

IBAN OR SEA DAYAK FABRICS
AND THEIR PATTERNS

LONDON
Cambridge University Press
FETTER LANE

NEW YORK · TORONTO
BOMBAY · CALCUTTA · MADRAS
Macmillan

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Frontispiece



Group of Iban women, pp. 3, 4.

IBAN OR SEA DAYAK FABRICS
AND THEIR PATTERNS

A DESCRIPTIVE CATALOGUE OF
THE IBAN FABRICS IN THE MUSEUM OF
ARCHAEOLOGY AND ETHNOLOGY
CAMBRIDGE

by
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and
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CAMBRIDGE
AT THE UNIVERSITY PRESS
1936

PRINTED IN GREAT BRITAIN

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PREFATORY NOTE

During the last half of December, 1898, I had the good fortune to be the guest of Mr R. Shelford, the Curator of the Sarawak Museum at Kuching. Most of my time in Kuching was spent in the Museum, where more especially I studied the fine collection of Iban cloths, as many patterns on the cloths were named. I took ninety-three photographs of sixty-nine cloths in the Museum and of some twenty cloths belonging to various people; more than two hundred sketches of patterns and designs were made of which the names were obtained.

I collected a few cloths and names, and subsequently purchased a large number of cloths from Dr Charles Hose, on which names had been affixed to their respective patterns and designs. These cloths I have given to the Museum of Archaeology and Ethnology, University of Cambridge. There are, however, two or three cloths in the collection obtained from other sources.

This material, together with numerous data from other tribes, was accumulated in the hope that I should be in a position to study the decorative art of the natives of Sarawak, which ambitious scheme can now be only partially realized.

The Cambridge Museum thus possesses a fine representative collection of Iban cloths, consisting of 14 *kalambi*, jackets, 49 *bidang*, petticoats, 7 *sirat*, loin-cloths, 1 *bedong*, woman's girdle, 2 *dangdong*, shawls, and 11 *pua*, blankets; some 84 in all. These bear names of more than 1500 patterns and designs.

The British Museum possesses about the same number of Iban cloths. On the fifty-nine specimens purchased from Dr C. Hose there are comparatively few named patterns, and there are none on the cloths obtained from other sources.

The names on the foregoing cloths and those which I gathered in Sarawak afford a basis for a study of these interesting and beautiful fabrics.

I was fortunate to enlist the enthusiastic co-operation in this study of Miss Laura E. Start, M.Ed., Lecturer in the Education Faculty, Victoria

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University of Manchester. To it she has applied her practical experience and thus, so far as I am aware, there is for the first time a full technical description of the manufacture of Iban cloths and garments, and in addition an adequate account of their decorative motives. Miss Start also made all the drawings.

A. C. HADDON

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INTRODUCTION

This study is based on the large collection of Sarawak cloths in the Museum of Archaeology and Ethnology at Cambridge. The equally large collection of cloths in the British Museum has also been examined by us, and we have compared the available specimens with the numerous photographs and sketches made by one of us in Sarawak. We therefore venture to claim that there is sufficient material for a preliminary study of this nature. There is a considerable number of designs and patterns which are not here mentioned and for most of them we do not know by what names they are called.

Although some of the designs are sufficiently realistic to make identification possible, most of them are highly conventionalized. Indeed, in many cases it is almost impossible to see any resemblance between the design and the object it is intended to represent. No doubt some students will question whether there is any such connection, but we must remember that these are traditional representations which have been transmitted through very many generations and it could not be expected that a realistic treatment could often persist.

The Iban certainly admit that most of the designs or patterns are intended to represent some concrete object. Cloths that have been collected in different places and at various times show designs that resemble each other to a remarkable extent, and, furthermore, in most cases the Iban apply similar names to them. Every Iban cannot be expected to know the names of all the designs and patterns, so it is not surprising that identifications should occasionally vary. There are numerous tribes or groups of Iban and this fact may cause some discrepancy in the names given, not only in identification but through dialectic differences; added to this are divergencies in the spelling of words by the transcribers.

If a native is not sure what a pattern really means he will be apt to describe it as looking like some particular thing or as representing that thing. It is obvious that the nearest approach to certainty can only be attained by inquiry from the actual woman who made the pattern.

It sometimes happens that apparently very similar designs may have different names applied to them. These usually are simple designs or

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patterns, and in such cases there may be no recognized general name for them. To take one example, a zigzag has its own name, *lelingkok*, but it is often termed *semerai sungai*, which implies the conception of going in a canoe from one bank of a river to the other so as to avoid or make use of stronger currents. It has also been described as the movement or progression of a snake.

The vast majority of the names in our collection, as well as all those on the specimens in the British Museum, were collected by Dr Charles Hose and naturally we have accepted these as accurate, but either he or the persons whom he employed made variations in the spelling of a given word; usually we could ascertain the most common or likely variant and in some cases we adopted instead the spelling of the word given by the authors of the *Sea Dyak Dictionary*, as that must be regarded as authoritative.

In many cases, but by no means in all, a translation was given by Dr Hose of the native name—sometimes literally, sometimes freely—these we have copied and printed in quotes. Occasionally the translation of a word differed from that given in the *Sea Dyak Dictionary*; these cases have usually been noted by us. Unfortunately there are many native names for which we cannot find a translation; they are given as written by the transcribers. Translations by us are printed without quotes.

Originally the labels were pinned on to the cloths in what was intended to be their appropriate position, but even so, on account of the relatively large size of the labels it is not always apparent to which design or what part of it the label applied. Subsequently numbers written on tape to correspond with the labels were sewn on to the cloth by Mrs Haddon, who took great care to retain the original position of the labels. In some cases there evidently was a mistake in the original position of a label. These sources of error are not quite so serious as might be feared, since we have such a large number of names on different cloths that checking is almost always possible. We venture to hope that few mistakes due to these causes have been perpetuated by us.

A card catalogue of drawings of every design bearing the same name was made, and the most typical examples in each group were selected and have been included in pls. 1 to xxv.

Our procedure in the following pages is to give the weave, colour and methods of producing the patterns of a considerable number of individual

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cloths, and in the case of the jackets how they were constructed. The patterns and designs are described and illustrated as copiously as space permits, and we have added what information we have been able to find with regard to their significance; very rarely have we hazarded suggestions of our own.

We gratefully thank those Museum authorities who have afforded us opportunities for examining the cloths under their charge and the various unknown Iban who have given information. We feel that especial thanks are due to the late Dr Charles Hose for having supervised the identification of the designs on the cloths that have formed the basis of our study; the help afforded by these names has been invaluable.

The cloths themselves, together with the photographs and sketches made in Sarawak, are placed in the Cambridge Museum of Archaeology and Ethnology and are available to those who would like to consult them.

We candidly admit that we are merely pioneers in this investigation and it remains for others who can interrogate the Iban themselves to confirm, modify, or correct our provisional statements and to enter more deeply and securely into the motives that lie behind these expressions of Iban aestheticism.

The admirable compilation *The natives of Sarawak and British North Borneo* (1896), by H. Ling Roth, has been of very great assistance to us, especially his chapter xvii. His *Studies in primitive looms* (1918) is invaluable, as it is based on his own investigations. We have quoted with due acknowledgment from various authors whose observations have elucidated our subject and to those whose names are most frequently mentioned we offer our thanks. Particular mention should be made of the excellent *Sea Dyak Dictionary* by the Rev. W. Howell and D. J. S. Bailey, to which we have so often referred under *S.D.D.*, and we have found their English-Sea Dyak Vocabulary useful.

THE IBAN OR SEA DAYAKS

THE general appearance and psychical characteristics of the Iban have been well described by Hose and McDougall (I, p. 32, and measurements taken by Haddon are given in II, pp. 339, 340). They are industrious and energetic, and are great wanderers; this latter peculiarity struck the Kayans, who termed them "Ivan" (immigrant or wanderer), and this name has been adopted by large numbers of them in recent years and modified into Iban (II, p. 250). "When the Ibans became associated in piratical matters with the Malays of the coast, these latter assigned to their allies the heads of their enemies, as a sort of perquisite. This state of affairs lasted until well into the nineteenth century; and it is from their association with the Malays of the coast in their piratical expeditions that the Iban became known to Europeans as a Sea Dayak" (Hose, 1926, p. 145). The term Dayak, Dyak, etc., merely designates a non-Malayan inhabitant of Borneo and has no ethnic or tribal significance. It is probably derived from the Malay word *daya*, "inland".

The Iban can be distinguished from the other peoples of Borneo by their physical and mental traits and by many differences in culture. There appear to be two main ethnic stocks in Borneo: (1) a narrow-headed type, often termed Indonesian, but, to avoid ambiguity, the term Nēsiōt is preferable (Haddon, 1929, pp. 22, 119); (2) a broad-headed type, Proto-Malay (or Oceanic Mongol), which is a branch of the Pareoan or Southern Mongoloid (*l.c.* 1929, p. 32), to which stock the Iban may be assigned (cf. Haddon, 1901). Hose and McDougall (II, p. 248) regard the Iban as belonging to the same "stock from which the true Malays of Sumatra and the Peninsula were differentiated by the influence of Arab culture. A large number of the ancestors of the present Ibans were probably brought to Borneo from Sumatra less than two hundred years ago [Hose, 1926, p. 7, says, "less than three hundred years ago"]... Some two centuries ago, a number of Malay nobles were authorised by the Sultan of Brunei to govern the five rivers of

Sarawak proper, namely, the Samarahan, the Sadong, the Batang Lupar, the Saribas, and the Klaka rivers. These Malays were pirate leaders, and they were glad to enrol large numbers of pagan fighting men among their followers. . . [they] found, no doubt, that their pagan relatives of Sumatra lent themselves more readily to this service than the less warlike Klemantans of Borneo, and therefore, as we suppose, they brought over considerable numbers of them and settled them about the mouths of these rivers". "It seems to us probable that the greater part of the ancestors of the Ibans entered Borneo in this way. But there is reason to think that some of them had settled at an earlier date in this part of Borneo and rather farther southward on the Kapuas River. . . . In most respects they closely resemble the other Iban tribes, but they are distinguished by some peculiarities of language and accent; their manners are gentler, their bearing less swaggering; they are less given to wandering" (II, p. 249).

We are not in a position to criticize the supposition that some 200 or 300 years ago Malay chiefs introduced Iban warriors from Sumatra to Sarawak, but Hose and McDougall recognize an earlier population of Iban in Borneo. It seems doubtful whether the characteristic Iban culture is so recent as Hose and McDougall seem to imply, and it would be interesting to know from what part of Sumatra "their pagan relatives" came, and if there are any traces there now of such people. We suggest that the Iban migration into Borneo may be regarded as an early wave of the movements that culminated in the Malay Empire.

Hose and McDougall (I, p. 31) state that the Iban "have spread northwards over Sarawak during the latter half of the last century, chiefly from the region of the Batang Lupar, where they are still numerous. They are still spreading northward, encroaching upon the more peaceful Klemantan tribes. They are most densely distributed in the lower reaches of the main rivers of Sarawak, especially the Batang Lupar and Saribas rivers, which are now exclusively occupied by them; but they are found also in scattered communities throughout almost all parts of Sarawak, and even in British North Borneo, and they extend from their centre in Sarawak into the adjacent regions of Dutch Borneo, which are drained by the northern tributaries of the Great Kapuas River". The different tribes or groups of Iban are distinguished by the names of the rivers along which they dwell, thus they

are known as Batang Lupar, Saribas, Rejang, Kanowit, etc. The physical characters of the various ethnic groups in Sarawak are described by Haddon in an Appendix to Hose and McDougall's monograph.

IBAN COSTUME

The Iban are extremely fond of dress and both men and women wear many ornaments as well.

The usual male attire consists of:

Sirat (*chawat* of the Malays), or waist cloth, usually of red or blue cotton cloth, sometimes having an embroidered end made of native material.

Labong, a headkerchief, which is usually richly decorated; or a cap of woven cane, both of which are often ornamented with feathers.

Takai buriat or seat mat, usually made of skin or cane matting, the edge being finished off with cloth and beads or buttons.

Kalambi or jacket, with or without sleeves, used chiefly on ceremonial occasions.

Dangdong or shawl is also sometimes worn over the shoulder.

The women wear:

Bidang or petticoat, reaching to the knees and usually made of home-made cloth elaborately decorated with warp-dyed patterns.

Bedong or woman's waist band or girdle.

Rawai or corset, made of a series of split ratan rings upon which brass rings are threaded. The ratan rings fit so tightly that it is difficult to bend the body.

Kalambi or jacket, sometimes rather longer than the men's but of the same shape.

Girdles of coins, silver and brass chain or strips of coloured cane are also worn round the waist, and *tanggok* or necklaces of beads, cane and silver coins round the throat. Heavy earrings in the distended lobe of the ears are worn by most tribes.

Some idea of the women's costume can be gathered from the frontispiece, which shows a group of four women and two children. The women are wearing skirts, *bidang*, with patterns; spider designs can be seen on the

second from the left and shrews and spiders on the second from the right, which also shows clearly the way the garment is folded when worn. Three figures show the corset, *rawai*, and the girdles of coins round the waist outside it. Two women have bead necklaces and the two on the right wide bead collars. The jackets of the two women to the left are of imported material, but the central figure wears a *kalambi* of striped native cloth somewhat similar to Z. 2342, which is described briefly on p. 37. The tall girl, second from the right, is a Kayan who lives with an Iban family.

THE PRODUCTION OF CLOTH

The garments worn by the Iban, whether petticoats, coats, loin-cloths or shawls, as well as their blankets, are made either from bark-cloth or hand-woven cotton stuff; the latter material is usually of native manufacture.

BARK-CLOTH

The bark-cloth is the cheaper material, and garments made from it are therefore worn when working in the jungle and by those who cannot afford woven cloth. "The old blankets, curtains, waist-cloths, and coats of the Dyaks were made of bark-cloth" (*S.D.D.* p. 133).

There are several sources from which suitable material for making bark-cloth can be obtained: the *pedalai*, bread-fruit tree (*Artocarpus* sp.), and a tree of a similar type called *tekalong* provide bark which can be wrought into loin-cloths, strips of about 10 ft. in length being obtainable when the trees are mature (*Sarawak Gazette*, 1894, p. 146).

The Kayans use the inner bark of a tree which they call *tajam*, but is called *ipoh* by the Iban. According to the Catalogue of the Brooke Low Collection this appears to be identical with the *upas* tree of Java, *Antiaris toxicaria*. In the *S.D.D.* (p. 60) it is stated that "there is another species of tree called *ipoh*, a sort of bread-fruit, the bark of which is made into white blankets, *pua*". Hose and McDougall (1, p. 220) state that cloth "is made from the bark of trees of several species (principally the *Kumut*, the *ipoh*, and the wild fig)".

The process of making the bark-cloth is to peel off the bark in broad strips, soak it well in water and then hammer it out with a heavy wooden

mallet, which is grooved in deep cross cuts on its broad surface. This hammering breaks up the tissue of the bark and makes it more pliant but also accentuates any holes or rents, which are strengthened transversely by darning lines and patterns with thread made from the fibre of pineapple leaves or imported material (fig. 1).

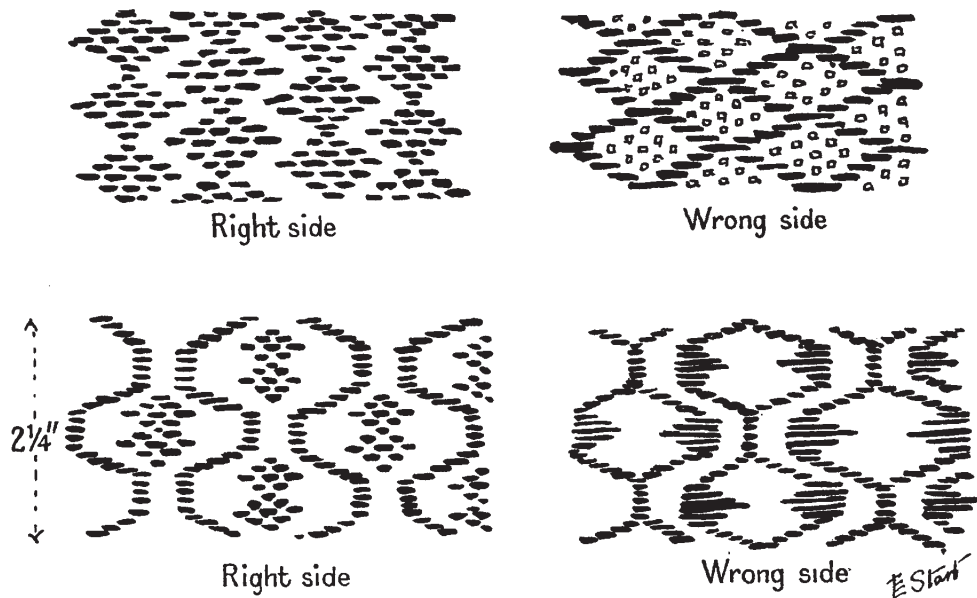


Fig. 1. Two patterns in transverse darning on a bark-cloth sleeveless jacket, open down the sides. British Museum (3425).

COTTON CLOTH

The cloths which are used for garments are usually of purely native manufacture and are entirely the work of the women, from the setting of the cotton seed to the making up of the garment when the cloth has been woven. The men make the wooden beams, battens, heddles and spools used in weaving, but otherwise take no part in the work.

In order to make our account more complete we incorporate information given by the Rev. W. Howell (1912, p. 61) which has not been recorded by other writers. He says that "separate farms or gardens (*empalai*) are set apart for growing cotton (*taya*)... After the cotton has been picked, taken

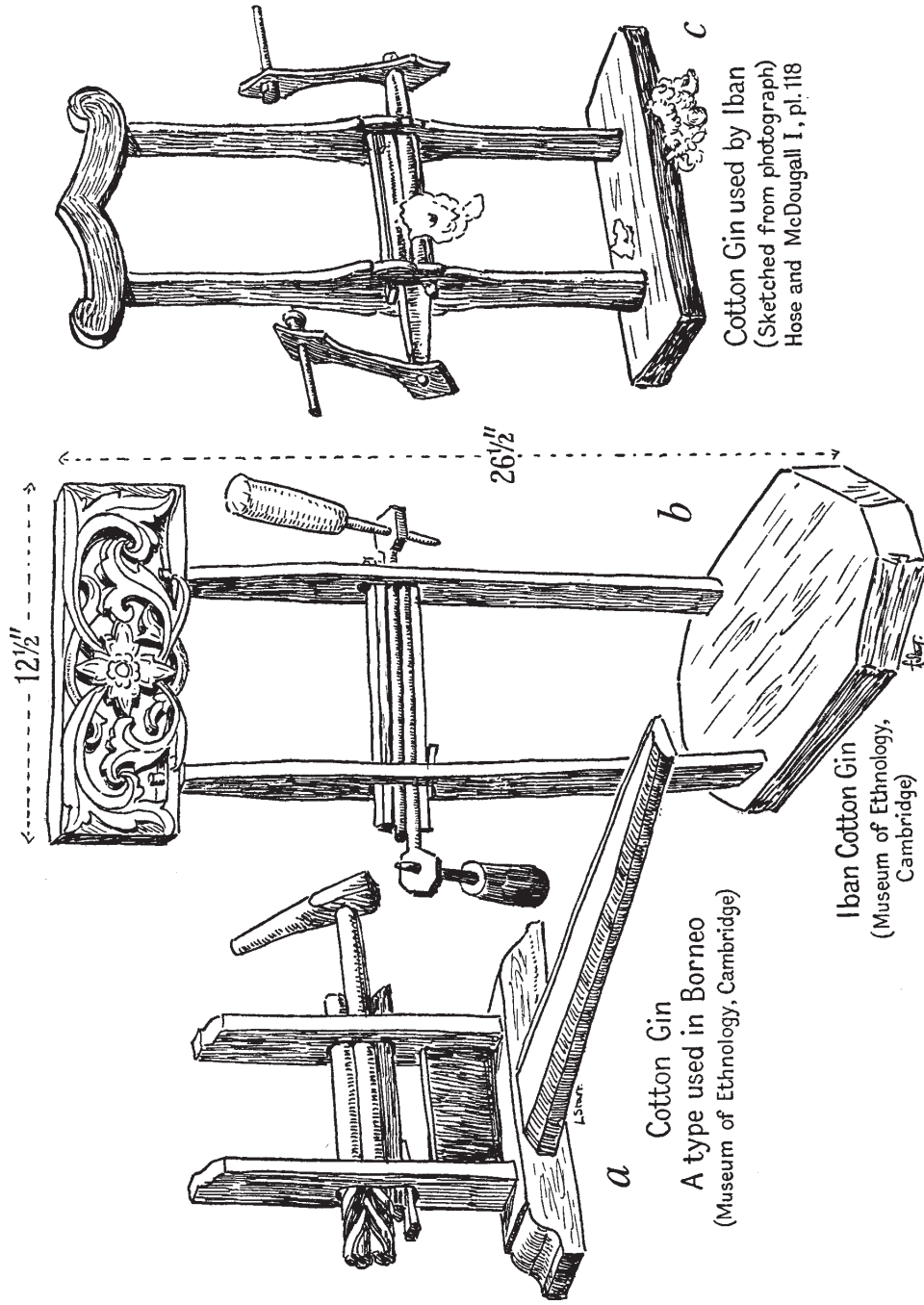


Fig. 2. Types of cotton gin, *pemigi*, used by the Iban: *a*, *Kilangan kabu-kabu* (Malay), Skeat collection, 336; *b*, Haddon collection, Z. 2352.

out of its skin and dried, it is passed through a cotton gin (*pemigi*) in order to get rid of its seeds'' and fragments of husk.

The gin consists of two small wooden rollers which revolve in opposite directions, each with a crank-like handle, fixed into the two upright supports of a frame (fig. 2). Extra strips of wood are generally fixed above and below

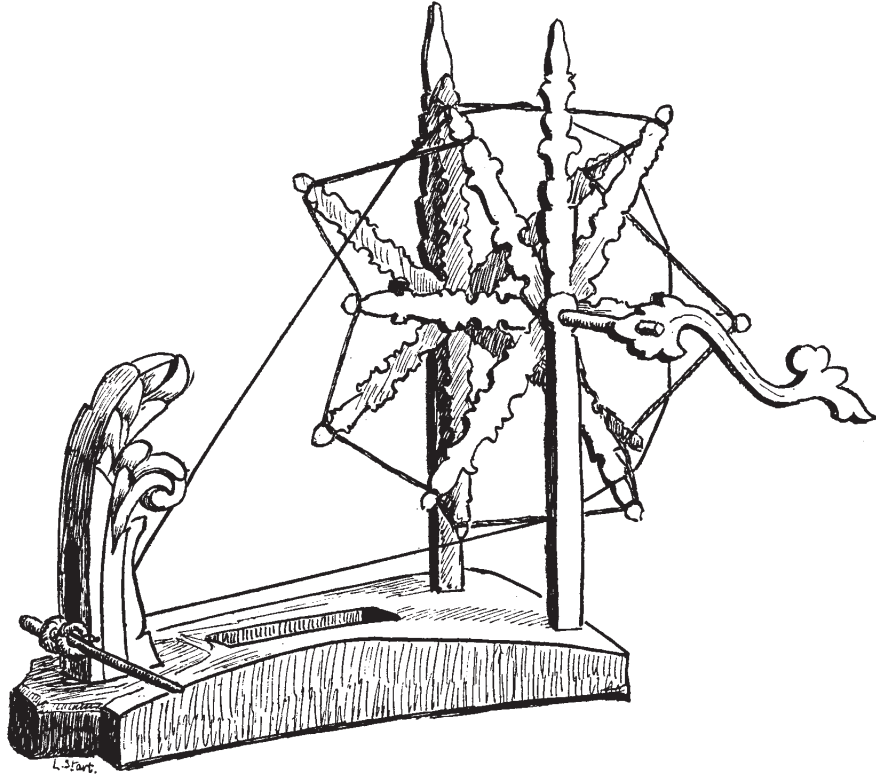


Fig. 3. An Iban spinning wheel, *gasing*. Museum of Ethnology, Cambridge, Haddon collection, Z. 2355.

the rollers to ensure sufficient pressure, and these are tightened by wedges. A similar form of gin is used throughout Indonesia and the Malay peninsula. The yarn is then spun from the mass of fibre.

The simple spinning wheel, *gasing*, is turned by the right hand, the fibre being twisted with the left hand (so Hose and McDougall say, 1, p. 221, but their pl. 119, owing to the method of reproduction, shows the reverse

action. Gomes (1911), pl. p. 128, gives the same photograph in the correct position). The wheel, which has a shaft passing through two uprights at one end of the stand, consists of two elements, each composed of three flat wooden spokes which cross at their centres and are so arranged that one set alternates with the other (fig. 3). A strong thread is carried across alternately from the ends of the spokes of one element to those on the other, forming a zigzag which is the periphery of the driving wheel. At the other end of the stand there is a support on which the spindle is mounted horizontally; in the one here illustrated it passes through two rings attached to the support and so can rotate freely. The two rings are placed on either side of a long vertical hole near the base of the support through which the endless belt of cord, which goes round the driving wheel, passes to the spindle. The rotation of the spindle supplies the necessary twist to the drawn-out fibre. The process is intermittent, since each length or stretch of yarn has to be wound on to the spindle before another length is spun. When the spindle is full the thread is wound off into a ball or on to a separate piece of wood (pl. xxiv, *a*, *b*).

A more elaborate method, similar to that used in Java, is described by Howell, who says that after ginning, the cotton is threshed out on a mat with a cotton-beater (*pemalu taya*), the women using both hands for the work; this is done only very early in the morning. The cotton is threshed to form a flat mass, *lapis*, averaging 2 to 3 ft. square and some 2 in. in thickness. In the evening the *lapis* is folded and placed on the thigh to be cut into very thin pieces, which are put into a basket. The following morning the pieces are put on a mat and are again threshed till the *lapis* are reduced to the thickness of a sheet of thick paper. Later the *lapis* is to be *diluli*, that is, to be rolled up into the thickness of a finger so as to be ready for spinning. A *luli* is a pointed stick from 6 in. to 1 ft. long and no thicker than a little finger. After the *lapis* is rolled round the *luli* twice or thrice, it is cut off and placed in a basket. The cotton thus rolled is also called *luli*. The *luli* are then attached to a spinning wheel (*gasing*) and spun into a thread one by one.

We hesitate to criticize any statement by the Rev. W. Howell, but he seems to be describing the Javanese method of preparing and spinning the cotton (cf. Loebèr, 1903, pl. 11, 3, 4, which show the thrashing and the *luli*,

but not the rolling, in Java). No other accounts or illustrations give any indication of the Iban employing this method. We have consulted a cotton spinner of great experience, who says that the continual thrashing of the cotton and the cutting up into *luli* would break and weaken the fibres, which would be detrimental to making a good thread in spinning and would not produce yarn of the quality used in the Iban cloths.

“When the shuttle-pin [this is an impossible term. The Iban use a spool and not a shuttle in weaving. Howell is referring to the spindle] (*mata gasing* or ‘eye of the spinning-wheel’) is full up the thread is stretched in the *koali* or cotton-stretcher. It is then taken out and dipped in rice gruel (*kanji*) for some little time—this is called the process of *nyikat*; after being well saturated it is taken out and stretched lengthways in the *ruai* [the verandah or long reception room of the house] by means of two bamboos. After this it is combed with a cocoanut husk in order to smooth it and to take off any rice grains that are sticking to it; it remains thus until quite dry, when it is rolled up into a ball or balls; this last process being called *nabu*. The thread is now ready for the further processes of dyeing and weaving” (Howell, p. 62).

According to Howell (but no one else records it), the thread is unrolled from the ball and “stretched in the loom to ascertain the length and breadth of the cloth to be woven; this process is called *mungga*. This being ascertained the thread is carefully taken out of the loom as it is, and fixed to the *tangga ubong* or ‘the ladder of the thread’”.

The tying frame, according to Hose and McDougall (I, p. 221), is usually about 6 ft. [183 cm.] long and 20 in. [5.08 cm.] wide. That in the British Museum (96.3.17) is 5 ft. 7 in. long and 9½ in. wide; it is figured by Loebèr, 1903, pl. III, fig. 4. Our specimen (pl. xxvi, A) has a total length of 8 ft. and is 1 ft. 4 in. wide; the cross bars for the longer warp threads are 4 ft. 7 in. apart, the others are 7 in. shorter. Cross bars are fixed to the frame the distance apart required for the length of the cloth to be woven and the yarn goes round them from end to end.

If the cloth is to be plain, the web is set up in the loom, but if a self-coloured cloth is required, such as the dark blue worn by widows, the yarn is dyed before it is set up in the loom; there are, however, cases where a patterned cloth has been re-dipped in a blue dye.

The following technique is employed for the production of the pattern-dyed cloths which have a rep or poplin weave, that is, the warps form the surface of the cloth.

The patterns are produced by a resist method, the parts of the web to be reserved from any dye being tied with a dried strip of a fibrous leaf known as *lamba*. This fibre is stripped from the underside of a broad-leaved plant with yellow flowers (*Curculigo latifolia*) which grows in great abundance on old cultivated fields near houses.

As the continuous warp is wrapped right round the cross bars there is an upper and a lower web; the threads from both are tied together and so a repeat of the pattern is obtained. A skein of the *lamba* fibre can be seen attached to one of the lower cross bars in pl. xxvi, A.

As will be evident from the elaborate designs shown in the *bidang* and *kalambi* cloths illustrated later, quite a small number of warps may be tied together, six or eight, and the distance tied up may be very short. The work is often highly skilled and the women usually work from memory without the aid of any pattern, although the Rev. A. Horsburgh (1858, p. 43) says "the Balau women sketch out the design on the extended web", see Gomes (1911, p. 52). A portion of the tied-up warp is shown in pl. xxvi, B.

When all the parts intended to be left undyed are tied up, the looped ends of the warp are also tied tightly, although already held securely by the numerous wrappings. The web is then immersed in the dye bath, which is most probably of a brown colour from *pinang* (*Areca catechu*) or of a richer red brown from the mangrove. After soaking in the dye for the required length of time, which may be a few hours or several days, according to the depth of colour needed, the web is stretched out to dry in a shady place. When dry the fibre is cut and stripped off and the design then appears in the natural colour of the cotton, on a dark-brown background.

Several dyeings sometimes take place so as to produce a number of shades and colours.

The yarns for the self-coloured stripes in the borders are dyed separately, and when all are dry the web is set up in the loom with these specially dyed yarns arranged to form warp stripes.

The following description of the technique of warp tie-dyeing is taken from Howell (1912): The first process of *kebat* [or *ikat*, "tying"] is to retain the

white colour of the future pattern. After this is done the *kebat* thread is taken out of the *tangga ubong* and dipped into *engkerbai* water for a night and then dried; this is a mixture made by boiling the leaves of the *engkerbai* shrub and mixing some *chunam* [lime] with it; this gives a reddish colour to the thread. After it is quite dry the thread is fixed again to the *tangga ubong* and *kebat* for the second time. This second *kebat* is to retain the reddish colour for the pattern, and is called *mampul*. The thread is again removed and dipped into *tarum*, indigo water, which is made from the indigo plant in the same way as the *engkerbai* water; this gives the exposed portions of the thread a black colour. After it is quite dry it is fixed for the last time to the *tangga ubong* to undergo *ngetas tampok lemba*, "the cutting off of the knots", that is, the cutting of the knots of *lemba*. This accomplished, the thread is carefully put into the loom for weaving.

The use of tie-dyeing by other peoples is mentioned on pp. 138-142.

WEAVING

The *tumpoh* or loom used for weaving is extremely simple, being the most primitive form in Indonesia (Ling Roth, 1918, p. 65). Its component parts are a warp beam, breast beam, heddle, shed stick, beater-in, a back strap, and two or four laze rods (fig. 4). As there is no rigid framework the warp beam can be set up wherever there are two convenient upright posts, usually on the *ruai*, the verandah or long reception room. The breast beam, being attached to a back strap that goes round the weaver's waist, lies almost in her lap and so by a slight movement of her body she can manipulate the tension on the web (fig. 4).

The warp is wrapped continuously round the warp and breast beams and the threads are prevented from becoming entangled by one or two pairs of laze rods, the odd threads or odd groups of threads being first lifted and one rod passed through, and then the evenly numbered threads are lifted and another rod is passed through the new shed. The ends of each pair of laze rods are usually tied together by a cord. Cane heading rods are also frequently used at the commencement of the weaving to keep the warps evenly stretched. There are generally a few rows of weaving between the two rods, if more than one is used. The raising of alternative warps, or groups of warps, is effected by a shed stick and the single heddle, to which one set of

warp threads is fastened by loops or leashes. The latter may be arranged spirally or alternately on the heddle (fig. 5); and more than one end is sometimes threaded through a leash. A sword-shaped beater-in (fig. 6, *e*) is generally used to press home each pick of weft, the latter being carried on a spool, which is often as long as the web is wide, so that it easily passes from hand to hand (fig. 6, *f*).

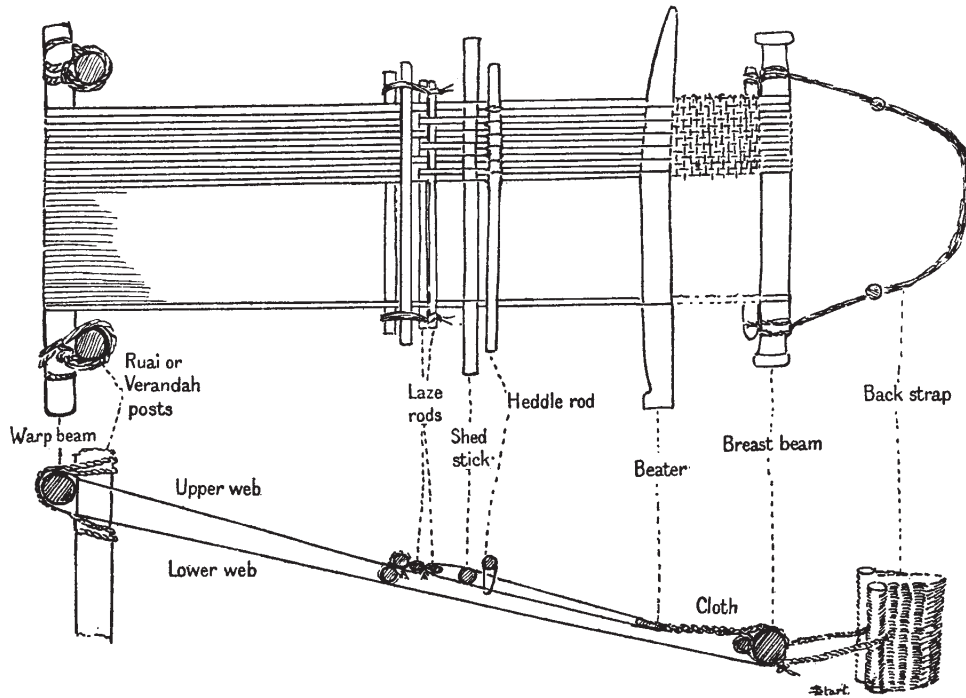


Fig. 4. Plan and elevation of a typical Iban loom, *tumpoh*.

Mr Ling Roth (1918, p. 68) indicates that loom pattern laze rods are sometimes used by the Iban, but the examples he describes seem to be for exceptional pieces of cloth which average less than 9 in. wide and vary from 30 in. to 24 in. in length. These are much narrower and shorter webs than any used for the clothing usually worn or than any of the cloths we have examined. In none of these, where the pattern has been produced by the method of warp dyeing just described, has there been any variation from a plain one up and one down like a "tabby weave", but, owing to the slackness

of the warp groups and the few picks of weft to the inch combined with the width of the weft threads, which are usually arranged in pairs side by side, the resulting cloth is a rep or poplin, that is, a warp-surfaced material, which has been produced by the use of one heddle and a shed stick.

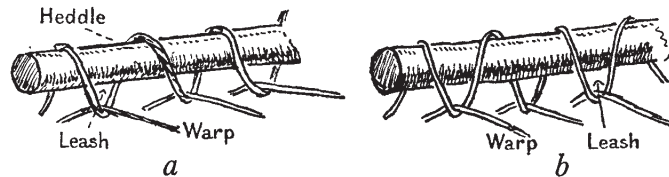


Fig. 5. Continuous heddle leashes: *a*, spiral; *b*, alternate. After Ling Roth, 1918, fig. 1 A.

Although Ling Roth has made a drawing (1918, p. 69) to explain how a pattern could be worked by means of laze rods, we do not know if the Iban ever use pattern laze rods. We are definitely of opinion that the pattern is produced by the *sunkit* method, see p. 88.

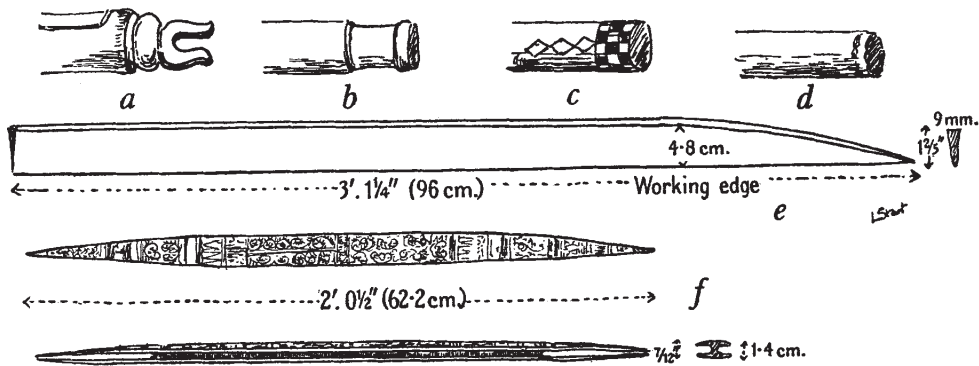


Fig. 6. Iban weaving implements: *a*, *b*, breast beam ends; *c*, *d*, warp beam ends; *e*, sword beater-in; *f*, spool. *a*, *f*, Museum of Ethnology, Cambridge (f. 25.551); *b*, *c*, Royal Scottish Museum, Edinburgh; *d*, *e*, Horniman Museum, London.

Sir James Brooke gave a *pua* to the British Museum (3430) woven with palm fibre; the patterns are those characteristic of ordinary *pua*, but are much less clear.

THE MAKING OF PATTERNS OTHER THAN WARP-DYED

In addition to the warp-dyed method patterns are produced on the finer cloths woven on the *tumpoh* or primitive loom of the Iban by

- (1) Pure embroidery.
- (2) The use of free spools to give an embroidered effect.
- (3) A form of tapestry weaving or weft-mosaic carried out with the needle.
- (4) Brocade weaving with free spools or needles.
- (5) Slight variations produced by manipulation of the weft.

When the Malay or *tenjak* loom is used with its series of heddles and treadles, more sophisticated and generally geometric patterns are produced, and Ling Roth mentions the use of pattern laze rods for the same purpose. These methods are refinements which are not typically Iban, and it is noticeable that the cloths woven by the Iban on the Malay loom are always inferior in quality to those woven on their own simpler type of loom.

Referring to the different possibilities of producing pattern it may be noted that (1) and (2) are chiefly used on *kalambi* and *sirat*, (3) and (4) are almost entirely confined to the working of badges and (5) occurs occasionally on *kalambi* and *sirat*, but more often as the heading to the *pua*.

Embroidery and the use of free spools

The raised patterns produced by embroidery can also be made by the use of free spools, used to pick up threads when needed and then allowed to hang from the web until required again; the weft passes across the back of the cloth from one motive to another.

This is a method used by the Malays and is much more difficult than embroidery, and as the Iban do not often use the *tenjak* for their weaving but prefer their more simple *tumpoh*, it seems reasonable to suppose that they would choose the easier method in working the raised type of pattern.

J. A. Loebèr, Jn. reproduces some examples with patterns of this type and describes them as having "flottante inslag"—floating weft—which might apply to either method, and in order to find out whether an example

has been actually embroidered or worked with free spools it is necessary to follow out a number of individual threads.

This has been done in all cases when the work has been described as embroidered, and it has been found that although working threads generally end at the lowest point other threads have been worked downwards in a vertical and oblique direction first and then upwards again in an oblique line, a method only possible if a needle has been used. One motive from cloth 35.906 (fig. 19) has been enlarged to show the actual stitches (fig. 7).

The ends of all threads are cut off very closely to the cloth and may be either on the right or wrong side, and as the work is extraordinarily well stitched it is sometimes extremely difficult to find where any pattern begins and ends. Both back and front of the work appear alike, although the slanting stitches which carry the thread below the next row of weft usually appear on the wrong side. This form of good workmanship, namely the reversible quality of the pattern, is characteristic of the finer work amongst more civilized Eastern peoples, such as the Chinese and Japanese.

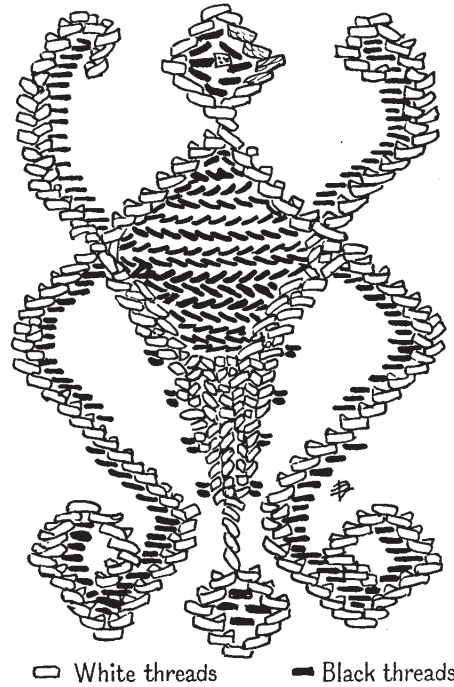


Fig. 7. Bird motive, *burong kaki panjang*, "bird with long legs", on an embroidered coat, showing the direction of the stitches, 35.906. See also bottom row of fig. 23, B.

The tapestry method or weft-mosaic.

This method of forming patterns on a bare warp with a needle is of widespread occurrence; it is found in old Peruvian work and was used in Egypt at least 1500 years B.C. (L. E. Start, 1914, pp. 14, 15). The needle carrying any particular colour darns that thread backwards and forwards over any special series of warps until the little design is completed.

Thus the black thread at the top right-hand corner of fig. 8 wraps the third bundle of warps four times, then passes under the second and back over the top of it, under the third and over the fourth bundle. It turns back under 4, goes over 3 and under 2, turning back over the top of it to repeat the previous row. In this manner, which is like darning, the black triangle is completed. As each little bit of the pattern is worked separately it forms a kind of weft-mosaic, and as long as the bulk of the work follows an oblique

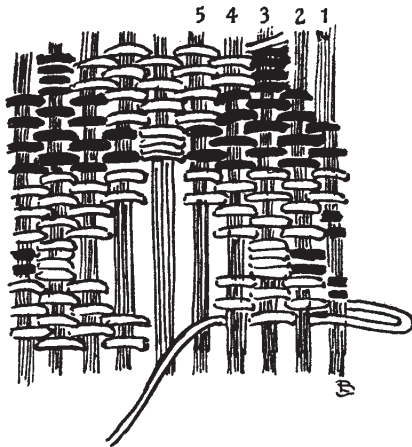


Fig. 8. Tapestry method of needle-weaving or weft-mosaic. Part of the central flower in the badge of 35.903.

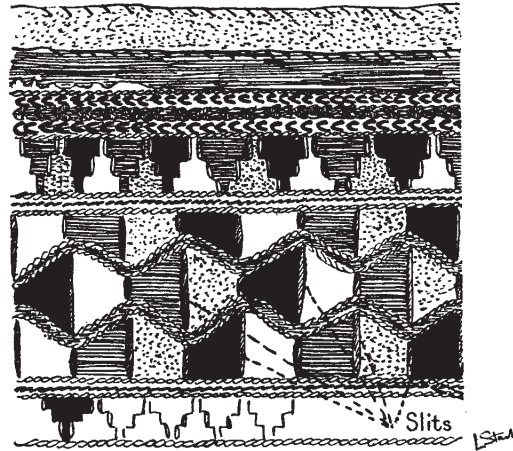


Fig. 9. Needle-woven pattern showing slits. The badge of *kalambi* 35.910.

outline it is firm, but if long vertical lines occur a gap appears in the work, just as it does in actual tapestry weaving, and this has to be sewn up at the back (fig. 9). This method is described variously as the tapestry method, needle-weaving, and weft-mosaic; the diagram (fig. 8) is a part of the central flower in the badge at the back of cloth 35.903. The unfilled lozenge in the centre would be filled in with red in the same way after the black and white triangles around were completed, or the process could be carried out in the reverse order and the central lozenge be worked first.

The brocade method

This name has been used because the effect produced is like that of brocade or patterned damask weaving, the pattern being the result of an unbroken surface of weft threads filling the desired shape and passing behind the web between the patterns or else carrying on between them as tabby weaving.

Gold and silver threads are usually used as weft by the Iban when they adopt this method of working a badge at the back of a coat, and the weaving is done whilst the warp is stretched in the loom.

A small spool is used to pick up those warps where the gold is not required to show and passes over the top of any number where pattern is wanted on the surface. Gold thread will not stand much handling because of the possibility of stripping the thin metal from its core of silk or cotton, and as each row is picked up individually there is no great strain on the weft, but the resulting cloth is of a very loose texture.

The simple pattern of lines and lozenges illustrated (fig. 24) in the section on *kalambi* has been carried out in this way. There does not seem any evidence that special weaving contrivances, such as pattern laze rods, have been used for these brocade patterns, and the process, in any case, is much quicker than that of the tapestry method.

Weft manipulation to form pattern

One of the most effective and commonest variations produced by means of the spool is that of "twining", which frequently occurs at or near the beginning of a blanket cloth and is also used as decorative lines in the badges (figs. 10, *a*, *b*, 15).

Two spools are used at the same time and the warps are usually bunched. In fig. 10, *a*, where a white and a black thread are shown, it is quite easy to follow the working. Beginning with the white spool, it goes over, whilst the black goes under the same bunch of warps, and before proceeding to the next bunch the spool threads are crossed, then the black goes over and the white under the next bunch of warps before the spool threads are crossed again. In this way a line of alternate black and white stitches having a rope-like or twisted effect is produced, and if two such lines are worked in opposite directions the effect is that of a black and white plait (fig. 10, *b*).

Another way in which a different colour effect is produced is by means of weft stripes, and one example is enlarged in fig. 10, *c*, where the warp ends are first grouped into fives by means of a row of twining and then a shed is made of three and two warp ends alternately, through which there are first two picks of black and then two of red. A single pick of the ordinary weft then takes up the two groups and goes over, under, over the ends in the three groups right across the cloth, and this is followed by two picks of black through a shed similar to the first.

In the *kalambi*, *sirat* and girdles occasional weft stripes occur which may be either worked with a needle or woven by a spool; the needle would be the easier, as no new shed would have to be made.

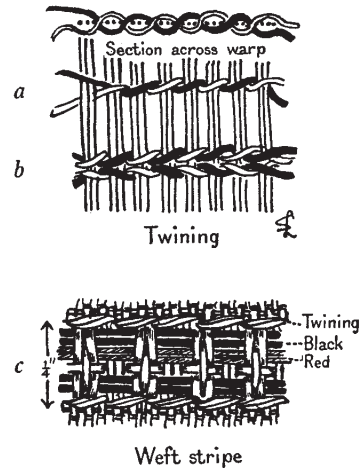


Fig. 10. Weft patterns.

Weft-patterned cloths

The Iban occasionally make use of a Malay loom or *tenjak*, and by means of a series of heddles and treadles set up in a suitable framework produce weft-patterned cloths, but these are rare and are not represented in our collection. When this type of loom is used the pattern itself loses its naïve quality and becomes a regular all-over design based on geometrical forms.

The patterns generally produced by this method are much more akin to Malay and Chinese designs than any produced by the warp-dyed method.

Iban methods of spinning and weaving fabrics, the apparatus employed and some finished cloths are given by the following: Ling Roth, 1896, 1, pp. 29–54, with numerous illustrations; 1918, pp. 65–70, with illustrations. Other Indonesian looms are described.

J. A. Loebèr, Jn., 1903, pl. III, 4, *tangga ubong*, Sarawak (British Museum, no. 1896.3.17), pl. IV, weaving, Saribas Dayak (copied from Beccari, 1904, fig. 13), pl. XIII, 1, “Geikatte schering”, pl. XIV, an Iban *pua*, pl. XIV, 1, an Iban *pua* (British Museum, 96.7); other Indonesian methods and fabrics

are illustrated. Gomes, 1911, pls. pp. 52, 128. Hose and McDougall, 1912, 1, pp. 221, 223, drawing of a *bidang*, fig. 61, photographs of *pua*, pls. 131, 132; owing to the process employed in reproduction the positions of the women are reversed in plates 118-121, thus the right hand appears to be the left hand. In Hose, 1926, they are shown correctly in the pl. facing p. 182; photograph of part of a *pua* and of a *bidang*, pl. p. 183.

DYES

The range of colour used by the Iban in dyeing their cotton yarn and tied-up webs is limited; shades of brown, from a pale buff to a vandyke, most frequently form the backgrounds to the patterns; the most effective is a reddish brown; brown is also the usual colour of the yarn used as weft.

For the brightly coloured stripes, generally found near the selvages of the cloths, yarns dyed red, yellow, black, pale blue, or green are used, and sometimes an unusual effect has been produced by dipping a cloth which already has such stripes in an indigo bath.

All the dyes used in the cloths described are vegetable in origin and either act by oxidization or in conjunction with some simple alkali, such as wood ash or alum. Hose and McDougall (1, p. 222) say: "lime and gypsum are sometimes mixed with the watery extracts as mordants but these are probably modern refinements"; but Perkins and Everest (1918, p. 463) state that "at an early date in India and the Far East such other mordants as naturally occurring sulphates of aluminium and iron were used".

The rich reddish brown so successfully exploited by the Iban is obtained from the bark of the mangrove or of the *samak* tree and is a favourite colour with the Saribas women, who make the best fabric. A dark purple is obtained from the leaves of the *tarum* (indigo) plant. Many shades of duller brown are obtained from the *pinang*, *Areca catechu*, which may also be used as a mordant for other dyes. The catechu is dissolved in boiling water, the yarn is immersed in the hot bath of liquid from a half to a full hour for light shades of brown and steeped overnight for dark shades. The colour is developed with the liquor obtained from wood ash.

Yellow is obtained from turmeric and wood of the Jack-tree (*Artocarpus integrifolia*), known to the Iban as *pedalai*. This wood is rasped and used in

conjunction with an alkali. The Javanese use this wood together with alum in dyeing their *batik* patterns. An aqueous solution of the wood if heated with an alkali gives a beautiful blue.

Blue is usually obtained from the leaves of various species of *Indigofera*, which are soaked in water for 12 hours. During this time bacterial fermentation takes place and begins to form a yellow liquid which is run off. This is areated by agitation; it first turns green and then blue.

If the leaves of the *Indigofera tinctoria* are used the presence of an alkali is necessary in the water, as the glucoside which is contained in them splits up into indigo and sugar, and without the alkali the indigo is insoluble in the water. Under the right conditions it becomes indigo white, which oxidises on exposure to air into indigo blue.

Ling Roth (11, footnote p. 37) quotes von Donop's reference to a small shrub called *home*, the leaves of which resemble *Cinchona succirubra* and are sometimes used in place of indigo; the leaves are boiled and the cloth immersed in the liquor.

The scarlet yarn used in the self-colour stripes is generally procured from the Malays, but a brilliant red is also obtainable from the ratan *jernang*. The dye is made from the scales which cover unripe fruit of this species of ratan (" *Calamus didymophyllus*, or, perhaps, *Damonorops draco*, called Dragon's blood", *S.D.D.*).

Green is obtained by over-dyeing a yellow with light blue, either indigo or that obtained from an alkaline aqueous solution of jack-wood (*Artocarpus integrifolia*). In the latter case both colours, the yellow and the blue, might have the same source.

A black dye can be made from the large juicy leaves of a Melastomacea (*Medinillopsis Beccariana*). Beccari (1904, p. 277) says that the Tubao Kayans use the juice of these leaves to blacken their teeth.

The effect of black can also be secured by over-dyeing indigo on a red-brown. The latter method appears to be the one most frequently adopted by the makers of the cloths in the collection.

The *S.D.D.* gives *ladu*, mud found in down-river streams and used as a black dye for petticoats.

When any yarn has been dyed it is spread out in some shady place to dry.

The Iban usually dye the background colour first, whether it be a light or reddish brown, reserving the pattern so that it appears light or white; darker spots and other colours are the result of a second dyeing.

W. Howell (1912) says that *kain chelum*, black cloth, is obtained by dipping the cloth into *engkerbai* water for a night; after washing and drying it is soaked in *tarum* water (indigo). *Kain mata* or *ubong mata*, the unripe cloth or unripe thread, is the undyed material.

The thread of *kain engkudu*, "the red cloth", is called *ubong embun* because it has to be exposed to the dew, *embun* (*ambun*), for so many nights, the exact length of time depending on the woman who conducts the operation. The dyeing of the *kain* or *pua mansau*, *engkudu* or *embun* is done in the following way: "After being first dipped in saffron water, *kunyit* [turmeric], it is subjected to the following concoction: (i) *kapayang* oil, made from *kapayang* (*Pangium edule*) seeds burnt and pounded in salt, and for proper preservation there should be plenty of salt; (ii) *klemintin* fruit; (iii) *klampai* fruit; (iv) *engkringan* fruit; and (v) ginger, all burnt and pounded in the same way. These are carefully measured out with a cocoanut shell in the correct proportions, and are then put into a wooden trough containing cold water. After this concoction has been well stirred and mixed the thread is dipped into it for twenty-four hours, during which time great care is taken to see that it is well saturated. It is then taken out and stretched on a mat for twelve hours and afterwards put out on the outside platform (*tanjeu*) for sixteen days, so that the sun and dew may complete the process. It should be noted that although dew is apparently regarded as a necessity, great care is taken to prevent the newly-dyed thread from getting wet from rain, and on the slightest suggestion of a shower, either by day or night, the thread is taken into the house. After eight days on the *tanjeu*, the thread is turned, so that the other side may receive similar treatment for the remaining eight days. The dyed thread is now washed, dried, dipped in rice gruel, combed and rolled into balls ready for weaving."

"The mixing of this particular dye is supposed to be very difficult and perhaps only one in fifty knows much about it. The woman who becomes the recognized authority on this subject takes the name of 'Orang tau nakar tau ngar', which means 'She who knows the secret of measuring out the drugs in order to obtain the rich colour', and for this work she is well paid, the

usual fee being a small jar (*tepayan*), a sacred stone (*plaga*), a small bell (*grunong*), and a brass ring (*chinchin tembaga*). Some of the 'professors' affirm that they learnt the art from the fairy goddesses such as Kumang, Indai, Abang, etc. With some Sea-Dayak tribes they even go so far as to make offerings to these goddesses, asking their help in the difficult work of dyeing the cotton red (*ngar*, or *nakar ubong*). The woman who undertakes this particular kind of dyeing, first of all gets a piece of steel which she bites in order to strengthen her soul. This steel is called *kris samengat*. They make a great deal of fuss over the work of laying out the thread on the platform (*tanjeu*) and the business of it is called the *kayau indu*, or 'warpath of the women'."

"The Sea-Dayak bachelor in order to win the affections of a maiden must needs get a head first, similarly the Sea-Dayak maiden to win the affection of a bachelor must needs be accomplished in the arts of weaving and dyeing."

In the following pages we describe the specimens in the Cambridge Museum in the order of *kalambi*, *bidang*, *sirat*, *bedong*, *dangdong* and *pua*.

KALAMBI, JACKETS

The *kalambi* or jacket is a garment worn by both men and women; the former, however, only use it on full-dress occasions, when a *dangdong* or shawl is also thrown over the shoulder. The women do not usually wear a jacket when in the house, the *bidang*, or petticoat, and *rawai*, or corset of brass rings threaded on ratan circles, alone being worn; they don the jacket for out-door pursuits or for special occasions.

The men's and women's jackets are alike in material and shape except that the women's is usually a little longer. The jackets are made of bark-cloth or woven fabric; the latter type only is here described.

The method of weaving is exactly the same as for the *bidang*, and similar coloured stripes are introduced at the edges of the cloths, which average just under 20 in. (50·8 cm.) in width. It takes a whole length of cloth for a jacket with sleeves. If the garment is to be decorated with a badge at the back, this is worked on the warp threads before the cloth is removed from the loom (pl. xxvii).

Two methods are used in the production of these badges, either a form of needle-weaving or weft-mosaic, or the brocade method. Both have been described under the heading "The making of patterns other than warp-dyed" (pp. 15, 17).

Pure embroidery is used as a means of producing pattern on some of the woven cloth jackets in addition to the badges. The elaborate designs frequently worked on bark-cloth jackets serve, however, not only for decoration but also as a strengthening device, as the stitching is mostly done in a horizontal direction in order to make the longitudinal fibres firmer (fig. 1).

According to Mr Leggatt (Notes) "the dresses of the Sarebas are the best embroidered as they are the cleverest in all needlework".

Further ornamentation is also provided by the use of fabrics of foreign manufacture; English red and yellow flannel, Chinese printed cotton and silks, are used as narrow edgings to the badges and for making neat the cut edges at the front of the coat and the neck. Gold thread obtained from the Chinese and Malays is sometimes introduced in the working of the badge and also to a very slight extent in the pure embroidery; Brooke Low (Catalogue) says that "the *kalambi subang* manufactured by the Sarebas is of a finer and closer texture than any other and therefore more expensive. The thread of which it is wrought is procured from the Malays and is of a red colour".

Fringes of beads or hawk-bells occur on some of the finer examples and a short twisted fringe of warp ends is left on others, whilst small tassels of coloured threads are occasionally used to make a neat finish to a side seam (fig. 18, a).

Most of the *kalambi* are, however, made of cloth with a warp-dyed pattern, and those decorated with good omen birds are greatly prized and are worn on such important occasions as the beginning of house-building, and the first planting of paddy, whilst others with sacred birds have value as a cure for sickness. It is probable that these special uses of *kalambi* for ceremonial purposes have led to their more elaborate treatment.

The Sakarang wear jackets without sleeves and some tribes have a striped cloth, that is, there are narrow warp-dyed stripes alternating with plain colour stripes across the whole width; see cloths Z. 2341, Z. 2342.

No. of cloth	Width	No. of warp ends to inch	Analysis of weaving in <i>kalambi</i>			Notes
			Description of warp	No. of weft picks to inch	Description of weft	
35-903	1 ft. 7½ in. (50.1 cm.)	88-132 ends (44 groups) 132-176 ends (44 groups)	Paired and threes in pattern stripes. Fours and threes in self-coloured stripes	20-22	Brown Three parallel threads	Pattern stripes have had three dyes: light brown, deep red brown, indigo on red brown (vandyke)
35-904	1 ft. 7¼ in. (48.8 cm.)	204 ends (68 groups)	Triple warps throughout Very fine yarn	26-30	Two spools used alternately and threads cross at edge of cloth. Three, occasionally four, parallel threads of finely spun yarn; red in colour	One of the most finely woven cloths in the collection. The warp and weft are both red except in the border stripes, when yellow and dark blue warps are used. The patterns are embroidered with a double thread of white or three threads of black
35-905	1 ft. 7¼ in. (48.8 cm.)	112 ends (56 groups)	Paired, odd groups of threes in coloured stripes	22	Three parallel threads. Greyish white	Colour dull, a greyish white pattern on dull vandyke ground. The cloth is striped right across its width, pattern stripes being divided by groups of red, white and brown stripes
35-906	1 ft. 5½ in. (44.4 cm.)	272 ends (68 groups)	Four parallel ends in each group	22	Red. Four, six or eight threads with a slight twist which appears as parallel in the shed	A finely woven red cloth with solid white, black and yellow stripes at the sides. The patterns are embroidered in dark blue and white with a twisted or doubled thread for the white and a fourfold untwisted thread for the blue stitches
35-907	1 ft. 7¼ in. (49.5 cm.)	112 ends (56 groups) 192 ends (64 groups)	Paired in the pattern stripes Threes in self-colour stripes	20	Brown. Three parallel threads	Pattern stripes of white with brown ground alternate with composite stripes of black, white, red and yellow, and extend right across the width of the cloth. Faded

The cloth woven for jackets is nearly always firmer to feel and finer in texture than that made for the *bidang*. This is mostly due to the fact that the finer warps are used and the number may vary from about 100 ends an inch in a cloth of moderate quality to 272 in a finely woven one, and the ends

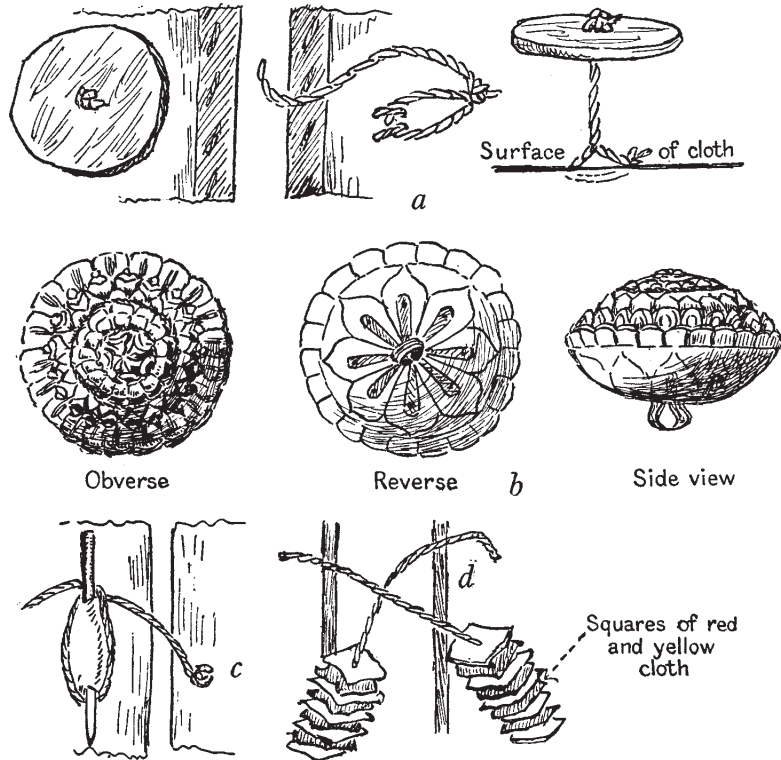


Fig. 11. Methods of fastening *kalambi*: *a*, wooden button and string, 35.911; *b*, silver-gilt button of local workmanship, 35.910; *c*, thorn and string, Sakaran Iban (Ling Roth, II, p. 32); *d*, two strings with ornated ends, British Museum (No. +7010).

are usually paired or sister warps. Just as in the *bidang* cloths, where solid colour stripes appear it is usual to find more ends to the inch than in the main body of the cloth.

The weft is often threefold, occasionally four, and the strands are wound tape-wise on the spool. (The Javanese use a similar method of making a wide weft, as can be seen in the spool thread in a Javanese loom belonging to the Manchester College of Technology.) An average number of picks to the

inch is 22. The colour of the weft is often red and sometimes a dull white, instead of the almost universal brown used in the other cloths.

In addition to the native yarns, some doubled white yarns, either imported or mechanically spun, are used, especially for embroidery and badges. The gold and silver thread used in the latter, and less frequently as an embroidery thread, is obtained from the Malays or Chinese.

The method of cutting out and making up a *kalambi* with sleeves is given in detail for cloth 35.903. All jackets are made up in the same way, except that there may be a variation in the amount of slope cut away for the sleeve.

In making up, a lacing stitch or some type of open stitch is usually used for the sides (fig. 12, *d*), but a counter hem is the method adopted for joining the sleeve seams, which are always left open for an inch or two under the armpit.

The fastening of the coat may be a piece of fine twine attached to one side and wrapped round a thorn stuck through the cloth on the other edge (fig. 11, *c*), or it may be a button, varying from a beautifully worked silver-gilt one of native manufacture (fig. 11, *b*) to an European shirt button or a crudely shaped piece of wood (fig. 11, *a*).

Occasionally ties are made on either side of a coat consisting of twine. The ends of the ties may have a number of small squares of red and yellow flannel threaded on them (fig. 11, *d*).

The *kalambi* are described in the following order:

35.903	35.909	Z.2342	35.901
35.907	35.902	Z.2341	35.911
35.905	35.919	35.904	
35.910	35.908	35.906	

THE IBAN JACKET

35.903. A Saribas jacket. This cloth is a fine specimen of a *kalambi burong*, "bird coat", with a badge worked in at the bottom of the back in the tapestry method, i.e. needle-woven upon the stretched warp.

Length of cloth before folding or sleeves cut from it about 6 ft. (182.9 cm.); width varies from 19½ in. (49.5 cm.) to 20 in. (50.8 cm.).

The manner in which the coat has been cut from the length of cloth is best seen in fig. 12, *a*, which shows how the front width is divided for the

opening and a V-shaped piece cut for the neck, the piece of cloth thus cut being turned down to form a double thickness at the back of the neck, which

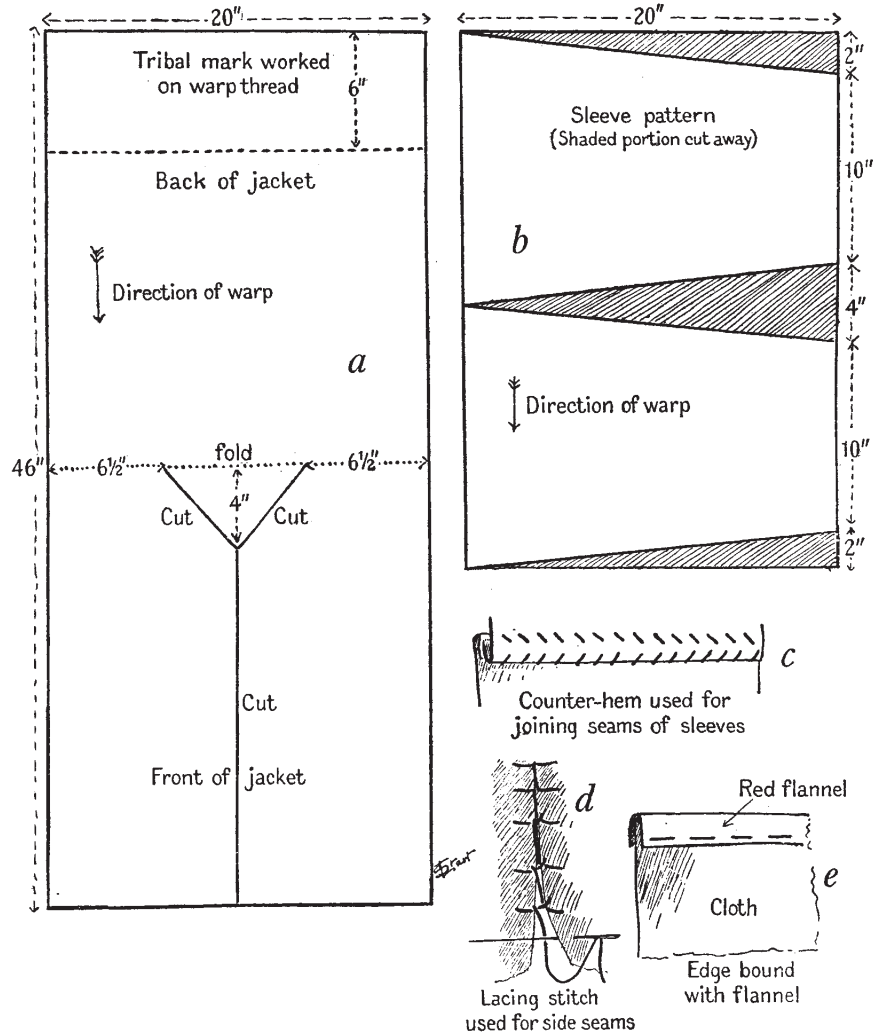


Fig. 12. Cutting out and making up a kalambi.

is then hemmed in place. The sleeves are shaped by having a portion cut away from each side so as to make the wrist 4 in. narrower than the part joining the body of the jacket at the shoulder (fig. 12, *b*), and the two raw

edges thus produced are joined by a coarsely sewn counter hem, i.e. each edge is turned under once and the raw edges, being placed upon one another, the folds on either side of the garment are felled or hemmed down (fig. 12, *c*). Openings are left under the armpit both in the sleeve seams and the side seams of the jacket, which are joined by a lacing stitch worked from side to side with a cord-like thread made from pineapple fibre (fig. 12, *d*). The sleeves are seamed on with the same material and all the remaining raw edges of the garment are bound with narrow strips of imported scarlet flannel, secured by a coarse tacking stitch (fig. 12, *e*) or in some parts by a hemming stitch.

The material used in making the garment is an excellent example of warp-pattern dyeing. Groups of coloured warp stripes (fig. 13, *a*) in red, yellow, black, white, red, white, black, yellow, red, amounting in all to a compound stripe $9\frac{1}{16}$ in. (23 cm.) wide, separate the patterned stripes (fig. 13, *b*). The latter vary in width, being alternately $\frac{5}{16}$ in. (8 mm.) and $1\frac{1}{16}$ in. (2.6 cm.); there are 88 to 132 warp ends to the inch, grouped in twos and threes, and 20 to 22 picks of weft, each of which consists of three parallel threads.

In the coloured warp stripes which

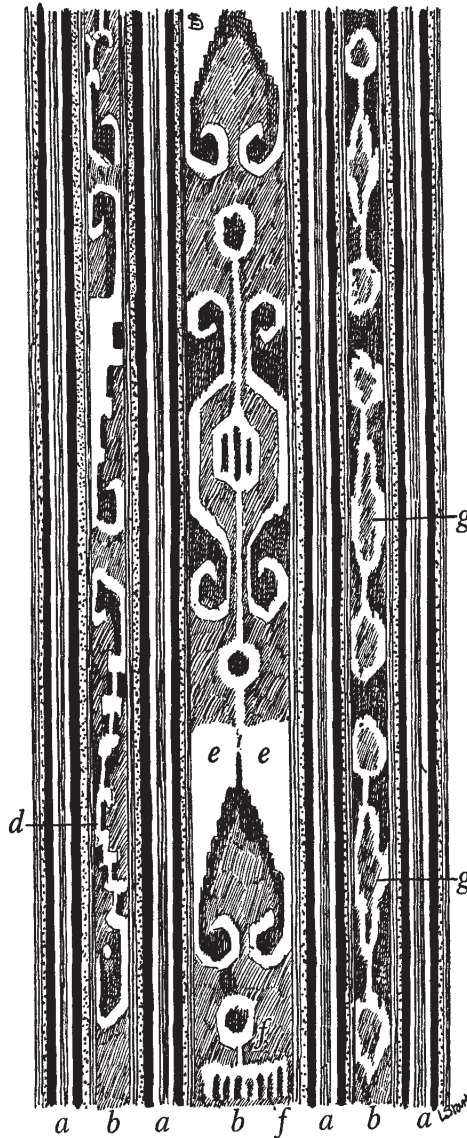


Fig. 13. Pattern repeat on back and sleeves of *kalambi* 35.903: *a*, solid colour stripes; *b*, pattern stripes; *d*, *daun wi*, "leaf of ratan" (see pl. xxii, *m*); *e*, *sayap burung lelayang*, "wing of swift, *Collocalia fuciphaga*"; *f*, *sugu*, "a comb"; *g*, *lachau*, "the green grass lizard".

give a solid colour effect the cloth is of a still closer texture, because the warps are grouped mainly in fours instead of threes and there are as many as 176 ends to the inch; this greater closeness of texture enhances the colour effect.

The patterned stripes have white motives (undyed yarn) on a reddish brown background, the dye being obtained by the Saribas women from mangrove bark; parts of the designs are emphasized by deep sepia brown obtained by a second dyeing of indigo over the red-brown.

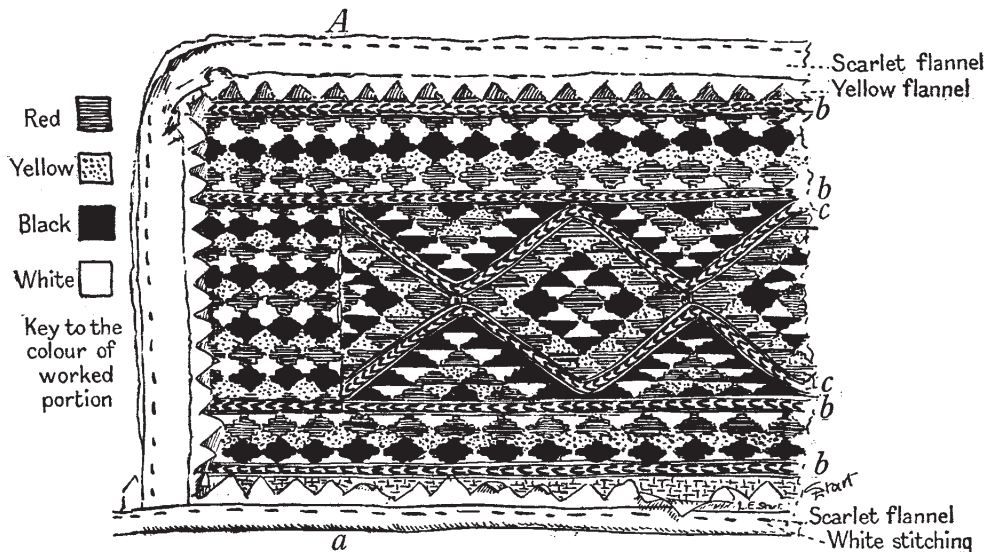


Fig. 14. Badge at the bottom of the back of *kalambi* 35.903, worked in the tapestry manner on the bare warp.

A portion of the repeat on the back and sleeves is shown in fig. 13, which represents: *d*, *daun wi*, "a ratan leaf" (pl. xxii, *m*); *e*, *sayap burung lelayang*, "the wing of a swallow or swift"; *f*, *sugu*, "a comb" (pl. xxiv, *g*); and *g*, *lachau*, "a green grass lizard" (pl. xii, *f*). At the bottom of the front of the coat is *burong buah bangkit*, "bird with the *bangkit* fruit" (pl. viii, *a*).

Stripes of various colours are termed *ara* and these particular ones are labelled *ara ular kendawang*; *kendawang* is "a snake, *Cylindrophis rufus*, with a red head and a red tip to its tail, body striped black, white and red. It is said by the natives to be poisonous" (*S.D.D.*). Two broader stripes are

labelled *ara belambang*. *Ara* also signifies "spread out", which is probably its meaning in this case; *belambang* means "irregularly", which adequately describes these two stripes, as some of the colours are broader than others.

The interesting badge (fig. 14) at the back of the jacket has been produced by needle-weaving and has been worked in upon the bare warp while that was still on the loom. The colours used, red, white, yellow and black, are indicated in the figure, which shows one-half of the badge.

The warp threads are grouped into bundles of about fifteen by the first two rows worked. The long parallel horizontal and curved lines of the design

at *b* and *c* (fig. 14) are worked first, the effect of slanting stitches and an alternating black and white plait being obtained as shown in fig. 15 where the black thread shows the first row of stitches and the white the returning row. It will be noted that the threads cross one another alternately with the warp secured between them, as in twining, so that the wrong side is just the reverse in colour to the right. Four rows of stitches would be necessary to produce the effect

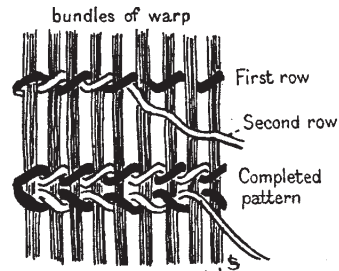


Fig. 15. Plaited or twined lines in badge, 35.903.

of the plait in the figure, or two needles might be kept working alternately and the result produced by two rows of work. After the completion of these long lines the intervening spaces are filled in with lozenges and triangles in red, yellow, white and black, each motive being completed before the next is begun. The stitch used is like darning; an enlarged detail is shown in fig. 8.

As will be seen from fig. 14, the pattern is one which, consisting chiefly of slanting lines, does not exhibit the usual weakness of the tapestry or needle-weaving method, i.e. gaps such as are produced when vertical lines are worked, except at the ends where variation of the central design has caused a long open slit *A-a*. This has been joined afterwards by string, the lacing stitch used for the side seams being the method adopted. The whole badge is surrounded by a vandyked border of yellow woollen material, *keselat lilit* ("lilit, gold embroidery on the edge of a handkerchief", *S.D.D.*), edged with scarlet flannel, secured by coarse white

running stitches. The yellow and scarlet flannels are foreign and probably of British origin.

The central pattern of the badge (fig. 14) is labelled *pantak lelambak*, "wasp and flower pattern" (pl. xvii, f); it is enclosed within two zigzags called *lelingkok kelalin lantai*, zigzag interlaced bamboo. The black and white border within the triangles caused by the zigzag are labelled *dabong betangkal*, serrated notch (pl. xxiv, l). The upper border is labelled *lalat tisik tengiling* (which appears to signify a fly scraped off the scales of a *Manis javanicus*) and the lower border, *dabong telik leka labu*, serrated seed of gourd, *Cucurbita lagenaria*; perhaps the hour-glass-like red and black lozenges represent a constricted gourd, but *leka* signifies seed, grain.

A *kalambi burong* is considered one of the best kinds of jackets to possess, as many of the patterns symbolize ritual birds, possessing some special protective virtue.

The Iban are great observers of omens, always consulting them before beginning any important undertaking. The bird omens are the most numerous and important; the omen birds are supposed to be the sons-in-law of Singalang Burong and come from the spirit world as his messengers.

35.907 A *kalambi burong*. A striped cloth jacket similar in construction to the bird coat previously described has an analogous badge at the back, but the dyed designs and details of decoration are different; they consist mainly of birds.

The warp is grouped in threes in the solid colour stripes and in pairs in the patterned ones and averages 148 ends to the inch. The weft is brown and three threads are carried across each pick, tape-wise or parallel, having been previously wound on the spool in that manner.

The coat is bound round the edge with red flannel as in the previous cloth, but it and the badge at the back have also a bordering of a narrow white braid of European make which is usually used in Europe as a foundation for crochet work. Probably the chief value of the braid lies in its zigzag pattern, which was produced in the previous coat by snipping pieces out of the edge of the woollen material; further ornamentation has been added to the braid in the shape of a little looped stitch or picot (fig. 16, b), worked either in green or indigo.

A charming addition to the red border at the back is a hand-made braid

with a gold weft and a small scalloped edge. The braid is composed of purple, yellow and white warps brightened by the faint glisten here and there of the weft. In weaving the braid, three spools, each carrying two gold threads, appear to have been used in rotation, the thread being interlaced at the edge (much in the same way as baskets are often finished) and forming tiny

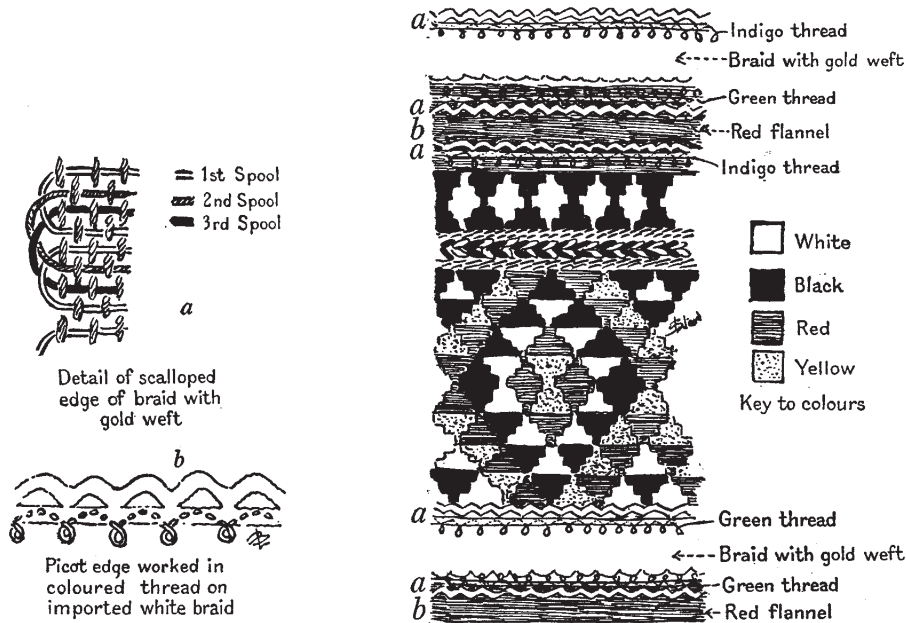


Fig. 16. Details of badge braids of *kalambi*, 35.907.

Fig. 17. One repeat of the pattern worked on a badge of a *kalambi*, 35.907, by the tapestry method, with added borders.

scallops. The method of interlacing is drawn in fig. 16, *a*. The native name for the braid, *lilit*, signifies "gold embroidery" or "to warp or bind with gold thread".

A single motive of the pattern in the badge is drawn in fig. 17; there are 11 complete and one partial repeat of this in the width of 17½ in. (43.5 cm.). The design is executed in red, white, yellow and black in the needleweaving or tapestry method; the similarity of the pattern to that in cloth 35.903 is noticeable and possibly indicates that the original owner was a Saribas Iban. At the top of the badge is a band of white stepped lozenges on

a black ground; it is labelled *dabong igi labu*, serrated seed of gourd. The black and white band between this and the broad band is labelled *kelalin lantai*, interlaced bamboo. The double zigzag of the broad band is called *dabong lelingkok*, the triangles are labelled *lalat dabong lancham*, fly, serration or dog-tooth, pointed; the central designs are termed *lalat ketupang lensat*, (*lalat*, fly, *ketup*, to bite; *lensat* is a "fruit-bearing tree, *Lansium domesticum*", *S.D.D.*); this appears to mean a fly biting *lensat* (fruit).

The patterned stripes measure $\frac{3}{4}$ in. (1.9 cm.) and $\frac{1}{4}$ in. (6 mm.) alternately and are divided by compound solid colour stripes in the order: red, orange, indigo, white, indigo, orange, red, each $\frac{5}{8}$ in. (1.6 cm.) wide and intended as a whole to represent the black, white and red bands of the *kendawang* snake (*Cylindrophis rufus*). The composite stripe is labelled *ara surik kendawang*, see p. 29. Amongst the birds figured in the broader patterned stripes are: *burong betampong*, "a ceremonial bird which cures sickness" (pl. ix, *d*); *burong bekarong*, "a hidden bird", similar to examples on pl. vii, *i-k* and *burong sawang prut*, "a bird with a hole in its breast" (pl. vii, *g*). All the narrower patterned stripes contain *daun wi*, "ratan leaves", very similar to those drawn on pl. xxii, *l, m*.

About two-thirds down the front of the jacket there occurs in all the patterned stripes a very interesting blurred design, which consists of a brown blank space with an indistinct lighter smear in its middle; above and below is an irregular wavy line (fig. 18, *b*). This is labelled *kengkang lang*, the striped kite: "the kite, according to Dyak belief the bodily shape and form of *Singalang Burong*, the Bird King, who, upon one occasion only, appeared on earth in human form but has since adopted the shape and form of the kite" (*S.D.D.*). The formless mass may be a naïve way of acknowledging the impossibility of depicting the Supreme Being.

35.905. A bird coat. This old "*Baju burong*" probably belonged to a Skarang Dayak, as some of the names of designs used are given in that dialect; and it is not so well finished as other examples of similar coats, having no badge or flannel binding. The side seams are joined by a form of blanket-stitch worked from side to side (fig. 18, *a*), which when closely done looks like the backbone of a fish and so is called *jayit tulang ikan*. Three little tassels, *kelapong leka*, made of the coloured warp thread finish off the end of the seam (fig. 18, *a*).

The warp is paired, with odd groups of three in the coloured stripes, and there are 112 ends to the inch; the weft is threefold and there are 22 picks to the inch.

The patterned stripes have a brown background with white motives and these are separated from one another by grouped warp stripes of red, yellow, brown and white, which vary in width from $\frac{3}{8}$ in. (9 mm.) to $\frac{11}{16}$ in. (1.7 cm.).

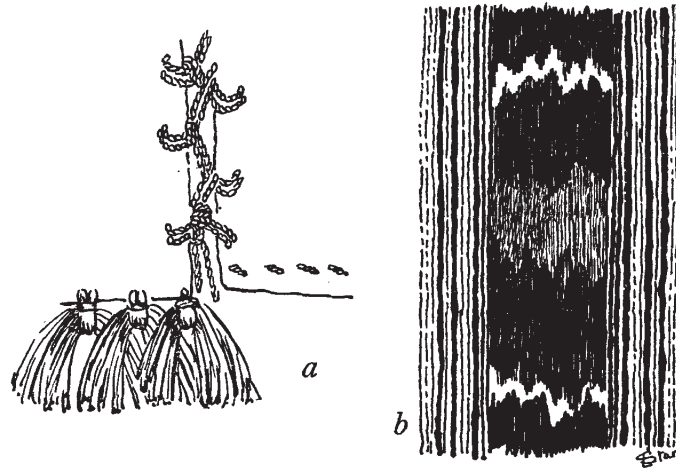


Fig. 18. Details of bird *kalambi*: *a*, tassels at end of seam, 35.905; *b*, *kengkang lang*, 35.907.

The narrower of the vertical patterned stripes have repeats of *anak lachau*, young grass lizard, similar to pl. XII, *a*; they are separated by variously coloured groups of, or compound, stripes, *surik rinik*, from the stripes decorated with birds, such as *burong bekarong*, “covered or concealed birds” (pl. VII, *j*); *burong enchoyok (tinggang ujan)*—the words in brackets indicate that this *burong* is associated with falling rain (pl. IX, *h*, and *g* seems to be a variant); *burong buah bangkit*, “bird on *bangkit* fruit”. The designs on the front of the jacket also include *kengkang lang*, “striped kite”. At the bottom of the back of the jacket are designs labelled *lanham pemuchok tubu*, “pointed bamboo shoots”, pl. XVIII, *g*.

In giving names to the patterns on this cloth the owner described it as *satu macham bekarong samoa*, “a good kind to cover anyone”, and also said *enggo lachau samoa*, “to wear a lizard all or everyone”. The grass lizard is one of the lower rank of omen animals.

35.910. This is a well-made typical *kalambi* bound at the top with a narrow and at the sides with a broad band of red flannel. The lower edge has a strip of red and of yellow flannel and about $2\frac{1}{2}$ in. above this are similar strips. At the collar is the silver-gilt button shown in fig. 11, *b*.

Among other devices in the broader vertical stripes are *burong burak*, "bird with a white breast"; *burong bekinkiang*, crooked *burong*; *burong pemi-yaiarbong*; *burong trugu* and *langkiang*, a lizard with a long reflexed tail. The narrower stripes contain lizards, ratan, and other devices usually found in such stripes. A prominent feature in this and the next jacket is the occurrence of *kengkang lang* in the centre of all the vertical stripes on the front of the jacket. The badge is illustrated in fig. 9.

35.909. This is a new *kalambi* which apparently has never been worn, and there are no labels attached to the patterns. Stripes composed of two black lines edged with white in a rather broad red band separate the broad stripes containing birds from slightly narrower stripes in which are thick white zigzags with black spots. On the lower border of the back is a band or badge of chequer-work: yellow bands slope in one direction and red bands in the other; where they cross each other is a black square, the interspaces being white. Above this is a horizontal row of coarse double twining in brown and white.

35.902. On the body of this man's jacket there are self stripes in the colours of the *kendawang* snake, dividing patterned ones filled with birds. At the bottom of the back two rows of coarse double twining in black and white, about an inch apart, are outlined by and enclose a sparsely worked lozenge pattern done in gold thread.

35.919. This is a piece of cloth 8 ft. long made for a *kalambi* with sleeves, just as it is when taken off the loom. The photograph (pl. xxvii) shows only one-quarter of the length, but it will be seen that the length is continuous as the warp ends joining the part where the badge has been worked in and those of the other end of the cloth are uncut. Fragments of a thin strip of bamboo, used as a laze rod (fig. 4), still remain near the beginning of the pattern and can be seen near the bottom of the photograph. Below the needle-woven badge are two coarse threads which have been used to group the warps for the stitchery. The cloth has self-coloured stripes of white, scarlet and yellow alternating with patterned ones.

The part of the cloth photographed (pl. xxvii) shows the variously coloured stripes, *surik ular kendawang*, which separate the alternate rows of *burong burak prut*, "bird with white breast" (cf. pl. vii, e), and *lachau*, "green grass lizard" (cf. pl. xii, a); the *lachau* are found only at the ends of the cloth, throughout the greater part of its length being replaced by *daun wi*, "leaf of ratan" (cf. pl. xxii, k). At the extreme ends of the cloth below the *burong* are designs which on other cloths are labelled *pemuchok tubu*, "bamboo shoots", perhaps with the head of a locust on the top of the shoot. At the top and bottom of the badge is a very narrow border of two yellow stripes separated by black and white spots; this is called *kelalin lantai*, interlaced cane; two similar horizontal borders separate the main patterns of the badge. The upper and lower patterns consist of a series of white and black triangles separated by a row of red and yellow triangles; they are labelled *lalai dabong igi labu*, fly, serrated or dog-tooth, seed, gourd. On other parts of the cloth are *burong lelayang*, swallow, *burong mansau prut*, "bird with red breast", *daun entibap*, "(isolated) leaf of the *arenga* palm" (see pl. xxii, a-e). The *kengkang lang* (p. 33) is especially prominent. The broad central pattern has two zigzags, *lelingkok kelalin lantai*, zigzag interlaced cane, which divide the band into triangles and lozenges, which are filled up with white, yellow, red and black triangles, all the last having a gold thread centre; within the lozenges are black designs enclosing red and yellow triangles; these are labelled *buah belimbing*.

35.908. This is a jacket of somewhat unusual colour; its edges are bound with red flannel, and there is no badge on the back. Width, 21 in. (53.4 cm.); length from shoulder to hem, 22 in. (55.9 cm.).

The warps are paired throughout the cloth except in the pale brown and yellow self stripes, where a coarser yarn has been used in the former, the latter being crowded together. There are 60 groups to the inch, i.e. 120 ends and 24 picks of weft to the inch.

The background is dark red in tone with patterns in light brown with darker markings of red and dark brown. There are two narrow patterned borders at the sides of the cloth, each divided from the other and from the central pattern by coloured warp stripes representing the snake, in red, yellow, black and pale brown, repeated twice.

On the front of the jacket are *aji*, shrews, and the back is covered with

remaung, "tiger-cats"; all are typical conventions of these animals. Between the spaces of the tiger-cats are various *burong*; *anak lachau*, "young grass lizards" (pl. XII, *e*); *engkatak*, "frog" (pl. XIII, *d*); and *igi bras*, "grains of uncooked rice".

The narrow vertical bands, which are transverse on the sleeves, contain various birds, including *kengkang lang*, "the striped kite"; *burong belingkian*, "argus pheasant", with its long tail feathers (pl. IX, *e*); *burong besugu*, "bird with comb" (pl. VII, *p*); *burong entepa*, "bird with outstretched wings" (pl. VII, *q, r*); *burong buah bangkit*, "bird on *bangkit* fruit" (pl. VIII, *c*), but this is very like a form of *burong entepa* and there is no indication of the conventional lozenge-shaped *bangkit* fruit.

It looks as if the cloth from which the back and sleeves of this coat has been made was originally woven for a *bidang*, but the front portions have characteristic *kengkang lang* in the two *burong* stripes and a very broad one between shrew designs which are covered on the outside with a band of red flannel. The only definite example of this type of *kengkang lang* on any *bidang* in our collection is 35.884.

Z.2342. This jacket is called "*kalambi ara*, striped coat", which is a very good description. There are broad white and dull indigo stripes at the sides and centre of the back and the space between has three narrow horizontally striped black and white bands with crimson stripes on each side of them, alternating with composite ones of all three colours about 1 in. in width. A very coarse needle-woven or weft-mosaic pattern of vertical lozenges in black, white, red and yellow decorates the hem at the back and this is finished off by a row of small tassels, consisting of bunches of cotton ends tied in with the bunched ends of the warps.

Z.2341. A woman's reddish brown coat with narrow simple and composite stripes of purple and white, having broader white purple and black stripes at the sides. There is a rather coarse pattern of triangles darned in white at the bottom of the back, edged with a row of double twining in black and white. The end of the back of the jacket is finished off with small cotton tassels in red, yellow, black and white, tied on by bunches of warp ends.

35.904. The red cloth of which this *kalambi* is made is finely woven and is $19\frac{1}{4}$ – $19\frac{1}{2}$ in. (48.8–49.5 cm.) wide, having groups of coloured warp stripes at each side.

Most of the back and the front portions of the jacket are elaborately decorated with anthropomorphic designs, and the sides are decorated with groups of coloured stripes between which are zoomorphs (figs. 19, 21).

These patterns, which are in blue, white and orange, may have been produced by either of two methods, embroidery or the use of free or floating spools. If spools have been used, a principle which is simple becomes elaborate in the actual working, for taking the white portion of each design, it seems to need two spools for its production, used in different ways, e.g. to work the outline of a lozenge one spool would be used for each side, but for a solid vertical line the two would be used alternately, the threads of one appearing above a throw of weft, the second below; the indigo parts of the pattern could be produced by single spools carrying a group of three or four untwisted threads.

If this is the method which has been employed, each pattern being picked out on the warp with the free spools, a wonderfully accurate effect has been produced.

The same difficulty would not be experienced if embroidery were the method adopted, and it therefore seems most probable that the needle was the only tool used. The fineness and regularity of the work are not at all out of keeping with other embroidered work, e.g. the *sirat* ends, and with the general accuracy of workmanship in other Iban crafts.

Whichever method was used, a fresh thread has been introduced for each little patch of colour and the reverse is exactly similar in effect to the obverse.

The garment is, in shape and construction, similar to those previously described, except that the whole of the coat appears to have been enlarged; the width has been increased by the insertion of a piece of imported red cotton cloth in the side seams, the sleeves have been lengthened by a similar insertion at the shoulder seam and both front and back have been lengthened by a piece 5 in. in depth—an argument in favour of the descent of the jacket from one person to another. On the front the joining has been concealed by a band of stitching, the centre being worked in gold thread with border lines of yellow chain-stitch. At the back the joining is hidden by the border of red and yellow flannel which surrounds the badge.

The badge (fig. 21) consists of three parallel, horizontal bands, the outer

ones of gold thread and the central one of white and red thread. The designs, which reproduce patterns plaited (*anyam*) in mats, are worked in the brocade method, i.e. the weft threads being loosely carried across the back of the cloth until needed to form a portion of the pattern.

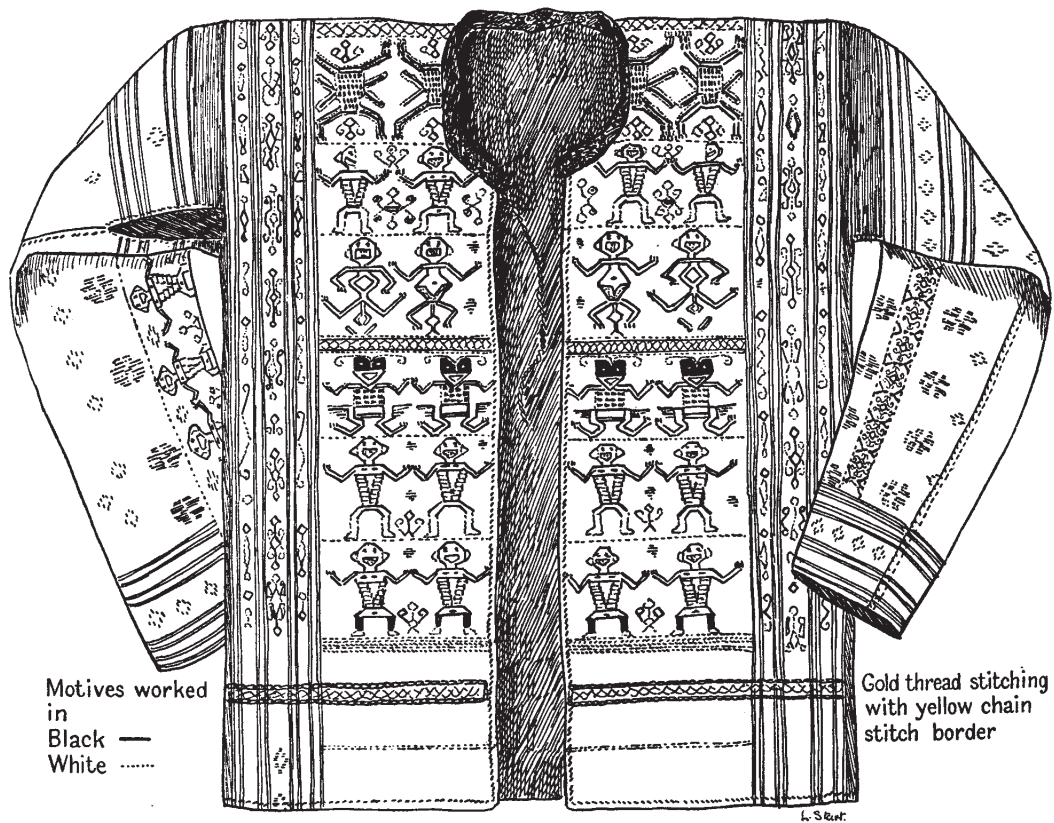


Fig. 19. Front of an embroidered *manang bali kalambi* 35.904.

At the bottom of the badge there is a fringe of black and white beads; the beads are threaded on the warp ends, which are then finished off with a knot.

The neck of the jacket is bound by printed cotton of foreign manufacture.

The cloth of which the jacket is made is, as usual, one with a warp surface, in which there are 180 to 204 ends to the inch, grouped in threes. There are

26 to 30 weft picks to the inch, but as three parallel, untwisted threads are carried by the spool, there are really about 90 weft threads to the inch.

The chief interest of the coat, however, lies in the patterns and their meanings.

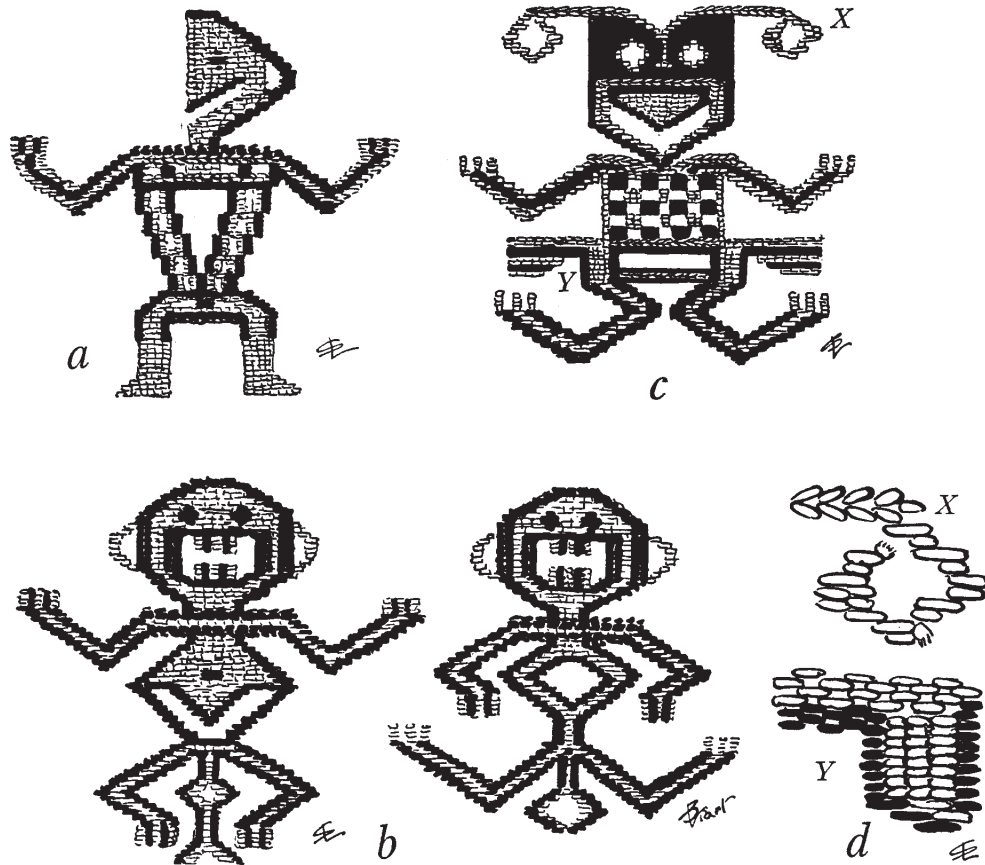


Fig. 20. Anthropomorphic designs on front of *manang bali* jacket 35.904: *a*, second row, figure with half a head and no teeth, see fig. 22 *a*; *b*, third row, presumably these male and female figures are *engkaramba manang bali*, "a *manang* who acts as a woman"; *c*, fourth row, *balu menyagu*, "widower"; *d*, enlargement of parts of *c* showing arrangement of stitches.

The figures in the top row of the front of the coat (fig. 19) are labelled *kengkang kelabong*, this may be translated as striped scorpion. The human figures in the second row (figs. 20, *a*; 22, *a*) are very similar to those in the fifth and sixth rows, except that in the sixth row the legs are

blue and not white as in all the others. The figures in the sixth row are labelled *gambar mensia*, representations of a person, or *engkaramba anak orang entepa*, a young man with outstretched arms, and presumably these names apply also to the other two rows. Only half of the face is embroidered in the outer figures of the second row (fig. 20, *a*) and this is labelled *jari engkatak*, hand of frog; probably some mistake has occurred. The human figures in the third row are alternately male and female and are on the whole similar to those in the fourth and sixth rows on the back of the jacket.

A narrow pattern of hexagons divides the third from the fourth row. It is labelled *kembong tikup*, to close a swelling; the stitchery was used to flatten a looseness or crease in the cloth, hence its name.

The figures in the fourth row (fig. 20, *c*) are labelled *engkaramba balu menyagu*, we do not know why they are termed "widower"; they appear to wear a large mask (Hose and McDougall, II, pl. 151, give a photograph of "Kenyah dayongs wearing masks"); the *dayong* of the Kenyah and Kayan are the equivalent of the Iban *manang*, they also are soul-catchers and play a large part in the ceremonies connected with death. We do not know what the wing-like extensions from the waist signify; perhaps they represent the swinging-out of the dress worn owing to a turning movement of the dancer.

Among the numerous designs at the sides of the jacket are: *burong lelayang*, a swallow (pl. IX, *b*); *burong jagi*, which may represent a bird in flight (pl. IX, *i*); *anak burong*, young bird (pl. IX, *j*); *kukut lang*, talon of a kite (pl. X, *h*) (but a somewhat similar device is labelled *daun entibap*, "leaf of the arenga palm", pl. XXII, *e*); other designs are: *burong buah bangkit*, *burong bekarong*, *burong sawang prut*, and *lelingkok semberai* (? *semerai*) *sungei*, zigzagging across a river.

There are six rows of human figures on the back of the coat (fig. 21). The first row shows each man (who has no teeth) wearing a chequered coat and carrying something under his flexed arms. The men are labelled *gajah meram engkaramba (antu)* and the object under the arm is called *telor gajah* (*telor* is the Malay word for egg) (fig. 22, *b*). There are no elephants in Sarawak, so the Iban are not likely to be acquainted with them, but wild elephants (introduced?) exist in north Borneo. The "egg" is obviously incorrect, but it may be a suggestion of something mysterious and belonging to the spirit-world.

Of great importance, but very rarely observed in modern times, is the *gawai gajah*, “elephant feast”, which can only be held by a particularly successful war leader who has obtained a large number of heads. Offerings and incantations are made to Singalang Burong, who is the God of the

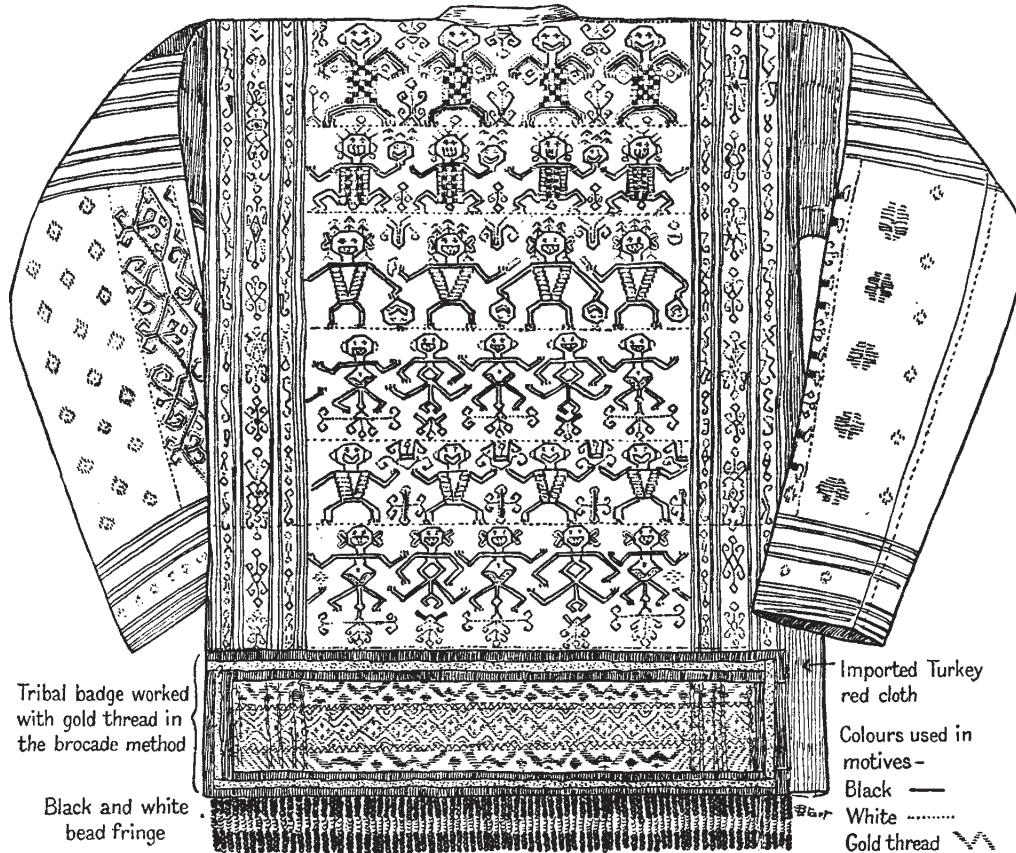


Fig. 21. Back of *manang bali kalambi* 35.904. Red cloth embroidered in black, white and orange, with a badge worked in the brocade method.

Heavens and of war. The wooden figure of an elephant is placed on the top of a long pole planted in the ground and to this figure offerings are made (Gomes, 1911, p. 215). It seems probable that the elephant motive is an imperfectly assimilated foreign conception—perhaps of Indian origin. It is, however, possible that it may be reminiscent of a time when their ancestors

may have been familiar with elephants. The point requires elucidation by local investigation.

The figures in the second row are also clothed in a chequered garment;

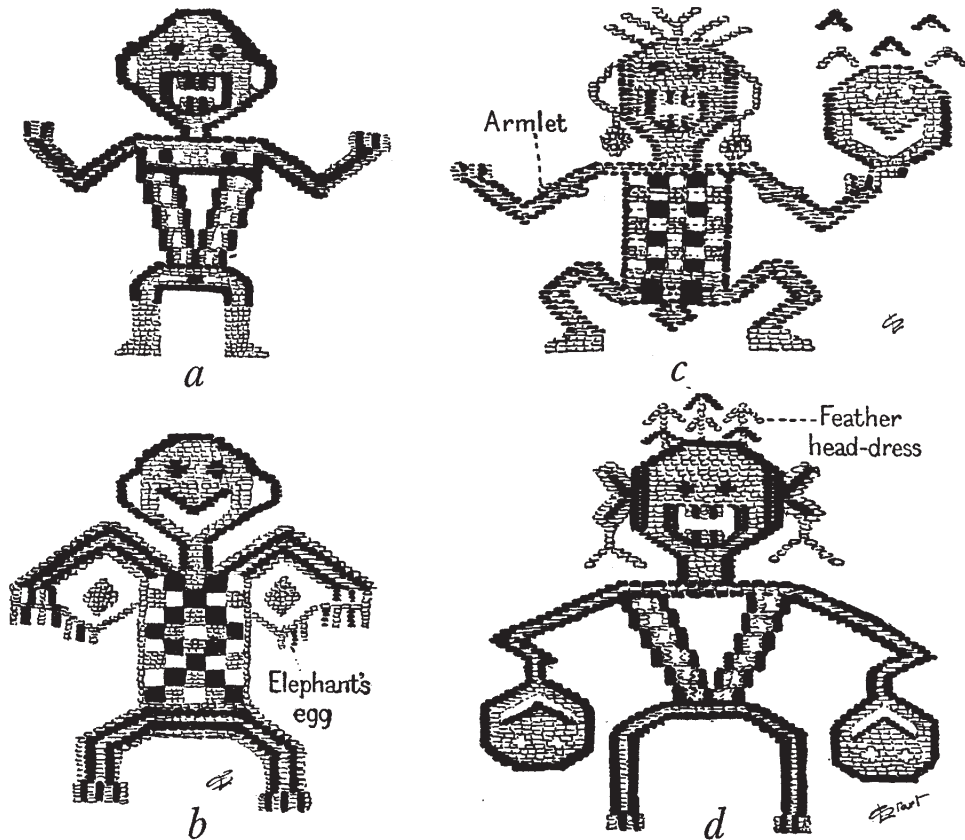


Fig. 22. Anthropomorphic designs on back of *manang bali* jacket 35.904: *a*, inner figure of second row on front of jacket, similar to the figures of rows 5 and 6, and rather similar to those of the fifth row on the back, though these have no teeth; *b*, first row of back, *gajah meram engkaramba (antu)*, "man's ghost or spirit"; *c*, second row of back, *orang brani*, "brave man"; *d*, third row of back, *engkaramba bekatapu*, man wearing a feathered war-cap and carrying two old human heads, one of which is labelled *minching (labu)*.

they wear ear-ornaments, perhaps feathers on their heads, and carry heads upright in their left hands (fig. 22, *c*). They are labelled *engkaramba (orang brani)*, brave men. The possession of trophy heads is doubtless the reason for the adjective *brani*, brave.

The third row shows figures, the heads of which are labelled *pala engkaramba bekatapu*, head with war cap, wearing the feathered war cap, *ujok ujok katapu*. One of the carried heads is labelled *minching (labu)*. *Labu* signifies a gourd, and it is possible that it is a gourd with holes for eyes and a slit for the mouth, which is used as a substitute for a head. The attitudes of the figures and the changed position of the heads in the last two rows suggest that they represent a head-hunting dance.

The fourth and sixth rows contain alternate male and female figures similar to those of the third row on the front of the jacket, but in these two rows there is below each figure a *kukut burong*, "claws of a bird". The males have a long line with curled ends passing through the glans penis, which evidently represents a *palang*. According to Brooke Low (Ling Roth, *J.A.I.*, xxii, 1892 (1893), p. 45) the custom of perforating the glans for the permanent insertion of a short rod with a knob at each end, *palang*, was adopted by the Iban from the Kayans. The head of a male figure in the fourth row is labelled *pala engkaramba manang bali*, the head of a *manang bali*, and a male figure in the sixth row is called *engkaramba manang bali*.

The figures in the fifth row are labelled *gambar mensia*, but the head of one of them is called *pala engkaramba*, head of an *engkaramba*; these are essentially similar to the figures in the fifth row on the front of the jacket, except that they have no teeth.

The right sleeve has along its length five *engkaramba anak orang entepa* similar to those on the front and back of the jacket, and also designs: *tabor mata puna*, scattered eyes of pigeons, and *tabor bunga janggal*, scattered flowers of the white pumpkin. The two latter are also scattered over the left sleeve, on which are two other patterns which we do not recall having seen elsewhere.

This is evidently a very special kind of *kalambi*, which we may surmise was worn only on particular occasions. Concerning the human figures it is interesting to find that "only women belonging to ancient and honourable families may make *engkaramba* and even they must begin by making other patterns" (Haddon MS.). The *Sea Dyak Dictionary* gives "*Engkramba*, a representation of anything cut out of wood". They are used to prevent harm from coming to crops, etc.

We suggest that the jacket belonged to a *manang* and more probably to a *manang bali* (“*Bali*, v. to exchange, fade, s. alteration”, *S.D.D.*).

The Iban believe that sickness is due to the presence of evil spirits in the patient’s body, or to a spirit that has struck him or has enticed his soul out of his body; thus it naturally follows that the medicine men, or *manang*, must be able to charm the evil spirits away and persuade the soul to return to its earthly habitation.

The *manang* is next in importance amongst the Iban to the village chief, and sometimes the office is filled by the same man, especially if he is a faithful interpreter of dreams and successful in exorcizing spirits. The office of *manang* is hereditary, and may be held by either a man or a woman; it is extremely lucrative, as heavy sums are paid for the aid given in performing the ancient rites connected with birth and death, and it is in connection with the latter that three of the most important Iban feasts are held. Charms, which are the personal possession of the *manang*, are frequently used in the case of sickness; sometimes they are rubbed on that part of the body where the pain is felt, at other times they are dipped in water, which the patient afterwards drinks. In serious cases a fowl or a pig may be killed as an offering to the *antu*, or spirit, whose displeasure is the cause of the suffering.

A *manang bali* is the highest rank to which a *manang* can attain and they are infrequent. “They are men who adopt and continuously wear woman’s dress and behave in all ways like women, except that they avoid as far as possible taking any part in the domestic labour. They claim to have been told in dreams to adopt this mode of life; they are employed for the same purpose as the more ordinary *manangs*, and they practise similar methods” (Hose and McDougall, II, p. 116). Howell and Bailey say: “Even to the Dyak mind such a process is unnatural, and it is only undergone because of the command of the spirits who must be obeyed.” These authors describe the initiation of a *manang bali* and state that after the ceremony “the *Manang Bali* apes the manners of a woman. He does all the work usually done by women. He sometimes even takes a ‘husband’ who is looked down upon by the community, and whose sole desire is to inherit his ‘wife’s’ property as soon as possible. The *Manang Bali* may be said to have almost ceased to exist, among the down-river Dyaks, but the up-river people possess several recently made specimens!” (*S.D.D.*, 1901, p. 99).

E. H. Gomes (1911, p. 37) says *kalambi* "of a particular type can only be worn by men who have succeeded in securing a human head when on the warpath", but, as he does not give particulars, this statement does not help us; perhaps the *kalambi* illustrated by Hose, 1926, pl. p. 170, may be one of this kind—it is ornamented with two feathers of the hornbill, a bird everywhere associated with fighting.

It is somewhat rash to speculate upon what occasions a *kalambi* of this sort would be worn, but some of the embroidered figures seem to indicate that it was associated in some way with head-hunting.

One of the three principal ceremonial feasts of the Iban is *gawai burong* or *gawai pala*, "bird- or head-feast", as described by J. Perham in Ling Roth, I, p. 256; II, pp. 174 ff. When a house has obtained a head a great feast must be made sooner or later; it is not a mere matter of eating and drinking but there is much ceremony of offerings and songs, and Singalang Burong is invoked to attend. Before he can start he must call from the jungle his sons-in-law, who are the sacred birds which the Iban use as omens—hence the term *gawai burong*. The hawk (kite), *lang*, with brown body and white head and breast is a personification of Singalang Burong. The bird-chief and his dependents come from above to give to the men strength and bravery in war, and to the women luck with paddy, cleverness, and beauty. The ceremony is in fact a religious drama.

35.906. An embroidered *kalambi*. This coat is cut in exactly the same way as the others, but has different motives which have been produced by embroidery (fig. 23). Width, $17\frac{1}{2}$ in. (44.4 cm.); length from shoulder to hem, $22\frac{3}{8}$ in. (57.4 cm.).

The body of the cloth is red with warp stripes grouped on the front and back: black, yellow, red, white, black, white, red, yellow, black; these are called *surik ular kendawang*, see pp. 29, 33. The width of these grouped stripes varies, broader bands appearing at the edges of the cloth.

The sleeves, which are made from the full width of the cloth, have no other decoration than the coloured warp stripes.

The edges of the jacket are bound with red flannel and at the neck and round the badge at the back an extra row of yellow flannel with vandyked edges is added.

The number of warp groups to the inch varies from 60–74, averaging

272 ends in all the stripes except the white, where they are in pairs and there are 44 pairs to the inch (88 ends).

The weft is red throughout and consists of a bundle of four, six or eight threads slightly twisted, and there are on an average 22 picks to the inch.

The motives which embellish the garment are embroidered in white and black, with the occasional addition of gold thread, usually in the form of a spot. They are entirely different from those on any other coat in the collection, as can be seen in fig. 23, which shows the front and back of the garment.

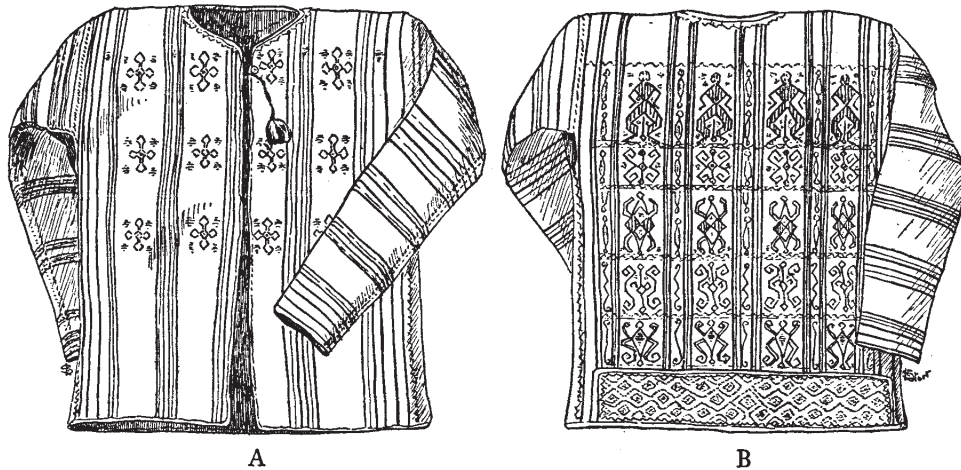


Fig. 23. A, front and B, back of a *kalambi*, 35.906, with woven stripes and embroidered designs. Fig. 7, p. 15, is an enlargement of a *burong kaki panjai* in the last row of B. The badge (fig. 24) is worked in the brocade method with a gold thread weft.

On the front two isolated, *tabor*, motives appear, the cruciform one representing a flower, *bungai*, rather like pl. xxii, *i*, and, around the flower, four spots, *bintang*, "star", which are worked in gold thread. On the back, taking the figures in the broader stripes in order from top to bottom, the first represents a frog, *engkatak* (pl. xiii, *e*), the second a concealed bird, *burong bekarong*; the third a scorpion, *kala* (pl. xvii, *a*); the fourth a concealed bird slightly different from the previous one (pl. vii, *k*); and the fifth, *burong kaki panjai*, a "bird with long legs" (fig. 7). In the narrow vertical stripes there are three other motives, the upper three of each stripe, the lizard, *lachau* (pl. xii, *a*); the fifth down the stripe is the leech, *lintah* (pl. xvi, *h*), and the last represents ratan leaves, *daun wi*.

The method by which these various devices have been produced is embroidery. If individual threads are followed it will be found that they do not all end at the lowest point of a curve or fret, but sometimes continue round it, which would be impossible if the threads were introduced during the progress of the weaving by free spools. An enlargement of one of the bird motives in which the stitches are clearly indicated is given in fig. 7.

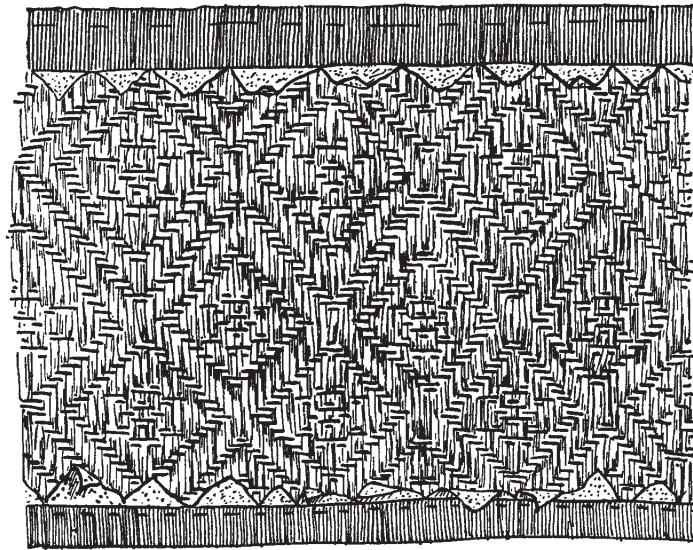


Fig. 24. Badge at the back of *kalambi* 35.906, worked in the brocade method with gold thread weft.

A new embroidery thread is begun in a somewhat unusual manner, being threaded through the cloth singly, then both ends being brought to the front it is worked as a double thread.

The badge at the bottom of the jacket at the back is not a weft-mosaic like the Saribas variety, but is worked like a brocade or damask with a floating weft, the triple gold thread (not twisted) which forms this weft being carried across the back when not needed on the right side. The warps are grouped in fours or sixes and the result is a fabric of very loose texture. Owing to the very loose texture, the coloured warps which form stripes in the cloth are visible in this jacket as a continuation across the badge; these are not shown in figs. 23, *b* and 24.

The motives in the badge (fig. 24) represent *lelambak anyam*, a flower similar to that plaited in mats (pl. xxii, *h*), and *dabong lilit*, a dog-tooth pattern in gold thread.

35.90I. *Baju sungkit*, an embroidered jacket worn by women; it was made by a Nabai Iban woman.

A plain cloth jacket dyed reddish brown with an applied panel called *tandar* on the upper part of the back, which is much of the same type as the embroidered ends of *sirat*. The white cloth is of coarse texture and the panel is outlined with an inner strip of scarlet flannel and an outer one of yellow flannel. The designs are boldly embroidered in red and blue. A narrow upper border consists of a zigzag, *lelingkok*, with a *pala buntak*, "head of locust", on each apex. The lower border is labelled *pemuchok tubu*, shoot of bamboo. We have no information concerning the design of the broad central band, which is exactly like that on a "little girl's jacket, from Batang Lupar", figured by Ling Roth, II, p. 33.

35.9II. Shell *kalambi*. The jacket in figs. 25, 26 is entirely decorated with *huri* shells (*Nassa* sp.) and is an exceptionally fine example of this method of ornamentation, which is now almost obsolete, European buttons being used instead. An immense amount of labour has been expended on the preparation of the shells, for the spire of each has been ground away, leaving a flat piece about $\frac{1}{10}$ in. in thickness containing the mouth of the shell. A second hole was bored and each shell was then secured to the cloth by two stitches made with strong twine (the fibre of pineapple leaves), one through the aperture and down the drilled hole, the other fastening down the narrow end.

The foundation of the garment is an indigo-dyed cotton cloth backed with a much coarser native cloth in order to give sufficient support for the weight of the shells. The front edges, side seams and armholes are further decorated by being bound with red cloth.

A very primitive and effective method of fastening is provided by means of three roughly shaped flat wooden discs on the right-hand side; each disc has a hole in the centre through which a string is knotted to hold it in place. There are corresponding loops on the left-hand edge made by tying a piece of twine through the back of a few stitches.

This jacket was originally the property of a Baju Bari Dayak from the Baram river, but there is no information whether it was a man's or a woman's

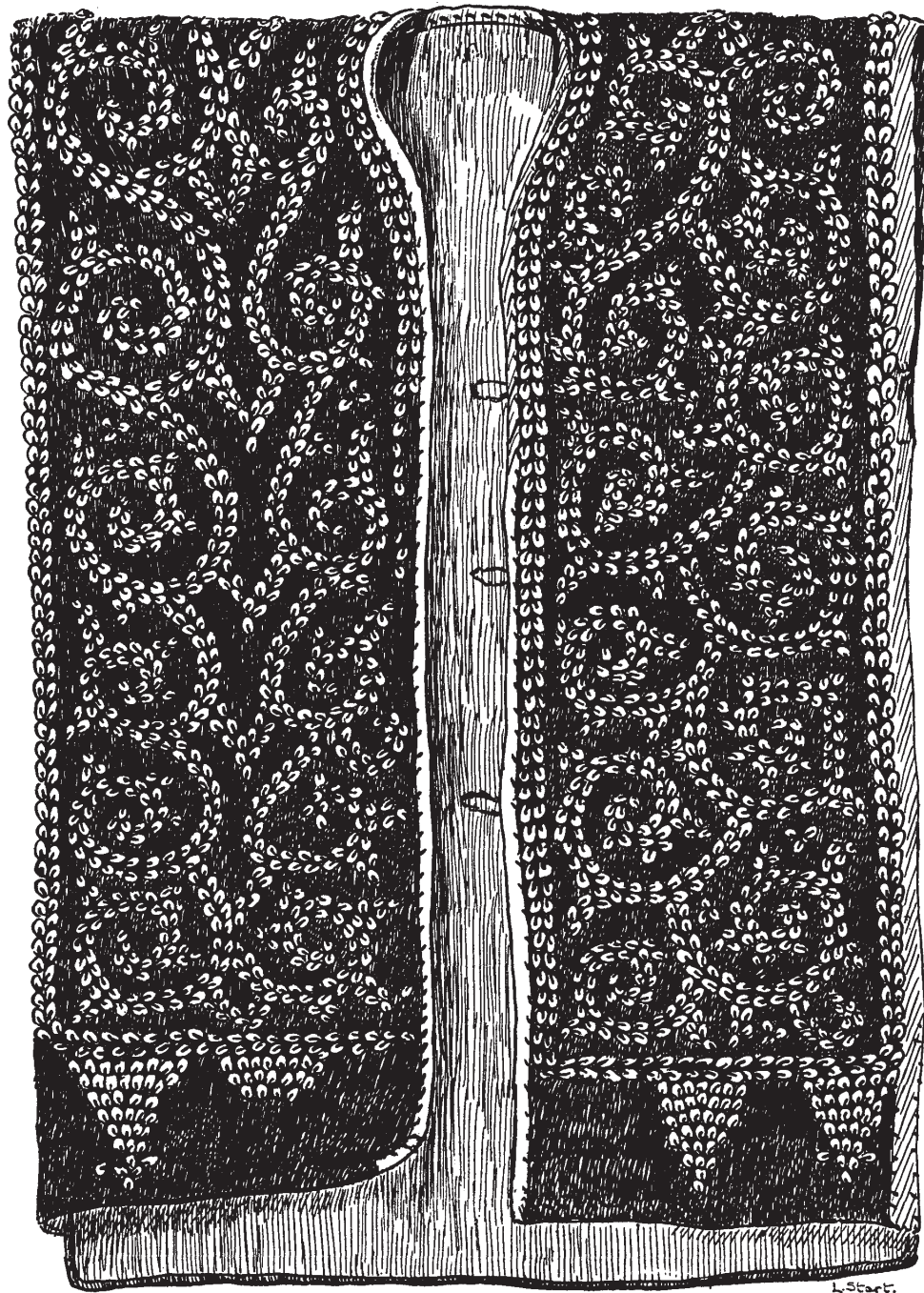


Fig. 25. Front of *kalambi* 35.911, decorated with shells.



L. Scott

Fig. 26. Back of same jacket with a reptilian motive in shells.

kalambi. Presumably the large reptile that dominates the back is a monitor lizard, *Varanus* sp. The remaining surface is covered with evenly distributed scroll-like designs, which evidently are phyllomorphic; the front of the jacket is ornamented with similar designs. Along the bottom, both back and front, is a pattern of bamboo shoots.

There is a woman's "*kalambi buri*" in the British Museum (1905, 357) very similar to ours; the front is ornamented with "scorpions, crabs, and starfish" and the back with a large "lizard". Another one (1923, 10.18.1) is of particular interest as it is made of bark-cloth; it is ornamented with a lizard, two scorpions, and scrolls also of nassa shells.

An ordinary patterned *bidang* (1905, 393) in the British Museum has a black flounce added to its lower half, which is ornamented with nassa shells arranged in triangles with curves springing from their apices; these are labelled *punchok rebong*, "bamboo shoots".

Hose and McDougall (1, pl. 30) give a photograph of an Iban woman wearing a sleeved *kalambi* decorated with shells; the patterns in front are more open and less complicated than those of our coat. The lower part of the *bidang* she is wearing is also decorated with nassa shells; above the terminal broad band of presumably plant-designs are scorpions or lizards with their long tails interlocked.

The supposition therefore is that our jacket is a woman's *kalambi* and that the reptile on the back is a monitor lizard.

BIDANG, PETTICOATS

The *bidang* or women's petticoats form a particularly interesting group of cloths for study, as almost all are patterned and the patterns comprise a larger and more varied series of motives than are to be found in either the *kalambi* (jackets) or the *pua* (blankets). Each petticoat is made from half a length of cloth as it comes from the loom and therefore exhibits one complete section of the pattern. The cut ends of the cloth are joined together by a rather coarsely sewn counter-hem, such as is often used for the sleeves of the *kalambi* (fig. 12, c). The completed garment is pulled on over the head and arranged around the waist, the excess in width being made into a pleat, the top of which is tucked in, to hold the garment firmly to the figure.

The piece of cloth for a *bidang* may vary in width from just over 16 in. to nearly 2 ft. and the length from 3 ft. 6 in. to 4 ft. 3 in. The average length of 30 petticoats taken at random from a group of 40 was 3 ft. 8 $\frac{2}{3}$ in. and their average width just over 20 in.

BIDANG CLOTHS

The cloth used for *bidang* is generally very firm and extremely hard wearing, the yarn used being firmly spun although it varies greatly in thickness, an average section being 0.25 mm.

The yarn used for the warp colour stripes, which form borders at the top and bottom of the petticoat when in wear, but which being warp threads are really parallel with the sides of the cloth, is usually finer in section than that in the patterned part of the web. These coloured yarns are dyed in the hank before being set up in the loom with the patterned warps. The bright reds used by the Saribas Iban are usually the finest, averaging from 0.15 mm. to 0.2 mm. in section, whilst the pure white sometimes used in the border stripes is the coarsest, reaching 0.5 mm.

The white thread is the only yarn in any of the cloths which is used "doubled" in the accepted meaning of that term (i.e. two threads which are twisted upon one another) and for this reason and the fineness of its bleaching one might suspect it to have been an importation, although the twist in the single thread and the quality of the cotton fibre itself indicate native origin. It may be that the fibre is native but has been spun and doubled mechanically, instead of by hand, which would mean that the yarn was not produced by the weaver of the cloth as is usually the case.

The warps in cloths intended for *bidang* are nearly always grouped for the purpose of weaving, being usually arranged in pairs (the threads remaining parallel) or threes, though four in a group occur occasionally in the self-colour stripes, where there are usually a greater number of warp ends to the inch (fig. 27, *a*). Taking a series of 30 cloths it was found that the average number of warp ends to the inch in the self-coloured stripes was 147, whilst in the patterned ones it was only 116; this shows that the fabrics are usually more closely woven at the sides than in the centre. The close weaving of the plain colour stripes enhances their value aesthetically.

In the same set of cloths the grouping of the warps for the borders was

19 pairs, 7 threes, 2 fours and 2 singles; whilst in the patterned portion the grouping was 24 pairs, 4 threes and 2 singles. A detailed analysis of 30 of these cloths is given later.

As the upper and under webs are tied together in arranging the pattern when on the tying frame, this analysis of the grouping of warps means that it is usual to tie up four threads, although on occasions the number may be eight, six or two.

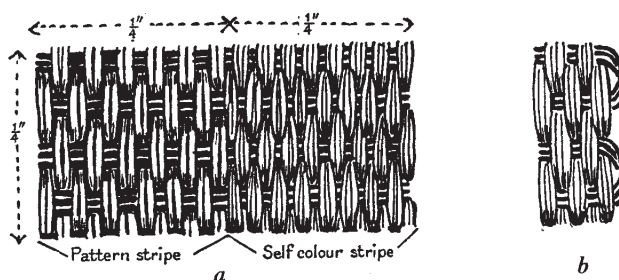


Fig. 27. *a*, Proportions of weft visible when warps are paired and grouped in threes; *b*, three parallel weft threads turned at the edge of the cloth.

The average number of weft picks or shoots to the inch in 30 cloths made for *bidang* and *kalambi* was 21.8, practically 22. In winding the weft on the spools two, three or four threads are wound at the same time and kept quite flat like a ribbon or tape, so that in passing the spool from side to side a series of parallel weft threads is carried across, an arrangement which usually makes the weft broader in section than the warp.

In the group of cloths under consideration 10 had two parallel weft threads in each pick, 11 had three, 4 had four and only 5 were single weft threads. An example with three, showing the crowding of the warps in the plain colour stripes and the turning of the weft threads at the edge of the cloth, is given in fig. 27, *b*.

The weft is usually brown in colour, either reddish or a dull vandyke shade.

The weaving itself is of the simplest type, one group of warp threads being picked up and left down alternately by the spool in passing.

The width of the weft and the large number of warp ends as compared with weft picks result in the production of a cloth with a rep or poplin weave,

in which the warp threads form the surface, and as they had been previously dyed after the pattern portion had been reserved by tying up, they produce the desired pattern.

The average width of 30 *bidang* cloths is 1 ft. 8 in. (50.8 cm.) and the average length 3 ft. 10 in. (116.9 cm.), and according to Mr Leggatt it takes several months to dye and weave a piece of cloth 45 in. in circumference, i.e. a length of 3 ft. 9 in. which has been joined by sewing.

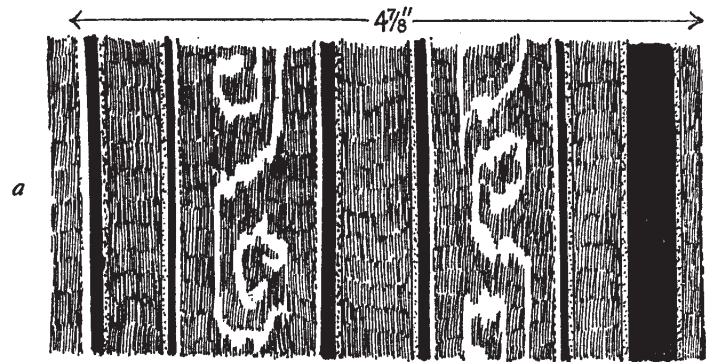
ARRANGEMENT OF THE PATTERNS AND GENERAL COLOUR EFFECTS





Most of the *bidang* have a broad central band elaborately decorated with patterns. These patterns appear as designs in stone or buff colour against a background which is a reddish brown in most cases, but occasionally the whole of the warp for the patterned stripe is dyed a light brown first, in which case the patterns appear as light brown.

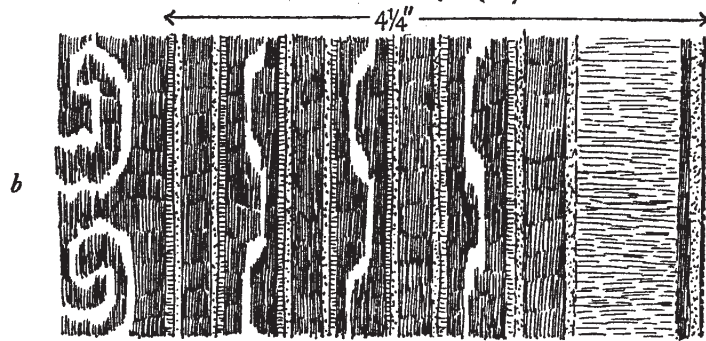
The reddish-brown ground commonly used is sometimes varied in small patches by being re-dyed in indigo so that it becomes a dark brown, almost vandyke, in those parts. Such variations usually indicate a highly skilled worker. On either side of the broad central pattern is a series of compound stripes, each composed of several narrow warp stripes of different colours. Often a colour consists of only a few warp threads, so producing the effect of a "pin stripe". Narrow patterned stripes are frequently used between these composite ones; three sets of border stripes are illustrated in fig. 28 and it will be noted that the self-colour stripes at the outer edges are often wider. In a large group of cloths (for *bidang*) they vary from half an inch to an inch and a half; sometimes there is one broad one, in other examples there is a series of three or four averaging half an inch each.

These broad self-colour stripes form a strong contrast with the quieter buff and brown pattern in the central band and provide a strong accent which is particularly pleasing in its effect.

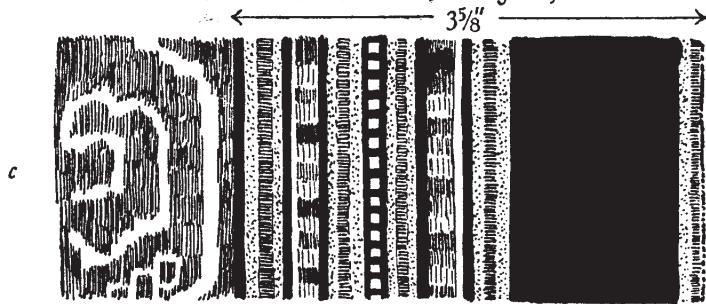
One of the most popular arrangements of colour in the composite stripes is scarlet, black, or an indigo so dark that it appears black by contrast, and yellow; or scarlet, black, white and yellow. This arrangement is described as *ara surik kendawang*, "the coloured stripes of a snake", and is derived



Red-brown ground  Dark brown  Yellow  White 
 Pattern. Acorns. (Empili).



Red-brown ground  Pale blue  Yellow 
 Pattern. Crooked. (Lelingkok)



Brown ground (shaded)  Scarlet  Navy blue  *Blue*
 White  Yellow 

Fig. 28. Various colour arrangements in border stripes: *a*, *bidang* 35.874, p. 80; *b*, *bidang* 35.861, p. 71; *c*, *bidang* 35.878, p. 81.

from the colouring of *Cylindrophis rufus*, a Bornean snake which has a red head, a red tip to its tail and a body striped black, white and red (see p. 33).

Unusual effects are sometimes obtained by dipping the edges of the woven cloth into an indigo dye bath for a short time. This process gives a light-blue pattern on a very dark brown, blue or black ground (according to the strength of the bath or the length of immersion) and alters the coloured border stripes, yellow becoming green, white a pale blue, and scarlet a crimson or magenta tint.

Quieter but good combinations of colour in the compound stripes are black and yellow on a brown ground; buff and dark brown on a red-brown ground; dark brown and pale blue on red-brown; and dark blue, scarlet and white. None of these have any special name but are described as *ara surik*, "a striped pattern", or as *surik anak*, "the child or young stripe", a fanciful designation for the lesser or narrower stripes.

A mourning *bidang* for a widow is obtained by immersing the whole garment in an indigo bath until the pattern appears as light blue on a black ground.

The broad central band of pattern is sometimes replaced by a plain one, and if the border patterns and compound stripes are well spaced this arrangement is sometimes very successful.

A third scheme consists in having a series of narrow patterned stripes, separated by composite colour stripes, right across the width of the cloth. Such arrangements lose a great deal in their general effect.

DESCRIPTION OF INDIVIDUAL *BIDANG*

The patterns of the following *bidang* are described in the position they occupied when being woven on the loom, not as they appear in wear; thus the term "sides" refers to the edges of the cloth running in the direction of the warp. When the petticoat is being worn these edges or "sides" become the top and bottom of the garment.

The native names of the designs are printed in italics; they were obtained when the cloths were obtained. Some *bidang* are only briefly described by us, the designs on which are often insignificant, and as they generally occur more distinctly on those cloths which are more fully treated they have not been described in detail.

An analysis of thirty <i>bidang</i>						
No. of cloth	Length	Width	No. of warp ends to inch	Description of warp spacing	No. of weft picks to inch	Description of weft
35-869	3 ft. 8½ in. (113.7 cm.)	1 ft. 8½ in. (52.7 cm.)	168 ends (56 groups) 192 ends (48 groups)	Threes in pattern stripe Fours in self-colour stripes	18	Fourfold and parallel. Dark brown
35-870	3 ft. 8 in. (111.8 cm.)	1 ft. 9 in. (53.4 cm.)	88 ends (44 groups) 108 ends (36 groups)	Paired in pattern bands Threes in self-colour stripes	24	Three parallel threads. Brown
35-871	3 ft. 10 in. (116.9 cm.)	1 ft. 7 in. (48.2 cm.)	112 ends (56 groups) 144 ends (72 groups)	Paired throughout in pattern band In self-colour stripes	23	Three parallel threads. Brown
35-872	3 ft. 8 in. (111.8 cm.)	1 ft. 7½ in. (49.5 cm.)	128 ends (64 groups)	Paired throughout	20	Single. Brown
35-873	3 ft. 8 in. (111.8 cm.)	1 ft. 9 in. (53.4 cm.)	92 ends (46 groups) 176 ends (88 groups)	Paired in pattern portion and in self-colour stripes	26	Two parallel threads. Brown
35-874	3 ft. 11 in. (119.4 cm.)	1 ft. 11 in. (58.4 cm.)	80 ends (40 groups)	Paired throughout	16	Four parallel threads. Dark brown
35-875	4 ft. 0½ in. (123.2 cm.)	1 ft. 8½ in. (51.8 cm.)	96 ends (48 groups)	Paired throughout	20	Single. Brown
						Colour and special notes
						Strong colour effect as most of the red-brown background has been over-dyed blue, thus giving vandyke brown effect. Red, yellow, blue, and white self-colour border stripes
						Background red-brown and black, owing partly to over-dyeing with indigo, the pattern on it in buff and white. Red, yellow, and black self border stripes
						An evenly woven cloth, of crisp firm texture
						Very clear pattern in buff on a reddish brown ground with occasional vandyke spots, also touches of blue in borders. The fineness of the weft produces a fine, soft cloth
						Buff pattern on red-brown background
						Extra large, coarse cloth. Buff pattern on brown ground. Border stripes and dividing lines in white, yellow, black, and brown
						Large cloth. Buff on reddish brown ground. Generally of dull appearance. Border stripes black and yellow only

35-859	4 ft. (122 cm.)	1 ft. 10 in. (55.9 cm.)	96 ends (48 groups) 152 ends (76 groups)	Paired in pattern stripe In self-colour border stripes	16-20	Four parallel threads in each pick. Brown	White pattern on brown ground. Second dyeing of indigo in splashes on background. Interesting border stripes in black and white, red, black, yellow and white, red, black, yellow
35-860	3 ft. 10 in. (116.9 cm.)	1 ft. 10 in. (55.9 cm.)	96 ends (48 groups) 136 ends (68 groups)	Paired throughout In self-colour stripes	22	Two parallel in part, four parallel in remainder. Brown	White pattern on brown ground. Dark blue, yellow, scarlet and white self border stripes
35-861	3 ft. 10 in. (116.9 cm.)	1 ft. 10 in. (55.9 cm.)	96 ends (48 groups)	Paired throughout, a good deal of brown background used in border stripes	20-26	Two parallel. Brown	A loosely woven fabric. White pattern on brown ground. Pale blue stripes at edges and in borders
35-862	4 ft. 1 1/4 in. (125.1 cm.)	1 ft. 8 1/2 in. (52.1 cm.)	104 ends (52 groups) 128 ends (64 groups)	Paired in broad pattern stripe Paired in black and yellow, threes in scarlet self stripes	26	Two parallel threads in each pick. Brown	White pattern on brown ground. Scarlet, yellow, and black in self-colour border stripes
35-863	4 ft. 1 in. (124.5 cm.)	1 ft. 8 1/2 in. (52.1 cm.)	136 ends (68 groups) 216 ends (72 groups)	Paired in the pattern stripes Threes in the coloured self stripes	22	Three parallel threads. Brown	White pattern on brown ground. White, black, scarlet, and yellow border stripes
35-865	4 ft. 0 1/2 in. (123.2 cm.)	1 ft. 5 1/4 in. (43.8 cm.)	144 ends (72 groups)	Paired throughout	24	Two parallel	Evenly woven, brilliant colour. Red and brown background, buff pattern. Interesting border stripes
35-866	3 ft. 10 in. (116.9 cm.)	1 ft. 10 1/2 in. (57.1 cm.)	136 ends (68 groups) 144 ends (72 groups)	Paired in central band of pattern Paired in self-colour border stripes	24	Two parallel. Black, may have been brown before second dyeing	A very finely woven cloth. The colour is unusual, the cloth having been dipped in indigo after it had gone through the usual dyeing processes. The result is that the patterns appear as pale blue on a black ground, and in the border stripes red becomes maroon, yellow green, and brown black
35-867	3 ft. 10 1/2 in. (118.1 cm.)	1 ft. 11 in. (58.4 cm.)	88 ends (44 groups)	Paired throughout	16-18	Fourfold and parallel. Brown	Pattern white on a vandyke brown ground. A very coarse cloth
35-868	3 ft. 10 in. (116.9 cm.)	1 ft. 6 in. (45.7 cm.)	112-120 (56-60 groups) 228 ends (76 groups)	Paired but not quite evenly spaced in pattern band Threes in red self stripe	16	Three parallel threads. Light brown	Buff pattern on brown ground. Scarlet, black, and yellow border stripes with a navy blue stripe at the outer edge

An analysis of thirty <i>bižang</i>							
No. of cloth	Length	Width	No. of warp ends to inch	Description of warp spacing	No. of weft picks to inch	Description of weft	Colour and special notes
35-852	3 ft. 10 $\frac{1}{2}$ in. (118.5 cm.)	1 ft. 9 $\frac{1}{2}$ in. (55.5 cm.)	92 (46 groups)	Ends are paired; warp undyed in pattern stripes	20	Three parallel threads; colour brown	Effective, simple. White patterns on brown background. Pin stripes of black and yellow in borders
35-853	3 ft. 7 $\frac{1}{2}$ in. (110 cm.)	1 ft. 7 $\frac{1}{10}$ in. (48 cm.)	72	Single; arranged white and brown alternately to produce stripes; thus 2 w., 3 b., 2 w., 3 b., 6 w., 10 b.	24	Two parallel threads. In part of cloth white—in remainder brown	A simple striped cloth—white and brown
35-854	3 ft. 8 $\frac{1}{2}$ in. (115.5 cm.)	1 ft. 11 $\frac{1}{8}$ in. (60.4 cm.)	104 ends (52 groups) 128 ends (64 groups)	In main pattern paired Paired in borders	26	Four parallel Brown	Three dyeings required for patterns which have pale-brown outlines—red-brown for the inside of patterns and indigo over red-brown for the background and some spots The edge has been re-dipped in indigo
35-855	3 ft. 7 in. (109.8 cm.)	1 ft. 4 $\frac{1}{2}$ in. (40.5 cm.)	120 ends (60 groups) 112 ends	Paired in pattern stripe Single, in self-colour stripes	24	Single Brown	One dyeing of red-brown on a buff warp
35-856	3 ft. 10 in. (117 cm.)	1 ft. 5 $\frac{1}{2}$ in. (45 cm.)	56 ends 160 ends (80 groups)	Single, in plain central band Paired in border self-colour stripes	20 20	Single Brown	Plain central band of greyish black, indigo over red-brown Narrow patterned side borders of white on red-brown, divided by brown stripes with pin stripes of red, yellow and dark blue
35-857	3 ft. 6 in. (106.7 cm.)	1 ft. 6 $\frac{1}{2}$ in. (47 cm.)	152 ends (76 groups)	Paired throughout, slightly closer in centre of cloth	42	Single. Brown	A finely woven cloth. Patterns, white and brown. Scarlet, black, and yellow self borders
35-858	3 ft. 10 in. (116.9 cm.)	1 ft. 4 $\frac{1}{2}$ in. (41.9 cm.)	144 ends (72 groups)	Paired except in narrow central stripe, where in threes	28	Two parallel. Brown	Unusual, but ineffective arrangement of narrow striped patterns, divided by pin stripes in colour. There is a narrow, bright red stripe down the centre of the cloth

35-877	3 ft. 9½ in. (114.7 cm.)	1 ft. 7½ in. (49.3 cm.)	168 ends (56 groups)	Threes practically throughout, one or two fours	20-22	Three parallel. Brown	Very gay in colour in border stripes. Red background to central band, overdyed indigo, the pattern in buff with some parts in red. Red, yellow, blue, and black and white borders
35-878	3 ft. 8 in. (111.8 cm.)	1 ft. 7¾ in. (50.1 cm.)	96 ends (48 groups) 108 ends (36 groups) 192 ends on an average	Curious irregularity in grouping of threads paired for most of pat- tern stripes, but in threes for 4 in. at left In self-colour stripes, threes and fours in- discriminately	15-16	Three parallel. Brown	Most brilliantly coloured in whole collection although simi- lar to patterns in white, out- lined dark brown, on reddish brown background. Narrow border stripes in yellow, scarlet, white, and navy blue, with a black and white horizontally striped border as well
35-879	3 ft. 6½ in. (108 cm.)	1 ft. 8½ in. (52.1 cm.)	132 ends (44 groups) 144 ends (36 groups)	In threes in patterned stripe In fours in red and blue self stripes	20	Two parallel. Brown	Generally dull in tone. Warps of pattern stripe dipped in weak indigo bath, after having been dyed brown. Broad outer stripes of indigo and small border stripes of red, yellow, and black
35-880	3 ft. 9 in. (114.4 cm.)	2 ft. ¾ in. (62.9 cm.)	96 ends (48 groups)	Mostly grouped in twos and threes	26	Two parallel. Brown	Border stripes somewhat unusual in colour, navy blue, scarlet and orange used. The orange, yellow overdyed red. Buff pattern on reddish and black ground
35-883	3 ft. 5 in. (104.2 cm.)	Varies from 1 ft. 5 in. (43.2 cm.) to 1 ft. 3½ in. (39.4 cm.)	120-168 in patterned section 192-280 in finer border stripes	Very uneven spacing. In pattern stripes mostly paired with occasional single warps. Similarly in border stripes	24 of ordinary cloth weft, and in pattern 24 of coloured weft	Two parallel white, right across cloth be- tween each pattern pick; eight parallel strands of red or four of black for pattern picks	Red and black embroidered pat- tern threads turned back at bor- der stripes. Border stripes of red, yellow, and black enclose three narrow white stripes with embroidery, in black and red on them
35-894	3 ft. 9 in. (114.4 cm.)	1 ft. 7¾ in. (50.1 cm.)	112 ends (56 groups) 144 ends (72 groups)	Paired throughout but closer spacing in dark brown self stripes	20	Three threads parallel	White pattern on brown ground. Dark brown border stripes near outer edge and series of brown and yellow self-colour pin- stripes with two narrow pat- terned border stripes between
35-882	4 ft. 3 in. (129.6 cm.)	1 ft. 9½ in. (53.9 cm.)	108 ends (36 groups)	Grouped in threes throughout	20	Fourfold. Blue	Coarse cloth of firm texture. White pattern on blue back- ground. Border stripes in red, yellow, and white. General colour scheme pleasant

For the sake of convenience for reference the *bidang* are described in the order of their enumeration in the Catalogue of the Museum. The only exceptions we have made are to place the two plain striped cloths, 35.853, 35.876, and the two embroidered cloths, 35.883, 35.886, at the end of the tie-dyed patterned cloths.

35.852. An unmade *bidang* having a length of 3 ft 10 $\frac{5}{8}$ in. (118.4 cm.) and a width 1 ft. 9 $\frac{1}{2}$ in. (55.5 cm.).

There are 92 warp ends to the inch grouped in pairs and 20 picks of weft. The warp forms the surface of the cloth and there is no variation in the border as regards the number of warp ends. The weft is brown and threefold.

The cloth has a brown background and a broad central band 11 $\frac{5}{8}$ in. (30 cm.) wide having on each side border stripes totalling $\frac{1}{2}$ in. (13 cm.) in width. Some of these stripes are plain brown with a narrow edging of black and yellow, *ara buloh* "bamboo *ara* pattern" (fig. 29, *a*), others are decorated by *empili*, mast (fig. 29, *b*). There is a slight difference in the arrangement of the two sets of border stripes, for on one side the two patterned ones are only divided by a narrow band (4 cm.) of black, yellow, black, and not by the "bamboo" stripe. At the extreme edge of the cloth on either side is a border approximately black, the warp having been dyed brown and then re-dyed with indigo. This is labelled *ara beranak*, "the *ara* with the smaller ones" ("*beranak*, to give birth to", *S.D.D.*).

The central pattern consists of elongated lozenges, three to the width and four to the length of the cloth. Small spiral hooks decorate both sides of the enclosing lines of the lozenges; the lines represent crossed poles, *penjuang*, or the posts on either side of the staircase supporting the railings (*S.D.D.*). Possibly the hooks may represent the steps cut in the poles which serve as ladders from the ground to the verandah of the house.

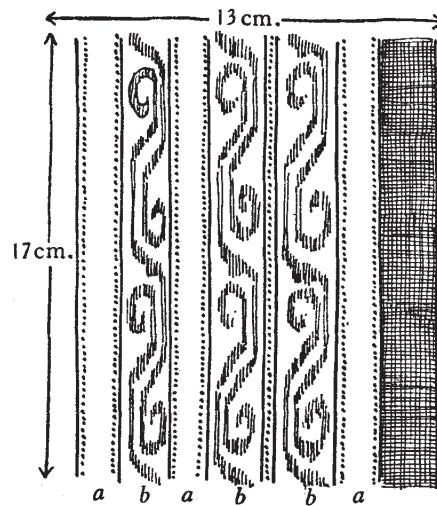


Fig. 29. Border stripes on *bidang* 35.852: *a*, *ara buloh*, "pattern of coloured stripes" (*ara*), "bamboo" (*buloh*); *b*, *empili*, mast.

One of the terminal lozenges is shown in fig. 30 with a portion of the end border pattern underneath, the uneven zigzag part of which is called “the crooked arm, *lelingkok betayok*” (fig. 30, *d*). The tie, *tikal penjuang*, at the top of the figure (*a*) indicates the method of securing the cross pieces by twisting and knotting ratan, or cord made from palm fibre, round them. Grass lizards (fig. 30, *c*) and heads of birds are used as the motives in the spaces between the lozenges.

35.853. A plain striped *bidang*, see p. 87.

35.854. *Bidang* with *Aki Ungkok*, “the man in the moon” or Grandfather Ungkok. Width, 1 ft. 11 $\frac{5}{8}$ in. (60.4 cm.); length, 3 ft. 8 $\frac{1}{2}$ in. (113.5 cm.).

The warps are paired or twofold, there are 52 pairs (104 warp ends) in the patterned section and 64 pairs (128 ends) to the inch in the borders. The weft is brown with four parallel threads; there are 26 picks to the inch.

The background is a rich dark brown with lighter reddish-brown spots in some parts and some spaces inside the pattern lines. The pattern appears as biscuit colour, so the warps must have been all slightly coloured in a brown dye before the pattern was tied up.

In the borders along the sides there are some light blue stripes which must have been originally white, for this petticoat has had its edges dipped in indigo after it was completed, so that the dark brown in the borders has become black.

The patterns are most interesting. Beginning at the seam is a wavy line,

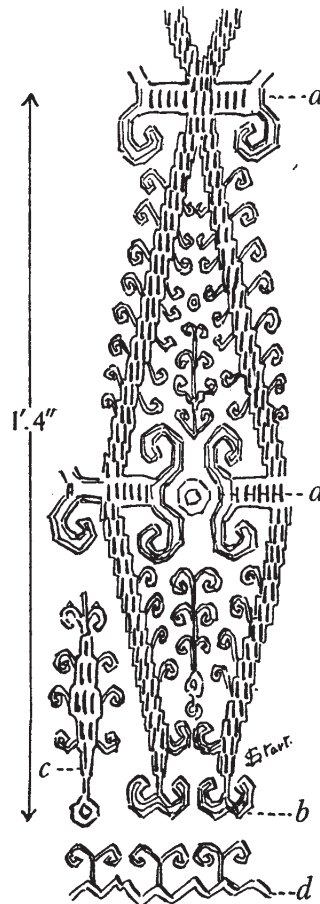


Fig. 30. Lozenge pattern representing the crossed poles of the house, *bidang* 35.852: *a*, *tikal penjuang*, “the fold (tie) over two cross-pieces”; *b*, *kait serepang*, “hook on a split pole”; *c*, *lachau*, “a grass lizard”; *d*, *lelingkok betayok*, zigzag and beckoning hand.

lelingkok, connected by uprights, *jaul pampang*, "twisted fence to block the path", to a bold zigzag, *pampang lelingkok* (the upper band of pl. xxiii, g). Within the spaces thus formed are *sayap*, "wings". At the other end of the cloth is *pampang lalau lelingkok*, "narrow path (blocked) with a hand rail" (the lower band of pl. xxiii, g). The most important row of figures comes next, representing *Aki Ungkok*, Grandfather Ungkok, "the man who lives in the moon and whose face is seen there" (pl. i, a). This figure is very similar to the deer, *rusa*, pattern which occupies the central space of the cloth, but it is distinguished from it by the anti-spiral at the head, *sanggol Aki Ungkok*, "the hair of Grandfather Ungkok twisted in a knot at the back of his head", and by his hand, *jari*. His bent back, *bungkuk*, rests against a post, *tiang penyadiah*, when tired. Another row of similar representations of *Aki Ungkok* is repeated at the other end of the cloth.

In between are two rows of the deer pattern with crossed (or entangled) antlers, *tandok rusa berkaul*. All parts of the animal are definitely named; a hook near the hind legs is the tail, *iko* (pl. iii, a); the *kaki*, "feet", are shown in another stag (pl. iii, b). The *rusa* is the largest of the Bornean deer and is akin to the Indian deer. The stag has doubly branched antlers and is found mostly in the clearings.

Between the deer figures is a pattern formed by two combs, *sugu* (pl. xxiv, h), joined by a wavy line, *lelingkok*, and enclosing a bird, *burong* (pl. vii, a).

Some of the smaller spaces are filled by double spirals and are described as *gelong bekait*, "hooks", and *jerit begelong*, "rounds of the pattern", obviously mere space filling.

At both ends near the seam are *gelong paku rësam*, "curled tops of the *resam* fern" (pl. xviii, m, n), and in the narrow border patterns, *empili*, mast (pl. xviii, a).

35.855. Width, 1 ft. $4\frac{2}{5}$ in. (40.5 cm.); length, 3 ft. 7 in. (109.8 cm.)

The warps are twofold, except in the self-colour stripes at the side where, used singly, they produce a very fine section in the cloth. In the patterned stripes the pairs are 60 to the inch (120 warp ends), whilst the single warps at the sides average 112 to the inch. The weft is brown and single and there are 24 picks to an inch.

The pattern is in biscuit or buff colour on a reddish-brown background with a greyish stripe along the edges, produced by dyeing some light-brown

yarn with indigo. This *bidang* has one of the simplest colour schemes and is very pleasant in its general effect.

The motives are mainly derived from plants, but some animals and inanimate objects are shown and the general arrangement is excellent. On the first third of the cloth a lozenge and a half are formed by long crossed bands (like those forming the lozenges of pls. xviii, *i*, xix, *a*, and many others), *tebok tangga pantok*, "holes pecked in a staircase", i.e. notched poles that serve as ladders. Within the frame of the lozenge are two concentric lines with hooks, of which the inner is shown on pl. xix, *a*; this motive is called *jerit tangkai bunga*, "the blossoms completely covering the bunch" (*tangkai*, "fruit stalk"; *jerit*, "in order" or probably may mean "in series"); the lower end of this sketch is called *pala buntak*, "head of locust or grasshopper". In the centre is *jerit buah bangkit*, "a complete bunch of *bangkit* fruit", this is also shown on pl. xviii, *j*. Close by is a design similar to pl. xix, *a*, but the central motive is a bird, *burong buah bangkit* (pl. viii, *b*). Below the lozenge the notched poles are continued as broader bands, *tebok kingking*, "notches cut as on a brass bracelet", bordered on each side by a line, *entali marik*, "string to hold beads". (In another cloth, 35.871, similar bands are called *randau tangkong bi penyuang*, "the lattice-work pattern of the *tangkong* creeper", pl. xx, *a*.) These broader bands at the bottom of the lozenge in the second row turn back on themselves (pl. xx, *c*) and are labelled *tangkong mulai*, "a creeper which bends back from where it starts"; close by it is *rundai bunga tangkong*, "the dangling flower of a creeper" (pl. xix, *c*). At the ends of some of the lozenges is a *pala buntak* (pl. xvii, *h*).

An unusual motive is the framework of a fireplace, *entilang* (pl. xxiii, *h*). An Iban fireplace is like an open cupboard, the lowest shelf rests on the floor and is boarded all round and covered with clay upon which a few stones are placed to support the cooking pots. The shelf above is of lattice-work and is used for smoking fish and meat (in the cloth there is a young bird, *anak burong*, on this shelf); the shelves above this are used for drying firewood. This is the only piece of furniture in the Iban house and is placed at one side of the door that opens into the *tampuan* or *tempuan* or passage that connects all the separate suites of these communal houses.

The last third of the cloth contains three designs, each consisting of two zigzagged bands which form a central lozenge; the spot where these bands

meet to form the lozenge is labelled *papan penukoh*, "the plank where the prop is tied" (which is obscure); at the lateral angle of this lozenge is an hexagonal device within which is a motive that elsewhere is called a sleeping cat (cf. pl. xvii, r-t). Other *bidang* known to us have these designs. In one the bands are called *papan penukoh* (plank), and the device at the angles *pusat penukoh* (navel or centre), in another simply *penukoh*. In all cases the ends of the bands are prolonged into hooks, in one case termed *bunga penukoh*. Within the lozenges are paddles, *sengayoh*, with curved handles, *ulu* (pl. xxiii, r), and nearby are designs of *ulu sengayoh*, which are merely the crutch handles of the paddle (pl. xxiii, m); a pair of somewhat similar motives is labelled *spit grama*, "the nippers of a freshwater crab" (pl. xvii, q). The spaces between these three designs are occupied by *aji jerit buah bangkit*, "the *Gymnura* [shrew] with the *bangkit* fruit, the *Gymnura* has a very unpleasant smell, the *bangkit* a sweet smell" (pl. vi, d); *jerit burung buah bangkit* and *kukut bruang*, "the claws of a bear".

At the sides are four "striped" *suriek* bands that form the border; the outer of the enclosed areas have a wavy pattern, *lelingkok semerai sungai*, "the crooked [zigzag] river crossing", and the central pattern is named *entibap*, "the arenga palm".

35.856. Width, 1 ft. 5½ in. (45 cm.); length, 3 ft. 10 in. (117 cm.).

In the coloured border the warps are paired or twofold and are closely arranged, in the self stripes averaging 80 pairs, 160 ends to the inch. In the plain central band single warps of a coarser yarn are used and average 56 to the inch. The weft is brown and single and there are 20 picks to the inch.

The central band is plain and of a greyish black, indigo over brown probably having been used. At the sides there are three narrow patterned borders with designs in buff on brown, divided by shaded brown stripes edged with self-coloured stripes in red which have hair-lines in them of black and yellow. The width of these grouped borders is 4⅛ in. (10.4 cm.).

The patterns are very distinct and show great skill in the tying-up of the warps. The middle patterned stripe contains a series of bird motives: *burong besugu* (pl. vii, m), *burong buah bangkit*, *burong jengkuan*, *burong bedayong* (pl. viii, d, f, j); *embayer*, "centipedes" (pl. xvi, a, f); *entibap*, "arenga palm" (pl. xxii, c). The inner and outer pattern stripes contain halves of

various birds. Among other designs are *empili*, mast (pl. xviii, e) and *unak wi bekait*, "crossed ratans with thorns" (pl. xxii, o). Many of the ratans have very thorny stems which help to make the jungle almost impassable. Beccari (1904, p. 114) describes some with stems as thick as a man's wrist, 200 ft. in length and defended by a formidable array of thorns.

35.857. Width, 1 ft. 6½ in. (47 cm.); length, 3 ft. 6 in. (106.7 cm.).

The warps are twofold throughout the cloth and there is little difference between the borders and the main pattern stripe. An average of 76 pairs (152 ends) to the inch would be accurate if taken throughout the full width. There are 42 weft picks to the inch, which is an unusually high number, and the thread used is single and brown in colour. The resulting cloth is of a very fine, close texture, and as the patterning is also extremely neat and detailed it must have been made by an expert worker.

A light tobacco brown, with buff lines for the patterns, is the colour of the middle section. The wide borders on either side of this are divided again by self-coloured stripes averaging $\frac{3}{8}$ in. (0.9 cm.) wide in which the bulk of the warps are red with pin stripes of black and yellow amongst them. At the outer edge there is a $\frac{5}{8}$ in. (1.6 cm.) stripe of indigo, followed on its inner side by $\frac{1}{10}$ in. (2.5 mm.) yellow and $\frac{1}{8}$ in. (0.3 mm.) red.

The patterns are clearly defined and very elaborate. Spiders, *emplawa* (pls. xiv, b, d; xv, b, c), form the principal motive on one side of the broad central band, and in two cases other creatures are depicted as if in or on their bodies, a bird (pl. xv, b), *burong di tengah tuboh emplawa*, and a grass lizard (pl. xv, c), *engkarong empakap di tuboh emplawa*. A superabundance of legs is a feature of spider patterns, which is perhaps due to the fact that the spiders travel very quickly and their legs seem uncountable. At another place in this cloth a more reasonable shaped spider which has only four legs is described as a young one, *anak emplawa* (pl. xiv, b).

In the other half of the broad band there is a representation of a hawk, *lang*, (pl. x, d) and a tiger cat, *remaung raras* (*Felis marmorata*); portions of these animals help to fill in the remaining space.

An interesting feature of the central pattern stripe in the borders down the side is that of a "centipede crossing the river", *embayar semerai sungai* (pl. xvi, e). The stripes on each side represent *lelingkok semerai sungai*, "crossing backwards and forwards across a river" (pl. xxv, g).

35.858. Width, 1 ft. 4½ in. (41·9 cm.); length, 3 ft. 10 in. (116·9 cm.).

The warps are paired except in the narrow central stripe of red, where they are grouped in threes, parallel to one another. There is an average of 72 pairs (144 warp ends) to the inch, and the weft, which is brown and twofold, makes 28 picks to the same measurement.

The arrangement of the patterns on this cloth is somewhat unusual, there being a crimson stripe $\frac{7}{8}$ in. (22 mm.) wide down the centre, bordered by self stripes in black and yellow, each $\frac{1}{10}$ in. (2·5 mm.) wide. The remainder of the cloth is divided up into narrow pattern stripes separated from each other by a shaded brown edged with pin stripes of yellow, red and black, or brown and yellow. As a design it is ineffective.

The designs are mostly degenerate in the sense that types are mixed or joined together. Birds with netting needles, *burong jengkuan* (pl. VIII, e), birds with combs, *burong besugu*, and other variations fill the four widest stripes, whilst young lizards, *anak lachau* (pl. XII, b), are the chief motive of the remaining six narrower pattern stripes.

35.859. Width, 1 ft. 10 in. (55·9 cm.); length, 4 ft. (122 cm.). Pl. XXVIII, A.

The warps are paired or twofold throughout most of the cloth, but there is some variation in the red stripes. In the patterned portion there are 48 pairs (96 ends) to the inch and in the self-colour stripes 76 pairs (152 ends). The weft is fourfold, the threads lying side by side like a tape, and as a consequence of this width there are on an average only 18 picks to the inch.

The broad patterned band has figures in buff on a shaded ground of deep red and dark brown. The border stripes are particularly gay and show refinement in their treatment.

Two narrow $\frac{3}{10}$ in. (7·5 mm.) shaded borders with a "crossing the river" pattern are divided and edged by a composite stripe arranged as follows: 5 red warp groups (12 ends), 5 yellow (10 ends), 3 black (6 ends), 5 yellow (10 ends), 10 red (20 ends) and then 5 white pairs and 4 black ones alternately, which in weaving produces the effect of horizontal stripes of black and white. This completes half of the composite stripe, the remainder being the reverse of the first part.

The red, black and yellow lines of the composite stripe are labelled *ara surik kendawang* as they are like the markings on the "*kendawang* snake (*Callophis flaviceps*)". The complete group of five borders occupies 3 in.

(7.6 cm.) and is finished off on the outer edge by a $\frac{5}{8}$ in. (1.6 cm.) self border in dark brown edged with a narrow coloured one in white, red and yellow. The general effect is rich, with accented interest in the striped border.

The patterns are unusual and interesting. At one end of the cloth (the right in the photograph) there are representations of "clouds in steps", *miga dudok* (pls. xxviii, A; xxv, i, j), against which a bird is flying; it is labelled *burong berayah*, "bird with outstretched wings" (pl. viii, l). Below the clouds are their feet or base, *kaki miga dudok*. Between the clouds are designs called *betayok*, "to beckon with the hand" (pl. ii, k), but these are very like the *rayot miga dudok*. Above the big clouds, which possibly represent a cumulus, are two smaller clouds, *rayok miga dudok* (pl. xxv, k), which make a very fair suggestion of smaller floating clouds.

In the next row are two large designs labelled *remaung*, "the tiger-cat, *Felis nebulosa*, or possibly the real tiger" (pls. xxviii, A; iv, e). They face the "clouds", but in pl. iv the head is downwards. These "tigers" are not very characteristic and in fact they suggest the usual hawk motive (cf. pl. x).

On the other side of the cloth (not shown in pl. xxviii) is an elaborate and inconclusive design (pl. xxv, e); on each side is a *padong remaung*, "ledge or sleeping place [lair] of the tiger; tigers are supposed to live in holes in the rocks". The curved elements above and below the centre are labelled *kaki padong remaung*, "the foot of the tiger's ledge"; but it looks more like the foot of the tiger on the ledge. The remainder of the pattern, as far as the joining, is made up of two complete and two half shrews, *aji*, of the usual conventional type.

The border contains two zigzags, *legingkok semerai sungai*, "crossing the river backwards and forwards" or "again and again", and three black and white stripes, *surik gran permalu tekalong*, the ridges on the mallet used for beating the bark of the *tekalong* tree into bark-cloth.

35.860. *Bidang* with *beringin* fruit in bunches. Width, 1 ft. 10 in. (55.9 cm.); length 3 ft. 10 in. (116.9 cm.).

In the patterned stripe down the centre the warps are twofold or paired, there being 48 pairs (96 ends) to the inch, whilst in the self-coloured stripes down the sides there are 68 pairs (136 ends) in the same space. The weft is twofold for part of the cloth and fourfold in the remainder. All of it is brown and there are 22 picks to the inch.

The design in the wide central band is in pale buff on a background of red-brown. Three narrow patterned stripes at the side have the same colour scheme and are divided by $\frac{1}{2}$ in. (13 mm.) compound stripes made up of red, navy blue, yellow, red, yellow, navy blue and red. There is an outer border just over half an inch in width of the dark navy finished off by very narrow ones of yellow and red.

The patterns are of a different type from those in the cloths already considered, as the chief motive is the *beringin* tree. The first big pattern is made up of three branches of the fruit, *upong buah beringin* (or *berangin*) (pl. xviii, *l*); immediately below these are *gelong paku*, "fern tops" (pl. xviii, *o*). These are followed by *batang beringin*, "the trunk of the *beringin* tree"; its many branches have projections described as *tangkin berangin*. One of two very similar projections at the end of the pattern is labelled *tangkin berangin*, "to put on a parang",¹ [sword], and the other *tangkin mulai*, "the sword swinging back as the man walks". Slightly different projections are called *lintah*, "leeches" (pl. xvi, *i*).

The narrower patterned borders down the sides contain *empili*, mast (pl. xviii, *n*), *entibap*, "arenga palm" (pl. xxii, *b*), and *serok genok*, "a gourd with a long twisted stalk" (pl. xxii, *f*). "The fruit is used by the Dayaks to rub their bodies in the place of soap." The dried gourd is used as a water-vessel. The broader border contains *entibap* and various birds: *burong burak prut*, "bird with a white breast" (pl. vii, *e*), *burong sawang prut*, "bird with an opening in its breast" (pl. vii, *h*), *burong besugu*, "bird with a comb" (pl. vii, *n*), and *burong bedayong*, "bird rowing" (or paddling) (pl. viii, *h*).

35.861. Unmade *bidang*. Width, 1 ft. 10 in. (55.9 cm.); length, 3 ft. 10 in. (116.9 cm.).

This is a rather loosely woven fabric in which the warps are paired and number 48 pairs (96 ends) to the inch and there are 26 picks of a twofold brown weft.

A brown background with biscuit-coloured designs forms the pattern stripe, but a successful note of colour is introduced by several pairs of narrow yellow and bright blue stripes used in the border, and by a broad band of light blue, $\frac{5}{8}$ in. (1.6 cm.) wide, at the outer edge.

¹ Dr Hose added to this label: "The lines of a Dayak song are: *Tangkin berangin pedang soran, igi kabu kabu kakambu bulu duam* = The sword is put on, the sheath of which is covered with fluttering hornbill feathers."

The general effect is simple; there are, as the most important feature, four repeats of a pattern, composed of a pair of crossed poles, *penjuang*, in the width of the cloth. This design is repeated three times in the length of the cloth. Filling the acute angle at either end of the crossed poles is a *pasak serpang*, "the wedge of the fork" (pl. xxiii, r); and between each pair of poles at the ends of the cloth is a large representation of a lizard (skink), *engkarong* (pl. xii, j). Between the crossed poles in the centre of the cloth are *bubul kukut burong*, filling up with claws of birds; the middle one also has *igi brass*, "rice grains". There is some obscurity about the *engkarong* designs as in some cases the double-hooked ends are labelled *serpang jengkuan*, "the slit in the weaving needle" (spool) (pl. xxiv, e), but it is probably a netting needle used for making fishing nets, see Long Roth, 1, p. 454; *S.D.D.* gives "*jengkuan*, a netting needle". It appears to us that the lizard is resting on a netting needle.

The border patterns are shown in fig. 28, b: at the extreme edge is a narrow red-brown and yellow stripe called *ara beranak*, "the child of the *ara*" (as in 35.852), there are three *lelingkok* zigzags and between them are *surik*, "stripes".

35.862. Tiger cloth. Width, 1 ft. 8½ in. (52.1 cm.); length, 4 ft. 1¼ in. (125 cm.).

In the self-coloured stripes of the border the red warps are grouped in threes and the rest are paired; the whole averages 128 warp ends to the inch. In the broad patterned stripe the warps are also paired and number 52 (104 ends) to the inch. In the same measurement there are 26 picks of weft, which is twofold and brown.

The broad band of pattern in the centre is in buff on a brown background. On either side of this there are three narrow patterned borders in the same colouring divided by composite warp stripes, the first two being yellow, brown and black, and the two outer ones red, yellow and black. A broad black stripe edged with red comes nearest to the outside.

Palm, *entibap*, "arenga palm", motives (pl. xxii, a) and birds, *burong* (pl. vii, d), fill the narrow pattern stripes at the sides, but the chief interest in this cloth centres in the use of the "tiger", *remaung*, doubtless the tiger-cat; other designs are shrews and spiders. One end of the cloth consists almost entirely of "tigers", one being recognizable (pl. iv, a), and parts of

tigers, the paws and legs of which occur many times separately and fill in awkward spaces.

In the remaining part of the central band are the spider, *emplawa*, in several variations (pl. xiv, a, c), and the white shrew, *aji*; *aji bulan* is shown in pl. v, f, and *aji bulan bangkit*, "the [moon] *aji* in the *bangkit* fruit", pl. vi, a. The stepped pattern of the lozenge (which represents the *bangkit* fruit) is called *tebok tangga pantok*, "notched steps", *pantok* means to peck as a fowl and the scrolls are labelled *jerit nyangking*, "a pattern of itself". The white shrew (*Gymnura rafflesi*) is peculiar to Borneo and is often called the "moon rat", *aji bulan*, by the Iban, because of its nocturnal habits. The general aspect of these two patterns is certainly different from the one of the tiger and a slight resemblance to the original creatures can be traced.

As all the animals on this cloth are inimical to human beings, it may have been intended to protect the wearer from them.

35.863. Plant forms. Width 1 ft. 8½ in. (52.1 cm.); length, 4 ft. 1 in. (124.5 cm.) Pl. XXVIII, B.

In the patterned stripes the warps are twofold or paired, and in the self-coloured border stripes of red and orange they are grouped in threes; 68 pairs or 136 ends go to the inch in the former and 72 groups of 3 (216 ends) in the latter. The weft is brown and threefold and there are 22 picks to the inch.

The background is reddish brown and the patterns upon it are in buff. The self-coloured stripes in the borders are less striking than in most of the cloths, although the colour scheme used is much the same. Three patterned stripes are divided and edged by composite stripes in which the colours are red, white, black, orange, red, orange, black, white and red and there is a very dark brown, almost black, border near the outer edge which is ½ in. (1.3 cm.) wide.

The patterns are interesting and some are unusual; most of them are derived from plants.

Near the joining is a design called *kait betulak*, "a hook pushing another back" (pl. xxiii, p).

Two-thirds of the length of the cloth is mainly occupied by a lozenge-shaped arrangement of the branches of the *tangkong* with *bunga tangkong*, "flowers" (pl. xx, b, and near the upper left corner of pl. xxviii, B); below

this in the photograph is *pating betula*, "branches pushing one another back" (pl. XXI, a). Near the middle line of pl. XXVIII, B are three *daun tangkong mulai*, "leaf of the *tangkong* twisted back", part of which is shown in pl. XX, d. In one place the blossom of the creeper is shown enclosed in its sheath (technically the spathe of the spadix) *upong bunga tangkong* (pl. XX, e). A triangular space (bottom of pl. XXVIII, B), is filled (*jerit*) with *bingka lia*, "root of ginger" (pl. XIX, d; this appears reversed, as it was drawn from the other side of the cloth to that photographed).

The last third of the cloth has a somewhat degenerate deer pattern, but the antlers of the deer are strikingly developed and are labelled *ujong tandokrusa bekaul*, "the tips of the antlers twisted over one another"; evidently two stags are butting each other, one is shown in pl. III, g.

In the border are two stripes of *daun wi*, "tendrils of ratan" (pl. XXII, k), and one of *entibap*, "arenga palm" (cf. pl. XXII). The blank space in all the stripes almost certainly is *kengkang lang* (see p. 33), although the zigzag in the central stripe is labelled *dabong pemuchok nyemberai sungai*, "the notches of the river crossing".

35.864. This *bidang* has a general resemblance to 35.852. The pattern consists mainly of *bua bangkit* with enclosed *burong*; the borders contain *empili*.

35.865. Width 1 ft. 5½ in. (43.8 cm.); length 4 ft. 0½ in. (123.2 cm.). Pl. XXIX.

This cloth is very evenly woven throughout and both warp and weft are two-fold. There are 72 pairs of warps (144 ends) and 24 picks of weft to the inch.

The dyeing is the work of an expert, for the pattern lines are quite clear although the ground has been dyed twice, first red and then blue on top to produce a brown and so give a shaded effect. The spots along the inside of the long pattern lines are also alternately coloured red and brown.

The border stripes down the side are important and measure as a whole 4¾ in. (12 cm.). They are gay in colour: at one edge there are four stripes, yellow, red, white and dark navy blue, averaging ⅝ in. (1.6 cm.) in width, called *ara belambang*; at the other edge is a stripe of red and indigo. Inside this group are six multicoloured strips, *surik*, of yellow, red, black and white dividing five pattern stripes. These many-coloured stripes, like some in previous examples, may represent the markings of a snake.

Two-thirds of the central band is occupied by representations of shrews, *aji*, *Gymnura*. Near one end is *aji bua bangkit bekarong*, shrew hidden in a *bangkit* fruit (pl. vi, *e* and top of pl. xxix). In the middle of the photograph is an *aji* (pl. vi, *c*): at its upper end is the snout, *junggur*, at the lower end the testes, *plir*; the stomach, *prut*, encloses white spots, and the four clawed feet, *kaki*, are clearly seen. Below this (pls. xxix and v, *g*) are *aji beradap*, two shrews facing one another in what appear to be fighting attitudes, a good indication of the pugnacity of these animals. Beside these is what is probably a young shrew (pl. v, *b*). The three small rings seen at the top of the photograph are labelled "*pantak penandok*" (pl. xvii, *d*); this can be translated as "the wound caused by the sting of a wasp" (see p. 132). The remainder of the cloth includes some conventional patterns which are difficult to understand. The last pattern is a row of sigmoid designs, labelled "*tayok gasing*" (pl. xxiv, *a*), each of which appears to be a hooked piece of wood used for winding thread from the spinning wheel, but it is also very like the handle of a *gasing* (fig. 3).

The patterned border stripes consist of *lelingkok*, "zigzags", *empetut* (alternate red, dark and white squares) and a central one of *entibap*, "arenga". The blank space in all the stripes is not labelled, it is like *kengkang lang* (see p. 34).

35.866. Width, 1 ft. 10½ in. (57·1 cm.); length, 3 ft. 10 in. (116·9 cm.).

Parallel pairs are used in both warp and weft. In the central band there are 68 pairs (136 ends) and in the borders 72 pairs or 144 warp ends to the inch. The black weft picks number 24 to the inch and the resulting cloth has a fine even texture. Black is an unusual colour for weft; it may be the result of the second dyeing.

The colour is unusual, because although originally a brown and white central band with the usual red and yellow self stripes in the border, the whole cloth has been re-dipped in an indigo bath, which has resulted in the central band having a pale blue pattern on a black ground and the outer stripes being dull green and reddish purple.

The designs are very interesting and represent shrews, spiders and a tiger-cat. Certain distinctive features can be recognized in each motive, e.g. the long snout of the shrew, its stomach and its claws (pl. v, *c*); the powerful legs of the tiger-cat (pl. iv, *c*); and the approximately round body of the

spider with many legs (pl. xv, a). In each outer border are two *lelingkok semberai sungai* and one *entibap* patterns.

The blue dyeing of the skirt was probably done so that it might be worn by a widow.

35.867. Unmade *bidang*. Similar to 35.861. The cloth is labelled “*kain serpang buah pedalai—serpang samoa subuka*”. Width, 1 ft. 11 in. (58.4 cm.); length, 3 ft. 10½ in. (118.1 cm.).

The warps are paired or twofold and are 44 (88 ends) to the inch, the weft is brown used fourfold and makes only 16–18 picks to the inch on account of its width.

The colour is generally quiet in effect, a light pattern upon a dark brown background with border pattern lines in dull yellow brown. The yellow is probably obtained from jack-wood (*Artocarpus integrifolia*), the term *pedalai* on the label refers to that tree.

This cloth is similar in every respect to 35.874 and is very like 35.861. It is an example of a simple and effective arrangement of a few units; there are four repeats of the pattern in the width and also in the length of the cloth. It consists of crossed poles of *pedalai* with the lozenge-shaped space between filled with a motive, *bubul lapang*, “fill up space”, of no particular form, and between the acute angles of the poles is a *pasak serpang*, “wedge of the fork” (pl. xxiii, s). Two of the narrow border patterns consist of *mast empili* (pl. xviii, c), and *daun wi*.

35.868. Unmade *bidang*. Width, 1 ft. 6 in. (45.7 cm.); length, 3 ft. 10 in. (116.9 cm.).

The warps are paired, except in the bright red self stripes of the border, where they are grouped in threes, thus producing a more solid colour effect. On an average there are 56 pairs (112 warp ends) to the inch, the weft being of three parallel brown threads and making 16 picks to the inch.

The central band has a stone colour pattern on a brown background, but the whole cloth is enlivened by three scarlet stripes averaging $\frac{5}{8}$ in. (1.5 cm.) wide which divide up the patterns down the sides. Each of these red stripes is edged with a narrow band of yellow, black, yellow, which occupies about $\frac{1}{8}$ in. (0.3 cm.) on either side of the red. Near to the outer edge of the cloth is a very dark-brown stripe about $\frac{1}{2}$ in. (1.2 cm.) in width which adds character to the whole.

The chief motive is the tiger-cat (pl. iv, *b*, *d*), but a frog, *pamā* (pl. xiii, *f*), also occurs in one place. There are many meaningless space-filling patterns. The two narrow border patterns are arenga palms (pl. xxii, *d*), ratans, *daun wi*, and mast, *empili* (pl. xviii, *b*), with a centipede, *embayer* (pl. xvi, *b*), at one end of the cloth.

35.869. Spider cloth. Width, 1 ft. $8\frac{3}{4}$ in. (52.7 cm.); length, 3 ft. $8\frac{3}{4}$ in. (113.7 cm.).

In the broad central band and the narrow border pattern stripes the warps are grouped in threes and in the black and red self-colour stripes in fours. In the latter there are 48 groups (192 ends) and in the former 56 (168 ends) to the inch. The weft is dark brown, is used fourfold, and there are 18 picks to the inch.

The background of the central band is dark brown with patterns in reddish brown outlined with buff, and there are rectangular spots of reddish brown used to fill the larger spaces of the ground.

The border stripe has a yellow and red edge $\frac{1}{4}$ in. (0.7 cm.), then a broad indigo stripe $1\frac{3}{8}$ in. (3.5 cm.), followed by three red, black and yellow stripes averaging $\frac{7}{12}$ in. (1.5 cm.) in width which are separated from one another by the two narrow zigzag-patterned stripes of $\frac{1}{4}$ in. (6 mm.) width.

The principal motives are spiders, one and a half occupying the full width of the broad central band. Elaborate filling-in patterns decorate the spaces between the spiders and intermingle with them. One of the spider motives, with birds' heads inside, is very similar to one on cloth 35.879, which is figured at *d* on pl. xv and like that has fanciful legs which merge at either side into other filling-in devices.

The only other pattern of interest on the cloth is the occurrence in two rows of a representation of the piece of wood upon which the thread from the spinning wheel is wound, *tayok gasing* (pl. xxiv, *b*), see p. 74.

35.870. A deer cloth with hinds only. Width, 1 ft. 9 in. (53.4 cm.); length, 3 ft. 8 in. (111.8 cm.).

The warps are paired, except in the self-coloured border stripes, where they are grouped in threes. The paired warps number 44 groups to the inch (88 ends), the border ones 108 ends in 36 groups. The weft is threefold, dyed brown, and, on an average there are 24 picks to the inch.

The colour is arranged in a somewhat unusual manner. The background

is a reddish brown with all the patterns outlined in black, the patterns themselves being a light stone colour with a reddish-brown filling and occasional black spots. The whole effect is rich. Border stripes of scarlet, with yellow and black narrower borders, ornament the sides of the cloth, the extreme edges having a wide black stripe edged with yellow and red.

The pattern is extremely interesting; deer, *rusa*, form the chief motive, although apparently only hinds are represented (pl. III, *d*).

At the end of the cloth the hind is coiled up, or at least has its head turned back towards the under side of its body; the Λ -shaped object on the head is called *tandok*, "antler" in two places, and *tanggi*, "sun-hat", in another. There are certainly no recognizable antlers in these figures (pl. III, *e*).

In the two central rows the figure of the deer is still more coiled up, and the last row is similar to the first. Some of the spaces are filled by bird motives, one of which is a young bird, perhaps a swallow (pl. IX, *n*). One figure (pl. XXI, *b*) described as *patieng*, "branches", may be part of two deer. To fill up spaces there are *tunku asi*, "a tripod for cooking rice" (pl. XXIV, *f*), and *terabai bungkok*, "a shield" (pl. XXIII, *a*).

35.871. Unmade *bidang*. Creepers and hanging blossoms. Width, 1 ft. 7 in. (48.2 cm.); length, 3 ft. 10 in. (116.9 cm.).

The warps are paired throughout and average 56 pairs to the inch in the pattern stripes and 72 pairs (144 ends) in the self-colour stripes. The weft is threefold without twist and there are 23 picks to the inch. The whole cloth is very evenly woven and has a crisp, firm texture.

The pattern is of the natural cotton colour on a red-brown background and the grouped stripes of bright red, yellow and a very dark brown, giving the effect of black in the borders, indicates Seribas Iban work. There are two narrow bands of colour at the outer edges, red and yellow, then a broad stripe of dark brown, followed by three compound stripes of narrow red, yellow, brown, yellow, red, yellow, brown, yellow, red, divided by slightly wider pattern stripes.

The broad central band is very interesting; it is covered completely by a lattice work or lozenge pattern, in a half-drop style, the lozenges being $7\frac{1}{2}$ in. by $3\frac{1}{2}$ in. (19 cm. by 8.9 cm.). The lines forming the lozenges are described as *randau tangkong bi penyuang*, "the lattice work pattern of the *tangkong* creeper", and hanging from the upper corner of each diamond

and within it is the flower, *bunga tangkong*, whilst from the two lower sides what appear to be leaves project (pl. xx, *a*). The flowers vary slightly in different rows. In three lozenges are *gelang terabai*, "the handle of a shield" (pl. xxiii, *b*).

The narrow patterned borders at the sides are ornamented with a *engkarong kejong*, "stiff lizard, skink", *S.D.D.* (pl. xii, *f*), "*entibap*" but actually *empili* (cf. pl. xviii, *d*), a palm pattern, and at one end, *semerai sungai*, "crossing the river".

35.872. Width, 1 ft. 7½ in. (49.5 cm.); length, 3 ft. 8 in. (111.8 cm.). Pl. xxx, A.

One unusual feature in the making of this cloth is that the weft, which is brown, is a single thread making 20 picks to the inch. There are 128 paired warp ends to the inch, making 64 pairs. The thinness in quality of the weft and the closeness of the warps has resulted in a fine, soft cloth.

The colour is much lighter than in the average *bidang*, the pattern being in buff on a warm Indian red ground with touches of dark brown. There are one or two touches of pale blue in the main pattern and in the narrow side borders; these are unusual and very effective, the dark brown spots being probably due to over-dyeing the brown with the light-blue colour. The bordering stripes at the sides are narrow lines of buff and black or very dark brown.

The patterns are very elaborate in form but excellently spaced as decoration and clearly defined; their accuracy has been made possible by the closeness of the warp and the fine weft.

Included amongst the motives are degenerate, but elaborate, forms of the tiger-cat, *remaung*, and white shrew, *aji bulan*. The most interesting feature of this cloth is the decorative use of the "box for padi husking", *entilang plangka* (a *plangka* may be an oblong wooden frame about 6 ft. by 3 ft. enclosing *ratan* work which is used for threshing paddy, or a propitiatory offering on behalf of a sick person in the *saut* ceremony. The *plangka* used in the ceremony is a plate or an oblong wooden box, without a cover, standing upon four ornamental legs about 6 in. from the ground). A large one labelled "*pelangka (manang besaut)*", is shown on pl. xxiv, *i* and in the lower centre of pl. xxx, A, and a smaller one, within which is a shrew, *aji*, on pl. vi, *b* and in the upper centre of pl. xxx, A. The representation of the

larger *plangka* is very elaborate. Beyond the right-hand end of it, at the edge of the photograph, is a small design, *spit kala*, "nippers of a scorpion" (pl. xvii, *b*).

In the borders at the edges are *embayer*, "centipedes" (pl. xvi, *c*), and birds. Among the latter are *burong besugu*, "bird with comb" (pl. vii, *o*), and a *lelayang*, "swallow" (pl. ix, *c*), of which the tail is somewhat like that of the argus pheasant.

35.873. Unmade *bidang*. Width, 1 ft. 9 in. (53.4 cm.); length 3 ft. 8 in. (111.8 cm.).

Both the warp and weft threads have been used in pairs or sisters of even thickness, the slackness of the warp during the process of weaving resulting in a cloth having a warp surface. There are 46 pairs of warp threads to the inch in the patterned stripe and 88 pairs (176 ends) in the self-colour stripes. There are 26 picks of sistered weft, brown in colour.

The background of the patterned portion has been dyed a reddish brown, leaving the pattern in the natural colour of unbleached cotton.

The central band is decorated with tiger-cats, *remaung* (pl. iv, *f*), white shrews, *aji bulan*, and parts of these animals, with, in a few places, patterns devised purely to fill up an empty space. The shrews are represented in two attitudes, one in which they are facing one another or facing the border—these are distinctly pugnacious (cf. pl. v, *g*), and the other (cf. pl. v, *g*) in a resting attitude, showing the long body and snout (as in pl. v, *e*). The tiger pattern is more purely decorative and is chiefly recognizable by the arrangement of paws in a form fairly constant in patterns bearing this name.

The wider of the narrow borders at the side represents *tangkai buah wi*, "the stalk of a ratan with fruit", and at one end *anak burong*, "a young bird" (pl. ix, *m*). On either side of this is a narrower border with a *lelingkok* or zigzag pattern.

35.874. Unmade *bidang*. An exceptionally wide cloth: width, 1 ft. 11 in. (58.4 cm.); length, 3 ft. 11 in. (119.4 cm.).

Paired warps, 40 to the inch (80 ends), and four parallel threads as weft, dyed brown, 16 picks to the inch, have made a coarse cloth.

Buff patterns on a brown ground fill the central panel and three simple self stripes of brown edged with fine lines of white, yellow and black are divided by two patterned stripes to form the border.

The patterns are very simple; there are four repeats in the width and four in the length. Each repeat consists of crossed poles of *pedalai*, "bread-fruit tree", with hooks, *kayit sre pang*, at the end, a *pasak*, "wedge", fills in the acute angle outside whilst a filling-in pattern, *jerit bubul*, adorns the lozenge shape.

This cloth is similar to 35.861, but lacks the charm of colour produced by the light-blue border in the latter, and is a duplicate of 35.867 and like it has a *lelingkok* pattern at one end and at the other end, *jerit bubul*, a pattern to fill a space; in this case it is paired scrolls.

The border patterns are shown in fig. 28, *a*.

35.875. Unmade *bidang*. Width, 1 ft. $8\frac{2}{5}$ in. (51.8 cm.); length, 4 ft. $\frac{1}{2}$ in. (123.2 cm.).

The warps are paired, 48 pairs occurring in the inch, and the weft is single, brown in colour, and averages 20 picks to the inch.

In this cloth the colour is dull and does not enhance the pattern, which is in buff on a reddish brown ground. At the sides there are three narrow patterned stripes edged by self-colour stripes of yellow, black and brown, with a broad black stripe on either side near the edge.

The patterns are interesting; the broad central band has designs based upon the shrew and a *sampan* or canoe with its distinctive platforms at the ends and paddles, *dayong*, projecting from the sides (pl. xxiii, *c*). The shrew patterns vary somewhat from those in the cloths previously described. At one end is a row of *rebok leka labu*, "gourd seeds with holes" (pl. xix, *f*).

The border patterns are various kinds of *burong* and some *empili*.

35.876. A plain striped *bidang*, see p. 87.

35.877. Width, 1 ft. $7\frac{2}{5}$ in. (49.4 cm.); length, 3 ft. $9\frac{1}{5}$ in. (114.7 cm.).

There are 56 warp groups of threes (168 ends) to the inch in the bright-coloured stripes and also in the central band. The weft is brown, consists of three parallel threads, and makes 20–22 picks to the inch.

The gaiety of colour in the side borders of this cloth is its most noticeable feature and forms a strong contrast to the background of red in the central band, which has been over-dyed with indigo leaving the patterns in buff, with some parts still red.

Hawk designs prevail in the central band (pl. x, *c*); smaller designs include a young shrew, *anak aji* (pl. v, *a*), and a "leech on a creeping plant", *randau*

lintah (pl. xvi, j). One of the border patterns is described as *tangkal tangga*, "the notched steps of a ladder", i.e. a notched pole that serves as a ladder. The horizontal black and white stripes (perhaps suggesting the notched steps of a ladder) are produced by groups of warps in threes arranged alternately in black and white. As the cloth has a warp surface, in the weaving the groups of white come to the surface when one pick is made and black when the next pick goes through a shed formed of the alternate groups.

35.878. The deer family. Width, 1 ft. $7\frac{3}{4}$ in. (50.1 cm.); length, 3 ft. 8 in. (111.8 cm.). Pl. xxx, B.

A curious variation occurs in the warping of this cloth, the brilliant red, yellow and white self stripes and the narrow shaded borders between them have warps indiscriminately grouped in threes and fours but averaging 192 ends to the inch. The bulk of the patterned central stripe has paired warps of 48 to the inch (96 ends), but for 4 in. from the border on the left side the warps are in groups of three and average 36 groups to the inch (108 ends). The firmness and thickness of the cloth varies with the number of warps to the inch, and the different grouping influences the pattern to the extent of making it lighter where the warps are in threes than where they are only paired. There is a triple brown weft (used as parallel threads) averaging 16 picks to the inch.

This *bidang* is one of the most brilliantly coloured in the collection, and is even more distinctive than 35.870, which is similar in both colour and pattern.

The patterns are white, outlined with very dark brown on a rich reddish brown background. Occasionally dark spots are used effectively inside the pattern lines. The well-proportioned narrow border stripes (fig. 28, c) are of light yellow, centred with scarlet and edged with navy blue. There are four of these *surik*, the outer ones enclosing shaded stripes of pattern *empetut* and having a pin stripe of white in addition, and the central one, *gigi rinik*, "steps of a ladder", a black and white band horizontally striped. Between the outermost of these narrow stripes and the edge is a solid stripe of indigo $1\frac{3}{8}$ in. wide, which has a very rich effect, and this has a narrow bordering, *surik beranak*, at the extreme edge of the cloth of red and yellow measuring $\frac{2}{5}$ in.

The deer patterns are clearly defined and fill the central band of the cloth. The spaces between the animals in the first and second rows are filled

by a representation of a frame for winding cotton upon, *tukal jengkuan*; the curved ends are called *brang tukal* ("brang = the upper arm", *S.D.D.*), "*tukal*, a wooden frame about three feet long upon which cotton thread is strung for weaving" (*S.D.D.*), pl. xxiv, *d*, and to the left in pl. xxx, *b*. Three deer in the second row are hornless and are described as *anak rusa*, "young deer" (pl. III, *h*); three others can be seen on pl. xxx, *b*. The second row of animals must be male, as they possess a feature elsewhere described as "crossed horns", *tandok berkaul* (cf. pl. III, *a, b*). In the third row of animals (not shown in the photograph) the hind is the motive; no antlers are shown, but the breasts, *tusu rusa*, are indicated (pl. III, *c*). The head appears as an anti-spiral, and in this and other respects it is very like *Aki Ungkok* in cloth 35.854, pl. I, *a*. The tail is realistic. The last row represents three stags (pl. III, *f*) with more imposing antlers entangled, *balut*, but although the parts representing the antlers, snout, body and tail are definitely named it is not easy to decide the real position of these animals, for with the usual desire for bi-symmetry and the dislike of an empty space, the artist has duplicated the tails and added bits of pattern to the antlers, which are elsewhere described as "crossed horns"; perhaps a neat way of suggesting a fight. The "notched hole", *tebok kengking*, pattern on the "body of the deer", *tuboh rusa*, has no obvious significance other than being decorative.

35.879. Spider cloth. Width, 1 ft. 8½ in. (52.1 cm.); length, 3 ft. 6½ in. (108 cm.).

The warps are arranged in groups of threes in the patterned stripes, and in the red and blue self stripes at the sides in fours. In the former there are 44 groups to the inch and in the latter 36. The brown weft is double (sisters or parallel) and there are 20 picks to the inch.

The colour is generally of a dull tone, the warps of the pattern stripe having apparently been dipped in a weak indigo bath after the previous dyeing of the background of dark brown. The small border stripes are mostly red with narrow edgings of yellow and black. A broad band of deep indigo, almost black in effect, about an inch and a quarter in width, finishes off the striped border on each side.

Three rows of spider, *emplawa*, patterns are begun by a row of half spiders and the spaces between contain indeterminate filling-in patterns, *bubul lapang*. The spiders in the second row, which are the largest, have two birds' heads,

pala burong, inside their stomachs, *prut emplawa* (pl. xv, *d*); in other respects the designs are of the usual type.

35.880. Width, 2 ft. $\frac{3}{4}$ in. (62.9 cm.); length 3 ft. 9 in. (114.4 cm.).

The warps are paired except in the wide navy-blue stripes at the sides and the red and yellow warp stripes, where they are in threes. The weft is brown and twofold. There are 48 pairs (96 ends) of warps and 26 picks of weft to the inch.

This unusually wide cloth has broad navy-blue stripes at the sides with composite ones of warp stripes enclosing an *empili*, mast, stripe between the navy-blue and the broad central pattern. The patterns are very clear and are white on a reddish brown background with darker lines around them produced by over-dyeing the brown with blue.

Near the joining of the cloth is a transverse broad white zigzag with dark vertical lines; this is labelled *leku sawa*, "the twisting of the python", which is something like the lower zigzag of *g*, pl. xxiii. Below this and occupying about one-third of the length of the cloth are four lizards, *engkarong* (pl. xii, *i*). Next comes a very pronounced zigzag, *leku sawa*, with a filling-in pattern of hooks, and then four deer, *rusa*, fill up another third of the cloth. The remaining portion is occupied by rather indefinite patterns except in the centre, where there is an interesting figure with hooks described as *jengku ruyit*, "a curved barb" (pl. xxiii, *q*).

35.881. The purple colour of this *bidang* is due to its having had all parts, except the outlines of the patterns and the orange and red self stripes, over-dyed in a light indigo bath. The wider of the borders at the side are each filled by two centipedes (pl. xvi, *d*) and the narrow ones by grubs, *empetut* (pl. xvii, *g*). The central band has two large hawk designs, one of which has a distinct head with a beak, *patok* (pl. x, *a*), and a second in which a figure like the previous head appears as the body of the bird (pl. x, *b*); the *patok* is at the top and the *plir* at the bottom of this drawing. Just above the tail of the first of these two hawks is a young bird (pl. ix, *k*) and on a level with the body of the hawk a knot of wood, *tangkong bara* (pl. xxi, *g*). At one end of the cloth are leeches; one, *bungai lintah* (pl. xvi, *k*), is attached to flowers of the *tangkong*.

35.882. *Kain selam*, "diving cloth"; "pattern *kara*". Width, 1 ft. $9\frac{2}{5}$ in. (53.9 cm.); length, 4 ft. 3 in. (129.6 cm.). Pl. xxxi, A.

The warps are grouped in threes throughout the whole width of this cloth, and except in the red stripes, where they are a little closer, the general number of groups to the inch is 36, i.e. 108 ends. The weft is fourfold, untwisted, and blue in colour and there are 20 picks to the inch. The resulting cloth has a coarse but very firm texture.

This is the only cloth in the collection with bright blue as a background to the central band, which measures 14½ in. in width. There are some coloured border stripes in blue, red, yellow and white and the general effect of the colour scheme is pleasant.

This is the only *bidang* in our collection with “diving”, *selam*, figures which may be human (pl. 11, *j*). A somewhat similar figure on a cloth in the Sarawak Museum is drawn on pl. 11, *l*. Ordeal by diving is practised by the Iban (Ling Roth, 1, p. 236; see *S.D.D.* Appendix, p. 11). We cannot identify the patterns which fill in the spaces between them. The two narrow pattern borders at the sides are filled with the “crossing the river” design.

35.883. An embroidered *bidang*, see pp. 87–89.

35.884. This cloth has had its edges dipped in indigo. The narrow borders at the side contain arenga palm (cf. pl. xxii, *b, c*) and “crossing the river” designs; the central band is filled with various hawk figures, including *kengkang lang*. Inside a pattern which is somewhat like the beetle on cloth 35.928 figured on pl. xvii, *c*, is a “wedge” (cf. pl. xxiii, *r, s*).

35.885. A cloth of the usual reddish brown colour covered with numerous patterns in a paler tone. Most of the designs are degenerate in form, although a “wedge” (cf. pl. xxiii, *r*) and a young bird (cf. pl. ix, *k*) occur several times and are quite clear. One figure in a hexagon with scrolls is called *aji bata bras* and another larger figure is called *janga buan*; *janga* is an angle, the forked branch of a tree. The scrolls around it may be *buan* flowers (“*Buan*, a small shrub whose fruit and flowers are the favourite food of the mouse-deer (*plandok*)”, *S.D.D.*). The border patterns are *empetut* and *ratan*.

35.886. An embroidered *bidang*, see pp. 89–91.

35.887. The three narrow border patterns at the side of this clearly patterned cloth consist of a central one with centipedes (cf. pl. xvi) alternating with a *tayok gasing*, “hand spinning wheel”, and *ruit gansai*, “a spear with one barb” (pl. xxii, *p*); a “crossing the river” pattern occurs in the narrow stripes on each side (cf. pl. xxv, *g*). The designs in the middle

of the cloth are described as *tangkong lumbong*, "the *tangkong* creeper" (cf. pl. xx, *a*).

35.888. A "*serundam* cloth". This is a very gaily coloured cloth, it has a broad blue band down the centre and three sets of compound stripes in white, red, yellow and blue divided by two patterned stripes on either side. The patterned stripes are filled by representations of centipedes (cf. pl. xvi, *d, e, f*) on one side and arenga palms (cf. pl. xxii, *a, c*) on the other.

35.889. *Kain engkudu*. ("Engkudu, a plant of which the skin of the root produces a red dye", *S.D.D.*) A cloth of a bright red colour with a broad central band of poor patterns in which a design called *lang*, "kite", is much more like the spider designs on other cloths (cf. pl. xv, *b, d*). Other patterns recall the simpler shrew types and shrews facing (cf. pl. v, *g*).

35.890. *Kain maba*. This cloth has narrow borders at the sides with well-defined arenga palms (cf. pl. xxii, *a*) and ratan. The broad central band has recognizable deer forms (cf. pl. iii), and here and there young birds filling in the spaces (cf. pl. ix, *k, m*).

35.891. *Kain pampul*, "covered cloth"; "*penukoh* pattern". This cloth has brightly coloured self stripes at the sides and in the centre two rows of crossed poles (fig. 30), with knots, *penukoh*, resembling sleeping cats (cf. pl. xvii, *t, u*). Well-defined wedges (cf. pl. xxiii, *r*) appear between the crossed poles and at the other end of the cloth are some deer figures. *Empili* and *empetut* in the borders.

35.892. *Kain maba*. A cloth with narrow borders at the sides filled with patterns based on the arenga palm (cf. pl. xxii, *b*), centipede (cf. pl. xvi, *d*) and ratan (cf. pl. xxii, *l, m*). The central band has shrew patterns which can be compared with pl. v, *a, g*, and a more elaborate form compounded of shrew and spider which may be compared with pls. v, *f*; xiv, *d* and xv, *b*.

35.893. *Kain maba*—*Buah bungai*. This cloth has a narrow border on each side filled with a mast design (cf. pl. xviii, *d*) and a broad central band filled with rather confused shrew patterns. Near the joining of the cloth there is a branch with fruit (*buah*) and flowers (*bungai*), which can be compared with pl. xx, *b*.

35.894. A cloth with some narrow composite borders at the sides of bright yellow and brown which enclose a "crossing the river" motive (cf.

pl. xxv, g). The main designs in the centre of the cloth consist of various shrew patterns; one of rather unusual type is simplified in a figure (pl. v, e).

35.895. Three narrow border patterns decorate the sides of the cloth and are filled with *empili* and "crossing the river" patterns. Rather more than half of the central pattern is filled with shrews, one variant of the motive is unusual (pl. v, d); on each side of it are designs like pl. v, g. The rest of the cloth is filled with ginger root patterns (cf. pl. xix, d).

35.896. The main design of this cloth is unusual because it is a regular half drop pattern of hexagons filled with rather poor bird motives, some of which resemble the bird dancing (cf. pl. viii, k). This geometrical arrangement suggests an outside influence. The *bidang* is labelled "pattern *bunkang*". The narrow borders at the side have indistinct patterns.

35.897. The pattern of this cloth seems to be named inaccurately as *bali* (perhaps because the colour fades). The main pattern is a bold but poor deer design.

35.898. A cloth with a reddish brown background, which has again been dipped in brown dye after the pattern had been reserved. There is a broad green stripe at the edges. The central pattern is entirely made up of long and elegant *puchok tubu*, "bamboo shoots", and the arenga palm (cf. pl. xxii, a) fills up the widest of the outer stripes, the narrowest being *empetut*.

35.899. A cloth with bright self stripes in red, yellow, black and white down the sides and a central band of confused patterns with two lozenges described as *pandin*, "buckle". The pattern is called *tukuyo*.

35.900. A very clearly patterned *bidang* with intricate patterns at the ends. The centre of the cloth is taken up by three pairs of bands united in two places; the central lozenge thus formed encloses two *burong* with wedge-shaped bodies. The bands are labelled *papan penokoh*, "board of the *penokoh*"; in the centre of each is a *pusat penokoh*, "centre (or navel) of the *penokoh*"; this design is similar to the "sleeping cat" (pl. xvii, r, u). At the ends of the "boards" (which are evidently branches) are *bungai penokoh*, "flower of the *penokoh*". Dr Hose says on a label: "The meaning of *penokoh* is uncertain, it may mean holding", and he suggests that the central design, *pusat*, may be "the real *penokoh*, as it appears to hold the *papan* together". At one end of the cloth is an *aji*, decorated with many

spirals; it is labelled *aji besumpiang*, “the filled up *aji*”, referring to the spirals in the pattern; *besumpiang* also means to complete or finish off.

The border patterns consist of two stripes of unnamed simple designs and three stripes containing a continuous series of small white, red, white, black squares; this is labelled *urar empatut*, “the *empatut* snake (*Tropidonotus petersii*)”; it should be *empetut*.

35.853. A *bidang* extremely simple in its design, the pattern consisting of cream-coloured warp stripes on a brown ground. It is 3 ft. 7 $\frac{4}{5}$ in. (110 cm.) in length and 1 ft. 7 $\frac{1}{10}$ in. (48 cm.) in width.

The warps are arranged singly and there are 72 ends to an inch. The weft is twofold (i.e. two parallel threads form each pick), and in part of the cloth it is white, in the remainder brown. There are 24 picks of weft to the inch. The white stripes of the pattern are regular, the arrangement of the warps being 2 white, 3 brown, 2 white, 3 brown, 6 white, 10 brown repeated. This pattern is labelled *ara rinik anak udun*, “close lines called after a young fish named *udun*”.

At the edge there is a plain brown stripe, 2 cm. wide, labelled *kain baloi*, “cloth striped like the *baloi* bamboo”. This evidently refers to the cloth as a whole, the reference to “bamboo” is not evident.

35.876. This *bidang* is similar to the previous one, but has been dyed in a different way.

Originally it was striped white and light brown in the warp, which was paired and arranged in a repeating pattern thus: 2 white pairs (4 warp ends), 3 brown pairs, 3 white pairs, 6 brown pairs, 2 white pairs, across the entire width except for one wider brown stripe near each edge.

The cloth is described as *Kain baloi udah di karam*, “*baloi* cloth which has been put (*karam*) into a pot with water and *tarum*” (indigo); this was done after it had been made up and it shows pale blue stripes on a black ground (*udah*, finish).

The pattern is termed *ara besurik*, and if the latter is a form of *suri* (*besuri*) then it means stripes like ripples on the surface of the water. *Bidang* dyed with blue in this way are usually worn by widows.

35.883. *Kain sunkit*. An embroidered cloth. Width at centre, 1 ft. 5 in. (43.2 cm.); length, 3 ft. 5 in. (104.2 cm.).

This is a plain piece of rather loosely woven tabby cloth, measuring