

Indonesia and the Malay World



ISSN: 1363-9811 (Print) 1469-8382 (Online) Journal homepage: www.tandfonline.com/journals/cimw20

Pigs and people in the Kelabit Highlands, Sarawak

Monica Janowski

To cite this article: Monica Janowski (2014) Pigs and people in the Kelabit Highlands, Sarawak, Indonesia and the Malay World, 42:122, 88-112, DOI: <u>10.1080/13639811.2013.869383</u>

To link to this article: https://doi.org/10.1080/13639811.2013.869383

	Published online: 15 Jan 2014.
	Submit your article to this journal $\ensuremath{\ \ \ }$
ılıl	Article views: 251
Q ¹	View related articles ☑
CrossMark	View Crossmark data ☑
4	Citing articles: 1 View citing articles 🗹

Monica Janowski*

PIGS AND PEOPLE IN THE KELABIT HIGHLANDS, SARAWAK

For the people of the Kelabit Highlands, pigs — both wild and domesticated — are of central importance. Their flesh provides the main and the ideal source of protein — wild for every-day meals and domesticated for feasts. But pigs are not only good to eat. They play a central role in structuring the social world and in pre-Christian times in structuring relationships with the spirit world. Hunted by men but, when domesticated, fed rice by women, they are focal to the gendered nature of the rice meal, arguably the central ritual of Kelabit life. The rice meal is eaten on a daily basis and forms the centrepiece of feasts. These are held to name parents and grandparents nowadays and were held at the initiation of children and at secondary funerals in pre-Christian times. The centrality of the pig nutritionally, socially and cosmologically means that potential reduction in their numbers and reduction in hunting poses a significant problem for the people of the highlands.

Keywords: Pigs; rice; feasts; cosmology; hunting

I want to begin by conjuring up a spirit. In the forests of the Kelabit Highlands at the headwaters of the Baram river in Sarawak, East Malaysia, there is said to dwell a powerful spirit called *Puntumid* (lit. Ancester/Grandfather Heel). Puntumid is a shape-shifting giant said to have red eyes, long hair and by some to be white-skinned. It is said that he used to belong to a race believed by the Kelabit of the area to be ancestral to themselves, the Lun Rabada, but on a hunting trip as a young unmarried man with his brothers, he had an accident and twisted his heel so that it faced forward. Because of this deformity he decided to remain in the forest and hunt humans — 'hairless ones' (*tsok na'am bulu*). He told his brothers to return home and hunt pigs — 'hairy ones' (*tsok inan bulu*). He is said to eat human spirits (*ada' lemulun*). Puntumid is also referred to as the 'Great Spirit' (*Ada'* Rayeh) (see Puntumid: Great Spirit of the Heart of Borneo, 82–84). As well as being dangerous to humans, he was, before the Kelabit became Christian, the most important mediator between humans and the powers and spirits of the forest. This was through his friendships with unmarried Kelabit men, to whom he gave *tabat*

^{*}Email: monica.janowski@gmail.com



- powerful substances which can heal or kill - and also through the pigs which he gave men to hunt, when they prayed to him. Nowadays, people have abandoned Puntumid, and one of his Kelabit friends - now grown old - told me that he has heard him crying in the forest. Young men now pray to Jesus for pigs.

The story of Puntumid emphasises the special nature of the relationship between pigs and people, and the way in which this is grounded in the relationship, both practical and cosmological, between people and the forest (polong) (see Janowski 2003a). The hunting of wild pigs (baka) is one of the most important ways in which the Kelabit, like other Dayak peoples of Borneo, relate to the surrounding forest, and in pre-Christian times, as we shall see, the slaughter of domestic pigs (berak) was the most important means through which the people of the Kelabit Highlands related on a spiritual level with the powers residing in the forest.

Kelabit – like all Dayak – adore pig meat, especially wild pig meat. One of the first things a Kelabit visitor to another longhouse asks is: 'are there any wild pigs around?' (inan baka?). When I lived in the Pa' Dalih in the Kelabit Highlands in the 1980s and 1990s children could often be heard singing a version of a Christian hymn to the two words kuman baka ('eat wild pigs'). Conversations around the hearth in the evening among men, and sometimes even among women, circulate around hunting stories and hunting plans. Often this is accompanied by a rack of pig roasting slowly over the fire, a tasty snack for those present. Pigs must be fat (lemak), and the relative fatness of pigs — measured in finger-widths - is always a focus of conversation. Pig fat is used for cooking other foods as well as being a food in its own right. When we lived in the Highlands in the late 1980s and early 1990s, we found that it had a higher barter value by volume than cooking oil brought up from town, despite the high cost of commercial cooking oil, especially after it had been carried so far. When I arrived in Kuching in 1986 with my husband and baby daughter to begin fieldwork in the Highlands, we stayed in a flat belonging to Jayl Langub, who comes from Long Semadoh in the Highlands and belongs to a group closely related to the Kelabit, the Lun Bawang. In his fridge we found some solidified pig fat in a bottle. At the time, we found this disgusting. By the time we had lived in the Kelabit Highlands for a year or so our mindset had become much more Kelabit: we too sought out fat pig meat and felt fortunate to have the money to buy cooking oil in town to bring up to the Highlands to barter for pig fat, since my husband did not hunt and could not therefore get his own pig fat.

I will focus here on the relationship between pigs and people as I knew it in the 1980s and 1990s, when I carried out my fieldwork in the Highlands. However this relationship seems set to change. Logging reached the edges of the Kelabit Highlands in the late 1990s and in 2006 it reached Pa' Dalih, (see Figure 1) my field site near the headwaters of the Kelapang river, which flows through the southern part of the Highlands. The Kelapang became muddy in late 2004 because of logging. When I visited in 2005 and 2006 there seemed to be far fewer pigs in the forest, and it seems likely that their migrations have been disrupted by disturbance related to logging. What I am describing here may be about to become history.

¹Together with my husband Kaz and daughter Molly, I carried out fieldwork in Pa' Dalih for 20 months between 1986 and 1988, returned for another four months between 1992 and 1993 and have made a number of shorter visits since then.



FIGURE 1 The longhouse community of Pa' Dalih in the southern part of the Kelabit Highlands in 1987. In the distance can be seen part of the Apad Uat ('Root Mountain Range'), which divides Sarawak from Kalimantan. Photo: Kaz Janowski, 1987.

The forest surrounds and dominates Kelabit settlements in the Highlands² (see Figure 2). The Kelabit Highlands are part of a large forested tableland at the highest part of Borneo, divided from inhabited areas further downstream by chains of mountains, and which has been called the Kelabit-Kerayan highland (Schneeberger 1945). Arrival at a longhouse community like Pa' Dalih feels like coming home to an oasis of humanity in the midst of the wild. And indeed the Kelabit place great emphasis on creating a human world in the forested mountains in which they live; I have argued that the cosmological dynamics of Kelabit life revolve around the construction of ulun, which may be glossed as 'human life' (e.g. Janowski 1995, 2003a, 2007). It was because of his sense that it is a small self-contained human cosmos in the midst of the wild that Tom Harrisson, who was parachuted into the Highlands during the World War II to organise resistance 'from the inside out' against the Japanese, described the Highlands as a 'world within', giving that title to his book about the Kelabit (Harrisson 1959). A longhouse settlement like Pa' Dalih is a light green patch of wet rice fields, dry fields and pasture in the midst of darker green forest. Living in this kind of environment, constructing a human lifestyle means thrusting that forest back a little, and the cultivation of rice (Janowski 2004); but it also means drawing on the forest for many needs. The forest of the Kelabit Highlands could indeed be described as a 'cultured rainforest' (Janowski et al. in press a, b). The life of a

 $^{^2}$ Before World War II, the people of the Highlands were distributed in small settlements over the area. Since then, much of the population (around 1,000 people) has become concentrated, still living in separate longhouses, in an area now called Bario — meaning 'windy place' — in the northern part of the Highlands, where the only government-run airstrip is situated. There remain six small longhouse settlements isolated in the forest with about 50-120 people in each settlement.



FIGURE 2 Map of part of Central North Borneo, showing the Kelabit Highlands.

Kelabit community is a perennial balancing act between the longhouse and its surrounding fields on the one hand and the forest just beyond on the other. The people of the Highlands see both as important and necessary to human life (see Janowski 2003a). For them, rice is basic to their way of life and to *ulun*. But humans must also have access to the force which the Kelabit call *lalud*, which can be glossed as wild life-force (Janowski 2007). *Lalud* comes ultimately from the Creator Deity. It can, the Kelabit now believe, be most easily accessed through Jesus Christ; but it is considered to be present in all living things (see Janowski 2012). It is, I have argued (Janowski 2007) brought into the settlement in wild plants and the meat of hunted animals — especially pigs, the main and preferred game animal.³

³The Kelabit concept of *lalud* is one of a group of Southeast Asian concepts which refer to a quantifiable something, of finite quantity in the universe, which has been described by Anderson (1972) as 'power' or 'primordial essence', by Geertz (1980) as 'charisma' and by Errington (1990) as

The rice meal and the structuring of Kelabit society

On an overt level, the Kelabit see themselves primarily as rice-growers, and the rice meal is the most clearly emphasised eating event, repeated three times a day and shared by the members of one household - or hearth-group, as I describe the basic unit of Kelabit society. 4 The rice meal is the foundation of what I describe as ricebased kinship (Janowski 2007). I suggest that this is rooted in and related to biological kinship but is also in some senses in opposition to it. The kinship created through rice meals is ordered, structured and also hierarchical - those who provide meals are considered to be of a higher generational level, and of higher status, than those who are fed. Having ties based on rice-based kinship differentiates the Kelabit, in their view, from animals - and also from the Penan hunter-gatherers who wander in the forest, and live on forest foods alone⁵ (Janowski 1997). I argue that in the traditional Kelabit view, dominant before World War II and still of some significance, animals and people who do not grow rice, can be related only through biological kinship, and do not live in a structured and hierarchical society. With increased contact with people in the outside world who do not grow rice but are not hunter-gatherers either, this view is being modified; however, statements like 'his/her work is his/her rice field' (kerja late' iah), which I have heard from Kelabit in relation to others working in town, reflect continuing attempts to understand and categorise the world outside the Highlands in traditional terms.

Rice, as a crop and as a food, is privileged by the Kelabit in terms of the attention and importance given to it, something which is indicated by the name given the meal — <code>kuman nuba'</code>, literally 'eating rice' (see Figure 3). However, despite its name the rice meal does not of course consist of rice alone but also of side dishes, described as <code>nok penguman</code> or 'something to eat with (rice)'. In Pa' Dalih, side dishes for the everyday rice meal are made up of foods which are either actually wild or are treated as though they were wild. I have explored elsewhere the symbolic make-up of the rice meal (Janowski 1995, 2003a, 2007). The most important of side dishes is meat, and the most important meat is pork. At everyday meals, this is from wild pigs; at naming feasts (<code>irau mekaa ngadan</code>), it is from domestic pigs.

The Kelabit relationship with the forest

Kelabit men profess and project a close and intimate relationship with the forest as part of their masculine identity. This is most importantly through hunting, but also through

^{&#}x27;potency'. Geertz (1980: 106) has argued that this something may be equated with the force which is, in Polynesia, described as mana.

⁴The term hearth-group is a translation of *tetel*, which is both one of the terms for the household and also a term for the hearth itself. I use this term because the household/hearth-group is defined by cooking and eating the rice meal together at the hearth (see Carsten 1997 for an analysis of a similar process in Langkawi off Peninsular Malaysia).

⁵Over the last couple of decades the government has been trying to settle the Penan and has been introducing them to rice agriculture; the forest upon which the Penan depend, particularly in the lowland areas, is fast disappearing with logging. However, most Penan are reluctant to give up their nomadic life style and are not proving enthusiastic farmers.



FIGURE 3 The hearth group headed by Lawe Padan, the headman of Pa' Dalih, and his wife Laba Awa, eating a breakfast rice meal. Photo: Kaz Janowski, 1992.

gathering of many forest products used in everyday life. Almost all of the materials used in handicrafts or building are from the forest. The tropical forest, at this altitude, is submontane and contains a lot of oak, rather than dipterocarps as in the lowland forest. The oak trees produce huge acorns the size of a human fist, which the wild pigs love (see Figure 4).

Although around longhouses much of the vegetation is relatively young secondary forest, the majority of the Highlands has been covered with primary or old secondary forest until very recently, with the advent of logging in the Kelabit Highlands. The tableland of which the Kelabit Highlands forms part is the highest part of Borneo, and includes inhabited areas lying at between 3,000 and 3,500 feet above sea level in Sarawak and Kalimantan. Within it there are low mountain ranges and around it more substantial ones. It includes major mountains such as Murud and Batu Lawi. The area is rich in game, although in the more populated areas around Bario people have to go distances to find it. Animals which are hunted and eaten on an occasional basis include monkeys, civet cats, porcupines, bear cats, monitor lizards, pythons, fruit bats, tree squirrels and various types of bird. Although fishing is practised too, fish are not large because of the proximity of the headwaters of the river, and fish represents only perhaps 10% of the protein diet. Deer and pigs are the creatures brought in from the wild most often and a good fat pig is the game animal par excellence.

Wild animals are the only regular source of protein eaten on a daily basis in the Kelabit Highlands. I have never seen any meat from domesticated animals eaten in Pa' Dalih except when guests from outside the longhouse were present. The southern part of the Highlands, where Pa' Dalih is situated, is



FIGURE 4 Acorns eaten by wild pigs in the forests of the Kelabit Highlands. Photo: Kaz Janowski, 1987.

still densely forested and thinly populated, and while I lived in the community young men in particular spent a good deal of their time hunting (Janowski in press b) (see Figure 5). Chickens are slaughtered only if guests arrive from outside the longhouse. Buffaloes and domestic pigs are slaughtered only for naming feasts, *irau pekaa ngadan*.

The forest looms large in the Kelabit imagination. It is not only full of food and useful products of other sorts; it is also brimful of wild life force, *lalud*, necessary to human life but potentially dangerous. There is a tendency to conflate the landscape and the vegetation of the wild world beyond the area tamed by humans, as mountains (*apad*) and forest (*polong*), in the Kelabit mind, go together. This wild world is a place full of spirits (*ada'*) and teaming life, much of it mysterious and unknown. The boundary between normal living creatures and spirits is blurred in the forest or mountains, where both humans and animals have special powers. Stories about Kelabit heroes such as Tuked Rini tell of their wanderings in strange and wonderful places such as the Hollow Roaming Moon, the Mouth of the Great River Connecting Earth and Sky and Outside the Sky (see Rubenstein 1973; Janowski, in press a), carrying out in the process superhuman feats, and battling with other warriors who also have superhuman powers. In these stories, the heroes are said to live in a flat and fertile area (Luun Atar), and the contrast between that flat cultivated land and the wild, mountainous areas in which they travel is clear. Animals blur into spirits in



FIGURE 5 Peter Kutsing and Andy Tala returning from a hunting trip in the forest in 1987, under a damar tree (*kayuh tomoh*) with a spectacular strangler fig. One man's *bekang* basket holds a fish trap and bundles of rattan. Photo: Kaz Janowski, 1987.

the forest. Crocodiles (bayeh) and 'tigers' (balang), which do not exist in the flesh in the highland area, are said to be present in the forest — but in spirit form, as ada'. Other animals which occur in the normal fleshly form can also be found in spirit form, when they are more powerful.

The Kelabit believe themselves to be autochthonous to the Kelabit Highlands. Unlike many peoples in Southeast Asia, they do not have tales of immigrant ancestors

⁶When using Malay, Kelabit translate *balang* as *harimau*, which refers to physical tigers; and in English they use the term 'tiger'. Nowadays, many Kelabit will have seen photographs of physical tigers or seen them on TV, and they clearly associate the *balang* with the tiger/*harimau*. In the past they would have heard stories of large cats called *harimau* in Malay from other parts of the region, and identified these as being the same as the *balang*, although it is not clear if they would have seen the *harimau* as a spirit or a physical animal (or perhaps both). However, at that time they would have a somewhat vague idea of what a *harimau* actually looked like. A story about the hunting of the *balang* by the culture hero Tukad Rini gathered by Guy Arnold in the 1950s tells of it being as large as a buffalo (Guy Arnold's unpublished field notes).

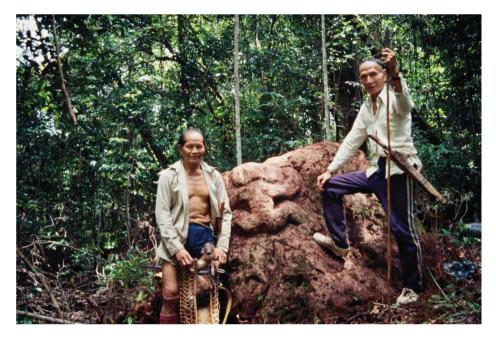


FIGURE 6 Lawe Padan and Balang Pelaba of Pa' Dalih in the forest at one of the carved stones (*batuh narit*) said to be have been made by ancestors of the Kelabit, who possessed greater *lalud* than people possess now. Photo: Kaz Janowski, 1987.

who had to make peace with and or intermarry with local inhabitants, whether spirits or humans. While they, like the people of Kerinci (Bakels 2004), place emphasis on maintaining a proper balance between human areas carved out of the forest and the wild places of which the forest forms part, this is not sealed through any pact or agreement with the spirits of the forest or any ongoing rituals. They appear to see themselves as having a right to be where they are.

It would seem that the Kelabit believe that their ancestors were not human in the way that they are nowadays. They say that their ancestors were bigger, stronger, and had greater powers than humans do today (see Figure 6). They were closer to the spirit world and associated more closely with the wild. It is possible that this reflects a group memory of a time in the past when the ancestors of the Kelabit were not agriculturalists but lived as hunter-gatherers in the forest. Tales told about heroes tend to culminate in huge rice meals held at *irau* feasts, indicating that they are considered to have been agriculturalists. However, this may be because nowadays rice-growing is so important and so closely associated with Kelabit identity and social and kin relations.

The wild pig

The main animal which the Kelabit hunt is the wild pig. This is (or was until recently) a readily available source of wild meat, and it is considered to provide the tastiest meat, largely because it is the fattiest. Fat is highly valued both for taste and because it can be rendered down to provide lard for frying other foods. I have argued, elsewhere, that fat



FIGURE 7 The bearded pig (*Sus barbatus*). 3a is an adult male and 3b is a juvenile. Painting: Karen Phillips. Reproduced with kind permission of the artist. Published in Q. Phillipps and K. Phillips, *Guide to the birds of Borneo*. John Beaufoy Publishing, 2011 (2nd edition).

is symbolically important. It seems to be perceived to be the 'meatiest' part of the animal and is closely associated with maleness (Janowski 2003b), and I will return to this shortly. Three kinds of deer are hunted (the sambhur deer, the barking deer and the mousedeer)but deer are considered second best and are only targeted for hunting if there are few pigs around. Besides pigs and deer, many other animals are hunted opportunistically. However many people, especially women, will eat no wild meat other than pork or venison, some even expressing disgust at the idea.

The main species of wild pig in Borneo are *Sus barbatus* and *Sus scrofa* (Caldecott et al. 1993) (see Figure 7). When I lived in Pa' Dalih in the late 1980s and early 1990s, there were almost always some pigs in the forest (probably *Sus scrofa*), and occasionally large migrations of pigs (*Sus barbatus*) passed through the Highlands, following fruit and or nut seasons. Men normally hunted singly or in groups of two or three, but when pig migrations were taking place they would hunt in larger groups and often intercepted the migrating pigs as they went through gullies and passes in the mountains. Very large numbers of pigs would often be killed at these times and the longhouse would be awash with pig meat.

In the late 1980s most men kept a pack of dogs whose job was to find and corner pigs; many, perhaps still the majority in Pa' Dalih, still do. Once a pig was located, it was either shot, or especially if it had been cornered by dogs, speared. Not all men in Pa' Dalih owned shotguns as licences are passed from father to son and they are prized possessions. Cartridges were husbanded, so spears were often used to kill pigs. Until World War II, blowpipes were normally used instead of guns. Over the border in Lun Dayeh communities in East Kalimantan, only a couple of hours' walk from Pa' Dalih, the closely related Lun Bawang people possessed fewer guns, and blowpipes were still used in the 1980s and 1990s.

 $^{^{7}}$ I was able to buy blowpipes from the relatives across the border visiting Pa' Dalih for the collection of artefacts which I made in the late 1980s (see Janowski 2003a).



FIGURE 8 Hunted wild pig meat in a *bekang* basket with assorted hunting equipment including shotgun, cartridges, quiver filled with blowpipe darts, gourd to hold blowpipe flights, damar resin for lighting fires; and a pig spear. Bundles of rice wrapped in leaves are also shown, to be eaten in the forest. Photo: Monica Janowski, 1992.

Pigs were in the 1980s (and still are) butchered in the forest and brought back in large pieces in men's bekang baskets (see Figure 8). Once back in the longhouse, the hunters cut up the pieces and sent portions of meat to neighbours, kin and friends through children. Some meat was often smoked to preserve it for a few days but most was consumed very quickly, since there was no refrigeration. In a community like Pa' Dalih the whole longhouse benefitted from hunting, not just the hearthgroups to which hunters belong. There was no sense of charity nor was any debt created by the distribution of meat. This also applied to the gathering of wild vegetables as well as cultivated vegetables and root crops which were freely shared with others in the longhouse without any implications of debt except in the sense that it was polite to reciprocate in kind in due course. This contrasted with the attitude to sharing rice, whether cooked or uncooked; if a hearth-group ran short of rice and had to borrow it from neighbours this created either a debt which needed to be repaid or a sense of inferiority and shame on the part of the recipient. In addition, it was not seen as appropriate to eat rice produced by another hearth-group, so borrowing rice was avoided as far as possible.

In 2006, a definite change had set in, relatively suddenly, with the arrival of the road in Pa' Dalih in July. Immediately after this, a non-Kelabit entrepreneur began to make regular trips up to Pa' Dalih in his four-wheel drive, providing a taxi service for local people to and from town (a 12-hour journey) and buying wild meat in Pa' Dalih to sell in town. It also became possible for employees at the logging camp about three hours' drive away to come and buy wild pig meat in Pa' Dalih. This looks set to radically transform the way in which wild meat is shared. There was much discussion in August when I visited about the impact it was already having, with informants telling me that

instead of sharing wild pig meat with their neighbours and kin, people were selling it to the entrepreneur. Whilst there was much criticism of this, individuals found it difficult to resist the temptation to make some money. In addition, the apparent reduction in the numbers of pigs in the Highlands, probably due to logging, means that there is simply less to go around.

A study carried out in between 1993 and 1995 in the Kelabit community of Long Peluan (just outside the Kelabit Highlands) by Elizabeth Bennett and colleagues (1999) found that 67% of evening meals there on average, and sometimes up to 90%, included wild meat. By far the preferred type of wild meat in all the communities in which the study was carried out (one of which was Long Peluan, with the others being communities from other ethnic groups) was the bearded pig. The bearded pig was found to represent 72% of all hunted meat in Sarawak (deer meat was 10.9%). The amount of meat eaten is considerable — in Long Peluan each Kelabit family consumed, according to the study, about 396 kg of wild meat per year and the replacement value of wild meat for the whole 17-family longhouse would have been about M\$21,523 per year. However, it should be noted that the area around Long Peluan has now been logged and it is likely that the amount of wild pig meat eaten has been drastically reduced and that much of the wild pig meat brought in is being sold to entrepreneurs who take it to town, or to logging camps nearby.

Periods when there are pig migrations are accompanied by a fruit season (with the pigs migrating to eat the fruit), and are periods of plenty and of festivities. Kelabit living in town come up to visit and everyone gorges on wild pig meat and fruit. The pigs at that time are fat because they too have been eating plenty of fruit, acorns and other nuts. Their fatness is symbolic of plenty.

The importance of having meat to eat at rice meals, both pork and, ideally lots of other kinds of meat too, is illustrated in the following extract from the *adi* (sung story) of Agan, a Kelabit mythical hero, collected in 1972 by Rubenstein (1973: 861) from Niar Ayu of Bario. Agan's mother has just prepared a rice meal for him. She tells him to eat, initially stating modestly that there are very few side dishes, and that even they are not meat-based. Agan, however, soon discovers that this is far from the case: ⁸

I have placed a bit of rice here [she says], but there is no garnish, just these two abang shoots, just these two stalks, and a few beluan mushrooms and alang mushrooms that grew on a log and which I picked this morning. She breaks open a bamboo tube in which she has cooked fish, And there are big pieces of paliyan and dalo fish inside. Agan looks down at his wrapped rice And sees along with it many different garnishes, There are pig meat and smoked dried meat, There are the flesh of the tiger And the smoked flesh of the tame deer.

⁸Rubenstein also provides the original Kelabit text. It should be noted that there has been some criticism of both her transcription and her translation (see Maxwell 1989; Rousseau 1989).

⁹The presence of the meat of the tiger in Agan's rice meal is interesting and significant, since the tiger does not exist in Borneo, and therefore this must be the meat of a spirit tiger (*ada' balang*). As such, it carries a lot of *lalud*.

Men, meat and wild life force

It is men who enter the primary forest to bring back its produce; except to travel between settlements in groups, women normally only go into the young secondary growth to gather vegetables. There is a strong association in the Kelabit Highlands between men and the forest, and also by implication between men and lalud. Women in Pa' Dalih used to joke with me about the sexual appeal of men who have just returned from the forest, who were said to smell of it. There was a clear feeling that this smell, and the traces of the forest, were related to men's potency and attraction. Women are drawn by the forest smell of men but are at the same time somewhat repelled by it; this seems to be parallel to the fact that they are attracted by lalud but are also afraid of it. The forest, the place of *lalud*, is not their place; their place is the hearth, the rice field, and they do not hesitate to say that they would not enter the forest alone. No man, on the other hand, would say that he was afraid of entering the forest. To say so would be to unman himself. Men must go into the forest regularly in order to be seen as proper and sexually attractive, men. Kelabit men living in town return to the Highlands to go into the forest and to hunt both because they enjoy this and because they must do this to be seen as proper men. Manliness is associated with contact with the forest and with possession of lalud deriving from this. Men may be seen as bringing lalud to their sexual activity and, in the form of hunted meat - mainly pig meat - they supply it, in parallel, for the rice meal. 10 Women, on the other hand, are able to order lalud to produce proper human life, ulun. It is said that the man deposits the baby in the woman's womb; the essence of the baby is his, but it is the woman's womb which is able to order the elements of a baby into a human being.

Hunting is the quintessential male activity. All men hunt during some period of their lives, although some are better at it than others and young men hunt much more frequently than older men (see Figure 9). When I was living in Pa' Dalih in the late 1980s and early 1990s, the young men in their teens, twenties and thirties in Pa' Dalih typically spent their nights hunting, their days sleeping, playing the guitar and singing hymns and their evenings playing football. They went hunting almost every night, while older men in their forties, fifties and sixties went once or twice a week. Even men in their seventies and eighties express great interest in hunting and participate in interminable and highly animated fireside conversations late at night over a rack of pig about the progress of different hunting expeditions.

Not only are men hunters, they are also the keenest consumers of what they bring back. Although both men and women enjoy meat, men particularly relish it, they eat more of it, and they eat the fat of the pig quite freely. Pig fat seems to be considered dangerous in large quantities for women and girls: I witnessed a good friend of mine panicking because her daughter insisted on eating pig fat at an *irau* feast. She told the child that if she ate pig fat she would become ill. At the same time, she was quite unperturbed by her son of a similar age eating the fat. The logic of this attitude derives from the fact that fat is, as mentioned above, considered the 'meatiest' part of the pig, and by implication is most laden with *lalud*. Interestingly, it is associated with older men; at *irau*, men feed each other with pig fat, and older men hold fat-eating competitions (see Figure 10). Men tease women in a sexual way at these events by trying to feed

¹⁰The association of hunting and sex is widely reported cross-culturally (Fiddes 1991).



FIGURE 9 Brothers Telona Bala and Jolley with Melkey, Telona Bala's son, on a hunting trip. They have tied the pig they have hunted to a pole to carry back to the longhouse. Photo: Kaz Janowski, 1993.



FIGURE 10 A fat-eating competition about to begin at an *irau* in Pa' Dalih in 1987. Only men over about the age of 40 are participating. Photo: Kaz Janowski, 1987.

them fat (see Figure 11), underlining the association between the sexual relationship and the transmission of *lalud* on the part of men. Although fat is distributed to everyone at *irau*, women do not eat it on the spot as men often do, but take it home afterwards and



FIGURE 11 Laba Aren teases Pun Balang Tepun by trying to feed her pig fat at an *irau*; she pushes it away. The floor is littered with wild fruit. Photo: Kaz Janowski, 1987.

render it into lard with which to cook. An analysis of this may be that the *lalud* in the fat is dissipated and distributed among all members of the hearth-group through the food in which the lard is cooked. In these quantities, fat, is not problematic and is indeed seen as a good thing. Food cooked in lard is considered very tasty; to cook in vegetable oil was seen as second best in taste terms. *Lalud*, then, is arguably seen as beneficial, even essential, in small amounts.

The strong association between animal materials, maleness and potency is underlined in the stories told about the mythical heroes Agan, Balang Lipang and Tukad Rini, whose beauty and strength are expressed and displayed through the animal materials which they wear, in particular the skin and teeth of tigers (balang). The balang, being a spirit, has high levels of life-force, lalud. The fact that Agan, Balang Lipang and Tukad Rini are said to wear balang teeth and balang skin cloaks and caps (with the face of the tiger on top of the head) is a strong statement of what it means to be as male as male can be: possession of the lalud of the spirit tiger. In the story of Agan, he is said to be in control of the spirit which rules the tiger skin cloak he wears, Ada' Akang (Rubenstein 1973: 868). In the extract above from the story of Agan, he sits down to a rice meal which includes the meat of the balang. Male grandparental names both in the past and now often include 'Balang', expressing the boastful expression of possession of high levels of lalud (Janowski 2005).

Domesticated pigs

The Kelabit keep pigs, buffaloes and chickens for meat, and dogs for hunting. Originally, it seems that deer domesticated from the forest were kept for slaughter at *irau* feasts, since the Kelabit had no buffaloes. Buffaloes gradually replaced deer after the peace conference held in Remudu in the southern part of the Highlands in 1911 (Douglas 1912; Talla 1979: 383). Nowadays, deer are not normally kept, although the headmaster in Pa'

Dalih, Bayeh Ribuh, was keeping a few in 1986–88 when I lived there; he explained this as being a commemoration of the old practices. Buffaloes are kept mainly for slaughter at *irau*; in the past ten years or so they have begun to be allowed into the wet rice fields to trample and fertilise them after harvest.

The domesticated pigs kept by the Kelabit (known as berak or sometimes as babui) are similar to the wild pigs which live in or pass through the Kelabit Highlands, Sus barbatus, except that they do not have such definite beards. They appear to belong to a subspecies of Sus scrofa. It is not clear when they were domesticated or whether this was done in situ from wild Sus scrofa or whether the domesticated varieties kept now were originally brought in from outside the Highlands. They are kept in pens at present, since the Kelabit were told by Christian missionaries of the Borneo Evangelical Mission in the 1950s and 1960s that it was unhygienic to allow pigs to wander about and defecate freely. Until then they could wander around and eat rubbish and excrement, and interacted intimately with humans. This argues for the possibility that they may have interbred with wild pigs in the forest, as described for Mentawai by Persoon and de Iongh (2004), and strengthens the likelihood that for the Kelabit the wild and the domesticated or semi-domesticated pig are seen as equivalent or very close, although they are described using different terms.

Kelabit domesticated pigs have now and, it appears, have always had a monetary (or at least an exchange) value, while wild pigs have not had a monetary value in Pa' Dalih until very recently. However, the meat of domesticated pigs is not considered to be as tasty as that of wild pigs. 'Chinese pigs', brought up from town, are considered even less tasty than the domesticated pigs from the Highlands, although some families in Bario, and now in Pa' Dalih too (with the coming of the road), do bring these up for *irau* feasts, rather than raising them in the Highlands. Efforts are made to fatten them up to make them fattier and tastier. Domestic pigs are fed a diet similar to the human diet, based on rice. I will return to the significance of this later.

The only occasion on which domestic pigs are slaughtered is at the feasts known as irau pekaa ngadan — literally, 'name-changing irau'. They are at the centre of this event, which is essentially a huge rice meal (in the past, a series of rice meals over a few days) made up of rice and cooked meat from domesticated animals. Both rice and meat are provided by the hosts (see Figure 12), and the whole of the social world is invited, in other words all those considered 'kin' — which is widely interpreted as all those with whom one has social relations are considered distant kin. Irau in the Highlands aim, in fact, to host as many people as possible, as this is status-generating. Irau pekaa ngadan are hosted by one hearth group, headed by the grandparents of the child or children being named and including the parents of the child or children. Until recently, when 'Chinese pigs' are sometimes brought in, the hosts have necessarily had to spend years fattening up pigs for irau. At some irau, buffaloes are killed as well as domestic pigs. These irau derive from two types of pre-Christian irau, and the animals killed relate to this origin as well as to the function of present-day irau themselves.

Irau

The word *irau* is used by the Highland peoples, by the related lowland-dwelling Lun Bawang of Sarawak and Sabah, and in Malinau in East Kalimantan (Moeliono, Limberg



FIGURE 12 The hosts of an *irau* in Bario in 1988 posing for a photograph with the water buffalo (*kerubau*) which is to be slaughtered for the feast. Photo: Monica Janowski, 1988.

et al. 2004) to refer to a large festival or feast. These are presently often associated with ethnic identity but in the past seem to have been connected throughout the area with the establishment and recognition of leadership. Two types of irau were held in the Kelabit Highlands until the 1950s, when the Kelabit became Christian. They took up Christianity with gusto, particularly after what is described as the 'Revival' in the early 1970s, and believe very strongly that it is due to their doing this that they have been strikingly successful in the modern world outside the Highlands (Bulan and Bulan-Dorai 2004). They abandoned practices judged to be un-Christian by the missionaries of the Borneo Evangelical Mission. Both types of irau held until that time were abandoned, since one involved non-Christian religious rituals and both involved the making and drinking of rice beer, which was deemed un-Christian. The first was the irau or borak ate. Literally, this means 'death irau' or 'death rice-beer drinking'; the word irau has no meaning other than to refer to this type of event. This was held at the secondary funeral of a prominent person, usually a man but often commemorating him together with his wife. A big feast, consisting of a sequence of rice meals, was held lasting several days and the guests participated in making a mark on the landscape. A megalith or set of megaliths could be erected; a cut might be made in a ridge or a river might be diverted to create an oxbow lake for rice agriculture. This mark commemorated the dead person or couple. Irau até had the function of building and advertising the status of both the dead person or couple and of the living couple hosting the irau, their heirs. At irau até both pigs and buffaloes, and sometimes, it seems, domesticated or semi-domesticated deer, were slaughtered. The more animals slaughtered the greater the status of the hosts, since more people could be fed. I have argued elsewhere that for the Kelabit status derives from being able to provide for as many people as possible within a basic or expanded hearth-group, through the rice meal (e.g. Janowski 1995, 2003a).

The other type of event from which present-day naming *irau* derive is the *borak* or *irau* ngelua' anak. Literally, this means 'rice-beer drinking' or '*irau* to ngelua' a child'. We have descriptions of these events from two Kelabit who wrote their undergraduate dissertations in the 1970s based on data they gathered from elderly relatives (Lian-Saging 1976/77: 138–44; Talla 1979: 191–205). Pigs were central to *borak* ngelua' anak, which had the function of initiating children into full membership of the community and to their appropriate gender roles. They were held for all children. In their most basic form, these events simply involved the slaughter of one pig and were not competitive status-generating affairs. It seems that they were often shared by a group of households. However, they could in addition be status-generating if held by a prestigious couple for their grandchild or grandchildren; it seems that where a high-status couple held one of these events, other hearth-groups would join them and initiate their grandchildren as well. There was a complex sequence of events involved, and some contradictions between different accounts. I will not attempt a full analysis here due to space constraints.

Pigs and Kelabit cosmology

At *irau ngelua' anak*, pigs played a central role in the transition of children into the human social world. A pig was slaughtered and its blood was smeared on the child or children and on his, her or their parents and grandparents. Just after slaughter, fat from the pig was draped around the neck of the father of the child being initiated, who then took the child for a 'bloody shower' (Talla 1979: 209) below the dripping neck of the pig. Others present also smeared themselves with blood. The child then refrained from bathing for eight days, leaving the dried blood on for that time.

Their role at *irau ngelua' anak* indicates that, before the Kelabit became Christian, pigs had a role in structuring cosmological relations. The procedure called *ngelua'*, which involved smearing with blood from a slaughtered domestic pig, was an important part of the management of relations with the wild and the wild life force which resided there, *lalud* — not only at *irau ngelua' anak* but in other contexts too. Talla (1979) describes *ngelua'* as 'blood purification'. It was used when someone had had a bad dream (which was believed to carry messages from the spirit world) or where a whole longhouse had to be put under what Talla (1979: 291) describes as a 'taboo', presumably because of potentially dangerous contact with the spirit world. *Ngelua'*, then, appears to have been used to manage potentially dangerous contact between the wild, spirit world and the human world. It was used, upon their return from the graveyard in the forest, on those men who had deposited a dead person's remains there at secondary funerals (Lian-Saging 1976/77: 147; Talla 1979: 250). It was also used upon return from battle — which took place in wild places — as described in stories like that of Balang Lipang (Rubenstein 1973: 803).

Domestic animals, when they are slaughtered, are always addressed by the person about to slaughter them. These days, a silent apology is said; no reason is given for this but it seems to reflect a sense of respect for the animal. In the past, a pig to be slaughtered at a *borak ngelua' anak* used to be addressed in what Talla (1979: 208) describes as 'prayers', asking for its protection and that it foretell the future through its liver, which would be examined after it was slaughtered.

Ooi, beloved one, you well-fed boar,

Fed by cultured and refined ladies, ladies that have settled down,

Fed with the best of rice, the most selected ears, the finest of rice.

We feed you under the ladder, under the house,

Yes, we have had very bad dream, this is why we want to sacrifice you, to slaughter you,

Have you stored any bile in the bladder yet?

Have you got a liver yet?

Now we want to slaughter you, to cut off your head.

The pig (or rather, its spirit -ada') appears in this prayer and others like it as benevolent towards the humans who have raised it and fed it, and its blood and fat are seen both as potent and as protective. There appears to be no expectation that the pig will resent being slaughtered by humans, but rather an expectation that it will willingly communicate with the spirit world to discover information useful to humans. ¹¹ The foundation of this good relationship between pigs and humans may well be found within pre-Christian cosmology in the fact that Puntumid, the Great Spirit of the forest, gives pigs (and their spirits) to humans to hunt - while he, in his turn, hunts humans (and their spirits). Thus to kill and eat pigs may be seen as part of the correct cosmological order.

It may also be that pigs had the role of effecting the transition *out* of the human social world at *irau até*, although I have found no evidence of *ngelua'* being carried out during these events. At *irau até*, the slaughter of as many animals as possible had the aim of building and advertising status, and this was the reason for the slaughter of buffaloes and in the past, deer as well as pigs. It is noteworthy, however, that no *irau até* appears to have ever been held at which no pigs were slaughtered.

Within pre-Christian cosmology it would seem that pigs were believed able to mediate between humans and the spirit world. Through their own body parts they were able to communicate messages to humans from the spirits. In the prayer quoted above, there is an emphasis on the fact that the pigs to be slaughtered have been fed rice and that they have lived under the house. Their close association with humans is very clear. Wild pigs were not killed for the ritual of *ngelua*'; the pigs had to be domesticated pigs. The fact that domestic pigs are fed rice is also referred to in stories about mythical heroes, such as that of Balang Lipang (Rubenstein 1973). Through being fed rice, domesticated pigs are brought close to humans, to become in some respects like humans. It seems likely that this was significant in making them appropriate mediators. Beliefs about Puntumid, the 'Great Spirit' mentioned at the beginning of this article, should be understood in the same context. Puntumid hunts humans; humans hunt pigs. We are Puntumid's pigs, and we are his kin; pigs, then, may be seen as our kin, brought closer through living with us and eating rice. Puntumid eats his kin; so do we.

Pigs are not the only creature capable of mediating between humans and the spirit world; the Kelabit believed, until they adopted Christianity, that messages from the

¹¹Among the Kayan in Belaga District in Sarawak the spirits of slaughtered pigs are also believed capable of communicating with the spirit world. A pig was slaughtered at harvest, and before slaughtering was addressed and asked to go to the 'top point of the staff of life from which we descended', to ask for a good life for its human owners (Rubenstein 1973: 199).

spirit world and from the supreme deity also came through birds. This is nothing unusual in Borneo, where birds have a special role as omen creatures, often associated with ancestors, for many peoples (Harrisson 1960; Metcalf 1976). However, omen birds are not eaten; the communication which they provide is not through their own bodies and they are not brought close to humans in the way that pigs are.

In the tale of Balang Lipang, an *irau* feast is held when the young hero returns to the longhouse from fighting. In the version recorded by Rubenstein, ten pigs are killed. The description of the *irau* in the story of Balang Lipang as recited by Ngemong Raja and recorded by Carole Rubenstein in 1973 could be a description of *irau* I have attended in the Kelabit Highlands. What is missing nowadays is the prayer recited to the pigs and the examination of the liver carried out by Burung Siwan, Balang Lipang's father (Rubenstein 1973: 830–1). In this prayer, the importance of the fact that the pigs have been fed rice is touched upon, as is the practice of *ngelua*', smearing of blood, the importance of the pig's liver for foretelling the future, and the role of fat:

Yes, you dear, my dear, You have been fed with rice to make you very big, Fed to make you reach as high as the floor beneath the verandah. Now Lord Balang Lipang has come home from fighting. So I want to smear him with the blood of your head, my dear If enemies are coming to attack the house, Coming to our house at Long Midang Then your liver will be thin as jackfruit leaves, Your liver will be rotten and crumbling. If no people want to take revenge on this house, Then your liver will have one good big mouth, Your liver will have lines straight and smooth As the edge of the whetstone. Your bile will be full and juicy, As the young shoots of the jackfruit tree. When he has finished praying over the pig, He cuts the throat and smears the blood on Lord Balang Lipang. He looks closely at the liver – And the lines of the liver are smooth and straight As the edge of the whetstone. The bile is full and juicy As the young shoots of the jackfruit tree. The heart of Burung Siwan leaps with joy, And he praises the good liver of the pig; For no one is to take revenge on them. They kill all the pigs, and blood is smeared on Pun Anan, And blood is smeared on all the people of the longhouse. The people of the longhouse Singe the bristles of the pigs in the fire And slough them off with their parang knives, Taking off all the bristles down to the feet of the pigs,

They cut the pigs into pieces on the cutting mat

And put them into the big cauldron on the three-legged stand. Before long it is cooked -

They cut it into smaller pieces on the mat,

Make long sticks to skewer the pieces of meat on the sticks

And skewer all the pieces of meat on all the sticks.

All the people of the longhouse are called together for the feast.

The old man Burung Siwan says to the people of the longhouse:

'Distribute the rice.'

Before long the young girls have distributed all the rice.

The young men wearing parang sheaths

Distribute the sticks full of pieces of meat.

Each stick is very long,

Taking two young men, one at each end, to carry a single stick.

Each woman who is seen by her big stomach to be pregnant

Is given two sticks of meat.

When the food has been distributed

Outward to both ends of the longhouse,

They all begin to eat.

After everyone in the longhouse has eaten,

The leaders of the men distribute pieces of fat to each one.

For each share of fat he gives out,

The distributor has pushed back at him one piece he must eat

They give out two chunks of fat to each person in turn,

Each chunk at least one handspan long.

At *irau* I have attended in the Kelabit Highlands food is prepared and distributed just as described in the tale of Balang Lipang above: pork and buffalo meat is cooked, skewered and distributed by men (see Figure 13), with the older men distributing the pig fat, while rice is prepared and distributed by women. This generates an association between



FIGURE 13 Young men distributing meat at an irau in Bario. Photo: Kaz Janowski, 1988.

masculinity and meat, and especially fat, and between femininity and women, and validates the two genders and the complementary relationship between them, since both the meat and the rice are produced and owned by the host hearth-group.

The sustainability of pig hunting in the Kelabit Highlands

Elizabeth Bennett et al. (1999) have suggested a variety of factors relating to changes in behaviour on the part of local people which they suggest have affected the sustainability of the hunting of bearded pigs in Borneo in relation to hunting practices. Firstly, they cite the adoption of shotguns, particularly by town-based hunters, since shotguns are potentially more efficient and make it possible to hunt more animals. Secondly, they suggest that the increasing population in some areas has led to unsustainable hunting pressure on the bearded pig. Thirdly, the change to a more sedentary way of life is said to put more pressure on pigs. Fourthly, increased access, with better roads, is cited as a source of pressure on pigs. Finally, the increasing participation of tribal peoples in a cash economy leading to the sale of pig meat is cited.

These factors are only partially relevant in the Kelabit Highlands at the moment. It is true that town-based hunters have more access with guns as they require less skill than a blowpipe, but there is minimal hunting by people from town in the Kelabit Highlands at present as the Kelabit themselves police access by outsiders. The impact of the adoption of guns and the motivation for adopting them in different contexts and by different people needs more investigation. Whilst increasing population is locally relevant around Bario itself, as pointed out, this is not true in other parts of the Highlands. The transition to a more sedentary way of life is relevant around Bario but not so much elsewhere, since the size of settlements outside Bario is still very small. Increased access is much more of a problem in the Highlands, with the arrival of logging roads and of entrepreneurs from outside the Highlands who are coming in to buy pig meat illegally, as bush meat cannot be bought and sold legally in Sarawak. This is all part of the increased participation of the Kelabit people in the Highlands in a cash economy, and is potentially a factor leading to a reduction in pig numbers, although at the moment the numbers of pigs hunted for sale is still relatively small, and the Kelabit tend to police access to hunting on the part of non-Kelabit at present.

At the moment, it would seem that it is not so much factors under the control of the Kelabit themselves which are likely to affect the numbers of pigs in the Kelabit Highlands, but the reduction of pig habitat both outside the Highlands, and now, with logging, within the Highlands as well, which is reducing the potential for long-distance migrations bringing *Sus barbatus* to the Highlands. It is difficult to determine this, however, without studies to assess the impact of disturbance on pig migration pathways.

Conclusion

The pig is one of the central wild resources on which the Kelabit depend, still providing almost all daily protein in the southern part of the Kelabit Highlands where I have done fieldwork. The nutritional importance of wild resources to communities like those in the Kelabit Highlands is considerable and is often under-recognised because they are

categorised (indeed see themselves) as agriculturalists rather than hunter-gatherers. In fact, agricultural 'tribal' peoples in Borneo rely heavily on both plant and animal resources from the forest, although they themselves may not emphasise this since they focus on their identity as rice-growers (see Janowski 2003a in relation to this among the Kelabit, and also Janowski 1997, 2011). The loss of these resources, particularly animal protein from wild pigs, could have serious consequences for the nutritional status of the Kelabit.

The pig does not only play a central role nutritionally for the Kelabit. Before the Kelabit converted to Christianity it also had a cosmological role. In relation to wild pigs, this is expressed through beliefs about Puntumid. The domestic pig had an important, and relatively explicit, role in mediating and communicating, through its blood and liver, between humans and the spirit world. This seems to be related to its role as a wild animal which is capable of being socialised into the human world. Domestic pigs are treated in many ways as though they were 'like people' - fed with rice, kept close at hand, addressed with affectionate and intimate terms usually used for other people. They could be seen as exemplifying the bringing together of wild power or life force - lalud - with the organising power of rice; and, as such, they also exemplified the generation of a life force which is peculiarly human, ulun. They are seen as benevolently inclined towards humans, even in death - allowing communication with the spirit world through their dead bodies. This is not only founded in the closeness of domestic pigs to humans but is probably also related to the way in which pigs are paralleled to humans as prey and kin, as expressed in beliefs about Puntumid, the Great Spirit of the forest.

Logging — and ultimately, in many areas, the conversion of forest to oil palm plantations — is the most significant factor which has the potential to lead to a reduction in the numbers of wild pigs in Borneo because of the disruption to habitat and the migration routes of *Sus barbatus*. This is not only a problem in relation to conservation but also an issue for the health of forest-dwelling peoples in Borneo like the Kelabit. As has already happened further downstream among other forest-dwelling communities, it is likely that with increased logging and decreased access to the forest the nutritional status of the Kelabit will decline in the coming years.

Reduction in the numbers of pigs is not only nutritionally problematic; it is also both psychologically and cosmologically traumatic for the Kelabit. Pig hunting is central to the life of Kelabit men, and constant failure on hunting expeditions is, as I have observed, very distressing. The blood of pigs is no longer smeared on those undergoing transition from the spirit world, nor are pig livers read to foretell the future. However, pigs continue to occupy a very special place in Kelabit hearts and minds, their presence in the forest a constant topic of interest and discussion, their well-being as domestic animals a central concern. Fattening up a number of pigs for slaughter remains a central part of the preparations for name-changing irau, expressing the successful reproduction of the couple hosting the irau through the production of grandchildren. Puntumid, so closely associated with the *lalud* of the forest and access to this through the wild pig, continues, I was told sotto voce but with a certain amount of pride by some young men, to approach them with the offer of friendship. However, they, of course, decline, since they are now Christians and it is Jesus, not Puntumid, to whom they turn for lalud. The cosmological role of the pig, then, has become veiled and is at arm's length, but it is not yet dead.

References

- Anderson, B. 1972. Power. In Claire Holt et al. (eds), *Culture and politics in Indonesia*. Ithaca NY: Cornell University Press, pp. 1–69.
- Bakels, J. 2004. Farming the forest edge. Perceptions of wildlife among the Kerinci of Sumatra. In J. Knight (ed), *Wildlife in Asia: cultural perspectives*. London: Routledge-Curzon, pp. 147–164.
- Bennett, E.L., Nyaoi, A.J. and Sompud, J. 1999. Saving Borneo's bacon: the sustainability of hunting in Sarawak and Sabah. In E.L. Bennett and J.G. Robinson (eds), *Hunting for sustainability in tropical forests*. New York: Columbia University Press, pp. 305–324.
- Bulan, S. and Bulan-Dorai, L. 2004. The Bario revival. Kuala Lumpur: HomeMatters Network.
- Caldecott, J.O., Blouch, R.A. and Macdonald, A.A. 1993. The bearded pig (Sus barbatus). In W.L.R. Oliver (ed.), Pigs, peccaries and hippos. Gland, Switzerland: International Union for Conservation of Nature, pp. 136–144.
- Carsten, J. 1997. The heat of the hearth: the process of kinship in a malay fishing community. Oxford: Clarendon Press.
- Douglas, R.S. 1912. An expedition to the Bah country of central Borneo. *Sarawak Museum Journal* 1(2): pp. 17–29.
- Errington, S. 1990. Recasting sex, gender and power: a theoretical and regional overview. In J.M. Atkinson and S. Errington (eds), *Power and difference: gender in island Southeast Asia*. Stanford CA: Stanford University Press, pp. 1–58.
- Fiddes, N. 1991. Meat. A natural symbol. London: Routledge.
- Geertz, C. 1980. Negara. Princeton NJ: Princeton University Press.
- Harrisson, T. 1959. World within. London: Cresset Press.
- Harrisson, T. 1960. Birds and men in Borneo. In B.E. Smythies (ed), *Birds of Borneo*. London: Oliver and Boyd, pp. 20–62.
- Janowski, M. 1995. The hearth-group, the conjugal couple and the symbolism of the rice meal among the Kelabit of Sarawak. In J. Carsten and S. Hugh-Jones (eds), *About the house: Levi-Strauss and beyond*. Cambridge: Cambridge University Press, pp. 84–104.
- Janowski, M. 1997. The Kelabit attitude to the Penan: forever children. *La Ricerca Folklorica* 34: 55–8.
- Janowski, M. 2003a. *The forest: source of life. The Kelabit of Sarawak*. London: British Museum; Kuching: Sarawak Museum.
- Janowski, M. 2003b. Masculinity, potency and pig fat: the Kelabit of Sarawak. In H. Walker (ed), *The fat of the land*. London: Footwork, pp. 130–142.
- Janowski, M. 2004. The wet and the dry: the development of rice growing in the Kelabit Highlands, Sarawak. In P. Boomgard and D. Henley (eds), Smallholders and stockbreeders: foodcrop and livestock farming in Southeast Asia. Leiden: KITLV, pp. 139–162.
- Janowski, M. 2005. Kelabit names and Kelabit titles: grandparenthood, prestige and kinship. In James Collins and Hermansyah (eds), The languages and literatures of western Borneo: 144 years of research. Bangi: ATMAUKM, pp. 373–404.
- Janowski, M. 2007. Being 'big, being 'good': feeding, kinship, potency and status among the Kelabit of Sarawak. In M. Janowski and F. Kerlogue (eds), *Kinship and food in Southeast Asia*. Copenhagen: NIAS Press, pp. 93–120.
- Janowski, M. 2011. Footprints and marks in the forest: the Kelabit and Penan of Borneo. In G. Barker and M. Janowski (eds), *Why cultivate? Anthropological and archaeological approaches to foraging-farming transitions in SE Asia*. Cambridge: McDonald Institute, University of Cambridge, pp. 121–132.

- Janowski, M. 2012. Imagining the force(s) of life and the cosmos in the Kelabit Highlands. In T. Ingold and M. Janowski (eds), Imagining landscapes, past present and future. London: Ashgate, pp. 143–164.
- Janowski, M. In press a. Tuked Rini, cosmic traveller. Life and legend in the heart of Borneo. Copenhagen: NIAS Press; Kuching: Sarawak Museum.
- Janowski, M. In press b. Of meat and men: the Kelabit of Sarawak. In A. Hubert (ed), *Meat*. Oxford: Berghahn.
- Janowski, M., Barton, H. and S. Jones. In press. Culturing the rainforest: the Kelabit Highlands of Sarawak. In S. Hecht and K. Morrison (eds), *The social life of forests*. Chicago: University of Chicago Press.
- Lian-Saging, R. 1976/77. An ethno-history of the Kelabit tribe of Sarawak. A brief look at the Kelabit tribe before World War II and after. BA academic exercise, Department of History, University of Malaya.
- Maxwell, A. R. 1989. Recording oral traditions and language. *Borneo Research Bulletin* 21(2): 97–167.
- Metcalf, P. 1976. Birds and deities in Borneo. Bijdragen tot de -taal, -land en volkenkunde 132: 96–123.
- Moeliono, M.M.M., Limberg, G., Iwan, R., Sudana, M. and Wollenberg, E. 2004. Fission and fusion. Decentralization, land tenure and identity in Indonesia. Paper presented at the Xth Meeting of the International Association for the Study of Common Property in Oaxaca, Mexico, 9–13 August 2004.
- Persoon, G.A. and de Iongh, H.H. 2004. Pigs across ethnic boundaries. In John Knight (ed), Wildlife in Asia: cultural perspectives. London: RoutledgeCurzon, pp. 165–184.
- Rousseau, J. 1989. Response to Rubenstein. Borneo Research Bulletin 21(2): 956.
- Rubenstein, C. 1973. Poems of indigenous peoples of Sarawak some of the songs and chants. Part II. Sarawak Museum Journal 21(12): 723–1127.
- Schneeberger, W.F. 1945. The Kerayan-Kalabit Highland of central northeast Borneo. *Geographical Review* 35: 544–62.
- Talla, Y. 1979. The Kelabit of the Kelabit Highlands, Sarawak. Edited by Clifford Sather. Report No. 9, Social Anthropology Section, School of Comparative Social Sciences. Penang: Universiti Sains.

Author biography

Monica Janowski is a social anthropologist and a research associate at SOAS, University of London. She has particular research interest in the relationship between people and the natural environment with a focus on cosmological aspects of that relationship. She recently led the anthropological work on a major AHRC-funded project, The Cultured Rainforest, a collaborative project with archaeologists and environmental scientists which aimed to develop a time depth to an understanding of the ways in which people relate to the environment and the landscape in the Kelabit Highlands. As part of this project she guest-curated an exhibition at the Cambridge Museum of Archaeology and Anthropology in 2013 and worked with Douglas Cape of z360 to create 'virtual visits' of the Highlands, which can be seen at http://www.z360.com/sara/. Email: monica.janowski@gmail.com