I.A.N. 1957. Some Kenyah-Pennan relationships. *Sarawak Museum Journal* 8(10):113-116.

Urquhart, I.A.N. 1959. Nomadic Punans and Pennans. In *The peoples of Sarawak*, ed. Tom Harrisson, 73–83. Kuching: Sarawak Museum.

Voeks, Robert A. 1999. Environmental risk and ethnobotanical knowledge: foragers and farmers in northern Borneo. In *Nature's geography: new lessons for conservation in developing countries,* eds. Karl S. Zimmerer, and Kenneth R. Young, 307–326. Madison: University of Wisconsin Press.

Voeks, Robert A. 2004. Disturbance pharmacopoeias: medicine and myth from the humid tropics. *Annals of the Association of American Geographers* 94(4):868–888.

Voeks, Robert A. 2007. Penan ethnobotany: subsistence strategy and breadth of knowledge. In *Beyond the green myth: Borneo's hunter-gatherers in the twenty-first century*, eds. Peter Sercombe, and Bernard Sellato, 262–288. Copenhagen: NIAS Press.

Voeks, Robert A., and Peter Sercombe, P. 2000. The scope of hunter-gatherer ethnomedicine. *Social Science and Medicine* 51(5):679–690.

Voris, Harold K. 2000. Maps of Pleistocene sea levels in Southeast Asia: shorelines, river systems and time durations. *Journal of Biogeography* 27(5):1153–1167.

Warren, James Francis. 1981. *The Sulu zone 1768-1898: the dynamics of external trade, slavery, and ethnicity in the transformation of a Southeast Asian maritime state.* Singapore: Singapore University Press.

Whittier, Herbert L. 1973. Social organization and symbols of social differentiation: an ethnographic study of the Kenyah Dayak of East Kalimantan Borneo. PhD thesis, Michigan State University.

Whittier, Herbert L. 1974. The distribution of Punan in east Kalimantan. *Borneo Research Bulletin* 6(2):42–50, map.

Wilmsen, Edwin N. 1989. *Land filled with flies: a political economy of the Kalahari.* Chicago: University of Chicago Press.

Winzeler, Robert L. 2011. *The peoples of Southeast Asia today: ethnography, ethnology, and change in a complex region.* Plymouth: AltaMira Press.

Wolf, Eric R. 1982. *Europe and the people without history.* Berkeley: University of California Press.

Woodburn, James. 1988. African hunter-gatherer social organization: is it best understood as a product of encapsulation? In *Hunters and gatherers*, vol. 1: *History, evolution and social change*, eds. Tim Ingold, David Riches, and James Woodburn, 31–64. Oxford: Berg.

Woodburn, James. 2000. Elusive Pygmies. A book review of *Challenging elusiveness: Central African hunter-gatherers in a multidisciplinary perspective. Indigenous Affairs* 2:78–83.

Zuraina Majid. 1982. The west mouth, Niah, in the prehistory of Southeast Asia. *Sarawak Museum Journal* 31(52): Special Monograph 3.

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