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Z. Füsün ERTUĞ

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Weaving traditions from Island Southeast Asia: Historical context and ethnobotanical knowledge

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Southeast Asia is the location of about one-fifth of the world's remaining tropical forest, on which at least thirty million forest-dwellers depend (De Beer and McDermott 1996). Geographically, it encompasses Thailand, Burma, Laos, Cambodia, Vietnam, and Peninsula Malaysia as part of the mainland, and the vast archipelagos of Indonesia and the Philippines. This paper focuses on selected regions of Island Southeast Asia that are inhabited by indigenous communities sharing similar land use and natural resources management strategies¹. In the first section, Southeast Asia basketry is approached from a historical perspective. Hypotheses on the similarity between artistic motifs and designs across the region are outlined. The second section provides a summary of weaving techniques, use of plant materials and symbolism of baskets and textiles, with particular reference to Borneo and the Philippines.

Key words: basketry traditions, ethnobotanical knowledge, social significance, Island Southeast Asia

The Historical Background

Prehistoric migrations and plaited crafts

During the glacial and interglacial eras of the Pleistocene, land bridges connected the archipelagos to mainland Asia, providing the means for the movement of animals, plants and different waves of Palaeolithic cultures. From about 5000 years ago, these Australoid communities of hunters and gatherers were overrun by a new wave of migrants who spoke languages in the Austronesian family. Bellwood (1985) has suggested that Proto-Austronesians settled on Taiwan, approximately by 4000 BC., and their descendants moved into the Philippines by 3000 BC. and migrated southward into the Indonesian archipelago by 2500 BC.

It is plausible to speculate that, in Island Southeast Asia, baskets and plaited artefacts travelled along the same prehistoric routes that allowed the distribution of bronze pieces. Woven items, nets, snares, bark clothes and the textiles in which Austronesian speaking peoples dressed are missing from archaeological record. Instead, their wooded

and bamboo house structures have occasionally left traces that can be discerned by discoloration in the soil (Scott 1984). More durable items such as fishnet sinkers and spindle whorls, made of both pottery and stone, have survived. Spindle whorls attest to the production of thread, probably cotton and suggest weaving (Scott 1984:19). In the Philippines, these objects have been associated with the Iron Age that - in the region - is considered to run from the second or third century BC. to the tenth century. In Palawan, Ming and Sung jars with prepared lime content, attest to a betel-chewing complex as far back as 2500 BC. It is likely that this complex was associated with a vast array of bamboo containers for betel-chewing and woven wallets made of pandan and rattan.

Island Southeast Asia and Melanesia Cultural traits

The distribution of animals (especially mammals) in Indonesia seems to have followed the western islands' orientation along the Sunda shelf, which

¹ The Museum of Paleobotany and Ethnobotany at the Botanical Garden of the "Federico II" University of Naples (Italy) has a rich collection of baskets and other artefacts (e.g. fish traps, snares, hunting and agricultural tools and ritual objects). These have been collected since 1987, in the course of my research and appraisal missions. Between 1989 and 1999, I was responsible for setting up the Southeast Asia ethnobotanical collection of the Museum. This includes artifacts from six ethnic groups: Batak, Palawan, Hanunóo (the Philippines), Sakai, Bonei (Sumatra), Ot Danum (West Kalimantan).

also allowed land migration to Mainland Asia. Instead New Guinea and some South-eastern Moluccan islands lie on the Sahul shelf, which allowed passage to Australia in prior ages. Between these continental shelves there is an imagined transitional area, the 'Wallace Line' bisecting the archipelago. In 1864 Alfred Russell Wallace drew two lines dividing the archipelago; with the first he wanted to delimit two distinct faunal regions, what he called the 'Indo-Malayan' (Asian) and the 'Austro-Malayan' (Australian) - the second line, further east, separated two human stocks: the 'Malayan' and the 'Papuan'. To draw this distinction, Wallace relied on various characteristics: physical type, language, culture and even 'intellect'. To a certain extent, the line he drew indicates an ethnologically crucial transition zone, although the boundaries between language phyla, physical races and key cultural traits do not always coincide (Taylor and Aragon 1991).

Since Wallace's time, numerous scholars have attempted to identify the key cultural traits separating Island's Southeast Asia from Melanesia. Generally speaking, the former has been associated with salient traits such as weaving, metallurgy, grain-crop staples, the strong influence of world religions and the existence of complex forms of socio-political organization. The latter, instead, has been identified with a living litic tradition, the absence of textile weaving, an orientation towards tuberous-crops, the presence of small-scale political organisations led by 'big men', and an emphasis on the division of domestic residence into communal men's houses and women-dominated house units. However, Taylor and Aragon have pointed out that "boundaries between world culture areas often do not coincide with political boundaries, and trade has long united peoples and art traditions across the boundaries drawn on maps by scholars, colonial governments, or politicians" (1991:25).

Motifs and designs: the question of a common aesthetic

Little is known about the evolution of basket technologies among Austronesian speaking societies in both prehistoric and historical times. Given the perishable nature of the material used, archaeologists have been unable to establish how plaited objects and decorative patterns differ from one time level to the next. On the other hand, similar

motifs and designs are widespread across the region and some scholars have taken these similarities as evidence of a shared prehistoric South-east Asian and Pacific island culture. Overall, archaeological findings attest to the existence of a common aesthetic among Southeast Asian artisans of the Bronze Age and prehistoric Oceanic potters (Taylor and Aragon 1991:66-67).

The oldest objects excavated in Oceania are bronze wares from Vietnam's Dongson culture (600 BC.-AD. 100) and pottery from the Lapita Pacific cultures (1500-500 BC.). The latter is named after an archaeological site in the Melanesian region of New Caledonia. Bellowood (1985) has speculated that Lapita people might have been the early Austronesian speaking communities travelling from Southeast Asian mainland eastward through the Pacific islands and then into Indonesia, Melanesia and Polynesia. Instead, others (Green 1982; Spriggs 1984) have suggested that the Lapita cultures developed independently in the Pacific, probably near the Bismarck Archipelago.

By and large, the designs found on these prehistoric artefacts have represented a source of inspiration for many generations of indigenous artisans (Taylor and Aragon 1991). According to Waterson (1988:44-45) some design elements of Toraja textile, wood surfaces and etched bamboos are identical to those pan-Southeast Asian motifs seen on Bronze-Age kettledrums. Heine Geldern's diffusionist theory suggests that Indonesian art styles have been largely influenced by a proto-Vietnamese Dongson culture (Solheim 1975; Newton 1988). My own comparison between two isolated geometrical motifs from excavated Dongson drums redrawn by Marcia Bakry of the Smithsonian Institution and contemporary Philippine basket motifs shows striking similarities.

Today, diffusionist approaches have been challenged and most scholars agree that Southeast Asian societies have created their own designs autonomously, developing symbolic associations between decorations and particular trees, vegetative appearance and behavioural characteristics (Taylor and Aragon 1991:35, see catalogue in Heyne 1950, Burkill 1966 [1935]). In line with this approach, Bernet Kempers (1988) has argued that geometric and figurative motifs were created by different people, without any direct knowledge of Dongsonian designs. Toraja house carvings and textiles include geometrical and curvilinear motifs

that Heger (1902) [quoted in Taylor and Aragon 1991] has defined as quintessentially Dongsonian. However no Dongson drums have ever been excavated in the Toraja region of Sulawesi. Overall, it is difficult to establish whether certain decorations are autochthonous or acquired from elsewhere. For instance, in Borneo, evidence suggests that the popular *aso'* motif might have been inspired by the encircling dragon design found on Chinese trade ceramics from the Ming and Ching period.

Linguistic evidence

Lacking archaeological data on Southeast Asian plaited art, linguistic evidence may provide useful insights on the identification of a common prehistoric substratum. Today's linguist records suggest that "various Austronesian cultures that make up the vast majority of Indonesian peoples developed from one primary cultural substratum, which in turn has long been in contact with a second cultural substratum, that of the Papuan-speaking peoples in eastern Indonesia and New Guinea" (Taylor and Aragon 1991:61).

Plant names of Austronesian origin have spread well beyond Southeast Asia, through Polynesia and other Pacific islands. This is the case of coconut palm: *nior* (Malay), *nju* (among several people of Borneo), *niug* (Pälawan and Batak – the Philippines), *niyog* (Bicol, Bontoc, Igorot – the Philippines), *niugao* (Subanu – the Philippines), *niwer*, *niwel* and *nimel* (Seram – Indonesia), *niu* (Samoa, Tonga, Fakaofu, Futuna, Maori, Hawaii, Marquesas, etc.), *nihu* (Malagasy), etc. (Finley 1970:119). Some cognates for basket decorations and designs have spread as widely as the names of the corresponding plant material. People like the Kenyah (Kalimantan, Indonesia), Pälawan (the Philippines) and Dusun (Sabah, Eastern Malaysia) share similar terminology associated with the rice complex and similar definitions for basket decorations, like the well known '*mata punai*' motif (the eye of the *punai* dove). Conversely, other important plants (and related local names) did not spread as widely, probably due to cultural and environmental circumstances limiting their distribution. In spite of lexical similarities, the names of some cultivars (e.g. rice cognates: *padi*, *palay*, *paräy*, *pagey*, etc.) are regarded by linguists as genuine (i.e. not borrowed developments of an old Austronesian term for rice plants). The absence of the word rice from Oceanic languages "naturally

implies that this plant did not fruitfully accompany the Austronesian speaking migrants who settled on the Pacific islands" (Scott 1984:49).

According to Dyen (1965), Philippine languages (except Ilongot) fall roughly into a northern and a southern group, the latter includes Tagalog, Visayan and the Sulu-Mindanao languages, as well as Dusun and Murut in Sabah. Each group shares more or less 40% of the basic vocabulary. Overall, the languages spoken in the Philippines and Indo-Malay Archipelago "share deeper structural characteristics as root words composed of two syllables, word-building by reduplication, and the use of infixes as well as prefixes and suffixes" (Scott 1984:33). With reference to Philippine language families, Scott has pointed out that these linguistic similarities are of two different orders of significance: 1) loan-words indicating an introduction along with the objects to which they are attached (but not necessarily an introduction by the very people to whom the terms are native); and 2) a vocabulary of basic concepts (e.g. tree, *kayu*) suggesting an actual family relationship.

Weaving techniques, plant materials and social significance

Loom weaving

The technique of interweaving the splints, whether baskets or other items are produced, is known as basketry (Taylor 1973:144-145). True weaving is different from basketry, even when a frame is used. However, certain weaving techniques such as twining, are regarded as an intermediate archaic technology between basketry and loom weaving (Gittinger 1979:226). In true weaving, "the warp threads – the base threads stretched parallel to one another on the loom frame – are divided into two sets of alternate threads, which can be raised and lowered relative to one another to permit insertion of woof threads between them in one movement" (Taylor 1973:146).

By and large, in mainland and Island Southeast Asia, weaving occurs among more sedentary societies where farming (often integrated with the domestication of animals) features as their main source of livelihood. Weaving and textile production is generally absent amongst traditionally nomadic societies or communities that are heavily oriented towards wild forest resources (or both) – and where domestication of animal for food (except



Fig. 1 A Gia-rai woman weaving textile. Gia Lai, Central Vietnam.

for fowl) is absent. In Southeast Asia, belt loom or tension loom represents the dominant weaving technology: the warp is kept in tension by two bars – one attached to a stationary object and the other fastened to a belt around the weaver's waist. Hence, tension is controlled by the weaver's body (Fig. 1). These horizontal looms spread widely through the Pacific island and "the occurrence of the back-strap loom both in Indonesia and in pre-Columbian South America has been pointed to as evidence of trans-Pacific contacts" (Bock 1974:298).

In Southeast Asia cotton is the fibre most commonly woven on looms and, in the island of Mindanao (the Philippines), the fibres of *Musa textilis* (*abaca*) can also be used for this purpose. Cotton threads are spun using spindle whorls.

Contemporary adoptions of materials and designs

Writing on the art of Indonesian's outer island, Taylor and Aragon have argued:

"As design formats are either borrowed or independently developed and elaborated throughout the archipelago, they take on new meanings. Valid parallels between the designs used in a culture and other characteristics of that culture may be identified, but design elements and design formats are adopted by people of different cultures in other regions – where they may be reinterpreted or lose their meaningfulness entirely" (1991:34).

In Southeast Asia, the borrowing of new ideas and designs has continued over centuries, often in ways that are unusual and unexpected. For instance, in recent times, new motifs have been adopted from museum exhibitions by remote-island

peoples. Drawing on the work of Geirnaert (1989: 64) and Kartiwa (1982), Taylor and Aragon (1991: 37) report that "the West Sumbanese began incorporating metallic threads into their locally made *lambelekk* skirts in approximately 1985 – the direct result of interest in Indian silver and gold thread after a number of exhibitions held in Jakarta around 1980 showed *songket* textiles from Sumatra as well as ordinary Javanese cloths (*lurik*) into which metallic threads had been woven".

Studies on the influence of foreign elements into Indonesian art suggest that criteria for the adoption of innovations are those of the receiving culture. For instance Visser (1989:81) notes "textiles are not chosen at random but rather... deliberately, for their colours and motifs or patterns, in order to fit the value system of the receiving culture". Moreover, the introduction of new material and new dyes may enhance the production of crafts having new shapes, designs and colour - but still produced according to the traditional technology. In West Sumba, Geinaert (1989:64) noted that: "towards the end of 1983, the shelves of Waikabubak's shops were laden with unusually bright orange and red skeins. About three months later, one could observe these two colours combined in *lambelekk* skirts on the streets".

Basketry and pottery

Evidence indicates that sophistication in basketry is not always matched by the same level of proficiency in other cultural skills. For instance, the Penan hunters-gatherers of Sarawak produce the finest rattan mats in Borneo with intricate woven designs, but other objects of their material culture are very basic in terms of style and manufacture. Generally speaking, those cultures producing fine baskets are less specialised in pottery, or do not engage in this practice at all. Some communities have customarily mastered both pottery and basketry skills. However, basketry – in comparison to pottery – seems to be more resilient. Today, in Southeast Asia, pottery has virtually disappeared from the majority of indigenous societies. My own findings reveal that some Pälawan communities of the Philippines manufactured clay pots (*kurän*) until about thirty/forty years ago. I have no evidence of this practice surviving anywhere on the Island. During the mid-nineties, in the village of Apau Ping, Long Pujungan District (East Kalimantan), Bernard Sellato identified two

traditional potter makers. He claims that the “two Leppo’Ke Kenyah women, one elderly and one middle-aged, still make clay pots once a year after the harvest. The people of Long Aking abandoned pottery some ten years ago, and other villages even earlier” (1997b:237).

Pälawan word for pot (*kurän*) resembles similar cognates in the languages of East Kalimantan (*kudan*, *hudan*, *kuron*, etc.), all subsumable to a proto-Austronesian etymon, *kuDen*. According to Sellato “the semantic field seems to refer globally to the notion of a ‘container’ (thus, *kudan tanà*, ‘earth container’), with emphasis on a short cylindrical or round shape, although locally the term seems to focus more specifically on pot and even cooking pot” (ibid). Overall, in a matter of few decades, metal pots have replaced traditional earthenwares entirely. On the contrary, plastic containers have been unable to provide a satisfactory substitute for baskets; especially in terms of comfort, durability and diversity of uses.

Basketry techniques

In Southeast Asia, basketry and weaving are generally women activities (Fig. 2). However, in Sarawak, also men weave ‘meeting mats’ on an improvised loom, using strips of tree bark and split rattan lengths (Munan 1989:41). Unlike the majority of baskets and mats, this particular mat is worked vertically/horizontally rather than diagonally.

The most common types of weaves are all represented in Southeast Asia: 1) checkerwork; 2) wickerwork; 3) crossed weft; 4) diagonal or twilled. In the first type of weave, the warp and weft are of uniform size and pliability, and each element passes over one and under one of the other, thus



Fig. 2 A Batak woman weaving a basket (*begias*) with *sabsaban* (probl. *Dinochloa palawanensis*). Palawan, the Philippines.

forming square or rectangular checks. A variant of this weave is found in certain baskets in which the warp is crossed and the weft passes through in regular order, so as to produce hexagonal openings. In wickerwork the warp is rigid; the smaller and more flexible weft passes under one and over one of the former. In crossed weft, two sets of wefts cross each other at an angle and interlace a rigid warp. Diagonal or twilled weaving is particularly common. It occurs when two or more weft strands pass over two or more warp elements, but not the same in adjoining rows; also warp and wefts both run diagonally [see Cole’s study (1956: 58) among the Bukidnon of Mindanao].

In Sarawak, the Bidayuh *tambok* is different from the majority of diagonally woven baskets, as the weave starts on a cross and, after the turning “the sides are woven into a standing warp with thinner strands started at the base corner. Some *tambok* have vertical struts worked in, others have one or more several plaited or chained reinforced bands of fine creeper fibre around the body. The lip is finished with a rim or plaited work which takes in all the warp ends” (Munan 1989:44).

There is great variation in baskets’ sizes and shapes, and a general distinction can be drawn between rigid and soft baskets. Rigid baskets are often strengthened at the four corners and have a base supported by crossed rods. Often, the corners are reinforced by wooden supports forming four protuberances that give stability to the basket. By and large, baskets for transporting agricultural crops tend to be rigid, while those for carrying heavy loads are more flexible and expandable. Flexibility is also a characteristic of those baskets for personal belongings such as *ambong*, made by the Penan of Borneo. *Ambong* is manufactured using two weaving techniques; the base is made of coiled fibres while the sides are plaited diagonally. It does not have a cover, and the lip is completed with a row of woven loops through which a string is first threaded, then attached to decoratively woven carrier straps (Munan 1989:45). Another flexible basket is the Iban *selabit* made of rattan with loosely textured rhomboidal patterns; this is used to transport heavy loads such as heirloom jars. Another woven item widespread across the region is the winnowing tray, circular or elongated, made of split bamboo or rattan and used to clear freshly pounded rice from chaff. Winnowing trays can be



Fig. 3 Ot Danum woman wearing the sun-hut while cleaning pandan leaves. West Kalimantan, Indonesia.

used also for secondary purposes, e.g. as a surface on which seeds are dried, and coconut endocarp is grated. Common in Borneo is the conical shaped sun hut made of a combination of different materials (e.g. *Nipa fruticans* leaves, split rattan, split bamboo). Because of its particular shape (Fig. 3), the area of the cone is worked by a diagonal technique dividing it into three main sections, meeting at the top (Munan 1989:52; Sellato 1997a:231; Hose and McDougall 1912:214-215).

Plant materials

A vast selection of plant materials is used in the production of woven items. By and large, rattan palms, bamboo and pandan are the preferred sources of fibres. Semi-woody rattan climbers are a typical component of many forest types across the region. There are twelve recognised genera of rattan with about 600 species found in Southeast Asia (Dransfield 1979) and include: *Calamus*, *Calospatha*, *Ceratolobus*, *Daemonorops*, *Korthalsia*, *Myrialepis*, *Plectocomia*, *Plectocomiopsis*, *Pogonotium*, *Retispatha*.

Calamus diepenhorstii is an important provider of basketry material in Peninsula Malaysia followed by *C. manan* and *C. ornatus*. Slender rattan species such as *Calamus javensis* and *C. viridispinus* (P. Malaysia), *C. trachycoleus*, and *C. caesius* (Borneo and Palawan) are employed for the finest

small-size baskets. In East and Central Kalimantan, the latter two species, together with *Calamus pseudoulor* and *Daemonorops didymophilla*, are cultivated for domestic and commercial purposes. Plaited caps and headbands made of rattan, were used by Kenyah, Kayan and other Bornean groups. In Palawan, on ceremonial occasions, Batak women wear rattan headbands decorated with strips of coloured cloth.

Generally, fibres for basketry are obtained from the outer shiny layer of rattan canes. However, some baskets are woven with the epidermis of the petiole and rachis (stripped of its leaflets); one example of this is the Semai *tangguk* basket made of *Daemonorops grandis*.

Differently from rattan, bamboo is particularly abundant in seasonally dry, monsoonal forests and, often, it is found in disturbed areas. In primary evergreen rain forest, bamboo grows mainly along watercourses (De Beer and McDermott 1996:38). The most economically important genera include *Bambusa*, *Dendrocalamus* and *Gigantochloa* (Roa, Dhanarajan, and Sastry 1987, quoted in De Beer and McDermott 1996:38).

Rattan, compared to bamboo and pandan, is more versatile. Cultural preferences in the choice of material do exist, and are not necessarily dictated by ecological factors. The Batak of Tanabag have a sufficient natural supply of rattan in their area, but they prefer *Dinorchloa* and *Schizostachyum* bamboos as basketry material. Palawan first choice basketry material is rattan, but they also use species of the genus *Schizostachyum* and *Bambusa*. Bamboo is also the primary basketry material for the Nuaulu of Seram (Indonesia) and include 'soft bamboos' such as *Gigantochloa atter* (*wanate tuni*), *Dendrocalamus* sp. (*wanate onar*) and *niune ikine*. Some bamboos are restricted for most clans (e.g. *tenne*), with certain exceptions (as for *Neipane-manunte*) (R. Ellen personal communication). The Negritos of Peninsula Malaysia make use of rattan and bamboo in basketry and, often, wild pandan is a favourite material.

Lower quality materials used in basketry include species of the genus *Donax* (*Donax cannaeformis*, *D. arundastrum*, etc.). In Eastern Kalimantan, the Penan use *Bovan* (*Donax cannaeformis*) for weaving *ba'anak* (baby carriers). This material is softer than rattan, and more resistant than pandan. In Sarawak *bemban* (*D. arundastrum*) is woven into the fabric and only show up in oblique



Fig. 4 Hanunò-Mangyan women weaving baskets of *Corypha elata* (*huri*) interwoven with *Lygodium japonicum* (*nitu*) fibres.

light, like damasque (Munan 1989:41). Other low quality weaving materials include the fibrous inner cuticle of several trees, such as *Artocarpus* spp. (Skeat and Blagden 1906:377).

The leaves of non-climbing palms are also used in basketry. In Borneo, leaves of *Metroxylon sagu* are employed in the making of fans, sun hats, and food covers. Those of *Nypa fruticans* are used in the manufacture of rough mats and boxes for rice cakes (Munan 1989). In the Philippines, leaves of *Corypha elata* are also used for analogous purposes. The Hanunò of Mindoro use *Corypha elata* fibres to weave bags (Fig. 4). The use of *Lygodium* creepers (e.g. *Lygodium splendens*, *L. japonicum*) is equally widespread; its dark fibres are interwoven with other material for decorative purposes and lashing.

Amongst the Batak of Palawan two species of bamboo: *lawas* (probl. *Schizostachyum lumampao*) and *sabsaban* (probl. *Dinochloa palawanensis*) are commonly used in bichromatic twilled plaiting. *Sabsaban* strips are strong and more durable than *lawas*. The latter, because of the wider spacing between nodes, provides longer strips that are ideal for the weaving of large baskets and flat winnowing trays. Amongst the Kenyah of Sarawak, woven trays (*tapan*) “are made of bamboo and rattan and are oblong, about 45-50 cm long and 35-45 cm wide” (Chin 1985:190). Avé (1988) reports that, in Peninsula Malaysia, the Semai use half canes of *Daemonorops geniculata* or *Calamus insignis* as support around the winnow, which is fastened together with split canes of *Calamus javensis*. Two species of wild *Pandanus* (*barasan* and *bankuang*) are used by the Batak of Palawan to weave sleeping mats and multi-purpose boxes.

Cultivated pandan is widely used in Borneo for similar purposes.

Often a woven item can be composed of different materials. For instance, Batak bamboo baskets have a rattan component framing the basket’s mouth. Borneo sun-huts are another good example of woven items made of several plant species, as well of combined techniques. According to Sellato, in Kenyah sun-huts, “the hat brim is a whole thin strand of rattan, attached with vegetable fibres to the circumference of the plaiting. Some huts have an underlayer of *sang* leaves (*Licuala valida* and sometimes *L. spinosa*). All normally have a cross-work of three or four flat sticks – usually of *talang* palm stem, *Arenga undulatifolia* – as stiffeners, and a plaited skullcap of *da’a* (pandanus) sewed to the inside of the crown” (1997a:231).

Vegetable fibres can be used in combination with non-plant material. For instance *ingan* baskets made by the Melanau and Bidayuh people of Sarawak have a leather lid of deer skin, framed into a strip of rattan. These baskets can hold up to 60 kg of rice seeds (Munan 1989). Carrying baskets have shoulder straps made of the bark of different plants. In Palawan, *Trema orientalis*, and the bark of various species of the Moraceae family (especially *Artocarpus sericicarpus*), are commonly used for this purpose. The material for shoulder straps varies greatly from region to region; and - in Peninsular Malaysia - the Semai use the bark of *Hibiscus macrophyllus* (Avé 1988).

Colouring Matter

Batak basket motifs are obtained by intertwining uncoloured and black bamboo fibres; the latter are blackened with soot, and a poultice of leaves or pounded bark is rubbed on them (Fig. 5). The following plants are used as a fixative for the smoke: *balinasag* (probably *Barringtonia curranii* - bark); *budakan* (a vine - bark); *kamute* (*Ipomea batatas* - leaves); *karampi* (*Abarema clypearia* - bark); *kasuy* (*Anacardium occidentale* - bark); *kulagbaw* (a vine - bark); *mananang* (a tree - bark); *tagungtung* (a tree - bark); *ragaraga* (*Artocarpus* sp. - bark). Bamboo tubes are blackened with the soot of burning *bagtik* (*Agathis philippinensis*) or *saleng* (*Canarium asperum*) resins (Novellino 2003). The process of rubbing and blackening is repeated three consecutive times to ensure that soot adheres firmly on the bamboo surface.



Fig. 5 A Batak girl blacking bamboo with soot and using plant fixative. Palawan, the Philippines.

Occasionally, Batak baskets and pandan mats are coloured with *tumeric* (*Curcuma sp.*), yielding an orange yellow dye. Curcuma chunks are dipped into shell lime (*apug*) and smeared on the weawe to emphasise the pattern. Elsewhere, in the Philippines, among the Bukidnon of Mindanao “a permanent black is achieved by applying juice of the banana blossom or of the *tuba-tuba* (probably *Jastrophia curcas*) to strips which are then held in the smoke of a burning resins” (Cole 1956:57). The colouring of mats is also achieved by soaking fibres in liquid dye obtained from *talisay* (*Terminalia catappa*) and *tagom* (*Indigofera tinctoria* and *I. teysmanni*) (ibid: 59). In the Philippine island of Mindoro, the Hanunò-Mangyan cultivate cotton (*Gossypium herbaceum*) and a species of indigo (*Indigofera suffruticosa*). The thread from which loin-cloth, skirts and jackets are made is coloured with a dye obtained from indigo plants. *Indigofera* species are perennial shrubs. The pigment is found in the leaves, and plants are harvested three or four months after sowing, this involves cutting the stems 10-20 cm above the ground. Fresh leaves with stems are soaked in water for several hours during which fermentation of the *indican glucoside* occurs.

In Borneo, dying techniques are quite elaborated and numerous species are employed for this

purpose. Munan (1989:90) lists seven plants used by the local indigenous people of Sarawak as dye-stuffs: *engsana* (*Pterocarpus indicus*) [the sticky sap yields a reddish colour]; *engkerbai* (*Stylocoryne spp.*) [the leaves are chopped, boiled and mixed with lime to yield a pinkish-red dye]; *engkudu* (*Morinda citrifolia*) [the root skin is boiled and mixed with lime to make a rich brown-red dye]; *entemu* (*Curcuma spp.*) [this wild turmeric yields a strong orange-yellow dye. The root is pounded or grated, mixed with cooked rice and lime, and the resulting paste is kneaded into the yarn]; *piling* (*Abarema spp.*) [the leaves are chopped, boiled, mixed with clean clay and then applied to the cloth or yarn to be dyed. The paste can also be applied on mats yielding a brown colour]; *tarum* (*Marsdenia tinctoria*) [this creeper is chopped, steeped in water and smeared with lime. The liquid looks yellow but it stains material blue]; *tengar* (*Ceriops spp.*) [the bark is pounded and then steeped in boiling water to make a brown dye] (Munan 1989:88).

In Borneo, the black dye is also extracted from the leaves of *Pithecellobium sp.* and the red dye from the fruits of a rattan palm (*Daemonorops draco*). Other rattan species used as a source of red dye include *Daemonorops didymophylla* (Borneo), *D. propinquus* (Peninsular Malaysia) and *D. ruber* (Java). In East Kalimantan, amongst the Kenyah of Long Pujungan, the red colour is obtained from the *aing* tree (*Archidendron clypearia*, Fabaceae) (see Martin 1995 quoted in Sellato 1997:232). During the preparation of dye, *aing* wood chips are boiled with the pounded leaves of *iyem* (probably *Glochidion sp.* or *Symplocos fasciculata*) (Sellato 1997). The boiled wood chips of *aing* yield a sticky red sap that is moulded into a thick paste and then rubbed directly on the fibres (ibid: 232).

With reference to the dyeing of sunhats in East Kalimantan, Sellato (1997a:231) reports that a “resin (*nyatang*) is burned, and its smooth black soot is collected from the bottom of a cooking pot. A red inner bast is scraped thinly from the *sela-man* tree, mixed with a little water, and pressed between both hands to collect sap. This sap – which acts as a mordant – and the *nyatang* soot are then mixed together, and the mixture is rubbed on the whole surface of the hat”. *Nyatang* producing trees have been identified as belonging to the genus *Ficus* (Moraceae) and also include

species such as *Antidesma ghaesembilla* (Euphorbiaceae) and *Vaccinium bancanum* (Ericaceae) (ibid: 231-232). Among the Penan of Eastern Kalimantan, *meni*, *Macaranga constricta* (Euphorbiaceae) is the main source of black dye: the leaves are boiled and a fine grey clay is added, the rattan strips are then boiled for 24 hours. *Lakeutuak*, *Fibraurea cholorolensa* (Menispermaceae) is for yellow dyes, and *kevango*, *Breynia racemosa* (Euphorbiaceae) is used for a black dye (R. Puri personal communication).

Weaving, symbolism and worldviews

In Southeast Asia, rice is generally accredited with personality status and, according to oral traditions, this plant originated from a human sacrifice. Basket designs that are carefully reproduced and well-executed are believed to please the ‘life-force’ of rice. Motifs may be received in dreams, and through other forms of contact with the spirit world. Specific motifs are believed to activate powerful forces, hence causing sickness and even death. Thus, special norms must be followed before introducing novices to the weaving of ‘prohibited’ patterns.

In Borneo, sun-huts include motifs inspired to local cosmology. Dragon imagery (the well known *aso*’ motif) associated with the lower world, is not only painted as interior decorations or on warriors’ shields, but is also applied as beads on rattan baby carriers. Basketry patterns – as those on *kanowitz* baskets (named after a community of the middle Rejang in Sarawak) are characterised by naturalistic abstractions such as ‘curved snakes’, ‘rattan leaves’, ‘leeches’, ‘bamboo shoots’, ‘bird’s footprints’, ‘stars’, etc. (see Munan 1989:49). On Bornean sun-huts, similar motifs are associated with creatures of the lower and upper worlds.

In Borneo, the design of warfare clothing included motifs intended to increase the warriors’ success. Traditionally, Iban males offered trophy heads to senior women using a textile, known as *puà*. According to Freeman (1979), Iban warriors slept beneath *puà* to receive guidance from deities. Similarly, experienced weavers received new *puà* designs in dreams. Iban women regard the weaving of new designs as a dangerous practice. In fact, through such activity, the weaver establishes a direct contact with the spirit world and protective talismans are used to counter potentially

dangerous effects (Vogelsanger 1980:116). Overall, the copying of old designs is considered less dangerous than the reproduction of motifs received in dreams (Freeman 1979).

The social significance of baskets has been documented across the region, although ethnography sources are scant. Munn (1989), for instance, informs us that among some Dayak groups of Sarawak, beautifully decorated woven bags and small baskets are carried by a bride visiting her in-laws to demonstrate her skills in customary craft making. Common to many groups is the perception that the first woven basket is an important step towards adulthood.

Amongst the Batak of Palawan, novices consult adult basket weavers for practical advices. Thus, their own ‘knowing how’ is constantly integrated with that of expert basket weavers, who may be specialised in particular designs. Such exchanges allow the constant interaction and negotiation between idiosyncratic ‘know-how’ and cultural knowledge, leading to innovation and improvisation. Basketry knowledge also features in Batak worldviews. In their description of the after-death journey, Batak narrate the encounter between the ‘life-force’ of dead persons and *Angogro*. The latter is described as a sort of giant standing at a gate. When ‘life-forces’ of deceased persons reach the gate, *Angogro* asks them to construct anything representative of their culture and of their gender. Generally, a ‘life-force’ of a deceased female may be asked to weave a basket, while a male ‘life-force’ may be requested to carve a bamboo container or to make bow and arrows. *Angogro* provides fibres and wood for construction, and the ‘life-force’ of the deceased should use its own skill to transform the raw material into an object. ‘Life-forces’ that fail to do so, will be thrown by *Angogro* against a tree and no trace of the ‘person’ will be left. In the Batak myth of *Angogro*, bodily practices and technological skills, such as basketry, provide the conceptual basis for ethnical ideas about the person and, at the same time, are indicators of both social and intellectual mastery. The inability to conform with *Angogro*’s requests, is a sign that the person has not led a life in accordance with his/her customs, and thus he/she has not fulfilled the basic conditions of sociality (Novellino 2003).

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