Ikat from Timor and its outer islands: insular and interwoven

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6. CONCLUSION: TECHNICAL RESEARCH HIGHLIGHTS FEMALE TALENTS

Fig. 262 Weaver at work at her backstrap loom in Tokbesi, South Bikoki (West Timor) in 2003. Photograph by Pierre Dugard.

This investigation focused on the technical and design-technical aspects of ikat from the region under study. I set out to address a number of lacunae in our knowledge in several key areas, to wit: the development of yarns over time and the distribution of the various weave types (Ch. 2); the distribution of motifs (Ch. 3); the dispersion of asymmetry, a design aspect with technical consequences (Ch. 4); and the impact of ikating on the weaver in terms of purpose, commitment, achievement and the presentation of self (Ch. 5).

The Reference Set comprises specimens created during the period 1850-1950 (approximately coinciding with the heyday of colonial rule). Best represented was the historical segment 'early 20th century', with some exceptional pieces from the 1930s. Early examples give the historic overview greater depth. They also amplify its width, as they often contain design elements or technical finesse not encountered in more recent specimens. Placing the emphasis on older specimens had the additional benefit of analysing and documenting a number of historically important textiles – specimens that broaden the distribution chart of certain motifs, or extend our understanding of the techniques that weavers employed to achieve asymmetry.

The investigation has yielded unexpected findings as to both material and socio-cultural aspects. Covering the subject matter of Ch. 5, dedicated to the impact of ikating on the weaver, was not envisioned in the original research project, but imposed itself through design-technical findings: design elements that revealed a high level of intelligence and the patent intent to playfully deceive others. Encountered were instances of virtuosity at several distinct levels of ambition, which raised questions about the weavers' motivation to strive for these levels.

Microscopic inspection of yarns and inventorying the multifarious ways in which warp and weft threads were interlaced (see Ch. 2), showed far greater variation over time and per region than expected on the basis of existing literature, which on this subject has been largely reticent since Jasper & Pirngadie (1912) and Jager Gerlings (1952). Outcomes were sufficiently consistent to extricate valuable new information. The development of yarn character and gauge, for instance, could be followed in detail over the course of the investigated period. Also, the distribution of all 21 encountered weave types over 41 distinct regions could be plotted precisely. The chart revealed large consistent clusters, common statistical scatter, as well as several idiosyncratic exceptions.

Design-technical analysis (see Ch. 3) showed that in one particular island region, East Sumba, women competed vigorously in the amount of labour they invested in their cloths. As handiwork was traditionally considered meritorious, and in Veblen's terms represented pecuniary emulation ([1899] 1934), women could raise their ikating status by using fewer replications as well as pattern compression, a technique not previously observed in the region under study. Classication of construction types by degree of complexity yielded a class of ten performance levels. The highest ranking cloths required 8 x as much work as the most basic *hinggi* – and in some cases even more.

But these dyers, weavers, were not just showing off invested (slave) labour. At the royal courts they were mainly showing off intelligence. The alpha-women created *hinggi,* men's wraps, with no replication at all. Every motif was individually tied in its place. The 'basic ikated motif' was as large as the whole cloth. This constituted a blatant display of conspicuous consumptiom of labour – or would have, if everyone could notice how few replications were used. But typically the required information was cleverly hidden in tiny visual devices: keys that once they were discovered unlocked a vision of the cloth with fewer replications than originally assumed. One *hinggi* appeared to have two identical panels, but while the motifs indeed were identical, they had been been drawn with different line-widths. Only observers keenly hunting for aberrations would discover such visual trickery. This prevented all commoners except a few (unitiated but exceptionally bright) from seeing the cloth's quality, reserving its appreciation for a small group of peers with similar talents and labour pool.

It intrigued the present author what might have fed these florescences of virtuosity, and caused their underlying, apparently extreme, need to out-compete. A brief exploration was made of the socio-cultural vectors propelling and inspiring women from the producing region. See under the heading 'Virtuosity', below.

Microscopic inspection (Ch. 2) has the advantage that one inspects the weaver's handiwork up close, almost as if looking over her shoulder. This is a peculiar aspect of this study. It is precisely its technical perspective which brought the dyer-weaver in sharp focus, and strengthened the human aspect of its findings – particularly with regard to the women's state of mind, the sense of purpose with which their work was done; and to the agency of the cloths, their impact on her life and social environment during production and after. It revealed that most early ikat from the region under study was made of 'wildly' irregular but very fine hand-spun cotton yarn, and that less early examples were made of more regular but slightly coarser yarn, likely in imitation of machine-made yarn which started to become available in the late 19th century. The gauge differences in early hand-spun cotton yarn could run up to a factor ten, even within sampled areas measuring just 3x4 mm. Some Sumbanese kings wore *hinggi* of less than 200 grams per m^2, so that their mighty shoulders had to carry just 500 to 600 grams, whereas others might be carrying close to a kilogram or more.

There can be no doubt that in many island regions very fine hand-spun long was the standard for all high class ikat. There is a strong correlation between complexity of design or construction with low specific weight. We observe this from Tanimbar and Timor to Savu and Ndao. Clearly, lightweight textiles were associated with class – not just at royal courts but also in the most remote places. This should surprise no one who considers the technical consequences: if a weaver uses yarn that is 25 per cent finer than common, she needs to use 33 per cent more warp yarns to achieve a cloth with the same width. Assuming that she draws in the same stroke-width as usual, she also has to place 33 per cent more bindings – to be rewarded with noticeably finer drawing.

The lightest ikat textile measured was found outside the region under study: a circa 1900 *kain kebat*, skirt, from the remote Ketungau region in Kalimantan, with extraordinarily intricate patterning. The opened-up cloth measures circa 1 m^2, but weighs just 80 grams, the weight of four standard envelopes. When one considers the circumstances under which such feats of virtuosity were achieved, awe for the women responsible – and an interest in their lives – is inevitably produced.

With regard to East Sumba, a region that produced some of the visually most impressive and technically challenging ikat, it has generally been assumed that from circa 1900 onwards all fine men's wraps, *hinggi,* were made with machine-made yarn. This turns out not to have been the case: the examples with the most labour-intensive construction or the most intricate drawing were all made with hand-spun cotton, and a select few had an extremely low weight per m^2 – in a few cases circa 35 per cent lower than average, the result of working in 20 per cent finer yarn. This implies (see Section 2.1) that the weaver needed to bind 25 percent more yarns to achieve the same width, and because the drawing was done in fine strokes she also needed to tie 25 per cent more bindings. This resulted in lightweight *hinggi* with singularly fine drawing (e.g. PC 319, Figs. 195, 219, 249).

Weave types (Ch. 2) are best studied under the microscope as well. The expectation was that five or six different weave types would be found. However, a first explorative investigation of the Microscopic Database (n=219, spanning 41 different ikat producing regions) soon proved this to be a gross underestimation, which necessitated further research of this specific material aspect of ikat. The investigation yielded 21 distinct weave types – so many that a classification system was called for. This brought to light several regional clusters, but also surprising idiosyncrasies. Six weave types were found on a single remote island only, e.g. Lakor (Leti Islands) and Ndao, or in a single region on a large island where another weave is dominant, such as Suai-Loro (East Timor).

A study of weave types informs us in an intimate manner about the choices made by the weaver. There are regional preferences, some with near-total exclusion of deviant weave types, but clearly there was also much experimentation – and adaption to the quality expected. A Sumbanense commercial cloth might be done roughshod with quadruple weft, but not a powerful man's wrap, nor a woman's ceremonial sarong. The descent in quality which set in around 1900, largely because girls began to go to school instead of staying at grandma's knees, accelerated after 1925. Masterpieces were occasionally still made untill roughly the end of the colonial period. The general turmoil of World War II further weakened the transfer links between generations, not just regarding ikat, but in all fields. During the decades after independence many people with by now outlawed traditional belief systems converted to monotheism so as to comply with Indonesian law. As a result, much knowledge about the material culture and the spiritual culture that informed it evaporated.

Because it ended so precipitously, with substantial but in several respects incomplete documentation, it is challenging to reconstruct a clear picture of the ancient ikat culture. Providentially, we still have recourse to a substantial number of early specimens, textiles dating from a period when ikat still had powerful agency – enough to inspire women to great feats of creativity and persistence. Technical analysis of such specimens' materiality (yarn qualities and weave type) as well as their design, informs us about the choices that their creators made. Nearly all of these had consequences which impacted the required investment of effort and its attendent merit. These findings at the root level of production allow us to at least partially reconstruct a view of the lives of their makers through induction.

Specific weight (Ch. 2) was calculated based on weighing and measuring of a substantial part of the cloths in Group A of the Physical Database. Over the period investigated, circa 1850-1950, an increase of 64 per cent was registered: from circa 275 g/m^2 to 450 g/m^2. The most dramatic increase was seen around 1900, approximately contemporary with the introduction of machine-made yarn. While divergences in the textiles' density introduce a level of unreliability (yarn being equal, loosely woven cloth weighs less per m^2 than densely woven cloth), given the size of the sample (n=219) the results are felt to be sufficiently reliable to make out the long term trend – the more so as the results of weighing

and measuring match the findings of microscopic inspection (see above). The data reveal a gradual shift from very fine to slightly coarser yarn. The transition point lies roughly around 1920. From this moment on women across the archipelago, with few exceptions, began to produce hand-spun cotton both far smoother, and substantially heavier, than their mothers and grandmothers had done, and in the drawing of motifs could not achieve their ancestors' level of definition.

Motifs (Ch. 3) in the region under study show great variety, but a number of them struck the present author as particularly worthy of study as they occurred on multiple islands, sometimes quite far apart. The distribution of eight such motifs was plotted. While in several cases their iconography remained unclear, it could be established with near certainty that five of the eight studied motifs were emulations of motifs on antique textiles, some dated several centuries old, from Minahasa in northern Sulawesi, very few of which survived. Most weavers in the region under study probably never saw the cloths that inspired them, and produced copies of copies, so that motifs not infrequently show rudimentation or modification.

The eight-pointed star is by far the most widely distributed of the eight motifs investigated. On early Kisar sarongs it is usually drawn in a quite elaborate manner, strikingly similar to motifs found on Kirghiz and other Turkic carpets. Because the drawing is so elaborate and yet so strikingly similar, design influence, perhaps via carpets that reached the Moluccan courts of Ternate, Tidore and Bacan, cannot be ruled out.

Another widely distributed motif, the triangle-with-projections, which looks like the rigging of a boat, but has various local 'explanations', appeared to be of an esoteric nature. While at first glance innocuous, it may have been intended to call up associations with the hull of a boat, which in parts of the region under study symbolically represented the womb, particularly in fertility rituals that involved mass intercourse and were still held in the early 19th century (van Dijk & de Jonge 1990:9). Perhaps the hull was consistently hidden because showing the 'womb' itself, even if only symbolically, was considered too sensitive. On several cloths though, the naval nature of the triangle-with-projections was hinted at by surrounding it with aquatic motifs. On others a relationship with sexuality and procreation was suggested by placing small *mamuli*, omega-shaped motifs which represent the female reproductive organ, in or around the triangle.

The study of human figures with a triangular torso and raised arms encountered in the ikat of six widely dispersed islands in the region under study – all in a similar, acutely angular rendering – yielded two potential paths of derivation, which may share a temporally distant common origin. The figures are very similar to depictions of the Rice Goddess or Fertility Goddess of Bali and Nusa Penida, Dewi Sri – presumably the sanskritized name of an Austronesian Fertility Goddess revered here well before the Majapahit period. But they are equally similar to figurines of dancers in the borders of a certain type of Indian *patolu* (cf. the *pan bhat* motif, Bühler & Fischer Type 1), which the present author determined to have been emulated on two islands in the region under study. They most likely arrived there

in pre-VOC times, as the VOC appears not to have imported this type, whereas the Gujarati makers themselves proudly mention a lore of trade in them to Indonesia. The rendering of Dewi Sri on ceremonial shawls from Nusa Penida is less vibrant than on such *patola,* but the figure's pinched waist composition – two triangles meeting at the tips – and the marked bending of the elbow in the raised arms, are identical. The investigation also yielded marked V-shapes in the human figures with upraised hands of the Southwesterly Islands. Intriguingly, a number of these were daubed on after the weaving in indigo paste. This suggests that these more fluidly drawn figures were likewise depictions of a rice or fertility goddess, in which a V-shaped torso was considered the essence.

The origin of the well-known *rimanu* motifs of the Southwesterly and some Southeasterly Islands – a pictorial strip – was traced back, via rock drawings in East Timor, (known to have inspired the local pictorial ikat style) to a particular type of bronze Dongson drum, such as the Dào Thinh *situla*, a national treasure of Vietnam in the Vietnam National Museum in Hanoi. It is nearly 1 m high, 2 ft in diameter, and highly decorated with a chiseled drawing of men in a longboat, similar to a type that is still used at yearly Ghe Ngo longboat regattas. The rowers are raising long implements, presumably fluttering banners or decorated oars and have towering headdresses. But in the rock drawings that were found 3000 km to the southeast near Tutuala, East Timor, the raised implements come across as large raised knives, *catanas,* hence presumably the local association with their ancestors' battles.

Contrary to what the diffusion theory (Heine-Geldern 1937) would have predicted, the pictorial strip of this most easterly tip of Timor and its neighbouring South Moluccan islands constituted the only unmistakable Dongson influence on design in the investigated region that the present author encountered in forty years of studying its motifs.

Asymmetry (Ch. 4) was encountered across much of the region under study. It was of two kinds: (a) asymmetry *per se*, presumably reflecting dualist cosmological concepts; and (b) asymmetry as a by-product of virtuosity.

Because of the way it is created, on a two-layered, circular warp, ikat inherently favours symmetry: two identical panels created in parallel sewn together by their selvedges, occasionally with one or more panels mounted in between them. But in several regions women went to great lengths to create cloths (particularly those worn mostly or exclusively by men) that were non-symmetric. Seven techniques to achieve such asymmetry could be differentiated, such as shifting part of the warp from one panel to the other, or transposing part of the warp in a contrary direction.

The most surprising technique to achieve asymmetry encountered in this investigation (on Timor, Sumba and Roti) was pattern compression, achieved either by reducing yarn spacing or, far more labour-intensive, creating individual rather than replicated panels. Pattern compression surprised as a phenomenon because in all cases except one (Roti), the effect was so subtle that it was hard to notice, and required thread counting to verify.

Also surprising was asymmetry of perception: the same pattern looking entirely

different depending on the direction from which it is viewed. The bottom half of a Savunese sarong showed a flower arrangement with birds, but mirrored in the top half the same motif had turned into a humanoid figure with flaying arms, bulging eyes and splayed toes – an illusion of the type known from early 20th-century postcards that when held up one way show a smiley woman, when flipped over a frowning bearded soldier.

One technique, which called for the creation of entirely different panels, almost inevitably led to the creation of two identical cloths. The emergence, in a Japanese private collection, of a twin of a circa 1900 asymmetric Kisar ikat cloth in the Reference Set proved this to be not hypothetical but actual practice.

Asymmetry as a by-product of competition for recognition of creativity and persistence, the two constituent components of talent, will be discussed below.

Virtuosity (Ch. 5) was not foreseen as a topic in the submitted research project, but remarkable instances were recorded, particularly in East Sumba, which warranted a separate investigation. The large Sumbanese men's wraps called *hinggi* had always been assumed to be biaxially symmetric. They were so described by the founder of systematic ikat research Marie Jeanne Adams (1972:4; 1973:267), and treated as such by many museums and authors, which in publications occasionally showed only half of such cloths, the other half supposedly being equal by definition. This turned out to be erroneous.

Eight types of *hinggi* were encountered that were not biaxially symmetric, and that all required more work (up to 8x as much) than a basic *hinggi*. Informed by existing indications that hand-crafting was widely regarded as meritorious, these construction types could be differentiated in a ten-tiered class system based on the number of replications required to create a whole cloth, and the presence or absence of two extremely rare kinds of additional complication, to wit pattern compression and drawing in different stroke widths. Nine of the ten construction classes of Sumbanese *hinggi* were identified during this investigation. None were discussed previously, though several have been shown in the literature, and old nobles of Sumba are aware of their existence and have names for four of them.[1]

Remarkably, the vast amount of additional labour invested tended to be cleverly disguised, by means of a great variety of visual tricks or illusions. The weavers hid small visual devices in their designs which were made to be overlooked, and which only peers and other observers with equally high intelligence would be able to discover – if they were not successfully misled. Some weavers even employed a technique that is only familiar to magicians. Called misdirection, it prevents the audience from perceiving what is actually taking place. A motif is used, so striking and enigmatic, so fascinating and absorbing, that it is all the observer sees, allowing the weaver to hide a secret key in an area that will get zero attention. Another trick was to take a high class ikat and daub on dashes of yellow dye (the

[1] Umbu Makambumbu, pers. comm., 2020.

simpler of two methods to add an additional colour called *ndatta*) to make it appear that the weaver was a clumsy beginner, who needed daubing to make her cloth look complicated. The result presumably was that observers would turn away their gaze in disdain, so it would take extra long before its true class was found out. These weavers were playing visual games, and they knew more about perception than the average person.

But why were East Sumbanese women spending vasts amount of time and creative energy constructing cloths that showed off their intelligence, creativity and leisure (or wealth of available staff), and why just to a small class of elite connoisseurs?[1] Why this fanatic but subtle competition for status? An established parallel with another form of intensely competitive practices, to wit headhunting, was revisited. Over the last 85 years ikat work has repeatedly been described as 'the women's war path' (Haddon & Start [1936] 1982:22; Gittinger 1979:219; Gavin 1996: *passim*). The parallel seemed more than just apposite – it was enlightening in the sense of clarifying the East Sumbanese noblewomen's apparent need to compete in their own field, as the men did in theirs.

The 'war path' simile was combined with perspectives from behavioural biology stressing competition for mates (Heppell *et al.* 2005; Miller 2000), as well as with Goffman's writings ([1959] 1990) about the presentation of self. These high performing women of the nobility, who lived in a society still suffused with the ancient headhunting ethos, turned out to be treating their men to a grand performance. As a by-product of this performance they established many of their society's rules, a substantial number of which limited their men's insight into what they were doing, and in several ways disempowered them. The females' ikat prowess showed the East Sumbanese males, if not women's superior intellect and persistence, then at least their moral and intellectual equivalence.

What we have learned about the motivations underlying the highest level of ikat work complements a 'thick description' of the weaver *sensu* Geertz ([1973] 2000:311-323), allowing us to integrate material observations in a conceptual framework in which the maker and her motivations are central. It is hoped that the results of this investigation will stimulate further research of ikat in the Indonesian archipelago, following the thread that leads from the textiles' materiality to the weaver and her ambitions.

[1] It appears safe to assume that commoners would typically not be initiated, and would not recognize hidden keys, as they did not enjoy the generational transfer of knowledge of the highest class designs. Any clever young woman growing up outside the nobility who had ambitions to ikat at a hight level, would have had to figure it out for herself.