

REVISTA DO MUSEU PAULISTA

NOVA SÉRIE
VOLUME X



SÃO PAULO
1956/58

A correspondência deve ser endereçada
ao Diretor da

“REVISTA DO MUSEU PAULISTA”

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SÃO PAULO

BRASIL

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GENEALOGICAL PATTERNS IN THE OLD AND NEW WORLDS (1)

by

CARL SCHUSTER

"The folk has thus preserved, without understanding, the remains of old traditions that go back sometimes to an indeterminably distant past, to which we can only refer as "prehistoric."..... Had the folk beliefs not indeed been once understood, we could not now speak of them as metaphysically intelligible, or explain the accuracy of their formulation."

Ananda K. Coomaraswamy, *The Nature of "Folklore" and "Popular Art"* (Quarterly Journal of the Mythic Society, Bangalore, vol. 27, 1936; partly quoting René Guénon)

The purpose of this paper is to call attention to a type of design which occurs among various peoples in both hemispheres, and to offer an explanation of its form, which may at the same time account for its surprisingly wide distribution. Designs of this type are made up of series of human bodies joined by their arms and legs in such a way as to form an endlessly repeating "all-over pattern" (Muster ohne Ende). In order to understand South American designs of this type, it will be desirable first to become familiar with examples from the Old World.

The incised decoration of a Melanesian club, Fig. 1, is made up of series of quasi-human figures so arranged that the arms and legs of horizontally adjoining figures form two continuous undulating bands, each composed of five parallel lines (2). There are three tiers of figures, those at the top and bottom provided with heads, and an intermediate tier, apparently headless, formed by the insertion of series of spinal columns between the knees of the upper and lower figures, in such a way that the arms and legs of the intermediate figures coincide with the legs of the figures above and below them.(3) The

(1) The present article is expanded from a communication read at the XXXI International Congress of Americanists in São Paulo on August 26, 1954 (and repeated before the Sociedad Amigos de la Arqueología, Montevideo, on September 29, 1954). The writer is indebted to Prof. Herbert Baldus of São Paulo for encouraging the presentation of these ideas in a congress paper in the first place, and then for accommodating this expanded version of it in the *Revista do Museu Paulista*.

(2) An explanation of these five parallel lines as a continuation of the fingers and toes is suggested in Schuster, 1951, note 42.

(3) Actually each intermediate body has two heads, in the form of oval eyes at its top and bottom—
nental eye-heads serve at the same time as ocellations between the elbows as diagonally above and below. See the discussion of fig. 69 in Schuster, 1951.

peculiar drawing of the heads at the top and bottom of the design.

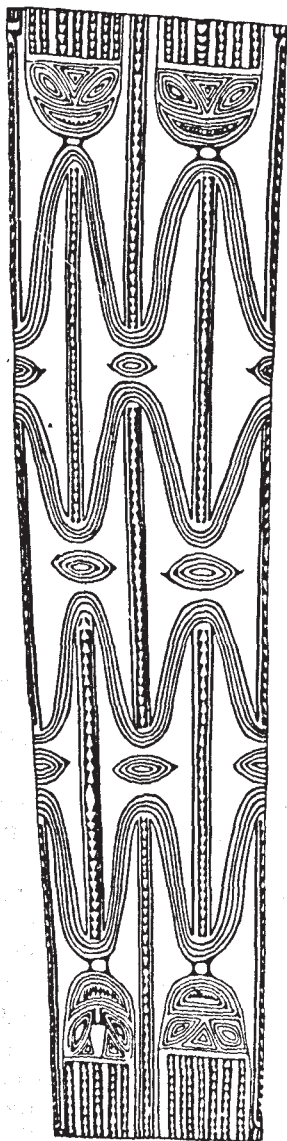


Fig. 1 - Design incised on a club. Byron Strait (Northern New Ireland).

and the fact that the bodies are represented only by their spinal columns, suggests an intention to portray ghosts or spirits of the dead. That these are indeed representations of the dead, in the sense of ancestors, will appear in the later course of our discussion. The headlessness of the intermediate figures is a peculiarity of special interest. We shall see that in many all-over patterns made up of human figures the heads have disappeared entirely. Though the disappearance of the heads might be attributed to the rapid and careless repetition of the figures, it will prove to be symbolical as well. The combination of figures with and without heads in this Melanesian design provides a valuable clue to the process by which human figures are transformed into "geometric" patterns.

In an *ikat*-woven fabric from the Indonesian island of Celebes, Fig. 2 a, we again recognize the human figure as the repeating element in an all-over pattern. This figure (see the detail, Fig. 2 b) can be identified by the vertical row of chevrons representing its spinal column, and by its hexagonal head, with a pair of lateral appendages presumably representing ears or distended ear-lobes. The sides of the body are represented by two bands closely flanking the spinal column, except at the middle, where they diverge to form a lozenge-shaped expansion, and at the top and bottom, where they diverge to form the arms and legs. These limbs are then continued through a Z-shaped angle to join the arms and legs of the figures diagonally above and below. With

the exception of one tier of figures near the top, all the figures composing this pattern are headless, or have only rudimentary heads. In this respect, as well as in the joining of the figures by common limbs, this Indonesian pattern corresponds with the Melanesian pat-



Fig. 2a - Cloth with *ikat* pattern. Celebes.

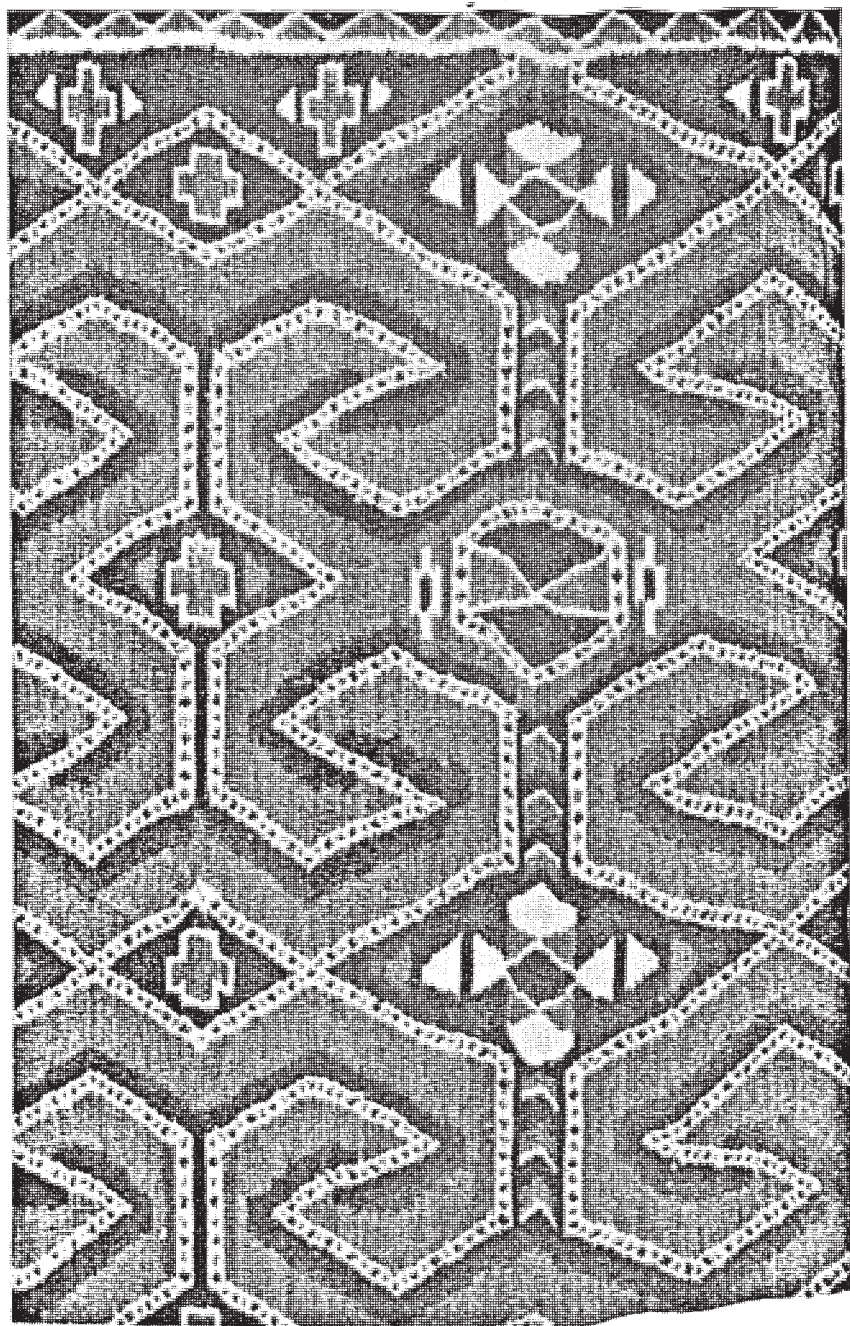


Fig. 2b - Detail of Fig. 2a (ikat cloth from Celebes).

tern of Fig. 1. It differs, however, in that the continuum of limbs connecting the bodies runs vertically rather than horizontally.

The difference between these types of connection is illustrated in the two schemes of Fig. 3, in which zigzags represent the spinal columns of human figures and undulating lines represent the continuous limbs by which they are connected. Though both schemes can be "read" either horizontally or diagonally, the actual connection between the figures is horizontal in Type I and diagonal in Type II. In Type I the sides of the bodies have no function; and it is perhaps partly

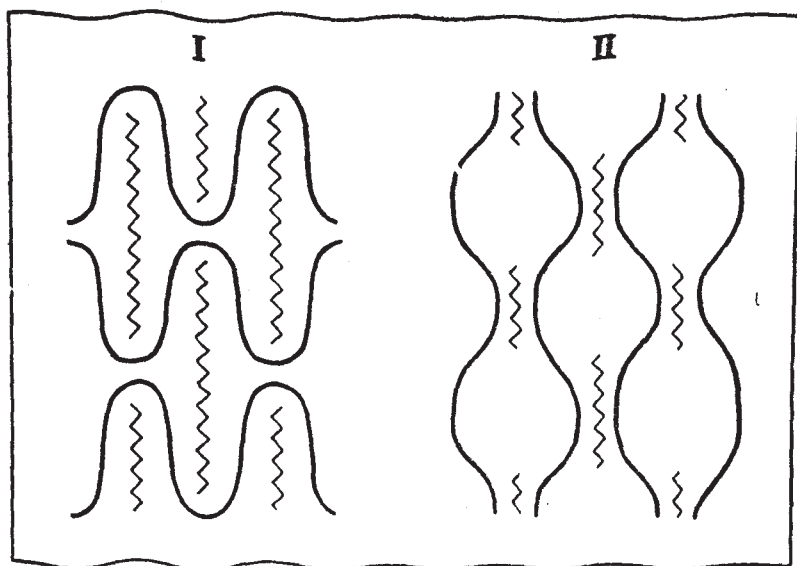


Fig. 3 - Schemes of the two main types of genealogical patterns.

for this reason that they are omitted in a design like that of Fig. 1, in which the bodies are represented simply as spinal columns. In Type II, on the other hand, the sides of each body are continued to form the limbs connecting it with the bodies diagonally above and below it. Though the sides of the bodies are thus indispensable in designs of Type II, it is evident that the spinal columns could easily be omitted — as in fact they are in alternate rows in Fig. 2. The two systems, though structurally distinct, no doubt represent the same fundamental idea; and it is because we shall so often find them combined or confused that it is desirable to recognize beforehand as clearly as possible the distinction between them.

The significance of the Indonesian pattern, Fig. 2, can be best understood with reference to the genetic theories of some Indonesian peoples, according to which the body of each human individual is composed of two halves, derived respectively from the corresponding

halves of each parent⁽⁴⁾. In terms of this idea, the figures to the right and left immediately above each individual would represent his father and mother, each of whom contributes one half to his formation, while the figures to the right and left immediately below the same individual would represent his children, or rather his share in the creation of children, by virtue of marriage with another individual of the opposite sex. The endless repetition of this pattern represents the endless repetition of the genetic process. Though it is true that the ties of familial relationship cannot be fully and accurately represented by such a pattern, it can hardly be doubted that the endless concatenation of arms and legs symbolizes, at least in principle, the idea of descent and relationship. The designation of such designs as "genealogical patterns" thus hardly requires special justification.

A third genealogical pattern from the Old World, that of an embroidery of the Li people of Hainan Island, off the south coast of China, Fig. 4, is of special interest because it combines certain features of both types. Basically this pattern seems to conform to our second type, in so far as the immediate connection of each figure is with the four figures diagonally above and below it. Also characteristic of our second type is the division of each body into two distinct halves, with a cleft between them for an absent spinal column. However, the system of ligatures between the bodies is more reminiscent of that in patterns of our first type than of our second. For the bands connecting these bodies are not formed by the continuation of their sides, but are composed of multiple parallel lines running horizontally across the tops and bottoms of the bodies, as in Fig. 1. The fact that these bands are stepped rather than undulating, though of interest as a stylistic peculiarity which we shall encounter again later, is hardly of essential importance. The presence of heads (each with an elaborate triple headdress) on all the figures, rather than only on those of an upper tier, is exceptional, but has no bearing on the typological classification of the pattern.

Apart from the fact that it combines features of our first and second types, the Hainan pattern of Fig. 4 is also interesting because of the elements introduced into the spaces between the connected figures. These elements have the appearance of birds represented in front view, with wings and claws spread out heraldically; but they also suggest human figures. The ambiguity may be intentional, in so far as the Li people associate their tribal origin with a legendary bird⁽⁵⁾. If these creatures represent the avian ancestors (or foster-parents) of the Li, their inclusion in the pattern would be in harmony

(4) See Röder, 1939, p. 103. It is to be hoped that Dr. Röder will presently publish the results of his field-work on Ambonese social theory *in extenso*. Compare note 132, especially for the symbolism of the back-bone in Fig. 2 a.

(5) See H. Stübel, 1937, p. 36.

with its genealogical significance. The possibility that these secondary figures represent totemic creatures will be considered further in connection with our discussion of Fig. 35.

Inscribed upon each of the bird-like creatures in the upper register of this unfinished embroidery, or suspended under their wing-like arms, we see series of tiny figures, reduced to the simplest possible lines. If, as seems likely, these little figures are conceived

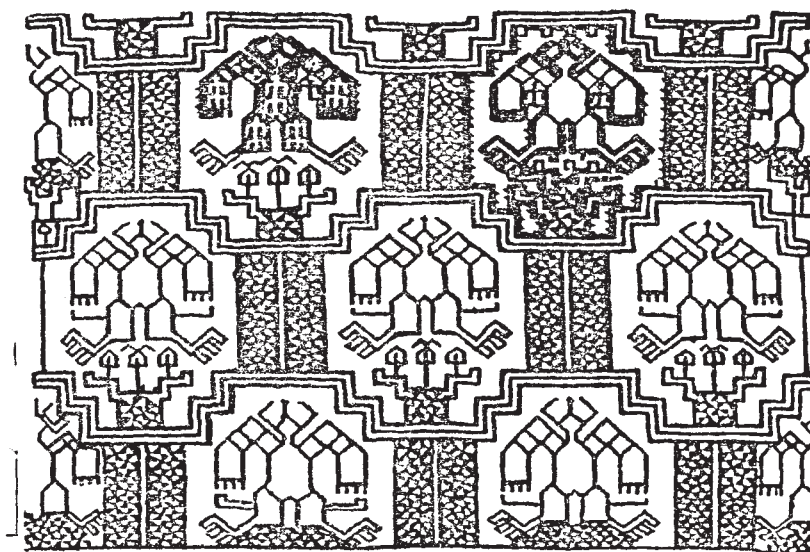


Fig. 4 - Embroidery. Li tribe. Hainan Island (South China).

as progeny emerging from the bird-like creatures, we have before us what may be described as a triple genealogical system. Within the intervals of a primary network of connected human figures is a secondary series of creatures, presumably representing totemic ancestors; and these in turn bring forth a tertiary brood of smaller quasi-human figures. In the later course of our study we shall encounter further examples of the interlocking of two or more genealogical patterns.

A fourth genealogical pattern from the Old World, which will serve as introduction to examples in the New World, appears in the carved decoration of a bamboo tobacco pipe from New Guinea, Fig. 5. Here the connected figures are arranged in alternately upright and inverted columns, each upright figure being joined by its arms to the arms of two adjacent inverted figures, and by its legs to the legs of the two inverted figures diagonally below it. The typological classification of this design, though it may seem at first open to question, does not offer any real difficulty. The fact that the common limbs are

extensions of the sides of the bodies indicates relationship to patterns of our second type; and the fact that each continuum of limbs runs a sinuous course vertically rather than horizontally confirms this classification. The difference between this design and a design like that of the Celebes *ikat*, Fig. 2, is hardly more than would be effected

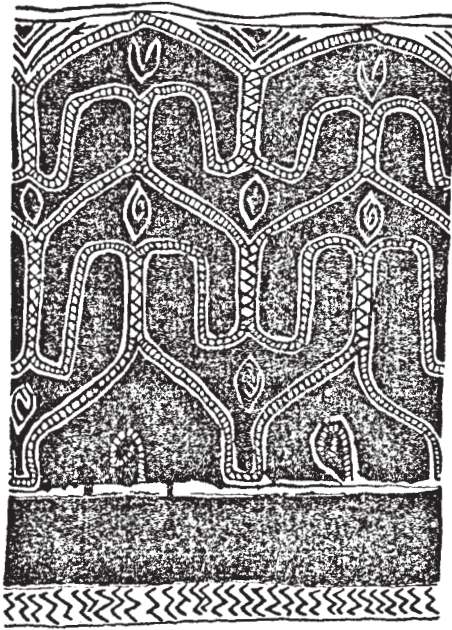


Fig. 5 - Design incised on a bamboo tobacco pipe. Southern Dutch New Guinea.

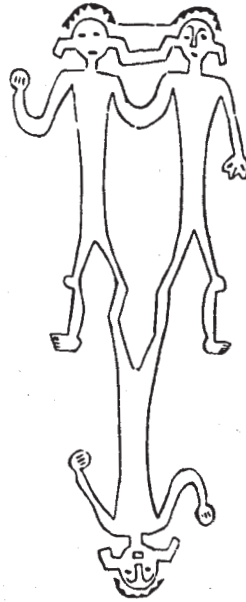


Fig. 6 - Design incised on a club. Dutch or British Guiana.

by a slight vertical displacement of the bodies in alternate columns of the *ikat*, bringing them into horizontal rather than diagonal alignment, and a slight differentiation between the curves forming the common arms and those forming the common legs. Since the difference between two such designs as represented by Figs. 2 and 5 lies only in such minor adjustments, it is doubtful that the latter should be set aside as representing a wholly distinct type by itself. It is perhaps best to leave open the question whether the more original representative of Type II is the scheme of Fig. 2, in which one cannot tell whether the bodies are upright or inverted, or that of Fig. 5, in which upright and inverted bodies succeed each other in alternate columns; for both schemes, the ambiguous and the alternate, occur widely. Even though the design of the New Guinea pipe may appeal to us as better founded anatomically, both schemes can be justified symbolically,

in so far as each suggests, in its way, the possibility of an alternately ascendent and descendent reading of the genealogical sequence⁽⁶⁾.

Now the design on the New Guinea pipe, Fig. 5, is structurally identical with the design on a pottery vessel from Marajó Island at the mouth of the Amazon River, Fig. 7a⁽⁷⁾; in so far as each consists

of alternate columns of upright and inverted human figures, connected horizontally by their arms and diagonally by their legs. We may even see further correspondences between this Marajó design and genealogical patterns of the Old

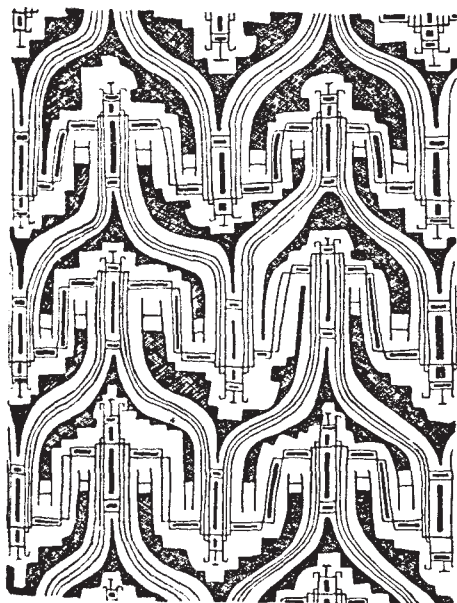


Fig. 7 a - Reconstruction of the design on

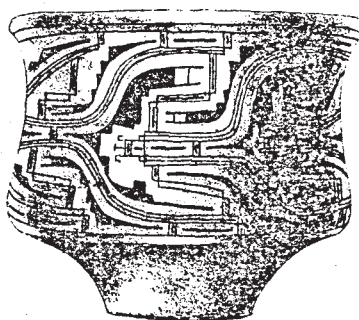


Fig. 7 b - Pottery vessel from Marajó, Brazil.

World in the formation of its common legs out of groups of parallel lines (as in Figs. 1 and 4), and possibly in the stepped formation of its common arms (as in Fig. 4). The question whether two such closely similar and highly complex designs could have been independently invented in the two hemispheres or whether the type was transmitted from one hemisphere to the other may be left in abeyance while we proceed to further comparisons.

(6) For the possible meaning of these alternately upright and inverted figures, see the discussion of Fig. 38 b, c, and h to k. Historically significant is the fact that a design virtually identical with that of the Celebes *ikat*, Fig. 2, occurs in the carved decoration of another bamboo pipe from the same part of New Guinea as Fig. 5 (Haddon, 1947, fig. 21); and that, conversely, a design structurally identical with that of Fig. 5 occurs in the woven decoration of textiles from the Sangihe and Talaud Islands north of Celebes (Amsterdam, Kon. Instituut voor de Tropen, 556/71), and also in a prehistoric sherd from Central Celebes (Hoop, 1941, fig. 105 B). This series of Indonesian-Papuan correspondences supports our view that Figs. 2 and 5 are but variants of a single basic type. The antiquity of this type can be gathered from the fact that it occurs in the decoration of early Iranian pottery: see Figs. 39 and 41.

(7) Though our Fig. 7a was postulated solely on the basis of the published illustration Fig. 7b, the postulation is confirmed by the design on an uncatalogued Marajó jar in the Museu Nacional, Rio de Janeiro, dating from the days of Hartt's and Netto's excavations, which came to my attention subsequently. The incised decoration on this fragmentary vessel (height as reconstituted, 40 cm.) consists of at least four complete and two half bands like the three complete and two half

In the first place, we observe that the Marajó design of Fig. 7 is not unique in the New World. Incised on a club from Guiana is a design, Fig. 6, consisting of two upright human figures joined to each other by a common arm, and to an inverted figure below them by common legs. This arrangement obviously embodies essentially the same structural principle as the Marajó pattern of Fig. 7. What is the nature of the relationship between the Marajó and the Guiana design? Though Fig. 6 looks like the nucleus from which an all-over pattern like that of Fig. 7 might have evolved, we believe that it is, rather, an excerpt from a pre-existing all-over pattern: the end rather than the beginning of a development⁽⁸⁾.

In all the designs considered up to this point, the human identity of the repeating elements is fairly obvious, the greatest naturalism being that of the Guiana design, Fig. 6. From now on, however, we shall have to consider designs of which the anthropomorphic character is not immediately apparent, but is to be inferred from context and analogy. Though some of our inferences may seem at first inadequately supported, the reader is asked not to judge them until the evidence has been presented in its entirety.

Our chief means of identifying highly geometrized patterns made up of human figures, in the Old World as in the New, is by their structural analogy with relatively naturalistic patterns like those already considered. For example, the anthropomorphic origin of the Melanesian "geometric" pattern, Fig. 9, appears in the light of the more naturalistic Melanesian pattern, Fig. 8. The design of Fig. 9 may be regarded as an extension or multiplication of the central tier of human elements in Fig. 8, minus the rudimentary heads and plus ovoid bodies around the spinal columns. Designs of this type, generally headless, are fairly common in Melanesia and along the northern coast of New Guinea⁽⁹⁾.

The painted decoration of a Carajá paddle from Central Brazil, Fig. 10, displays a certain similarity to the Melanesian design just considered. In view of the striking similarity which we have already observed between the Papuan anthropomorphic pattern of Fig. 5 and the Brazilian one of Fig. 7, it seems very unlikely that the resemblance between Figs. 9 and 10 is accidental. Thus the Carajá design of Fig. 10 may be best explained, like the Melanesian design of Fig.

bands of our Fig. 7 a. On this uncatalogued vessel the bands run horizontally as in Fig. 7 b. Vessels decorated with horizontal *swatches* cut from the ideal pattern of Fig. 7 a (often narrower than the swathe of Fig. 7 b, and often garbled) are not uncommon in Marajó pottery: thus Palmatary, 1950, pls. 13c, 28g, 31e, 33a (= our Fig. 7 b), 33e, 82c, and other specimens which she does not illustrate.

(8) Fig. 6 represents a type of design fairly common on Guiana clubs, in which small groups of human figures are connected in various ways by their limbs. (See Stolpe, 1927, *passim*). All such arrangements are, we believe, best explained as excerpts from endlessly repeating patterns. For a reconstruction of the repeating pattern from which Fig. 6 was presumably excerpted, see Schuster, 1955, fig. 5.

(9) See Preuss, 1897, figs. 3-10, and cf. Preuss, 1898, figs. 1-10. Some of the designs which Preuss calls "hanging fruit bats" (e. g. 1898, figs. 74-78) we would regard rather as all-over patterns of human figures, like our Figs. 8 and 9.

contemplation of a subvariety of genealogical patterns, which may be described, for want of a better term, as patterns of "crossed genealogies". The design of Fig. 10 is characteristic of this subvariety in that it presents the aspect of a puzzle. When the paddle is held vertically, as it is shown in our illustration, its design is representative of our first type (Fig. 3, I); and the zigzags have no meaning. When the paddle is turned on its side, however, the design takes on the character of a pattern of our second type (Fig. 3, II), in which the undulating bands run vertically, and each pair of bands forms alternately the sides and limbs of bodies whose spinal columns are represented by the zigzags. In this view of the pattern, the rectangles with their median lines of dots become meaningless.

Genealogical patterns arranged so that the component figures form both horizontal and vertical series are not uncommon in South America. The complexity of these interlocking or telescoping schemes is often matched by their obscurity; for it is not easy to develop a repeating pattern which conveys its meaning equally well both hori-

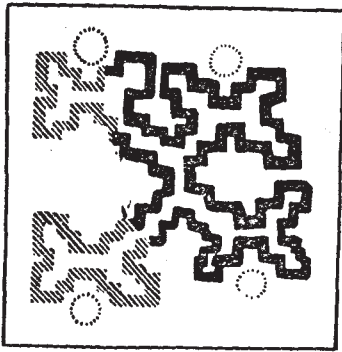


Fig. 11 - Rock-painting, Patagonia.
(Detail of Fig. 38)

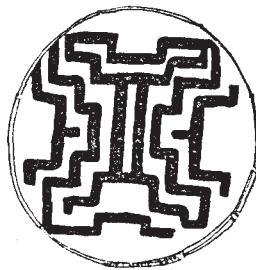


Fig. 12 - Design on Piro drum, Eastern Peru.



Fig. 13 - Design on Wapishana gourd.
Br. Guiana.

zontally and vertically. What is meaningful from one side often becomes meaningless from the other. Nevertheless, though the human figure may be strangely distorted to make it fit the conceptual requirements of such repeating patterns, they generally yield their meaning to a simple rule: turn the pattern on its side.

In Figs. 11 to 15 are assembled a number of anthropomorphic or "genealogical" designs based upon the biaxial principle. The absence of clearly indicated heads in most of these designs facilitates their rotation. In Fig. 14 the rotation is suggested by the presence of rudimentary heads at both ends of the bodies and by the introduction

of swastikas between them. In Fig. 11 four "heads" have been supplied by the writer to bring out the anthropomorphic character of the design: if this design were turned on its side, the "heads" would have to be transposed accordingly. The extent to which such designs are diffused throughout South America can be gathered from the titles under the illustrations. Their antiquity is suggested by the archaeological origins of Figs. 11 and 14. As appears in the juxtaposition of Figs. 40 and 40 *a*, and again (possibly) in the design of Fig. 43 *b*, the biaxial principle may have been first conceived in very much earlier times in the Old World, as a simple crossing of two figures. However, the extension of this principle to the formation of indefinitely repeating patterns seems to have been a development peculiar to the New World.

Though the modern Guiana design of Fig. 16 can hardly be regarded as representing the biaxial principle, it is nevertheless of interest here because of its general resemblance to Fig. 11, and because of its specific bearing upon the Carajá design of Fig. 10, as seen from

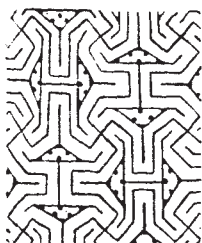


Fig. 14 - Design on a "tanga." Marajó, Brazil.

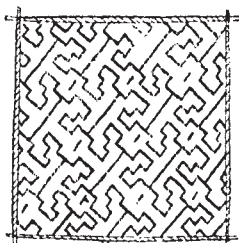


Fig 15 - Chama sieve. Eastern Peru.

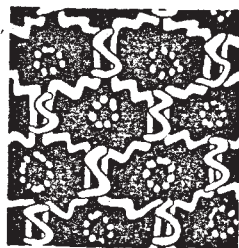


Fig. 16 - Design painted on a calabash. Guiana (?).

the side. The Guiana design of Fig. 16 is obviously representative of our second archetype (Fig. 3, II), differing from that only in two very minor respects: the representation of the common limbs by stepped rather than curving lines, and the presence of "heads" in the form of circles of dots in the spaces between the "bodies". (These dots are present in the original, not supplied by the writer as in Fig. 11). There can be little doubt, then, that the zigzags connecting the pairs of vertical lines in the Guiana design are in fact "shorthand" representations of the spinal columns of the figures composing it, just as we used this convention in the scheme of Type II in Fig. 3. The obvious intention to represent spinal columns by these zigzags tends to support our vertebral interpretation of the zigzags in the side view of the Carajá paddle, Fig. 10.

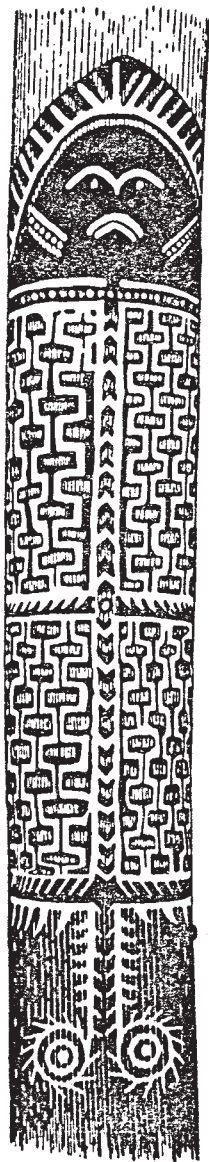


Fig. 17 - Painted
house-post.
Uanana Indians. (Tukano
group). Northwestern Brazil.

Undoubtedly related to both the Carajá design of Fig. 10 and the Guiana design of Fig. 16 is the painted decoration of house-posts of certain Tukanoan-speaking Indians of the northwestern Amazon basin, as illustrated in Fig. 17. For the "geometric" pattern of Fig. 17 is essentially the same as that of the Carajá paddle when viewed from the side (without the zigzags and dots), and the same as the basic framework of the Guiana pattern, Fig. 16. The importance of the pattern on this house-post for the elucidation of the designs of Figs. 10 and 16 lies in the context in which it occurs. For here the "geometric" pattern obviously forms the body of a human figure whose head appears at the top, surmounting a vertical bar which is clearly marked as a spinal column by a filling of chevrons. In so far as the pattern on this post, like the more elaborate but basically identical designs of Figs. 10 and 16, conforms to our second genealogical type (Fig. 3, II), it can only be derived from series of human figures joined by their outstretched arms and legs. The individual heads and spinal columns missing from these greatly simplified figures are then represented collectively by the single large head surmounting the pattern and by the spinal column dividing it vertically in two. Regarded as a whole, the design on this house-post in fact provides one of the most striking proofs of the anthropomorphic origin of "geometric" patterns of our second type in the New World, while it corroborates the interpretation which we advanced, somewhat tentatively, for the Carajá design of Fig. 10 and the Guiana design of Fig. 16. For it is surely no accident that just this pattern was chosen to represent the body of the stylized human figure on the house-post. On the contrary, we may be sure that it was such a composition, dominated by a human head, from which decorations like those of the Carajá paddle and the Guiana bowl were abstracted.

But this is not all that we can learn from the house-post of Fig. 17. In the first place, its design explains better than any other so far considered the persistent headlessness of the figures composing typical genealogical patterns. For if we regard each conventionalized body in Fig. 17 as representing an individual, then these bodies collectively form the body of the tribe, for which there can logically be but one head — that of the tribal ancestor at the top of the pattern, through whom all individuals of the tribe are ultimately related. The design of this house-post is, then, far more than mere decoration: it is a symbolic representation of the tribe as a whole. Beyond this, the very application of the design to a house-post is in itself undoubtedly significant. When we speak of an outstanding individual as a "pillar of society", and when we speak of a family as a "house", we are perpetuating metaphors which must go back ultimately to actual usages. Undoubtedly the house-post of Fig. 17 represents such a usage, surviving in the traditions of a people closer to symbolic origins than ourselves. Not only figuratively but also literally the tribal ancestor is here the pillar of the house, its physical strength being metaphysically reinforced by the strength of all the individuals forming the collective body of the tribe.⁽¹⁰⁾



Fig. 18 — Door-post.
New Caledonia.



Fig. 19 — House-post.
Admiralty Islands.

(10) Undoubtedly the anthropomorphic house-post of Fig. 17 is but one representative of a type found also in other parts of the world. Thus in the Polynesian island of Tikopia, according to Firth, 1940, I, p. 137 f, the central post of a temple embodies the deified spirit of the clan-ancestor

The house-post of Fig. 17 not only illustrates the genealogical significance of "geometric" patterns of our second type, but it provides a rare insight into the nature of the genealogical symbolism which here concerns us. In other such patterns, especially in the Old World, we have already observed a certain emphasis upon the spinal column. In the design of this house-post the spinal columns are, as it were, extracted from their places in the repeating pattern and magnified into a single feature of dominant importance. The chevrons representing the vertebrae in this broad column run in opposite directions from a central point, determined by a transverse bar and evidently conceived as an umbilicus. If the repeating pattern represents the tribe, its division by this means into four equal sections can only refer to social divisions within the tribal body. Among the Cubeo and presumably other Tukanoan tribes this would probably mean exogamous phratries or sibs. The spinal column thus appears to be a symbol of cleavage, not so much within the body of each individual (compare Fig. 2) as within the body of the tribal ancestor, and thus conterminously within the body of the tribe. The crossing of the spinal column by a horizontal bar suggests that the body of the tribal ancestor was conceived as having been actually divided into four parts, which must be forever reunited by individual marriages between members of the exogamous divisions in order to perpetuate the social fabric of the tribe. In this symbolism the umbilicus undoubtedly plays a role of great importance. It was probably conceived as an omphalos or cosmic navel, by which the bodily divisions of the ancestor were aligned with the cardinal directions; and this alignment is ideally perpetuated in the relative geographical locations of the sibs or phratries composing the tribe⁽¹¹⁾. The post embodying the ancestor is then simultaneously and necessarily the World-Pillar (*Weltsäule*, *axis mundi*) supporting the firmament, as represented in microcosm by the roof⁽¹²⁾.

Though the cosmic function of the house-post is implicit in its representation of the social community (in so far as the ultimate ancestor is conceived as God), the meaning of the post to those dwelling in the house was probably in the first place a social one. It is for this reason, no doubt, that we encounter house-posts in the

who first dwelt in the building before it was consecrated, and his descendants are known collectively by the name of the "house" of that ancestor. Frobenius, 1897, recognized the "genealogical house-post" in Africa; and we may perhaps see a refined survival of this primitive idea in caryatids like those of the Athenian Erechtheum.

(11) On the correlation between social divisions, cosmogony and geography, see, most recently, Bertling, 1954, especially p. 9, referring to a god of New Guinea whose body is divided at the navel into four parts, from which all humanity is descended. Compare the genetic role of the navel in a Carib creation myth, note 105. For the significance of the spinal column, see note 132.

(12) On the cosmic connotation of the house-post and the roof, see Coomaraswamy, 1938, *passim*, Bertling, 1954, p. 8, and Firth, 1940, 1, p. 147 (where the house-post is conceived as a demi-god who provides communication between men and gods, i. e., between micro- and macrocosm).

form of ancestral images in various parts of the world. Probably nowhere, however, do we meet with house-posts so closely resembling those of the Tukanoans as in the Melanesian area of the Western Pacific.

Thus the New Caledonian door-post, Fig. 18, and a house-post from the Admiralty Islands, Fig. 19, are obviously variants of the type represented by the Tukano post of Fig. 17; and it follows that, despite differences of style, the "geometric" patterns on the shafts of the two Melanesian posts must have the same meaning as that on the shaft of the South American one. As a matter of fact, the anthropomorphic character of the two Melanesian patterns is more easily established in terms of regional traditions than we were able to establish that of Fig. 17. Thus the pointed ovals on the shaft of the Admiralty post, Fig. 19, are almost in themselves recognizable as human bodies, each divided vertically by two parallel rows of dots obviously representing the spinal column, as such rows of dots serve in another Melanesian design, Fig. 9. By the same token, the zigzags connecting the points of these ovals must represent common arms and legs in the same way as undulating bands connect the oval bodies in Fig. 9 and the spinal columns in Fig. 1. This characteristic Admiralty pattern differs from the scheme of Type I in Fig. 3 only in so far as each tier of figures is separated from the tiers above and below by horizontal cross-bars, instead of being connected with them by common limbs. The design of the Admiralty post thus suggests a finite number of generations rather than the endlessness of the genetic process implicit in more truly characteristic patterns of our first type. Nevertheless, these generations of headless figures are all "animated", just as on the Tukano post, by a single large head at the top, to which they no doubt stand in the relation of descendants to an ancestor. And again as in Fig. 17, the multiplication of bodies must have been conceived as strengthening the post symbolically. Shaft and capital together represent the inseparable and all-powerful unity of the tribe ⁽¹³⁾.

As for the zigzags carved on the shaft of the New Caledonian post, Fig. 18, these can hardly be explained except as continuous limbs connecting series of rudimentary human figures, in the same way as undulating bands of parallel lines connect the skeletal bodies

(13) Though the Melanesian posts of Figs. 18 and 19 are the only Oceanic examples known to us embodying the iconographic principle of a human head for capital surmounting a series of headless bodies on the shaft, it should be noted that in the Polynesian island of Tikopia, which lies on the "fringe" of Melanesia, house-posts may be conceived, though not represented, as deified ancestors. (See note 10 above). The fact that a "dancing skirt" is tied round the "body" of the Tikopian post-god in a periodic rite of renewal helps us to understand the painted decoration of the Tukanoan post, Fig. 17, as a dancing costume with a fringe at the bottom. (Cf. also Fig. 21). No doubt, then, among the Tukanoans as among the Tikopians, the ancestral god of the post was conceived as the first dancer or the initiator of the dance.

on the New Ireland club of Fig. 1. The New Caledonian design is thus a characteristic example of our first type of "genealogical" pattern: Fig. 3, I. The diamonds formed between the zigzags, or perhaps the star-shaped cut-outs within the diamonds, must then represent headless bodies, each band of zigzags serving as limbs of the bodies both above and below it. Here again, needless to say, the large head spanning the top of the post belongs to all the headless bodies comprising the shaft. However obvious this explanation appears when



Fig. 20 - Painted decoration of a tomb. Tierradentro, Colombia.

Fig. 21 - Costumed dancer. Cáua Indians. Northwestern Brazil.

the typical New Caledonian *tale* of Fig. 18 is aligned comparatively with the posts of Figs. 17 and 19, it has by no means always been so obvious to those who regarded the study of New Caledonian art as an exclusive regional specialty⁽¹⁴⁾.

If the juxtaposition of these designs makes it clear that the Tukano house-post of Fig. 17 is but representative of a type, the

(14) Thus, though Sarasin, Leenhardt and others seem to agree that the New Caledonian door-post or *tale* must somehow represent an ancestor, they were at a loss to explain the "geometric" pattern on the shaft. Compton, 1917, p. 98 (in what seems to be an indirect quotation of a native informant) came nearest the mark when he described the lozenges as "stomachs" (plural) of the figure whose head forms the capital. Sarasin, 1929, p. 145, recognized the lozenges as multiple bodies somehow related to the single head at the top, but he took the zigzags for ribs, rather than limbs, as we have seen them to be; and he concluded that "such a repetition [of human bodies], though in itself senseless, would not be contrary to the laws of design." (Our italics). What is really senseless is the invocation of imaginary laws of design to explain forms which can only be understood by comparison with phenomena outside the limited area under investigation.

question naturally arises whether it is the only representative of its type in the New World. It would be surprising if a symbolism of such importance had not left its mark in earlier phases of South American culture. And we do in fact know of at least two South American examples of the type from earlier times. Though these deviate in some respects from the modern Tukano post, both are, we believe, ultimately related to it, and certainly neither can be explained except in terms of its genealogical symbolism.

In certain tombs at Tierradentro in the Cauca valley of Colombia, each of the pilasters "supporting" the subterranean roof carries a large human head as capital and a geometric pattern on the shaft, as shown in Fig. 20. From what we have just observed, it may be reasonably concluded that the pattern on each of these pilasters is derived from series of human bodies, whose common head forms the capital. The fact that the Tierradentro pattern is a simple lattice hardly invalidates this conclusion; for we have already seen, in the New Caledonian post of Fig. 18, how the pattern of interlocking bodies can be simplified toward such a result. However, while there is enough left of the original limbs of the figures in the New Caledonian design to indicate its derivation from a genealogical pattern of our first type, the lattice of the Tierradentro pilasters has been simplified to such an extent that it is impossible to say from which of the two basic types of Fig. 3 it is derived. Though we do not know how accurately the decoration of the Tierradentro tombs reflects the domestic architecture of the people who were buried in them, it can hardly be doubted that the pilasters in the tombs are "genealogical", in the same sense as the house-posts of the modern Tukano Indians. And if these pilasters find their counterpart in the modern Tukano house-posts, we may plausibly compare the decoration of the walls and roofs of the same tombs with the similar decoration of the modern dancing costumes of these Indians and their neighbors, as suggested in Fig. 21 (15).

Our second archaeological example of this symbolism is a stone column found at Tafi in Tucumán province, northwestern Argentina.

(15) This comparison implies the question whether the wall- and roof-patterns of Fig. 20 are not symbolic in the same sense as the Tukano post of Fig. 17 (which is related to both the dance-costume of Fig. 21 and the pilasters of Fig. 20). We believe that a functional explanation of these wall- and roof-decorations as an imitation of beams and matting by no means excludes a symbolic one, but that the two may reinforce each other, as in the symbolic house-post. (Cf. note 12). Undoubtedly the Tukano façade, Koch-Grünberg, 1906, 2, pl. 90 a; 1908, pl. 6, fig. 13, represents a genealogy of the enlarged family which figuratively constitutes the "house". Strangely enough, the façade of a West African house, Griaule, 1948, p. 112 and pls. I and IX, provides an explicit key to the implicit genealogical symbolism of the Tukano façade, as Griaule's discussion, pp. 109-121, sheds a brilliant light on the symbolism of primitive architecture altogether. Krickeberg, 1949, pp. 35-37, called attention to the close similarity between Tierradentro architectural ornament and the designs of modern Arawak and Tukano dance-costumes, without, however, attempting to fathom the symbolism underlying it. On the house-post as a dancer and the dancer as a house-post, cf. notes 13 and 27.

This column or "menhir," shown in Fig. 22, differs from the modern house-post of Fig. 17 chiefly in its function; for the circumstances under which it was found, in an area with other widely scattered columns of varying decoration, preclude the possibility of its having served to support a roof. Presumably it was set up as a free-standing memorial. In its carved decoration, however, this "menhir" obviously conforms to the formula, now familiar to us, of a post with a human head for its capital and a geometric pattern on its shaft. There is no possibility of dating the Tafi columns precisely, because of the lack of associated archaeological finds; and though the face of this example (unfortunately mutilated) may eventually provide a clue to stylistic affinities with other ancient monuments⁽¹⁶⁾, we are here concerned not so much with its date and historical relationships as with its symbolism.

On the basis of the four preceding illustrations, it may now be stated as a working hypothesis, if not as an axiom, that any repeating pattern of geometric character which occupies the shaft of a post or column bearing a human head at the top is *ipso facto* derived from series of human bodies belonging to that head. Proof of the anthropomorphic derivation of the pattern on the shaft of the Tafi menhir is not, however, so easily established as in any of the four preceding instances. Such proof would require a special study of similar designs occurring in the ancient and modern decorative arts of many different South American peoples. Though lack of space forbids such a study here, it may nevertheless be useful to suggest, at least in rough terms, how the development of the Tafi design *might* have taken place. To begin with, it may be regarded as fairly obvious that this design is in some degree related to that on the shaft of the Tukano post, Fig. 17. However, the Tafi design can perhaps be more readily understood in terms of the Guiana design of Fig. 16, which is, as we have seen, but a variant of that on the Tukano post. The Tafi pattern could be derived from such a design by one or two slight modifications. Disregarding the zigzags in Fig. 16, we may see in its dotted circles a plausible counterpart for the circles of the Tafi design; and the long horizontal compartments enclosing these circles (or the cupulae marking their centers) on the central axis of the menhir may then be likened to the roughly rectangular compartments with stepped tops and bottoms enclosing the dotted circles in the Guiana design. The Tafi compartments differ from those of Fig. 16 chiefly in that they are self-contained, and otherwise only in being longer and flatter and having one less "step" at the top and

(16) Thus Bruch, 1913, p. 5, n. 1, suggests comparison with the head of a certain stela from Tiahuanaco (Stübel & Uhle, 1892, pl. 35); and analogies can be seen also in the face on a Diaguita bronze plaque (Museo de La Plata, 6791), as well as on the Tierradentro pilasters, Fig. 20.

bottom. The nucleated circles along the right and left edges of the menhir, joined in pairs by horizontal lines, are presumably likewise equivalent to dotted circles of the Guiana design. The circles on the menhir might be conceived either as heads, or perhaps more plausibly as navels. Though the menhir was of course intended to be seen in vertical position, this does not exclude the possibility that its design was applied to movable objects as well, and so was intended, like many other South American designs (Figs. 11-15) to be seen from either side. In this case, the raised parts of the stone would form a pattern of our second type (Fig. 3, II), and the incised lines would become meaningless except as divisions. Either interpretation is possible, though neither can be regarded as certain until this design is made the subject of an extensive comparative study⁽¹⁷⁾. It may be safely predicted, however, that no matter how the geometric pattern on the Tafi menhir is ultimately explained, the basic relationship of the whole menhir to the Tukano post of Fig. 17 is hardly likely to be disproved.

The thesis of a relationship between the Tafi menhir of Fig. 22 and the modern house-post of Fig. 17 is supported by the even more obvious relation between another stone monument from the Tafi area, Fig. 23, and the painted and carved decoration of another Tukano house-post, represented in Fig. 24. Koch-Grünberg, who saw many such house-posts and was familiar with the variations of their painted designs, undoubtedly had good reason for regarding the motive of Fig. 24 as a conventionalized human head, in which the central cup-shaped depression represents the hole made by the Indians in the under lip for the insertion of a labret (*tembeta*), the labret itself being represented by a plug of wood left standing in the middle of the cup. The derivation of this design from a human face can be followed plausibly enough in the series of Koch-Grünberg's



Fig. 22 - Stone stela.
Tafi, Tucumán.
NW. Argentina.

(17) Though it is impossible to embark upon such a study here, the body-pattern of the Tafi stela, Fig. 22, should be compared with designs burnt on ancient calabashes (Rydén, 1944, fig. 80 M; and Tucumán, Museo arq. e preh., 43.421/93) and painted on more recent ones (Uhle, 1890, 2, pl. 4, fig. 8; and Paris, Musée de l'Homme, 78.32.3, where the motive seems clearly intended to represent

illustrations. (The rays on the pointed arc at the top of the design no doubt represent a feather headdress). Now the volutes of this painted design have their obvious counterpart in the omega-like motive carved on the Argentine stone, Fig. 23 — which must accordingly be understood as the conventionalized representation of a human head. Under this "head" on the Argentine stone we see a horizontal bar enclosing a pair of cupulae at the ends. This bar is evidently the remnant of a body-pattern like that on the menhir of Fig. 22; and it corresponds,



Fig. 23 — Sculptured stone.
Tucumán province. Northwestern
Argentina.

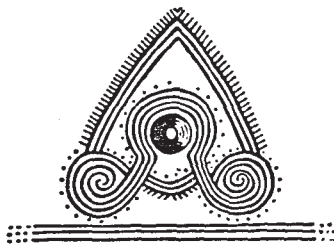


Fig. 24 — Design on a house-post.
Uaiana tribe (Tukanoan).
Northwestern Brazil.

in all probability, to one of the connected pairs of nucleated circles on that monument. The fact that the body-pattern tends to disappear under both of these similarly

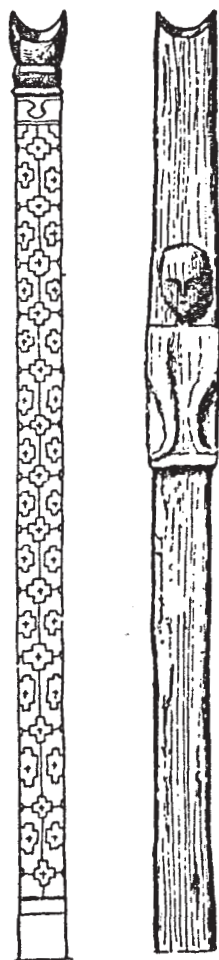
formed "heads" confirms the closeness of relationship between the "menhirs" of Tafi in Argentina and the wooden house-posts of the Indians between the Yapura and the Rio Negro in Brazil. Whatever else this may mean, it clearly indicates that the conventional forms perpetuated by the modern Indians were already established when the Argentine stelae were carved ⁽¹⁸⁾.

In all probability the house-post from Eastern Peru illustrated in Fig. 25 represents another survival of the same tradition. This interpretation depends in large measure upon the identity of the motive painted in the rectangular space just under the carved capital.

spinal columns). All these designs, including that of the Tafi stela, are doubtless related in some way to the motive of a line or lines interrupted at intervals by nucleated circles, which occurs sporadically in petroglyphs and pictographs all the way from NW Argentina through South America to the Antilles, Mexico, and the SW United States.

(18) It should be mentioned that the shaft of a third Tafi stela (Bruch, 1913, fig. 8) likewise consists (in our opinion) of series of human bodies surmounted by a rudimentary head. These conventionalized bodies, different from those of Fig. 22, are related to the motive of a rock-carving (petroglyph) in the Argentine Territorio del Rio Negro, Menghin, 1952, pl. 4^a; and both designs again have their analogy in the living art of tropical forest Indians far to the north: for example in the body-painting of the Cashinawa of the Rio Curanja in E. Peru (Schultz and Chiara, 1955, pl. 1; cf. also a Chama paddle, Steward & Métraux, 1948, p. 576, fig. 78 i). Similarly, the "body-design" of still another Tafi stela, not published by Bruch or Schreiter (photos Carlos Reyes M. Garjardo, Tucumán) recalls another Brazilian design: that on a Tupinamba sacrificial mace-head (Staden in Métraux, 1948, fig. 9: apparently a simplification of the Tupinamba body-pattern, our Fig. 28). These analogies clearly indicate an extensive relationship between the designs of the Tafi stelae as a group and design-traditions (esp. in body-painting) of tropical forest tribes.

If that motive is a rudimentary face, consisting of a nose with attached eyebrows but lacking eyes and mouth, it would reasonably follow that the geometric pattern on the shaft of the same post is equivalent to the pattern on the shaft of the Tukano post, Fig. 17. Our surmise that the motive at the top of Fig. 25 represents a human face seems to be supported by the circumstance that other house-posts from the same region are sometimes carved with more or less abbreviated human bodies surmounted by three-dimensional heads, as shown in Fig. 26.⁽¹⁹⁾ The thesis that the "geometric" design on the shaft of Fig. 25 was evolved from series of human bodies is, moreover, supported by a number of other considerations: perhaps in the first place by its basic similarity to the design carved on the shaft of the Tafi menhir, Fig. 22, of which this painted design might be regarded as an angular variant; each enclosure of a little cross on the central axis of the Peruvian post corresponding to the enclosure of a cup on the central axis of the menhir. The only difference between the two patterns is then in the disposition of the lines connecting the enclosures. We shall have more to say later about the pattern on the shaft of this Peruvian post, as well as about the "face" at its top. In the mean time it may be recalled that Tessmann long ago surmised that the "geometric" designs of Eastern Peru, of which that on this post is typical, are derived ultimately from human figures, greatly simplified and variously combined. This surmise is, in our opinion, basically sound; even though much comparative study remains to be done before it can be verified ⁽²⁰⁾. Tentatively, at least, the Peruvian post of Fig. 25 may be regarded as an example of the type of anthropomorphic house-posts, pilasters and menhirs which are, as we have seen, widely distributed in time and space throughout South America.



Figs. 25 and 26 - Chama house-posts. Ucayali valley. Eastern Peru.

(19) With Fig. 26 should be compared certain ancient house-posts from the Nazca Valley on the other side of the Andes, which are carved with human figures, busts or heads (Doering, 1936). The panpipes held by these figures indicate that they represent dead persons (cf. the spinal column in Fig. 17), and Doering is no doubt right in concluding that the roof was symbolically carried by ancestors in effigy. Must we suppose that the Chama post of Fig. 26 reflects trans-Andean influence, or may not the Nazca and the Chama posts go back to a common origin, older than either?

(20) Tessmann, 1928, p. 177 f. (Cf. our Fig. 15).

The fact that the "geometric" pattern on the shaft of this Peruvian post reached up to the nose of the conventionalized face at the top, apparently covering its mouth, may find its explanation in another

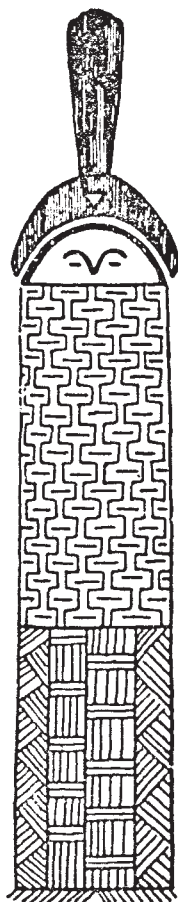


Fig. 27 - Tukano house-post. NW. Brazil.

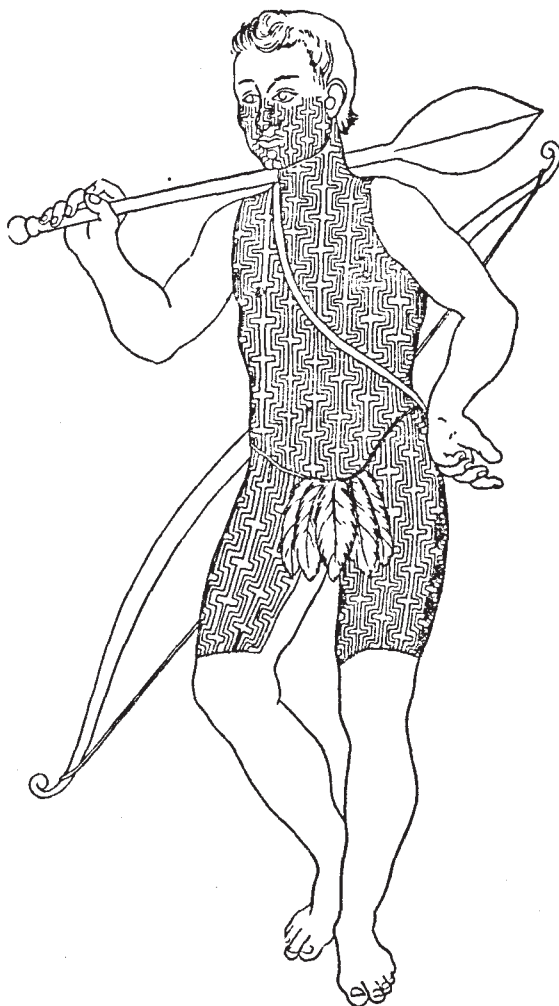


Fig. 28 - Tattooed Tupinambá warrior. Maranhão. After Claude d'Abbeville, 1614.

usage, that of body-painting, to which we now turn our attention. It is very interesting, and indeed important, to observe that some of the patterns applied to South American house-posts are also painted or tattooed on the Indians' bodies. Thus KOCH-GRÜNBERG tells us that the typical pattern of the Tukano house-posts, as represented in

Figs. 17 and 27, was painted not only on the Indians' dancing costumes (compare Fig. 21), but also, for festive occasions, on their bodies⁽²¹⁾. This might seem to be a matter of purely local interest, were it not

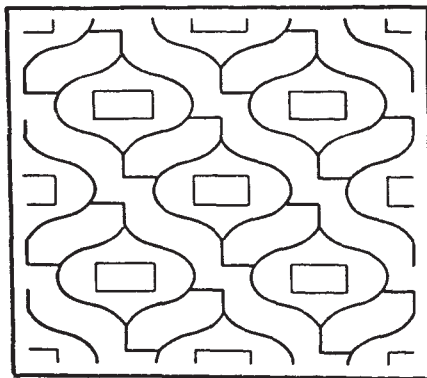
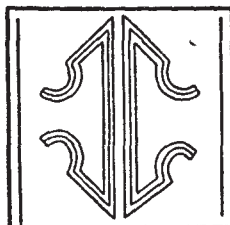
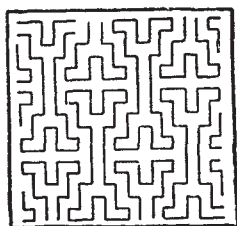


Fig. 29 - Caduveo arm-painting.
Mato Grosso, Brazil.



Figs. 30 and 31 - Shipaya designs. Rio Iriri, Brazil.
Both probably used in body-painting.

for the fact that patterns which we recognize as representative of our second type (Fig. 3, II) occur in body-painting or tattooing not only in a small area in northwestern Brazil, but in several widely separated parts of South America — and not only among tribes who decorate their house-posts with such designs. What, then, is the relation between the designs on the house-posts and the similar designs applied to the bodies of the living Indians? In so far as the patterns used in body-painting and tattooing are themselves composed

(21) Koch-Grünberg, 1908, p. 46. Though the only Tukano body-painting actually illustrated by Koch shows the type of pattern at the *bottom* of our Fig. 27 (Koch-Grünberg, 1906, p. 377; 09-10, 1, p. 343), his statement seems to indicate that the pattern at the *top* of Fig. 27 was probably also so used. However much the pattern at the bottom of Fig. 27 may look as if inspired by basketry (cf. note 81), it is probably a simplified "genealogical" pattern of the type of Figs. 12-15, in which the bodies cross each other at right angles. Both designs are associated on Tukano rattles and dance-staves.

of series of conventionalized bodies, it can only be concluded that the application of such patterns to the living body makes the wearer into a living image of his tribe. And this corresponds to the conception of the anthropomorphic house-post as a kind of composite tribal spirit. Whether the body-decoration was copied from the house-post or the other way around need not concern us: in either case the design is a "tribal" pattern in the sense that it literally represents the tribe as a composite of its members.

While not all patterns used by South American Indians for body-decoration are necessarily derived from series of linked human figures, there are nevertheless several reasonably clear cases of such derivation; and a study of these leads us to suspect that at least a considerable number of body-patterns will ultimately find their explanation in terms of the genetic symbolism now familiar to us. This means that all South American body-decorations, especially in so far as they consist of endlessly repeating patterns, should be tested for the possibility of derivation from series of human figures. Here we can only consider a few instances in which such derivation is especially evident.

A document of prime importance for this phase of our study is the tattooing of a Tupinamba warrior, as recorded by a Capuchin missionary of the seventeenth century and here reproduced in Fig. 28. This body-pattern can be best understood with reference to the pattern on the typical Tukanoan house-post, Fig. 27, from which it differs only in such minutiae as the absence of little horizontal bars within the compartments and the multiplication of the stepped lines forming an "ogival" system characteristic of our second type (Fig. 3, II). Not only is the Tupinamba pattern a clear example of that type; but the missionary who recorded it also transmitted an account of the meaning which the wearer, or his compeers, associated with it. This design represented, according to CLAUDE D'ABBEVILLE, a record of the wearer's brave deeds in battle, and more specifically a record of the twenty-four enemies whom he had slain and whose names he had acquired⁽²²⁾. It is thus obvious that the elements composing the pattern were somehow recognized by the Tupinamba as representing human figures. Since we have seen that the basic meaning of all such patterns is essentially genealogical, it must be asked whether there is not a connection of some kind between the Tupinamba institution of ritual homicide and the idea of tribal continuity, which would explain the use of this "genealogical" pattern as a record of human sacrifices. There are, in fact, a number of clues to such an

(22) Probably the pattern of Fig. 28 was extended on each of these occasions. See Claude d'Abbeville, 1614, fol. 348; and cf. Métraux, 1948, p. 108.

association. Among them may be mentioned the circumstance that the Tupinamba cut the body of the slain captive first into quarters, and that the assignment of its various parts to various individuals to be eaten was evidently a matter of great social importance⁽²³⁾. This suggests the ritual re-enactment of a widespread type of creation myth, according to which the human race is descended from the dismembered parts of a primordial body; certain races, tribes or sibs being descended from certain parts, in geographical alignment with the four quarters (as we have already suggested in connection with the design on the Tukano post, Fig. 17). It seems that when the captive proclaimed his "honor" at being dismembered and eaten, this was not only an expression of bravado, but also reflected the knowledge, or at least some vague memory, that in this grim drama he was impersonating the ultimate ancestor, and was thus virtually a god, or God Himself, whose body was to be consumed in a primitive communion. This idea may be read between the lines of a remarkable speech made by a captive warrior before his execution, apparently in accordance with a formula customary on such occasions, in which he attempted to taunt his tormentors by claiming that in eating him they would eat their own relatives and ancestors, since he had earlier eaten of these when they fell captive to his own people. This diatribe should be considered in conjunction with the fact that not only the executioner but all the male and female relatives of his generation changed their names when the victim was executed; the death of the victim thus evidently implying the rebirth of a whole generation⁽²⁴⁾. It thus appears that the sacrifice of the victim is somehow associated with the perpetuation of the tribe. The fact that the Tupinamba executioner (who was often the son of the victim's captor) did not himself partake of the victim's body may be explained in the light of a Mexican practice, according to which captor and captive acknowledge their relationship to be symbolically that of father and son, and the captor abstains from eating of the sacrificed captive specifically for this reason⁽²⁵⁾. The general relation between the Tupinamba and the Mexican cycles of captive-sacrifice and cannibalism has been pointed

(23) On the social significance of the quartering of the victim, see below at note 113. It is not entirely clear, from the accounts of early observers as summarized by Métraux, 1928, p. 154 f. and 1948, pp. 122 ff., to just what extent the distribution of the parts of the victim followed social distinctions within the tribe; but it does seem clear, at any rate, that a certain *sentiment* of social propriety was observed. Cf. note 132.

(24) For the speech see Rochefort, as cited by Volhard, 1939, p. 354. We doubt that this changing of names can be explained solely on the basis of the desire to evade ghostly vengeance, as proposed by Friederici in *Globus*, 89, 1906, pp. 59-63. That this is not the real or primary reason will appear in the light of considerations to be introduced later.

(25) This matter will be discussed more fully below at note 133. Abstention of the captor or executioner from eating of the victim can be observed also in other parts of the world (Volhard, 1939, pp. 197, 223: Papua, Nissan, and elsewhere). As suggested in the last note, we doubt that fear of ghostly vengeance adequately explains such abstention.

out by Radin, who also noted that the Tupinamba regarded each captive enemy as a substitute for one or their own dead⁽²⁶⁾. Like the Mexican captive, the Tupinamba captive was treated, until his sacrifice, as a god; but also, it must be observed, as the equivalent of an ancestor in the sense of a dead relative. The idea underlying these apparently perverse practices is not self-evident, but will appear in the light of certain considerations to be introduced at the end of our study. In the mean time it will suffice to observe that in applying a "genealogical" pattern to his body in commemoration of the slaying of captives, the Tupinamba was, as it were, commemorating his own genealogy in terms of ritual sacrifices.

Not only directly in its artistic structure and indirectly in its meaning is the Tupinamba tattooing of Fig. 28 thus related to the patterns painted on the Tukano house-posts of Figs. 17 and 27; but there is also an analogy in the arrangement or disposition of the patterns. For just as the Tupinamba pattern was tattooed only on the torso, exclusive of the arms and lower legs (those parts, namely, which were cut off if the warrior was captured!), so there is no representation of the limbs on the painted Tukano post: they were apparently "thought away", as if unfit to carry the pattern. And on the corresponding dancing costume, Fig. 21, the "genealogical" pattern is painted only on the torso, while the arms are hidden by sleeves (a surprising accessory in the jungle!) and the legs by a fringe, which reappears in conventional form on the post, Fig. 17. Whatever may be the meaning of these correspondences, they undoubtedly show a close relation between the Tupinamba body decoration on the one hand and the decoration of the Tukano house-posts and related dancing costumes on the other. Perhaps the most striking similarity between the Tupinamba tattooing of Fig. 28 and the decoration of the Tukano post, Fig. 27, is in the extension of the body-pattern upward, so as to cover the lower part of the face. This peculiarity (for which, again, we shall attempt no explanation; and which, indeed, may have none beyond habit or custom) is undoubtedly the same which we observed in the obliteration of the lower part of the "face" by an upward extension of the "body"-pattern on the Eastern Peruvian post of Fig. 25. Finally, all these phenomena together provide an explanation for the fact that certain well-known dance-masks of the Bacairí and other tribes of the upper Xingú River are decorated with a geometric pattern extending just up to the level of the eyes⁽²⁷⁾.

(26) Radin, 1942, pp. 105 f., 98 f.

(27) For Bacairí masks with such decoration, see Steinen, 1894, Chap. XI, *passim*, and Lévi-Strauss, 1948, p. 344, fig. 42, especially c, d, e. Von den Steinen accepted at face value the native name of the pattern as that of fish or fishes of the species *mereschu* (*op. cit.*, Chap. II), caught in a fishing net. The comparisons here adduced indicate that the net-like pattern covering the cheeks

It thus appears that genealogical patterns, though primarily applied to the trunk of the body, may be extended beyond it, and that they may even persist in these transferred locations while they disappear from the body itself. If the masks of the upper Xingú represent such a transfer, we may see another instance of it in the designs painted on the arms, and apparently only on the arms, of certain Caduveo women of southern Mato Grosso. An excerpt of such a Caduveo pattern is shown in Fig. 29. The structural relation of this design to those of the Tukano and Tupinamba, Figs. 27 and 28, is self-evident. All three are obviously variants of the "ogival" scheme of Fig. 3, II — the first two rectilinear, the third curvilinear. Like the Tukano design of Figs. 17 and 27 (and like the designs on the upper Xingú masks) this Caduveo pattern has the horizontal crossbars in its intervals which are lacking from the Tupinamba design; but it resembles the latter in that its undulations are formed of pairs of parallel lines. The only novelty in the Caduveo design is that the pairs of undulating lines not only touch but actually cross each other, giving the appearance of a strap-work. About this interlocking we shall have something to say later.

Are we to regard the Caduveo pattern of Fig. 29 simply as a decoration, or must we not consider it in relation to the other body-patterns to which it bears a structural resemblance? It can hardly be doubted that the impulse which prompted the Caduveo women (or their ancestors) to apply this pattern to their arms was the same as that which prompted the Tukano and Tupinamba and perhaps other South American tribes to apply similar designs to the trunks of their bodies. Undoubtedly all these designs are but variants of a single type, evolved from series of human figures joined by their arms and legs and symbolizing the principle of descent or pedigree. Their use for body-decoration thus literally expresses the wearer's pride in his tribal connections. Among the Caduveo this is evident in the circumstance that the application of such patterns to the upper

of these masks up to the level of the eyes is in fact a typical "genealogical" or "tribal" pattern, evolved from series of connected human figures, which was transposed to the face (i. e., mask) probably for the simple reason that the body in dancing was covered and concealed by a grass costume. This costume may be regarded as equivalent to the *fringe* at the bottom of Tukano and Arawak costumes like that of Fig. 21, the upper part of which apparently often represents a *fusion of body and head*, and is painted with a lattice pattern obviously analogous to that on the upper Xingú face-masks. These masks are thus intimately related to the Tukano-Arawak costumes. The Bacairi *mereschu* pattern is clearly related also to "genealogical" patterns like the lattice on the Tierradentro pilasters of Fig. 20 and (especially) the Caduveo arm-painting of Fig. 29. For these reasons it appears that the native term *mereschu* (i. e., a kind of fish) made famous by von den Steinen as the name of this pattern has the same value as any "popular etymology" has for the linguist: namely nil.

The relationship of the upper Xingú masks to house-posts like those of our Figs. 25 and 27 is confirmed by the fact that the grass costumes of the Bacairi dancers were sometimes so large that they looked like the thatched roof of a native house, and were in fact called "houses" (Steinen, 1894, fig. 98 and p. 305; Lévi-Strauss, 1948, fig. 40). The dancer was thus, so to speak, an animated house-post, or the house-post may be conceived as an immobilized dancer. Undoubtedly the dancer, like the house-post, represents the first ancestor, who introduced the dance. (Cf. notes 10 and 13).

arms was restricted to women of "noble" ancestry⁽²⁸⁾. Even if the Caduveo design of Fig. 29 is worn nowadays only on the arms, we may assume that it once covered the entire body, or most of it, as on the Tupinamba warrior; for it may be said that a pattern of headless human figures only makes sense if they are animated by the head of a living person who wears the pattern. And conversely it may be said that the only type of pattern which really makes sense as a body-decoration is one composed of series of headless bodies. Undoubtedly it is for this reason that we find variations of the scheme of our Fig. 3, II, so widely used in body-decoration (and on house-posts with human heads for "capitals") in South America.

The painted body-decorations of the Shipaya Indians of the lower Xingú River, as recorded by Nimuendajú, include a variety of tightly integrated "mazes", at least one of which, Fig. 30, is obviously composed of human bodies. The fact that the figures in this pattern are not connected makes their identification easier than in most of the patterns with which we have to deal, and justifies its inclusion here for comparison. Another design of the Shipaya, Fig. 31, though transmitted to us in the form of an isolated motive, is undoubtedly an excerpt from an all-over pattern of human figures⁽²⁹⁾. The clue to this derivation is the cleavage between the two halves of the body, which, as we saw in Fig. 2, evidently symbolizes the dual parentage of the individual. This cleavage (whether it is occupied by a spinal column or not) is a natural consequence of the arrangement of bodies in patterns of our second type (Fig. 3, II), and is, in fact, hardly likely to occur except in such patterns. The multiplication of bodily outlines (in Fig. 31 their triplication) is also characteristic of such all-over patterns, and is, in the final analysis, probably a mechanical consequence of their structure⁽³⁰⁾. Renewed attention to the body-decorations of South American Indians will probably bring to light additional examples of such motives and of the all-over patterns from which they are excerpted.

If the genealogical significance of the Caduveo pattern, Fig. 29, is implicit in its form and its use as decoration of part of the human body, the same significance is no doubt inherent in another Caduveo arm-decoration, reproduced in Fig. 32. Here again, as in Fig. 29, the basic scheme is that of pairs of curving parallel lines, so arranged that they give the impression of a strap-work. If, as in so many other

(28) Ribeiro, n. d., p. 162 (citing Sánchez Labrador, *El Paraguay católico*, I, p. 285).

(29) For a reconstruction of the all-over pattern from which Fig. 31 is presumably excerpted, see Schuster, 1955, fig. 10.

(30) See Schuster, 1955.

instances, the vertically undulating lines represent lineages, and their coming together represents offspring from the pairing of these lineages, it might be reasonably inferred that the crossing of the "strap-work" in Figs. 29 and 32 symbolizes the actual unions producing these offspring — in other words, marriages. Evidently the Caduveo thus

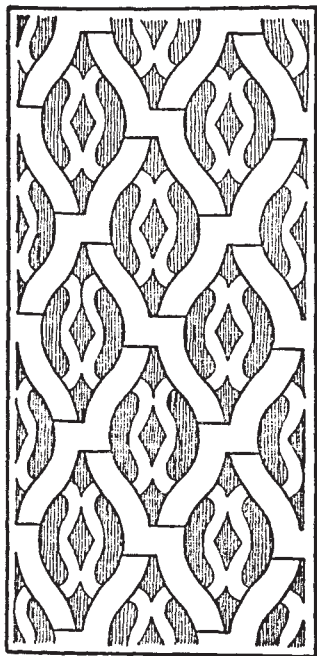


Fig. 32 - Caduveo arm-painting. Mato Grosso, Brazil.

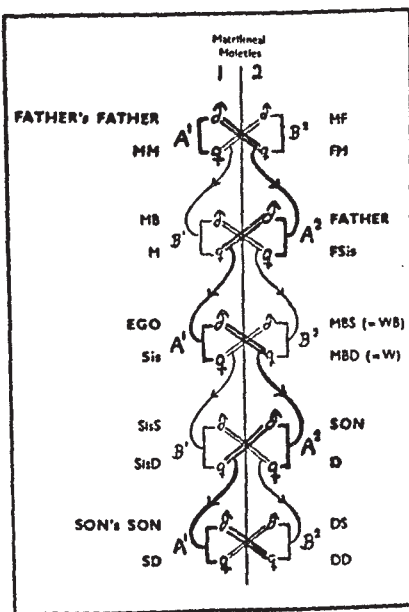


Fig. 33 - Kinship diagram from recent anthropological literature.

express graphically what we express in figurative language when we refer to marriage in terms of "links" or the "splicing" of "knots".

Though we must suppose that these Caduveo patterns, like all the other patterns studied heretofore, were evolved ultimately from concatenations of human figures connected by their limbs, they seem to have turned into something like the abstract diagrams by which our sociologists customarily illustrate systems of kinship. Thus the Caduveo design of Fig. 32 might be compared with a diagram, Fig. 33, illustrating a particular system of kinship in another part of the world. We do not wish to claim that the Caduveo design has precisely the same significance as the anthropologist's diagram, but only to emphasize how any attempt to represent kinship by means of diagrams leads inevitably to patterns like those used by "primitive" peoples to symbolize genealogy in a less special sense. The choice

of crossed lines to represent marriages in the anthropologist's diagram seems as natural as the symbolization of marriage by the crossing of a "strap-work" in the Caduveo design; and the representation of lineage or descent by means of graceful curves was evidently prompted by the same idea in both. As if by instinct the modern anthropologist has re-created what has long been a symbol among "primitive" peoples ⁽³¹⁾.

The only difference between the two Caduveo patterns of Figs. 29 and 32 lies in the treatment of the spaces enclosed within their strap-like framework. Instead of rectangular bars which occupy these spaces in the former, we have in the latter what appears to be a secondary strap-work of narrower bands, roughly analogous to the first and overlapped by it. If the primary system represents a genealogy, it may be reasonably inferred that the secondary system, which so closely resembles it, has the same meaning. The pattern as a whole would then represent two interlocking and interrelated genealogical systems. As we have seen in Figs. 11-15, double genealogical systems are by no means unknown in the New World; though here they seem to run in the same direction instead of crossing at right angles. Among the designs so far studied the closest analogy for the double arrangement of Fig. 32 (or Fig. 34) is probably the Old-World design of Fig. 4 (or Fig. 36). If the bird-like creatures in the intervals of the latter (which, as we saw, probably represent ancestors in totemic guise) were connected with each other by their extremities, and the connections passed *behind* the joined limbs of the primary pattern, a secondary pattern, analogous to the first, would be locked within it, much as the network of narrow bands is locked within that of broader bands in the Caduveo design. Precisely what is symbolized by the interlocking of two similar genealogical patterns we shall not attempt to say, beyond observing that a certain complexity of rhythm seems inevitable in any graphic representation of a kinship system.

If the Hainan design of Fig. 36 provides a measure of explanation for the double system of the Caduveo pattern, Fig. 34, something like a common denominator for both is provided by another Far Eastern design, of a much earlier period, represented in Fig. 35. The fact that this ancient Chinese textile design is the product of a sophisticated civilization need not deter us from comparing it with the modern "primitive" designs here under consideration; for the Chinese designer was undoubtedly inspired by an ancient primitive or "barbarian" model, probably in some way ancestral to the modern Hainan design of Fig. 36. The ancient Chinese design should, then,

(31) Compare the modern re-invention of an ancient symbolic device in the cylindrical projection of Kinship diagrams, discussed below at note 89.

be compared first with that from modern Hainan. The relation between the two is, in fact, remarkably close. To begin with, the essential framework of both patterns is a system of uprights, obviously representing spinal columns in the one and cleft bodies in the other, connected horizontally by a system of multiple bands, undulating in the one and stepped in the other. These bands can only represent, in both designs, the common limbs connecting the upright bodies⁽³²⁾. The displacement of the heads in the ancient Chinese design to the bottoms of the spinal columns is not difficult to explain⁽³³⁾. These grinning masks no doubt reflect the same idea as the skeletal bodies; for what is a genealogy but a concatenation of ghosts? Skulls and vertebrae are the hallmarks of such genealogical patterns all over the world.

A noteworthy feature of the Chinese design, Fig. 35, is the secondary pattern enclosed within or overlaid by the framework just described. This secondary pattern is composed of pairs of beasts confronted in the intervals of a kind of strap-work: pairs of dragonesque and leonine creatures at one level alternating with pairs of dragonesque and griffin-like creatures above and below. These confronted creatures evidently have their counterpart in the bird-like creatures which singly occupy the corresponding compartments of the modern Hainan design of Fig. 36. Our earlier surmise that those creatures represent tribal ancestors in totemic guise is indirectly confirmed by the arrangement of the beasts in the ancient Chinese textile. For inasmuch as the main framework of both designs represents a genealogy, it is hardly likely that other features so closely integrated with it represent anything else; and it may be reasonably concluded, therefore, that the four creatures arranged in confronted pairs in each compartment of Fig. 35 represent in fact a *crossing of lineages*, and thus a *bestial heraldry*, in much the same sense as we know it in the West.

In keeping with the heraldic character of these creatures is the *knot* formed in the secondary strap-work at each point where they are confronted. Inasmuch as knotting plays an important role in the mediaeval heraldry of the West, it may be reasonably concluded that these knots stand in a significant relation to the surrounding creatures, and that they symbolize, in fact, connubial ties between the families represented by those creatures. In confirming the genealogical character of the primary pattern of Fig. 35, it may be said that this "secondary" pattern, with its unmistakable reference to lineages,

(32) This interpretation is supported by the evidence of related patterns in several other ancient Far Eastern silks, which lack of space prevents our considering here.

(33) Thus the ancient "barbarian" design by which the Chinese design of Fig. 35 was presumably inspired might have been of a reversible type, like our Figs. 1 and 2, in so far as the tops and bottoms of the bodies in those designs are indistinguishable. For other instances of "barbarian" influence on ancient Chinese art, see Schuster, 1951, note 40.

confirms the genealogical character of *all* the patterns which we have designated by that term. Apart from the fact that the Chinese design as a whole permits an unexpected insight into the mediaeval heraldry

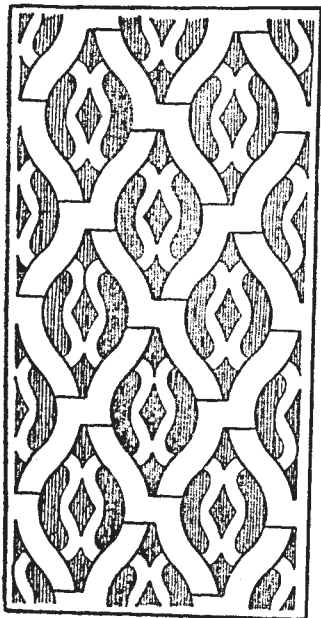


Fig. 34 - Caduveo arm-painting.
Mato Grosso, Brazil.

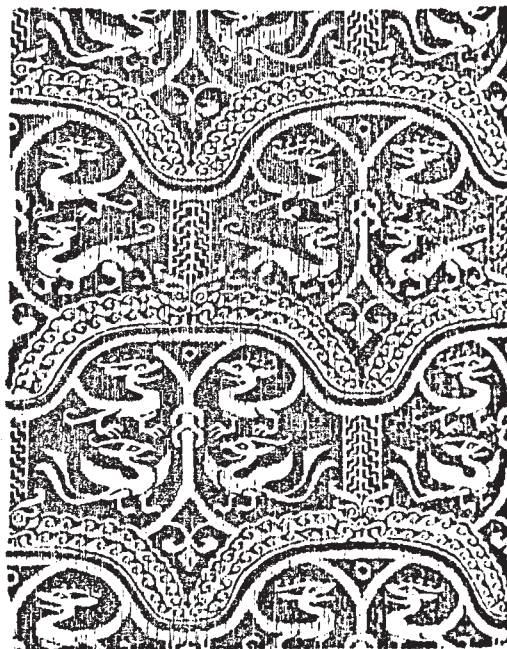


Fig. 35 - Chinese textile. Han dynasty.

of the West (of which it seems to be a precursor), we believe that it also has a significant bearing on the "strap-work" of the Caduveo pattern of Fig. 34. For despite the fact that the analogy is not precise, and that the historical nature of such a relationship remains to be demonstrated, it seems very likely that the "overlapping" of the primary strap-work in the Caduveo pattern has the same meaning as the knotting of the secondary strap-work in the Chinese design, and that the Caduveo pattern as a whole thus represents a double genealogical system, roughly analogous to the double (or triple) system reflected in the ancient Chinese textile.

Something more remains to be said about the Chinese design. Of what are the narrow bands of Fig. 35 composed? May we assume that they represent human figures joined together by their limbs, in somewhat the same way as the anthropomorphic elements of the primary pattern are joined? Against this supposition it might be

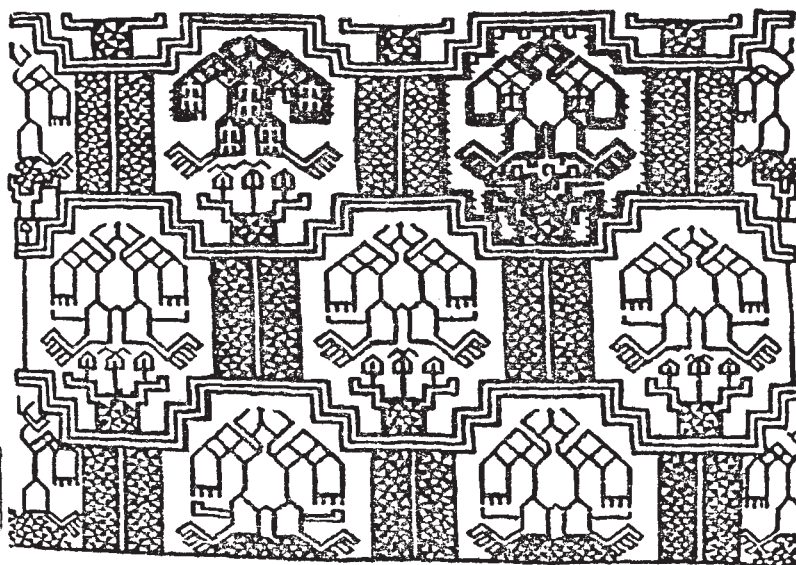


Fig. 36 - Embroidery. Li tribe. Hainan Island (South China).

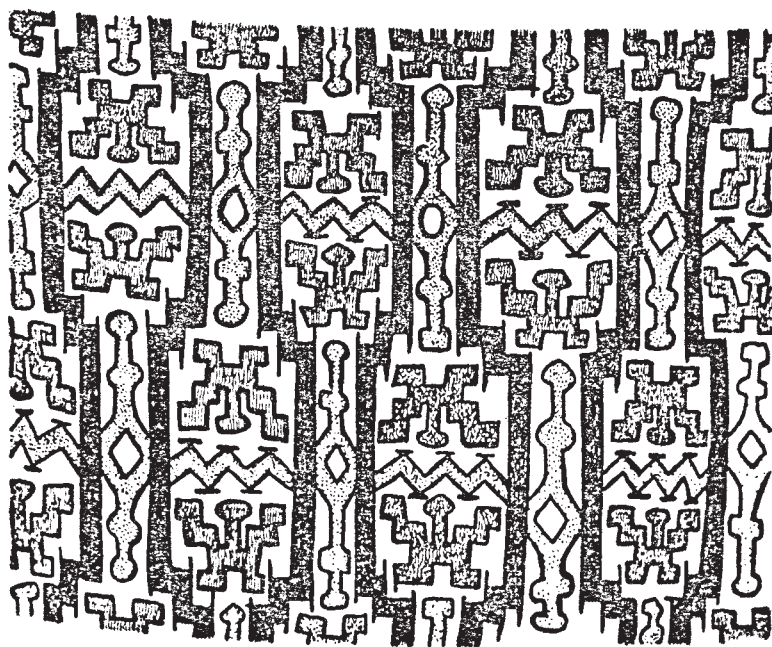


Fig. 37 - Design painted on a skin robe. Tehuelche Indians. Patagonia.

objected that the bird-like figures occupying the intervals in the modern Hainan design of Fig. 36 (which could, as we have suggested, be joined by their extremities to form such a secondary network) already have their obvious counterpart in the heraldic animals of Fig. 35; and, furthermore, that knots are not easily explained as part of the human anatomy. We believe, nevertheless, that the secondary network of Fig. 35 is ultimately of anthropomorphic inspiration; and that this is attested by the presence of a little circle within each upper branching of the network, which can be best understood as the rudiment of a human head. Perhaps it was after the anthropomorphic origin of the design had been forgotten that the knots were introduced; or perhaps the knots originally served to join the two halves of the bodies, in the sense of joining two lineages. (Compare Fig. 2). No matter how the knotting may be ultimately explained, it is clear at any rate that the design as a whole represents a double, if not a triple, genealogical system, which is closely related to the Hainan design of Fig. 36, and at least remotely analogous to the Caduveo design of Fig. 34.

If this Caduveo design still seems simpler than either of the Far Eastern designs with which we have ventured to compare it, the complexity of those designs is more closely matched by another South American design: that traditionally painted on the skin robes of the Tehuelche Indians of Patagonia, as represented in Fig. 37. The composition of this design out of three distinct systems is clearly reflected by a corresponding distinction of coloring. In the dark blue bands forming the basic framework of the pattern we recognize an angular variant of the curves in the archetype of Fig. 3, II. (Compare also Fig. 16). Enclosed within the compartments formed by these bands are pairs of little human figures, alternately red with a green head and green with a red head. These little figures evidently have an ancient ancestry in Patagonia; for we shall see presently that quite similar, but headless, figures occur in the wall-paintings of certain earlier Patagonian caves. Are not these pairs of figures analogous to the pairs of heraldic creatures enclosed within the compartments formed by the primary pattern of Fig. 35? If so, their alternate coloring might well be intended to symbolize a social differentiation such as, for example, one of sex.

Most difficult to understand in the Tehuelche design of Fig. 37 is the role of a third system of bands, stippled in our drawing and yellow in the original. This system comprises two parts: namely, vertical members, each with four bars or knobs and a central expansion; and horizontal members in the forms of zigzags, which seem to connect the vertical members, apparently *behind* the blue framework. The meaning of this yellow pattern is not easily determined, or seems

at least to admit of different and apparently conflicting explanations. The fact that the vertical elements are placed between the approximations of the blue framework might lead us to regard them either as spinal columns or as the bodies of the figures represented by these approximation⁽³⁴⁾. In this sense they would be virtually part of the primary system of blue bands. On the other hand, if we disregard their apparent relation to the blue system, these vertical elements might be plausibly equated with the narrow bands forming the secondary system of the Caduveo design of Fig. 34, which show similar expansions. These two explanations are, however, not easy to reconcile, since they apply alternatively to two different systems or levels of the design. Finally, the yellow zigzags which seem to connect the yellow vertical elements horizontally behind the blue bands might be regarded as analogous to the zigzags of the Carajá paddle, Fig. 10. They would then have to be regarded, in all probability, as representing spinal columns, disposed at right angles to the primary axis of the design. As we saw in Figs. 11 to 15, such a crossing of axes is by no means unthinkable in South American genealogical patterns. It must be admitted, nevertheless, that none of these analogies is fully satisfactory, that all are tentative, if not mutually exclusive, and that the yellow part of the Tehuelche design thus remains an enigma. All we can say is that it is undoubtedly part of the whole pattern, that it is hardly an accidental intrusion but must at one time have had a meaning, and that this meaning, though it eludes us for the moment, is probably in some way associated with the idea of tribal relationship expressed by the rest of the pattern. Its precise origin and identity can be explained, if at all, only in the light of further evidence⁽³⁵⁾. It is perhaps not surprising that representations of triple genealogical systems, which obviously require great powers of conceptual and artistic organization, tend to be obscure in some of their parts. Indeed, it is surprising that we find a pattern of such complexity in the New World at all, and just among a tribe of nomadic hunters whose culture is otherwise of the simplest⁽³⁶⁾.

Perhaps this very paradox may find its explanation in, and at the same time help to explain, the peculiar character of the Tehuelche

(34) For the possibility that these elements represent rudimentary human figures, cf. Schuster, 1955, fig. 9a. This interpretation is further supported by the similarity between the corresponding elements in another Tehuelche robe, Lothrop, 1931, fig. 7 c, and two of the four main elements on a NE Argentine pottery vessel of the same style, Greslebin, 1931, fig. 6. (For the human identity of the latter, cf. notes 43 and 73).

(35) Toward an eventual comparative study of Tehuelche designs of the type of Fig. 37, mention should be made here of a "placa grabada" from the Neuquén, published by Garcés, 1943, fig. 1 a, in which zigzags occur in a very similar context. Cf. also Greslebin, 1931, fig. 6, where related "human figures" (see preceding note) alternate with pairs of upended zigzags.

(36) Thus Lothrop, 1929, p. 27, says: "Painted decorations on specimens (cf. Tehuelche robes) collected in recent years, though based on simple elements, exhibit a complexity of rhythm scarcely to be expected among people of such general cultural poverty."

people themselves, as the remnant of an ancient Asiatic racial stock which migrated to the New World before the time when the parent stock separated into proto-Australoid and proto-Europoid branches in the Old World, and which was then gradually pushed into the southern wedge of South America by the pressure of subsequent immigrants of more Mongoloid stocks (37). Could the ancestors of the Tehuelche have brought this elaborate pattern with them in their prehistoric migration from the Old World and preserved it intact through immemorial generations? Or is it necessary to assume that the Tehuelche inherited the scheme from some other South American people with a more advanced culture in more recent times? If so, where else in the New World do we find such an elaborate scheme? If the scheme of decoration on the modern Tehuelche robes really belongs to a primitive Tehuelche culture, we are confronted with the interesting problem of accounting for the time and manner of its translation to America. This brings us appropriately to the final phase of our investigation: the question of the age of such traditions in the Old World, and the problem of an eventual correlation between their occurrences in the two hemispheres.

By way of introduction to this problem, we wish to consider briefly a certain group of Patagonian monuments which, though relatively late in date, are obviously antecedent, in some respects, to the modern Tehuelche design of Fig. 37, and on the other hand show certain archaic traits suggestive of Old-World origins. These are rock-paintings and stone objects with incised decorations in the so-called "estilo de grecas" or fret style (38), of which the cave-painting reproduced in Fig. 38 is typical. Though this composition appears at first to be hardly more than a jumble of various "grecas" or frets, it is in fact an orderly statement of artistic principles and a document of far-reaching importance. For it illustrates several different ways in which a single basic element may be combined to form patterns; and at least one of these methods of combination occurs in the Old World, presumably from ancient times. The basic element of Fig. 38, repeated four times at the top of the composition, differs from the little human figures in the compartments of the modern Tehuelche design of Fig. 37 only in the absence of a head; and we shall see that these four motives are indeed headless and directionless human

(37) Menghin, 1952 b, p. 41 f.

(38) Menghin, 1952 a, p. 14, tentatively dated this style, which is represented especially by pictographs throughout large parts of Patagonia, as late as the 16th or 17th century. Subsequently he revised this opinion (Menghin, 1954, p. 12 f) and placed the style under the direct influence of and not much later than the Barreales culture, which culminated in northwestern Argentina around 500 A. D.

figures, which take on meaning in the combinations depicted below them⁽³⁹⁾.

At the left of Fig. 38 is the arrangement which we have already identified in Fig. 11 as a group of five of these headless figures so joined that the limbs of the central figure are continuous with the inner

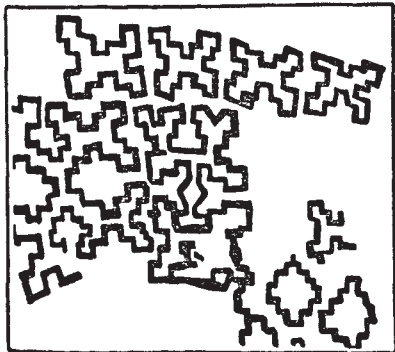


Fig. 38 - Designs painted on a cave wall.
Neuquén, Patagonia.

limbs of the four surrounding figures. As we have seen, the headlessness of the figures facilitates a "reading" of the pattern in any direction, depending on the observer's point of view (somewhat as the terminology of kinship varies with the identity of the speaker). This arrangement may be regarded as a modification of the principle embodied in "genealogical" patterns of our second type (Fig. 3, II), in so far as the parallel lines defining the body of the central (vertical) figure are continued to form the sides of the four surrounding (horizontal) bodies. If the gaps between the outermost limbs were closed, the pattern would form a "two-directional" system remotely analogous to those of Figs. 14 and 15, but no longer recognizable as derived from human figures: it would appear as a purely "geometric" pattern of stepped lozenges. The fact that the designer included a sketch of such a pattern in the lower right-hand corner of Fig. 38 shows that he was aware of its derivation from the anthropomorphic pattern at the left of the composition⁽⁴⁰⁾.

If the group of motives at the left of Fig. 38 helps us to understand the origin of the common South American pattern of stepped lozenges, the arrangement in the center of the same composition is of even wider interest, because it brings us back, as it were on a new level, to the problem of Asiatic connections. In Fig. 38a, where this complex

(39) Without insisting on the significance of the analogy, we would suggest that Fig. 38 be compared with the Maglemose antler, Fig. 44, in which elements representing "geometrized" human figures are similarly isolated (Fig. 44 a) as well as variously combined. This structural analogy may be supported eventually by stylistic affinities between the designs of certain *placas grabadas* of Patagonia and the decoration of mesolithic artifacts of NW Europe. If these affinities prove plausible, they might suggest interesting conclusions about the general cultural affinities and ultimate historical connections between the two traditions.

(40) Repeating patterns composed of "stepped lozenges" have a wide distribution in South America. In the Eastern Peruvian post, Fig. 25, these elements, which we have identified as geometrized human bodies, are joined by vertical and horizontal lines. In nettle-fibre cloaks of the South Brazilian Caingangs (Rio de Janeiro, Museu Nacional, 2319, 3177, 5452) the stepped lozenges are connected in much the same way as in our Fig. 11.

is isolated for convenience of comparison, it can be seen that the fretted elements, though similar to the four anthropomorphic motives at the top of Fig. 38, are combined differently than in the complex just considered; and the difference is significant. For the principle embodied in this arrangement is that of the so-called "reciprocal" pattern, in which the background becomes of equal importance with the design itself. This can be understood by comparing the element protruding at the upper right of Fig. 38 *a* (marked "x" in our drawing) with the part of the background intruding into the design at the middle of the right side (marked "y" in our drawing). It will be observed that the vertical protrusion "x" and the horizontal intrusion "y" are identical in shape and could be superimposed upon each other⁽⁴¹⁾. This arrangement implies a technique of appliqué, in which two layers of some pliable material, such as leather, in two different colors, are cut simultaneously, and the cut-outs are then joined, by stitching or some other means of attachment, in such a way as to form an interlocking pattern of identical elements in contrasting colors. Though the design of Fig. 38 *a* consists entirely of lines, their arrangement is such as to imply that they originally enclosed areas of color. The fact that a technique of appliqué in two colors survived in Patagonia until recent times⁽⁴²⁾ suggests that it must be of considerable antiquity in this area.

Perhaps more clearly than in Fig. 38 *a*, the reciprocal principle is embodied in another linear design of the "estilo de grecas": that of Fig. 38 *b*, which is incised, among other designs, on a stone "ceremonial axe" from the Neuquén. Not only can this design be extended laterally as a border, but it can be easily turned into an all-over pattern by repeating the horizontal bands in vertical series, with a slight lateral displacement, so that the pentagonal void delimiting the "legs" of each figure serves as the "head" of a figure in the adjoining band. As suggested by our reconstruction, Fig. 38 *c*, this pattern must have been cut out of pliable material in two layers of contrasting color, and then composed like a mosaic, probably on a third layer as a foundation. The meander of Fig. 38 *b* then merely indicates the *line*

(41) The fact that this congruence does not apply all around the figure merely shows the designer's ineptitude, which is manifest also in the irregularities of the group at the left of Fig. 38. A similar ineptitude appears in the faulty execution of the fret in Fig. 38 *g* (which looks, in fact, as if it had been made by the same designer as Fig. 38). Such irregularities suggest the inexperienced hand of a man attempting designs better known to women, by whom we may suppose they were customarily applied to articles of daily use. Cf. notes 42, 49.

(42) A survival of this technique may be seen in a tobacco bag (Buenos Aires, Museo Etnográfico, 24039) with stitched appliqué of red on green leather, said to be from the Araucanians of the Neuquén, and obviously reminiscent of the "fret style," though the pattern is not reciprocal. In another medium, that of pottery, the dichromy of the "fret style" is effected by the stippled roughening of outlined areas; e. g. Serrano, 1947, fig. 137. Undoubtedly reminiscent of the "fret style" is also the painted decoration of certain skin robes of the modern Chaco Indians: Métraux, 1946, pl. 59 b, in which the design is composed of elements like "x" and "y" in our Fig. 38 *a*.

of cutting; and, moreover, it indicates only half of what was cut, providing the minimal key to a pattern which could be repeated indefinitely in all directions.

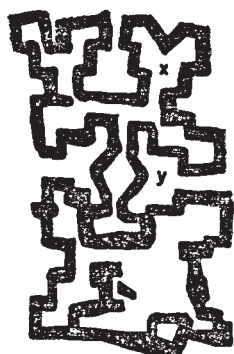
The reconstruction proposed in Fig. 38 c, though it must be labeled "hypothetical", is, we believe, incontestable; for the line, b, only makes sense when it is repeated, and when the resulting enclosed areas are shaded, as in c. The design as thus reconstructed comprises series of alternately upright and inverted human figures connected by common arms: in other words, a typical "genealogical" pattern. However, the fact that this pattern is comprised of areas of contrasting color sets it apart from other patterns of connected human figures as a distinct entity: one which we shall designate the *reciprocal genealogical pattern*. The alternate coloring in such a pattern might conceivably represent a sexual differentiation between the component figures⁽⁴³⁾.

Is this highly integrated design peculiar to Patagonia? Is it a local invention, or only representative of a type? It hardly seems likely that such an ingenious arrangement would have been invented more than once. And if it is not unique, it would be natural to seek for analogues in the Old World, where, as we have already seen, most New-World genealogical patterns have parallels, if not prototypes. We might expect to find such analogues, if they exist, among peoples using the technique of cut-out and appliqué. In the Old World this technique has a modern distribution extending roughly from the Balkans to Kamchatka; and the variety of styles and motives associated with it is as wide as Asia. Yet amidst all this variety we do find, among at least one people, the Kirgiz of Central Asia, reciprocal patterns which *might* be anthropomorphic in origin. Though the human identity of the interlocking elements in the Kirgiz design of Fig. 38 d is not self-evident, as in the Patagonian design of Fig. 38 b-c, there are nevertheless fairly cogent reasons for regarding it as anthropomorphic. ⁽⁴⁴⁾ It might be said that there *ought* to be

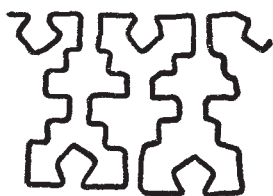
(43) A sexual interpretation of the reciprocal coloring in this pattern would correspond to that which we suggested for the reciprocally colored "little men" of the Tehuelche robe, Fig. 37. The same idea is evidently conveyed by the painted decoration of a Tukano façade, Koch-Grünberg, 1906, 2, pl. 90 a, and 1909-10, 2, fig. 50, with a frieze of alternately light and dark heads, presumably representing male and female ancestors, or ancestors of opposed social groups, whose bodies make a kind of checkerboard. (Cf. note 15). The dichromatic reconstruction of Fig. 38 c also provides a clue to the human identity of isolated elements in a certain type of Patagonian pottery: e. g., Gresselin, 1931, fig. 6. (Cf. note 73).

By way of justification for our reconstruction of Fig. 38 c, the reader is referred to Lothrop's account of how guanaco skins were cut and combined by the Tehuelche in alternately upright and inverted columns in such a way that the heads and legs of the animals' hides formed an interlocking pattern. (Lothrop, 1929, fig. 6 and p. 14; cited in Schuster, 1955, note 6: see also a very fine guanaco-skin robe of this type, apparently unpublished, in Rotterdam, Museum voor Land- en Volkenkunde, 9693).

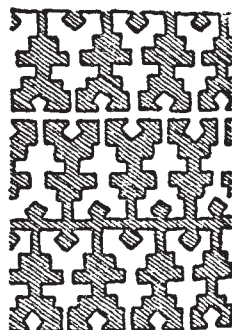
(44) This interpretation is supported, for example, by the occurrence of series of alternately upright and inverted human figures in certain *ikat* fabrics of Bokhara, and especially by the design of a tiled panel separating two *liwans* in a late 16th-century mosque in Ardebil (Sarre, 1901, pl. 50), which can only be understood as a swathe cut through a typical all-over pattern of alternately upright and inverted human figures in alternate coloring.



a
Pictograph
Neuquén, Patagonia.
(Detail of Fig. 38)



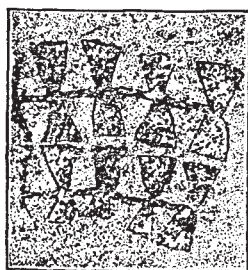
b
Design incised on a stone
axe. Neuquén, Patagonia.



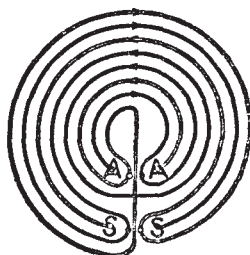
c
Hypothetical con-
tinuation of b.



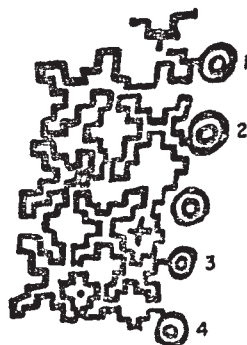
d
Appliqué design.
Kirgiz of Central Asia.



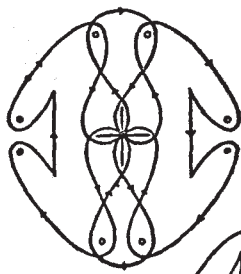
e
Pictograph.
Texas, U.S.A.



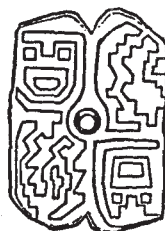
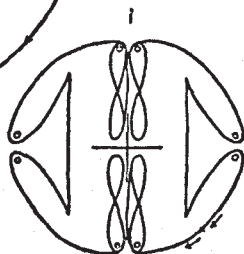
f
Classical Labyrinth.



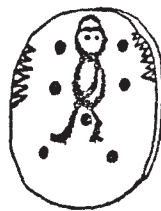
g
Pictograph.
Neuquén, Patagonia.



h and i
Sand-tracings.
Malekula,
New Hebrides.



j
Spindle-whorl.
San Juan, R.A.



k
Gaming disk.
Eastern Ecuador.

an affinity between "genealogical" patterns comprised of series of alternately upright and inverted figures and the principle of reciprocal coloring peculiar to the technique of appliqué. Our surmise is that these two principles crossed or married long ago in Asia, and that the Kirgiz design, *d*, and the Patagonian design, *b-c*, are both descended from this union. How old the technique of appliqué may be in the Old World we do not know; but its wide distribution among living Asiatic peoples suggests a great antiquity⁽⁴⁵⁾. Presumably it originated among nomadic hunters familiar with the use of leather and needing portable equipment. Thus the principle of the reciprocal genealogical pattern might have been carried from the Old World to the New by hunting peoples in the course of a terrestrial migration — the period of which remains obscure, but is at any rate much older than that of the relatively recent "fret style" of Patagonia. The passage of this idea through North America is attested by at least one pictographic rendering of a reciprocal pattern: that reproduced in Fig. 38 *e*. Though it may remain difficult to adduce definite proof, we are inclined to regard this design again as being of anthropomorphic origin⁽⁴⁶⁾. The passage of this tradition through the isthmus of Panama may be inferred from the survival there, among the Cuna Indians, of an elaborately developed technique of appliqué, using cloth of many colors, in which we occasionally find (among much that is irrelevant) designs of a similar character. At least one of the Cuna designs shows a highly integrated pattern of human figures joined by common limbs, in an apparently reciprocal arrangement, which is strongly reminiscent of the Patagonian "fret style"⁽⁴⁷⁾.

We see, thus, that the technique of appliqué must have played an important role in the genesis of the "fret style" of the Neuquén. But there is at least one other contributory element of which we must also take account. Though the anthropomorphic character of the "meander", Fig. 38 *b*, hardly appears until the pattern is completed as in *c*, the meander itself can also be appreciated as a purely linear puzzle-picture: in other words, as a maze or labyrinth. That the practitioners of the "fret style" were familiar with the idea of a maze of human figures appears from the more elaborate composition of

(45) The Asiatic antiquity of the appliqué technique (and thus by implication the antiquity of reciprocal patterns) was surmised by Almásy, 1907, p. 151. Though archaeologically the technique can hardly be traced back earlier than Scythian times (e. g., Pazyryk), it must be much older; for it could easily and probably did develop without knowledge of weaving.

(46) Apart from the general analogy of Fig. 38 *a-d*, it may be observed that "mortice-and-tenon" designs like that of Fig. 38 *e* are sometimes used to represent the *legs* of human figures (somewhat as in Fig. 38 *b*) in the Patagonian "fret style": e. g., on a "ceremonial axe" in Córdoba, Instituto Cabrera, 453. Designs very similar to that of the Texas pictograph occur also in petroglyphs in the SW United States, but then without shading, as purely linear arrangements analogous to Fig. 38 *b*.

(47) See "Studies on the Tule Indians of Panama", fig. 130 (the *mola* or blouse worn by the woman at the right). The appliqué design on another Cuna *mola*, Göteborg, Etnografiska Museet, 27.27.892, comes surprisingly close to the Texas pictograph of Fig. 38 *e*.

a rock-painting reproduced in Fig. 38 *g*. To Professor MENGHIN of Buenos Aires belongs the credit for first recognizing this design as a maze of continuous lines which nowhere cross⁽⁴⁸⁾. But it must now be added that this is, in fact, a maze composed of human figures, identical with those at the top of Fig. 38. This interpretation is confirmed by the presence of the circles at the right of Fig. 38 *g*, which can only be understood as representing the heads of these figures. (Compare Fig. 11). Four of these circles, in addition to representing heads, also serve as points of departure and arrival in the construction of the maze.

This design may be regarded as the solution of an exercise or the solution of a problem: the novice was confronted simply with a row of four circles (or paired concentric circles: the fifth pair, unnumbered in our drawing, is evidently superfluous)⁽⁴⁹⁾, and was asked to supply bodies for these "heads" by connecting them with two continuous lines which never cross. This little exercise of ingenuity is a culture-historical document of the greatest interest; for the idea of a maze connecting two points of departure and two points of arrival by means of two lines which never cross is hardly likely to have been conceived without knowledge of another design — that commonly called "the labyrinth", in which essentially the same puzzle is laid out on a circular plan. Though the labyrinth, as illustrated in Fig. 38 *f*, is generally drawn on the basis of a cross with four arcs and four dots in the quadrants⁽⁵⁰⁾, it has been shown that it is in reality the plan of an *exercise*, in which the movement begins simultaneously at the two points marked "A" and ends simultaneously at the two points marked "S" ⁽⁵¹⁾. The four "heads" at the right of the Neuquén maze, Fig. 38 *g*, obviously correspond to the two points of departure and two points of arrival in the labyrinth, Fig. 38 *f*; and it is hardly likely that the angular maze, *g*, would have been invented without knowledge of the circular labyrinth, *f*. The single crossing of lines

(48) Menghin, 1954, p. 12 f.

(49) The functionless fifth head at the right of Fig. 38 *g* was probably added for symmetry. Further evidence that the designer did not fully understand his design may be seen in irregularities of the fret, and in the circumstance that he placed the design on its side (for the "heads" should normally be at the top). Cf. note 41.

(50) This method of drawing the "labyrinth" is apparently traditional wherever the motive is known, in the New World as well as in the Old; and it probably goes back to the very invention of the design: certainly at least to the European bronze age. This was shown by the writer in a communication mentioned in note 53. The method here cited has been depicted, among others, by Colton, 1944, fig. 8.

(51) Petrikovits, 1939 and 1952, where A = "Anfang" and S = "Schluss". His demonstration is based on a description in Virgil's *Aeneid*, 5, 545-603, of the "game of Troy," an equestrian evolution performed by patrician youths of Rome, which probably goes back ultimately to a labyrinthine dance. That the Roman "game" was performed on the occasion of a funeral will prove significant in the light of considerations to follow.

in the labyrinth, *f*, then has its plausible counterpart in the single cross gratuitously inscribed within the maze, *g*⁽⁵²⁾.

Though our primary concern is with patterns composed of human figures, a few additional remarks must be made here about the motive of the circular labyrinth, in so far as this motive helps us to understand the human maze of Fig. 38 *g*. In a paper read in 1952⁽⁵³⁾, the writer showed that the labyrinth, as we see it in Fig. 38 *f*, is a motive which made its first appearance in European petroglyphs of the second millennium B. C., and thence apparently spread eastward through the Caucasus and India to Indonesia and, in debased forms, still farther, to New Guinea, Melanesia and even Polynesia; and that it occurs again in its true and proper form among modern Indians of the southwestern United States and northern Mexico (Hopi, Navajo, Pima-Papago, Yaqui), and (it may now be added) also among at least one modern Indian tribe of South America, the Caduveo of Mato Grosso⁽⁵⁴⁾. That the labyrinth was brought to the American Indians only in recent times by white Europeans has always seemed to me doubtful⁽⁵⁵⁾; but incontrovertible archaeological evidence of the early arrival of the motive in the New World has heretofore been lacking⁽⁵⁶⁾. Now we are again indebted to Professor MENGHIN for having recognized in certain south Patagonian petroglyphs formed

(52) That the cross near the lower right of Fig. 38 *g* was originally functional is suggested by the fact that in another maze of the Patagonian fret-style (Menghin, 1954, fig. 5; 1956, fig. 4), the erratic lines are made to cross at just one point.

(53) Schuster, 1952. This communication has not been published. It is mentioned by Dostal in *Tribus*, v. 2-3, Stuttgart, 1952-53, p. 474.

(54) Essentially the same design as shown in our Fig. 38 *f* occurs in an unsolicited Caduveo drawing made for Mr. Darcy Ribeiro of the Brazilian Service for the Protection of the Indians in 1947-48, which he showed the writer in Rio in 1954. Mr. Ribeiro told me that he refrained from including it among the illustrations of his *A Arte dos Índios Kadiwéu* because, as he rightly said, it seemed extraneous to Caduveo art. Nevertheless, the Caduveo woman who drew the design insisted that it was traditional among her tribe, and had not been introduced by Europeans. The problem of the antiquity of this motive among the Caduveo is, then, precisely like that of its antiquity among the Indians of the southwestern United States, many of whom claim the design as indigenous.

(55) Thus Colton, 1944, p. 134, suggests that this motive "could easily have arrived from Europe across the ocean via Mexico by diffusion." Apparently the only author who has paid any attention at all to the question of the origin of the labyrinth among American Indians, Colton limited himself to the SW United States. He tended to minimize the archaeological evidence of the occurrence of the motive in petroglyphs of that area, and did not know (as we also did not know until recently) of ethnological and archaeological evidence of its occurrence in South America.

Among evidence that the labyrinth belongs to the indigenous or pre-Columbian heritage of the North American Indians may be mentioned the fact that "boulder labyrinths" exactly like those of northwestern Europe (and of India) were constructed by the Yaqui of Sonora at the beginning of the present century, when they were very "wild" and resistant to white influence; and the fact that what I believe there is reason to regard as derivative forms of the labyrinth, namely series of "gapped" concentric circles laid out on the ground, played an important role in the ceremonial life of the Luseño of Southern California. (Cf. Schuster, 1952).

(56) It must be pointed out that labyrinths like that of our Fig. 38 *f* do occur in petroglyphs in the SW United States: e. g., Colton, 1944, fig. 2 (better in Parsons, 1936, fig. 516), and more typically in another petroglyph discovered at Shipaulovi by Mr. William Coxon of Phoenix, which remains unpublished except in *The Arizona Republic* of Phoenix, Aug. 3, 1949; as well as in one or two other unpublished Southwestern petroglyphs of which photographs have been communicated to the writer by Mr. Coxon. Especially the second Shipaulovi labyrinth is deeply and firmly pecked, in the manner which in this area is generally assumed to typify pre-Columbian work; and the writer sees no reason to doubt its antiquity, even though a precise dating remains, for the present, impossible.

like series of concentric "horseshoes" a debasement of the labyrinth very much like that which occurred throughout Western Europe in the bronze age. Prof. MENGHIN would attribute the labyrinthoid petroglyphs of Patagonia to a race of "archaic cultivators" who arrived there around 2000 B. C. ⁽⁵⁷⁾. Though it cannot perhaps be ascertained whether those people knew the "true" labyrinth as well as the debased forms surviving in these petroglyphs, it may be reasonably assumed that they did know it, because of the circumstance that in bronze-age Europe the correctly drawn labyrinth coexists with its debased forms, even though these vastly outnumber it. It is at least possible, then, that the inhabitants of Patagonia in these early times already knew how to draw the labyrinth correctly; and that it was this ancient knowledge which persisted down to the period of the "fret style", around 500 A. D., and thence again down to modern times, when we find knowledge of the "true" labyrinth surviving traditionally among at least one living South American tribe, the Caduveo.

It appears, thus, that the "fret style" of the Neuquén combines, or implies knowledge of, two elements which probably reached Patagonia very much earlier: namely the principle of the reciprocal pattern associated with a technique of appliqué, and the motive of the labyrinth. It is not for us to solve the problem whether the "nomadic hunters" who presumably brought the former to Patagonia arrived there earlier than the "archaic cultivators" who presumably brought the latter. But we do wish to point out that the idea of the "human maze" as we see it in Fig. 38 *g* is hardly a Patagonian invention; for the labyrinth seems to have crossed with the image of a human figure already in ancient times in the Old World, giving rise to a number of motives in which the two were variously combined ⁽⁵⁸⁾.

Without attempting to trace the early history of this complex, we may consider here one of its survivals in an eastern outpost of Old-World culture: namely, a kind of human maze from the New Hebrides, of which two examples are reproduced in Fig. 38 *h* and *i*. The relation of these Malekulan designs to the labyrinth of Fig. 38 *f* appears especially in the procedure by which they were made. For

(57) Menghin, 1954, p. 12, reproducing in his fig. 2 an illustration of Aparicio, 1933-35, pl. 31 b.

It should be added that Father Protasius Friel of Santarém recently found and photographed a petroglyph at the Cachoeira Tarumã on the Rio Erepecurú some 10 miles south of the equator in northern Pará which is probably a bungled labyrinth of a type common in the European bronze age (as shown in the communication mentioned in note 53). This in itself is no indication of its date, since such bungling has crowned many an effort to reproduce the labyrinth in various parts of the world for some 4000 years. This north Brazilian occurrence should nevertheless be kept in mind in connection with Menghin's observation in Patagonia.

(58) In a later study the writer plans to discuss the hybrid products of this crossing as they appear especially in divination charts and gaming boards in the form of a conventionalized human body, on which moves are made between anatomical points. The documentation is rich and varied in both ancient and modern times. (Cf. note 62).

just as the "labyrinth" has been constructed since time immemorial by first drawing a cross, followed by four points, which together with the cross and four arcs serve as a guide for the final linkage of the whole⁽⁵⁹⁾, so the Malekulan designer begins with a cross, followed by four pairs of points, around which he finally loops a continuous line⁽⁶⁰⁾. Though the continuous lines of the labyrinth are thus produced by discontinuous means, the general analogy between the two procedures is close enough to place their relation beyond doubt, and to justify our regarding the Malekulan mazes as an anthropomorphization of the "labyrinth". Now the same unconnected cross which attests the labyrinthine origin of the Malekulan mazes occurs, as we have seen, in an empty space of the Patagonian maze, Fig. 38 g; and since the continuous lines of that maze are connected to two points of departure and two points of arrival, its relation to the labyrinth is even more obvious, in a sense, than that of the Malekulan mazes, *h* and *i*. It may be said, thus, that the human mazes of Patagonia and Malekula are related to each other by virtue of their common relation to the labyrinth, even though the anthropomorphization was effected differently in the two cultures.

The relationship between the Patagonian and the Malekulan mazes is not only one of form. Undoubtedly the symbolism of the former is in a large measure explained by that of the latter. The Malekulan mazes, Fig. 38 *h* and *i*, are said to represent either the "Path" by which the soul finds its way into the Land of the Dead, or the "Guardian Ghost" who denies entrance into the Afterworld to all who cannot complete the "Path" leading to it. These two explanations are hardly at variance: for undoubtedly the Ghost itself is the labyrinthine Way or Path into the Afterworld⁽⁶¹⁾. In so far as the Afterworld is conceived as the world of ancestral spirits, the ritual tracing of such a human figure may be regarded as a means of achieving reunion with ones ancestors. The object of the exercise

(59) On the antiquity and ubiquity of this method of drawing the labyrinth see note 50. It is probably as old as the labyrinth itself, even though the motive belongs ideally to the class of "continuous-line" designs, as expounded by Coomaraswamy, 1944, and as demonstrated in a particular instance by Petrikovits (see note 51).

(60) We are indebted to Layard (1942, under his fig. 76) for recording the procedure followed by the Malekulans of Vao in constructing the design of Fig. 38 i, and for recognizing the kinship of these Malekulan mazes with the "labyrinth" (Fig. 38 f). However, the form of his statement, that "the central point (of Fig. 38 i) is occupied by a cross...., which originally represented the labyrinth, so that we have here the amusing spectacle of a labyrinth inside the body of the Guardian Ghost!" (*op. cit.*, p. 676) suggests that he may not have realized the full extent of the kinship between the two designs; for there can be no doubt that, apart from the labyrinthine reminiscence of the central cross, the eight little circles of the Malekulan design correspond to the four dots disposed around a cross to make a frame for drawing the labyrinth, and that consequently the labyrinth is not inside the Ghost, as Layard says, but rather the Ghost itself actually is a labyrinth, as the Malekulans of Lambumbu say (see our list of illustrations, under Fig. 38 h). The distinction is important, both conceptually and historically. It should be observed, in passing, that four of the eight circles in each of the Malekulan mazes are simultaneously "joint-marks" of the elbows and knees, as defined in Schuster, 1951.

(61) Cf. the preceding note, and Layard, 1942, pp. 650 f, 668, 678. The conception of the ghost as female suggests rebirth of the dead person through her womb. Her devouring the dead man is presumably the same as the universal "swallowing" of neophytes in initiation ceremonies.

represented by both the Malekulan and Patagonian mazes is then the same as that commonly understood to be the object of tracing the labyrinth: namely, to gain admission to the Afterworld. But in "human mazes" it seems that entrance is effected *through identification with the ancestral spirit*, represented either singly, as in the Malekulan "Guardian Ghost", or by a "genealogical pattern" of multiple connected figures, as in the Patagonian maze of Fig. 38 g.

The fact that the Malekulan "Guardian Ghost" has two heads at opposite ends of its body (each head identified more or less clearly by its "eyes") is hardly to be explained as the result of a mere striving for symmetry. No doubt the double heads have a significance in keeping with the meaning of the figure as a whole. The most probable explanation is that they symbolize the point of departure of the soul from this world and the point of its arrival in the next⁽⁶²⁾.

That the human maze is essentially a path to be followed into the Afterworld, by retracing ones origin, as it were, through the maze of ones ancestors, appears unmistakably in the decoration of a wooden disk from the Argentine province of San Juan, reproduced in Fig. 38 j. Inscribed on this object, which was apparently intended to be rotated around its central hole, are two human-headed mazes in inverse relation to each other. The twirling of the disk (which was evidently a spindle-whorl, perhaps made in imitation of a ritual object) would then have had the effect of facilitating the passage of the soul into the Afterworld. The inverse relation of the two mazes reflects the inverse relation of the Afterworld to the world of the living; and the twirling of the disk is thus tantamount to threading a two-headed maze⁽⁶³⁾. The relation of the San Juan disk to the Patagonian maze of Fig. 38 g is not only conceptual but evidently historical as well; in so far as the disk is a figment of the Barreales culture which flourished to the north of and slightly earlier than the "fret style" of the Neuquén represented by the pictograph⁽⁶⁴⁾.

by a monster who gives them forth again into a new life. The Malekulan "Ghost" is no doubt equivalent also to the minotaur, who devoured youths and maidens (initiates?) caught in the labyrinth of Crete. Compare the swallowing motif associated with the West African image, Fig. 55.

(62) It is undoubtedly for this reason that anthropomorphic gaming-boards (as referred to in note 58) are sometimes provided with two opposite heads. We hope to treat of such gaming boards in a separate study later. Cf. note 58.

(63) Since the purpose of the San Juan disk thus appears to be similar to that of the Tibetan prayer-wheel, could there be an historical connection between the two devices? What is the relation between such ritual uses of the "wheel" and its practical use as a bearing for vehicles, which developed in the Old World but hardly in the New? Did ritual carts precede secular conveyances? (Cf. Ekholm, 1946, esp. p. 227, citing Hahn in Lowie, *The History of Ethnological Theory*, N. Y., 1937, p. 118 f.).

(64) The attribution of the San Juan disk to the Barreales culture was suggested to the writer by Prof. Menghin of Buenos Aires in a letter of May 25, 1955, in which he kindly called my attention to its existence. For the date of the Barreales culture and its relation to the Patagonian "fret style" see note 33.

Our interpretation of the San Juan disk, Fig. 38 *j*, is supported by ethnological evidence from Eastern Ecuador, in the form of a funeral gaming disk of the Canelos Indians, reproduced in Fig. 38 *k* ⁽⁶⁵⁾. What we see here is not, to be sure, a "human maze": rather this disk reveals the basic idea upon which the human maze is founded, and without which it is inconceivable. For the Canelos say that the human figure on this disk represents the soul of the deceased; and the "game" is played on a board laid directly on the corpse. The surviving friends and relatives form two parties, one on each side of the corpse, who vie with each other in dropping kernels of corn (evidently symbols of resurrection) into the little cups surrounding the figure on the disk. These seven cups are clearly equivalent to the eight "little circles" which serve as guides for constructing the body of the Malekulan "Guardian Ghost" of Fig. 38 *h* and *i*. The successful dropping of kernels into all the cups of the Canelos disk is then tantamount to the completion of the Malekulan maze around the eight points of the ghostly anatomy. The Canelos player who gets kernels into all seven cups then takes hold of the disk by its rim, and without lifting it from the playing board, rotates it carefully on its rounded bottom, so as not to dislodge any of the kernels, until the head of the figure lies in a position diametrically opposite that which it occupied at the beginning of the game. If he then, after taking a new grasp, succeeds in completing the rotation of the disk back to its original position without spilling any of the kernels, he wins the game. The degree of his success in performing this delicate operation is thought to be influenced by the wishes of the deceased ⁽⁶⁶⁾. The analogy of this operation to the twirling of the San Juan *tortero* with its two human mazes is obvious: the Canelos disk explains both the application of those mazes to a *tortero* and the meaning of the maze as a path into the Afterworld, conceived as an inversion of the world of the living. For the rotation of the Canelos disk, like the spinning of the *tortero*, is tantamount to the threading of a two-headed maze. There can be no doubt that the exercises or performances variously associated with the designs of Figs. 38 *g*, *h*, *i*, *j* and *k* all refer to one and the same idea: the departure of the soul from the world of the living and its arrival in the Afterworld. And it is no doubt for this reason that the points of departure and arrival are in these designs so often arranged in diametric opposition.

(65) In a letter of June 26, 1955, Prof. Karsten informed the writer that the Canelos tradition was already dying when he obtained the information about it here summarized from an old Indian, who followed native tradition in making the specimen reproduced in our Fig. 38 *k*, now preserved in Etografiska Museet, Göteborg. Our account is condensed from Karsten, 1930.

(66) For the way in which the disk is manipulated see Karsten, 1930, fig. 8. The fact that the fingers in grasping the disk communicate with the deceased gives the game a certain spiritualistic character. It may also have an indirect relation to the widespread custom of amputating fingers in token of mourning for deceased relatives, about which we shall have something to say later.

If there were any doubt about the relation of the figure on the Canelos disk to the principle of the "human maze", the relation is confirmed by the circumstance that a "cross" is scored to the credit of a Canelos player who succeeds in getting kernels into cups on opposite sides of the figure, thereby forming an imaginary line at right angles to the axis of the body. For this imaginary cross is obviously the same as the cross represented in the middle of the Malekulan Ghost, and as the cross which persists, albeit off center, in the Patagonian maze of Fig. 38 *g*. No doubt this cross has a metaphysical meaning: somehow it must represent a crucial point in the migration of the soul from one world to the other. Though the Canelos say that the figure on their disk represents the soul of a particular deceased individual, while the Malekulans regard their maze as a kind of god or demon who arbitrates the destiny of each human soul, the two ideas are really one; for in Ecuador as in Malekula, and indeed everywhere, the destiny of the individual spirit is union with the universal Spirit — which was perhaps conceived, in the first place, as a composite of the spirits of all the ancestors. The Canelos disk of Fig. 38 *k* is thus a document of prime importance for our understanding not only of the San Juan *tortero*, but of the human maze as an enactment of the idea which is represented statically in the "genealogical patterns" of decorative art⁽⁶⁷⁾.

This brings us to the end of our digression about reciprocal genealogical patterns and human mazes, into which we were led by consideration of the Patagonian pictograph of Fig. 38. It will be remembered that our interest in the pictographic designs was prompted by the similarity between the fret-like elements composing them (four of which are isolated at the top of Fig. 38) and the pairs of human figures painted on the modern Tehuelche robe of Fig. 37. The question which we asked ourselves before embarking upon this digression was whether the highly complex and elaborate "genealogical" pattern painted on the robes of these Patagonian hunters could have been adopted by them from other South American peoples with a higher culture, or might have been brought to the New World by the primitive ancestors of the Tehuelche themselves in very remote times by way of a terrestrial migration from the Old World. Though we are

(67) This by no means exhausts the significance of the Canelos game. The fact that the corpse is placed in the center of the dwelling, the gaming board in the center of the corpse, the gaming disk in the center of the board, and a special kernel of corn in the central cup of the disk — all this suggests the idea of a *cosmic alignment* of the soul, which is implicit also in the passing of a thread through the central hole of the *tortero*, Fig. 38 *j*. (The significance of the thread as a cosmic axis is developed in various writings of A. K. Coomaraswamy). The motive of the maze appears more clearly, perhaps, in a game following this one, in which the Canelos mourners blow a flaming ball of cotton back and forth across the same corpse-board. Here the breath is presumably symbolic of the spirit, as are also the flame and the volatile cotton, while the erratic course of the flaming ball no doubt symbolizes the labyrinthine Way into the Afterlife. The prophylactic purpose attributed to this game by the Canelos is not necessarily at variance with this symbolism.

still unable to answer this question definitively, the excursion just made into the problem of "reciprocal genealogical patterns" may serve to suggest the possibility of an early transmission of even fairly complicated patterns from the Old World to the New by migrant nomads. Our purpose in the remaining part of this paper is to call attention to the existence of "genealogical patterns" in some early cultures of the Old World, and thereby to provide a prehistoric background against which a cultural movement at this relatively "primitive" level could be conceived — or at least to provide data which might eventually help to explain the striking similarities between genealogical patterns of the Old and New Worlds.

The various Asiatic and Oceanic designs which we have considered up to this point are all of recent or modern date, with the exception of that on the Chinese textile of Fig. 35, which takes us back some two thousand years, to the beginning of the Christian era. Though it is conceivable that such an East Asiatic pattern could, at that time or a little earlier, have been carried to the New World by navigation across the Pacific⁽⁶⁸⁾, the Old-World motives which we are now about to consider are much earlier, far antedating the possibility of that form of transmission. While it is true that the type of the double or triple genealogical pattern represented by the modern Tehuelche and Hainan designs of Figs. 37 and 36 seems best explained in terms of this particular design from ancient China, it should be kept in mind that the Chinese design was not necessarily invented in China in the Han dynasty, but was probably taken over by the sophisticated Chinese designer from traditional sources of much greater antiquity.

For the idea of a repeating pattern of human figures joined by common arms and legs was undoubtedly known in Western Asia at least some 2500 years before the rise of the Han dynasty in China. In Fig. 39 we see such a design in the painted decoration of a potsherd of the chalcolithic period in Iran, dating from about 3000 B.C.⁽⁶⁹⁾. Structurally this design differs but little from many "genealogical" patterns already familiar to us among modern peoples. Like Figs. 5 and 7, for instance, it consists of columns of alternately upright and inverted figures connected diagonally by their limbs. The only notable difference between this ancient design and such modern ones is that the arms are here joined with the legs, instead of arms with arms and legs with legs. But this seems to be a mechanical consequence of the close interlocking of the triangular bodies⁽⁷⁰⁾.

(68) See Heine-Geldern, 1954.

(69) For the justification of the reconstructed pattern, see the list of Illustrations.

(70) These triangular bodies with double hooks for their heads are undoubtedly related in some way to the "hooked triangle" which occurs in various traditions of prehistoric pottery decoration farther to the west: for example in the Aegean neolithic (Chaeronea) and then

Though the design of this sherd, as developed in Fig. 39, is perhaps the best integrated all-over pattern of human figures to be found among excavated material from chalcolithic sites around Persepolis, it is, in a sense, not unique. For the same class of pottery abounds in patterns more or less clearly derived from the decorative disintegration of connected series of human figures⁽⁷¹⁾. Such "debased" patterns are of interest to us chiefly in so far as they attest the importance of the type and suggest the result of a long development. Their existence, moreover, together with that of the sherd of Fig. 39, encourages us to postulate, in Fig. 41, a reconstruction or vertical extension of the pattern on a chalcolithic bowl from Persepolis reproduced in Fig. 42. The pattern as reconstructed consists of alternate columns of upright and inverted figures connected diagonally by common limbs; and it differs from the scheme of Fig. 39 only in so far as the arms are connected with arms and the legs with legs. We have omitted from our reconstruction the hands which appear like fans just under the rim of the bowl, Fig. 42, and have given the pattern direction by the introduction of eyes in the rhomboid heads (for which there is ample justification in other designs of the same class of pottery)⁽⁷²⁾. The frieze running horizontally around the bowl of Fig. 42 may then be regarded as a swathe cut through the pattern of Fig. 41⁽⁷³⁾. Such swathes are already familiar to us in the decoration of more recent pottery, for example in Fig. 7 *b* (where the pattern has been turned on its side). The resemblance between Fig. 41 and Fig. 7 *a* is especially striking because in both designs the arms are differentiated from the legs as stepped lines from more or less curving lines. Can such a correspondence be wholly accidental? Could the Brazilian design really be a recent invention in the New World; or must it not have made its way there, by some means and some course still unknown to us, from the Old World?

later in the Silesian iron age. Whether the "hooked triangle" originally represented a human figure or was made into one only by the chalcolithic potters of Iran would have to be investigated. In a letter of Jan. 6, 1955, Abbé Breuil suggested to the writer that the bodies of Fig. 39 might be regarded as female because of the inverted triangular void in each, just as he has shown that the figures composing the roughly contemporary Spanish "genealogy" of Fig. 51 *a-b* are females, and as we regard the figures composing the still earlier mesolithic "genealogies" of Figs. 44-46 as probably representing females. (See note 92).

(71) E.g., Langsdorff & McCown, 1942, pls. 25/11, 12, 26/4, 27/1, 5, 8, 36/10, 41/10, 50/7, 51/3, 58/11, 79/24 (all-over patterns); and 67/7, 13, 68/1, 3, 4, 6, 8, 10, 11, 69/1, 3 (horizontal concatenations). For the important design 41/10, cf. also Herzfeld, 1941, fig. 43. This list is of course subject to revision in the light of an eventual analytical and comparative study.

(72) See, for example, our Fig. 53 *m*.

(73) The decoration of pottery vessels with series of more or less strongly conventionalized, alternately upright and inverted, human figures (generally connected by common limbs) occurs, in fact, in a number of different neolithic traditions, and in some parts of the world survives even into modern times. (Cf. note 34). The writer plans to discuss this type of pottery decoration in a separate publication at a later date. Here it may be said that its wide geographical and chronological distribution strongly suggests a symbolical origin which must antedate the invention of pottery itself: see our text at note 88.

Besides the endless concatenations of Figs. 39 and 41, we find in the same class of Iranian chalcolithic pottery another arrangement which may prove to be of equal culture-historical importance: that of two figures crossed at right angles, in such a way that they share a common body. This is the motive repeated as a frieze around the bowl shown in Fig. 40. The correspondence just observed between the Iranian designs of Figs. 39 and 41 and the Brazilian design of Fig. 7 encourages us to see a similar correspondence between the crossed creatures of Fig. 40 and such New-World patterns as are reproduced in Figs. 12-15, where two systems of human figures are made to cross each other at right angles⁽⁷⁴⁾. If this correspondence is valid, it would mean that on chalcolithic pottery from the region around Persepolis we find at least two of the main types, if not indeed *the* two main types, of "genealogical" patterns occurring in the New World.

In considering the possibility of a relationship between Fig. 40 and New-World designs of the type of Fig. 40 *a*, we may not ignore the even closer relationship which undoubtedly exists between the ancient Iranian design and a type of modern West African design represented in Fig. 40 *b*. Since there is good and independent reason for believing that this motive reached West Africa from the ancient Near East, we may assume, at least tentatively, that the three motives of Figs. 40, 40*a* and 40*b* represent a triangle of relationship, in which the modern South American and West African motives mark the eastern and western limits of a diffusion which began in ancient times in Western Asia. Needless to say, the Iranian design of Fig. 40 standing at the apex of this triangle does not necessarily represent the precise focus of the diffusion. It merely attests the existence of the motive of crossed creatures in Iran around 3000 B.C. The motive as such might be, and probably is, much older. What we suggest here is merely a working hypothesis, subject to adjustment in terms of new data which, it is to be hoped, the publication of this group of illustrations may help to bring to light⁽⁷⁵⁾.

(74) The fact that the crossed creatures of Fig. 40 appear to be lizards rather than men is of little consequence: for in this class of pottery the two are often barely distinguished by the presence or absence of a more or less rudimentary tail (cf. Fig. 53 *m*). Thus McCown, 1940, p. 108, describes the motive of Fig. 40 as "an intricate combination of vertical and horizontal men [!] with diamond body and tail." It seems that human and lacertilian forms are also sometimes interchangeable in the New World: Schuster, 1955, figs. 12, 13. The question whether such ambiguity is merely playful or reflects mythological ideas does not affect the structural analogy with which we are here chiefly concerned.

(75) The thesis that the "crossed lizards" of Fig. 40 *b* reached Africa from the ancient Near East is supported by the observation that the astral symbols associated with the African motive have their precise counterpart on certain ancient Babylonian monuments (Dahse, 1911, p. 68 *f.*). Moreover, it is hardly accidental that the square formed by the crossed bodies of the African lizards is occupied by a grid, corresponding to a checkerboard in the ancient Iranian design. The significance of this grid appears in the light of certain divinatory or horoscopic charts of the Bataks of Sumatra, inscribed in a grid similarly formed by the crossed bodies of two lizards — an arrangement which is presumably derived from the same ancient Near Eastern prototypes as the African motive of our Fig. 40*b*. These circumstances suggest that the Iranian design of Fig. 40 is the simplification or decorative debasement of an ancient astrological or divinatory symbol. The matter is to be discussed by the writer in a section devoted to Batak book illuminations in a forthcoming catalogue of oriental manuscripts in the Danish Royal Library in Copenhagen.

Illustrations on opposite page: Designs on early Iranian pottery (about 3000 B. C.) and comparative material (Figs. 40 a and 40 b).

Fig. 39 - Painted sherd with reconstructed pattern. Iran. Chalcolithic period.

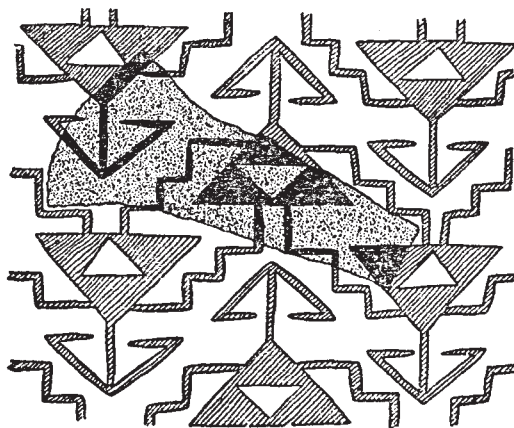
Fig. 40 - Painted bowl. Iran. Chalcolithic period.

Fig. 40 a - Design on a modern calabash. British Guiana. (Same as Fig. 13).

Fig. 40 b - Design on a modern calabash. West Africa.

Fig. 41 - Hypothetical continuation of the design on the bowl, Fig. 42.

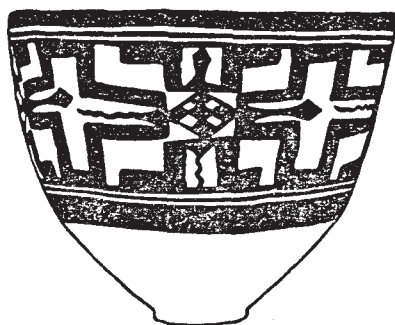
Fig. 42 - Painted bowl. Iran. Chalcolithic period.



39



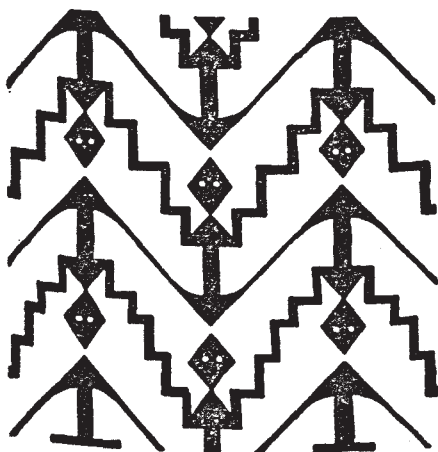
40a



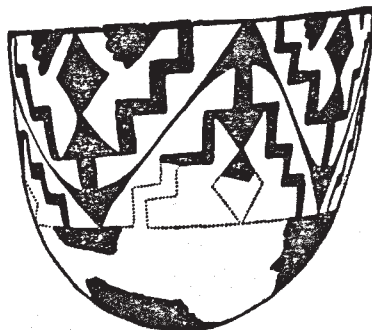
40



40b



41



42

We have already suggested that the idea of representing descent and relationship by patterns of connected human figures was hardly conceived for the first time in chalcolithic Iran. The variety of the Iranian designs and, above all, the advanced stage of their conventionalization precludes that assumption. What we see in this chalcolithic pottery might be described rather as the florescence, or perhaps even as the artistic disintegration, of an idea, rather than its inception. If, then, the idea is older than chalcolithic times in Iran, where may we hope to find its beginning, or at least an earlier and more primitive stage of its development? It is true that the deeper we delve into prehistory, the fewer are the remains of human cultural activity preserved to us. Yet so great is the importance of this idea that we find unmistakable evidence of its existence even in the relatively meagre remains of still earlier times. In the sequel we shall consider such evidence in two cultures: one long antecedent to the chalcolithic period in Iran, the other roughly contemporary with it. Since the later culture paradoxically preserves (as sometimes happens) a more primitive stage of development, we shall reserve it for later consideration, turning our attention first to the earlier period: that of mesolithic times in Northwestern Europe.

Many of the bone and antler objects of the Maglemose culture, which flourished in Denmark and the Baltic area in Ancyclus times, roughly between 8000 and 5000 B.C., are not only decorated, but their designs are unquestionably related to those which we have just studied in the chalcolithic period in Iran. Before proceeding to consider these precious documents, miraculously preserved in the peat-bogs and shallow seas of Northwestern Europe for some ten thousand years, it should be emphasized once more that the designs with which we are concerned in this study are hardly meaningless ornaments. Rather they are illustrations of an idea which has exercised a perennial fascination for the mind of man: the endlessness of the procreative process, and the intricacy of the web of familial relationship. Once we realize the dominant importance of this idea, we shall also realize that correspondences between the forms in which it finds artistic expression in widely separated times and places are not fantastic accidents, but the inevitable result of millennial thinking about the continuity of human society, and at the same time evidence of the millennial continuity of human tradition. For the images in which this idea found expression were hardly invented anew in each generation: they must have been transmitted by a continuous process similar to the biological process which they represent.

Of special interest to us among surviving decorated artifacts of the Maglemose culture is a flat implement of bone, variously described as a scraper or net-pricker, of which the two sides are reproduced in Fig. 43, a and b. In the dotted decoration of this

object, achieved by the typical Maglemose technique of drilling rows of small pits or cupulae, we may find a clue to the anthropomorphic origin of the more strongly conventionalized and apparently geometric Maglemose designs to be considered later. It must be said at once that the somewhat confused and ambiguous motives of Fig. 43 have been the object of much speculation — which, however, has led to no generally accepted conclusion about their identity. For example, both SOPHUS MÜLLER and PAUL WERNERT explained the motive at the proximal end of the convex side of this object (at the bottom of our Fig. 43 *a*) as a human figure, and WERNERT extended the same interpretation to the motives on the concave side, Fig. 43 *b*⁽⁷⁶⁾. BRÖNDSTED, writing in 1938, does not commit himself outright to an anthropomorphic interpretation of these motives, but contents himself with saying: "The punched design on a bone knife (specifically his fig. 46 *b*, reproducing the design at the bottom of our Fig. 43 *a*) has been the subject of lively discussion: no matter whether one turns the point of the knife up or down, one can interpret into the design schematized human figures"⁽⁷⁷⁾. Now the reversibility noted by BRÖNDSTED is of course no novelty to us; and we shall return to this important observation presently. Though we do not agree in all respects with the interpretations of MÜLLER and WERNERT⁽⁷⁸⁾, we still believe that they were both right at least in so far as they regarded the designs of Fig. 43 as somehow representing human figures; and we propose to adopt this assumption as a working hypothesis. Like MÜLLER and WERNERT we would thus take the vertical axis of the motive at the bottom of Fig. 43 *a* for the trunk, or perhaps rather for the vertebral column, of a human figure. The central expansion of this column could then be regarded simply as an indication of the body (compare Fig. 2), or perhaps more specifically as the representation of a woman's breasts; and the bifurcations at the top and bottom would stand for the arms and legs, without distinction, inasmuch as the figure is apparently headless. The numerous irregularities of the design, which have provoked so much speculation, could either be dismissed as the result of ineptitude; or some of them, especially the wavy extensions of the lower limbs, might find their explanation in terms of an intended continuation of the design as a repeating

(76) Müller, 1896, p. 341; 1918, p. 10. Wernert, 1917, p. 4 f. Their views are summarized in our note 78.

(77) Bröndsted, 1938, p. 73 f.

(78) Thus, for example, we cannot follow Müller, as cited in note 76, when he seeks for indications of a "face" in the round expansion which he regards as the "head" of the man at the bottom of our Fig. 43 *a*, and when he puts a "bird" on this "head" and sees other "birds" above it; nor can we agree with Wernert, 1917, p. 4, when, turning the design around, he sees the central expansion as a "belt", the two "arms" above it as respectively holding and throwing indeterminate objects, and the terminal bifurcation as a feather headdress. For all these interpretations we shall have alternatives to offer presently.

pattern⁽⁷⁹⁾. The latter supposition gives us our first hint of the reason why this apparently headless figure can be seen, as BRÖNDSTED says, either right side up or upside down. About the motives occupying the upper or distal part of this side of the blade we shall have something to say later.

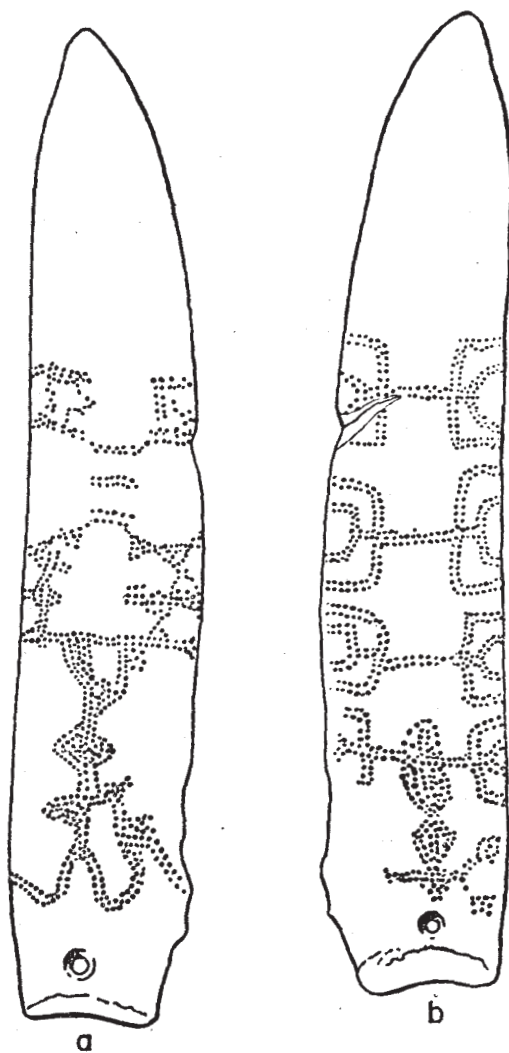


Fig. 43. Bone implement with drilled decoration.
Fünen, Denmark.
Maglemose period (7000-5000 B. C.).

On the other side of this implement, Fig. 43b, we see at least four motives which again strongly suggest human figures. What seem to be secondary pairs of arms and legs could perhaps be construed as the outlines of heads. But we will not inquire too closely into the anatomy of these figures, which is less important to us than the manner of their arrangement. The lowest of the group of four has an expansion at the middle of the trunk, which might, like the expansion in the middle of the figure on the other side of the blade, represent the body, or perhaps female breasts. This ovoid expansion is connected to another mass in the form of a lozenge, at the farther (or lower) point of which is a crossbar surmounted by a small excrescence. The right end of the crossbar appears to be bifurcated as if to form the "limbs" of a figure analogous to the other four figures occupying the width of the blade. Despite

the obscurity of this part of the composition, we propose to venture

(79) How such a repeating pattern might have looked can be visualized by comparison with Fig. 2a. Such a Maglemose pattern would have been directly ancestral to those of Figs. 44-46. The

at least a tentative explanation of it. The series of four roughly identical motives ranged side by side across the width of the blade, even though they are not connected, might be regarded as equivalent to the band of connected figures ornamenting the chalcolithic pottery vessel from Iran illustrated in Fig. 53 *m*. The complex at the bottom of the blade, in which the fourth figure of the transverse series is apparently connected to a fifth figure at right angles to it by the expansion in the center of its body, might be regarded as analogous to the motive on the chalcolithic bowl, Fig. 40, in which a common body serves two creatures crossed at right angles. The bifurcation of the left arm of the fifth figure (in the lower right-hand corner of Fig. 43 *b*) might be variously explained: its ambiguity might be intentional, in that it turns the horizontal "arms" of the vertical fifth figure into the horizontal trunk of an incipient sixth figure, aligned with the other four figures across the width of the blade. We have already seen examples of such deliberate ambiguity in "crossed" genealogical patterns of the New World: Figs. 12-15. It seems to us by no means unlikely that such analogies will ultimately explain BRÖNDSTED's observation that human figures can be seen in this blade "no matter which way it is turned". That was, we believe, precisely the designer's intention. Perhaps a final answer to this puzzle will yet be found in the peat-bogs of Denmark. Without insisting upon the validity of our interpretation, we would nevertheless ask the reader to keep it in mind, while we turn to our second main document of Maglemose art.

The deer's antler, Fig. 44, which perhaps served as the handle of an axe, is again decorated with drilled ornament. It is curious that Müller, in describing this object, was interested only in the network of hexagons covering the greater part of it, and that he scarcely troubled to mention the row of seven isolated motives encircling it at the bottom, which we reproduce in a slightly enlarged development in Fig. 44 *a*⁽⁸⁰⁾. Despite their small size, these motives are, in our opinion, of transcendent importance, not only for understanding the decoration of this antler, but for a proper appreciation of one of the main features of Maglemose decorative art. This art, which has hitherto been regarded as predominantly "geometric", and by impli-

idea of excerpting a single figure from a repeating pattern is more familiar to us in the New World than in the Old: see Schuster, 1955, esp. fig. 4. While the theory of excerption would perhaps best account for the wavy limbs at the bottom of Fig. 43 *a*, we shall see later that the upper part of the same composition is itself probably a "geometrized" continuation of the all-over pattern.

(80) Thus in the relation between the isolated elements at the bottom of the antler and the variously composed hexagons above them, Müller, 1918, p. 10, saw only the artist's "uncertainty" what elements to choose for his decoration — as if he were overwhelmed by an infinite choice, like a modern designer sitting before an array of reference works in a library. Unconsciously Müller attributes to the traditional designer of prehistoric times the same conceptual vacuity which characterizes the decorative art of modern civilization. See the next note.

Illustrations on opposite page: Maglemose designs from the Baltic area (7000-5000 B. C.).

Fig. 44 - Antler with drilled ornament. Silkeborg Lake, Jutland, Denmark.

Fig. 44 a - Detail of motives encircling the bottom of the antler, Fig. 44.

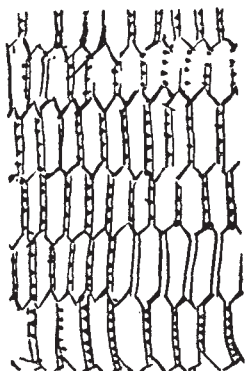
Figs 45, 46 - Two fragments, possibly from one antler, with drilled ornament. Kolding Fjord, Jutland, Denmark.

Fig. 47 - Incised design on a bone implement from Bohuslän, Sweden.

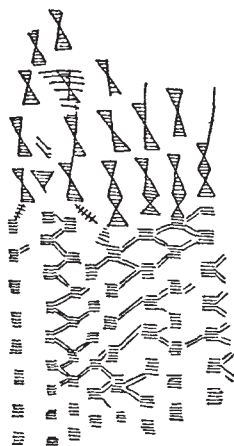
Fig. 48 - Incised design on an antler implement from Horsens Fjord, Jutland, Denmark.

Fig. 49 - Incised design on an implement of polished soapstone from Skaraas, Sogndal, Stavanger, Norway. (Possibly post-Maglemose).

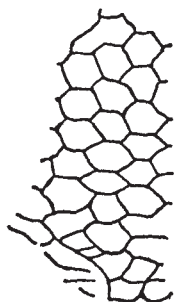
Fig. 50 - Incised design on an antler axe from Lammefjord, Zealand, Denmark.



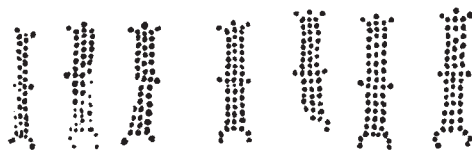
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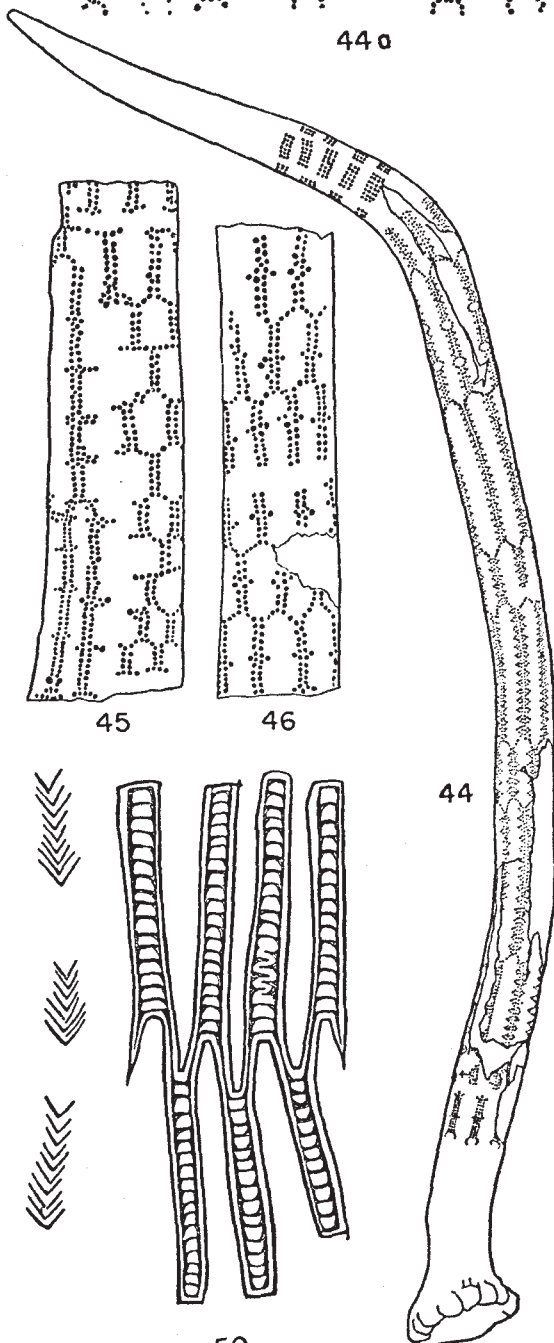
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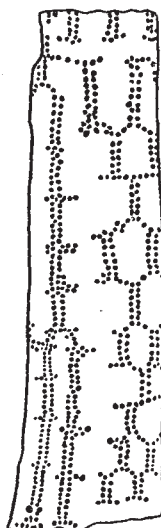
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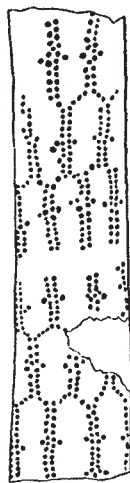
44 a



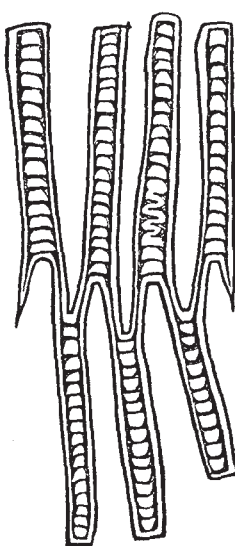
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46



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cation meaningless⁽⁸¹⁾, suddenly takes on meaning and at the same time finds its place in the continuum of cultural history, once we realize that the seven motives of Fig. 44 *a* are simply conventionalized human figures. Unlike the ambiguous figures of the bone implement just considered, these "little men" have the two ends of their bodies clearly differentiated, with a "head" formed of one dot at the top, a pair of (bowed) legs at the bottom, and arms briefly suggested by two excrescent dots at the "shoulders". At each side of the middle of the trunk there is another excrescent dot, recalling the bodily expansions in Fig. 43 *a* and *b*. Probably these median dots represent female breasts.

Before considering the network of hexagons which forms most of the remaining decoration of the antler, Fig. 44, it will be advantageous to examine two similarly decorated fragments of another antler or antlers reproduced in Figs. 45 and 46. One can hardly escape the observation that the "honeycomb" pattern especially of Fig. 46 is composed of precisely the same elements which we identified in Fig. 44 *a* as human figures (minus only the heads) — or that, conversely, those human figures are excerpts from such a repeating pattern (with the addition of heads). It can only be concluded that the hexagonal network which recurs, with small variations, in Figs. 44, 45 and 46 is, in fact, *a network of human figures, joined together by their arms and legs*⁽⁸²⁾. In other words, that we already have, in Maglemose times, essentially the same scheme of design which we found so well established some two thousand years later in Iran, and which has spread in modern times to far corners of the earth. This does not mean that the Maglemose people, any more than most modern "primitive" peoples, were necessarily aware of the origin of the patterns which they repeated with almost mechanical precision. On the contrary, once the limbs of the figures were locked into such patterns, it may be supposed that there were few who remembered how they originated. Obviously one of those few was the man who decorated the antler of Fig. 44.

(81) Müller, 1918, p. 10, apparently regarded the repeating pattern on the antler, Fig. 44, as literally an imitation of netting, thus presumably of a fishing net. This brings us back to the supposed fish-net pattern of the Bacairi (see note 27). It seems to us very unlikely that decorative designs in traditional cultures would have been inspired by such utensils, though they might in time have come to resemble them. Inspiration from a fish-net is something one might expect of a twentieth-century fashion designer or "interior decorator", whose fantasy is relatively unhampered by tradition. Müller's guess, like von den Steinen's, clearly reflects the technical bias of modern thought, but will hardly help us to understand Maglemose design.

(82) It should be said immediately that this conclusion (to which we are impelled by all the preceding considerations in this essay) was anticipated by Wernert in 1920 (his figs. 3, 4, 8, 9). It is perhaps because Wernert did not support his argument with ethnographical parallels that it has been largely ignored by subsequent writers on Maglemose art. Wernert's explanation of the designs on the Silkeborg antler, Fig. 44, must nevertheless take its place as a most important contribution to the understanding of Maglemose symbolism.

The mentality reflected in the decoration of this antler is, in our opinion, precisely like that of the Patagonian cave-painter who produced a compendium of his art in Fig. 38. In each case the artist was aware of the human identity of the elements comprising certain familiar patterns; in each case he isolated a group of these anthropomorphic elements at the beginning of his composition; and in each case he followed this statement of the theme with a number of variations upon it. No matter how different the compositions of Figs. 38 and 44 may be in scale, technique, or artistic effect, and even in the time, place and character of the cultures which produced them, they are yet basically and in principle the same, since the South American pattern of stepped lozenges is derived from human elements in much the same way as the Maglemose pattern of hexagons.

How it happens that the human figures isolated at the bottom of one antler, Fig. 44, are combined most clearly not on the same antler but on another, Fig. 46, we cannot say. Perhaps we shall have an answer to this question when additional Maglemose material is brought to light. In the mean time it can only be observed that the line of development, as represented by the specimens available to us, goes from the isolated human elements at the bottom of Fig. 44, through the simple hexagonal pattern of Fig. 46, to the distended and elaborated hexagons at the left of Fig. 45 and in Fig. 44. The transverse bars across the uprights of the long hexagons at the left of Fig. 45, as well as the corresponding serrations of Fig. 44, might be explained as a decorative proliferation of breasts, which took place after the human origin of the design had become obscured; or they might perhaps represent vertebrae in the spinal columns of the component figures. One interpretation need not necessarily exclude the other: both of these anatomical features are, as we have seen, and shall see again, often emphasized, for very good reasons, in "genealogical" patterns composed of human figures.

It is, at any rate, as vertebrae that we can best understand the transverse gashes connecting the double walls of the hexagons in the finely incised Maglemose design of Fig. 47. And similarly in the lower half of another incised design, that of Fig. 48, the vertical walls of the horizontally distended hexagons are formed of series of five or six horizontal strokes, which are most plausibly explained as the vertebrae of spinal columns.

Though the "hourglass" motives at the top of Fig. 48 seem to have little to do with the hexagon pattern below them, it is nevertheless possible that the two designs bear a certain logical relation

to each other. For it seems that similar hourglasses are incorporated in the sketchy beginning of a repeating pattern on the upper half of the bone implement, Fig. 43 *a*, which is evidently one of interlocking hexagons (distorted almost into squares), and that each of the vertical walls between these hexagons is composed of three horizontal bars, in most cases joined by small "hourglasses". Leaving aside for the moment the question of the meaning of the "hourglasses", we may conclude that the pattern on the upper half of Fig. 43 *a* is, like other hexagon patterns, really a concatenation of highly conventionalized human figures, which surmounts, and is, in fact, actually connected with, a relatively large and naturalistic human figure at the bottom. This arrangement, for which parallels could be cited in the artistic traditions of later times, may be regarded as roughly analogous to that of the antler, Fig. 44, in which human figures are isolated at the bottom and combined in a "geometric" pattern above.

At last, in Fig. 49, we see how the typical Maglemose hexagon pattern, after losing all vestiges of its anthropomorphic origin, can be reduced to a honeycomb of single lines, badly composed of irregular cells⁽⁸³⁾.

Undoubtedly it is the *leitmotif* of the hexagon pattern, which, as we see, runs a wide gamut of variations throughout Maglemose art, that accounts for the design incised on an implement of antler found some twenty years ago in the dried-up Lammefjord of north-western Zealand in Denmark. This design, reproduced in Fig. 50, may be described as consisting of seven columns of small trapezoidal elements arranged in two registers, the four columns of the upper register being connected with the three columns of the lower register by extensions of their double outlines. From all that has gone before — not only from our study of other Maglemose designs, but from the ethnographic parallels provided especially by our first few illustrations — it can hardly be doubted that the Lammefjord design represents *the spinal columns of human figures which are connected diagonally by their limbs*. All that distinguishes this design from other Maglemose hexagon patterns is then the absence of closures at the top and bottom, like the diagonal connections at the middle, which would continue the pattern upward and downward. In other words, the Lammefjord design is an excerpt from a typical Maglemose hexagon pattern, the anthropomorphic character of which is

(83) For the late or post-Maglemose dating of the type of stone implement on which this design was found, cf. Clark, 1936, pp. 105-107. The hexagon pattern on another stone implement of the same type is much more regular: Ekhoft, 1886, p. 235 f. Strangely enough, a plaque of mammoth ivory engraved with a pattern of irregular hexagons, much like Fig. 49, was found in an apparently palaeolithic (Magdalenian?) station in Western Russia. See Polikarpovich, 1940, p. 286, fig. 2. What is the chronological and historical relation between these identical phenomena?

than usually evident in a relatively naturalistic rendering of the vertebrae of the spinal columns. This design not only helps us to understand the many "geometric" varieties of the hexagon pattern in Maglemose art, but it permits the identification of an element which otherwise occurs out of context in this art⁽⁸⁴⁾; and, finally, it shows certain instructive similarities to "genealogical" patterns of conventionalized human figures surviving among modern peoples — especially in the connection of the bodies by their outlines, and in the "cursive" rendering of the spinal column as a zigzag, which occurs, in the middle of the second column from the right in the upper register of Fig. 50, evidently as a result of haste or carelessness in drawing the individual vertebrae⁽⁸⁵⁾. About the chevrons at the left side of Fig. 50 we shall have something to say later.

By virtue of its close relation to the Lammefjord axe, Fig. 50, the design of another Maglemose axe, found at Carstensminde⁽⁸⁶⁾, enriches the Maglemose repertory of conventionalized human-figure patterns by still another variant, permitting the identification of additional Maglemose motives which have hitherto defied explanation⁽⁸⁷⁾.

One peculiarity of the Maglemose hexagon patterns, Figs. 44-50, deserves special mention here; namely the circumstance that all of them either envelop a cylindrical surface, or stop but little short of doing so (Fig. 50). This might be dismissed as a consequence of the nature of the objects decorated (chiefly bones and antlers). We believe, however, that if these patterns are, as we have shown, composed of human figures in various stages of conventionalization — thus representing a genealogy which is, by its very nature, without beginning or end — then the application of such designs to cylindrical surfaces aptly expresses the endlessness of the genetic process. Undoubtedly it is for this reason that we find "genealogical" patterns of connected human figures often applied around the periphery of pottery vessels, beginning perhaps from the time when pottery was

(84) We refer to the columnar pattern listed by Clark, 1936, fig. 60, as his motive "t". In the light of our understanding of the Lammefjord design, that motive can only be understood as an abstracted spinal column. Cf. note 87.

(85) Though the "cursive" rendering of the spinal vertebrae is not very common among modern "primitive" peoples (besides the South American occurrence in Fig. 16, we know of its occasional use in "genealogical" patterns of the type of Fig. 9 along the north coast of New Guinea (cf. Fig. 5) and in Africa), still the obvious derivation of the zigzag from vertebrae in this Maglemose design seemed to us to justify its use as a convention for the spinal column in the schematic drawings of Fig. 3.

(86) See Vebaek, 1938, figs. 5-7.

(87) Thus through our understanding of the Carstensminde axe, the endlessly repeated element on the Monbjerg point (Vebaek, 1938, fig. 1: inevitably unlisted by Clark, 1936) appears as a vertebra. Another consequence of the identification of the Carstensminde design as a series of human figures is that Clark, 1936, fig. 60, motives g and u appear as further simplifications of the spinal column (cf. our New Guinea design, Fig. 5 l), while Clark's Fig. 60 j and w may be plausibly regarded as representing connected rows or opposed pairs of skeletal figures, greatly simplified.

first decorated⁽⁸⁸⁾; and it may be for this reason, again, that we find such patterns applied to all manner of cylindrical surfaces, including the trunk or limbs of the human body, in the traditional cultures of so many modern peoples — as the reader can see by a survey of our illustrations, beginning with the first and proceeding through a list which needs no enumeration. In view of this circumstance, it is interesting to find that modern sociologists have hit upon the idea of projecting their diagrams of kinship around a cylindrical surface, without the slightest reference to any of the materials here studied, thus “independently inventing” a motive which has been traditional throughout large parts of the world for at least ten thousand years!⁽⁸⁹⁾

Now the extreme and widely varying conventionalization of the human figures in Maglemose “hexagon” patterns clearly indicates a long prior development. It must be assumed that these patterns are, so to speak, the crystallization of what must have been in still earlier times a loose agglomeration of relatively naturalistic figures, so arranged as to convey more obviously the idea of a genealogy. Though such arrangements of human figures are not known to us from earlier (i. e., palaeolithic) times, we do find, in the art of a culture somewhat *later* than the Maglemose, what appears to be a survival of the primitive idea underlying the Maglemose designs. In Fig. 51, *a* and *b*, are reproduced motives from a Spanish cave-painting of the “schematic” phase, which the Abbé BREUIL would date in the “neolithic-eneolithic” period of the fourth pre-Christian millennium, and probably nearer 3000 than 4000 B.C.⁽⁹⁰⁾

For these motives BREUIL has offered the following explanation: “A basic figure in the form of two triangles or two thickened chevrons joined at the points (certainly the scheme of a woman) has attached to one, two, or all four of its corners certain appendages, generally curvilinear, which burgeon at the ends into smaller figures similar or analogous to the main one. Apparently we have to do here with the representation of a mother with her progeny, a sort of female Tree of Jesse — in which the human elements are sometimes reduced to a triangle or a thickened chevron. We need not attempt to apply this very probable hypothesis [to the explanation of the designs of

(88) See note 73.

(89) See Layard, 1942, p. 113, who gives credit for the invention to Dr. Gregory Bateson. Appropriate for this purpose is, according to Dr. Layard, “something hard, such as a jam jar”.

(90) This dating of the motives reproduced in our Figs. 51 a-c and 53 a-e was communicated to the writer by Abbé Breuil in a letter of April 25, 1955, as follows: “Tous les sujets peints que vous m'adressez [i. e., those here cited] sont datés Néo-Enéolithique, c'est à dire de la même époque que les dolmens, donc plus ou moins 3 à 4000 B.C., au maximum: plutôt 3000 que 4000 — mais peuvent appartenir à divers périodes. C'est aussi l'âge des gravures rupestres d'Irlande, d'Écosse et du NW de l'Ibérie (dont quelques-unes descendent plus bas).”

Fig. 51 *a* and *b*] in detail: for every one can work it out as he sees fit" ⁽⁹¹⁾.

It can hardly be doubted that BREUIL's hypothesis is indeed, as he says, "very probable", and that the designs of Fig. 51 *a* and *b*, represent a genealogy of the very type with which we are now so thoroughly familiar. This genealogical representation is especially instructive, not only because of its geographical and chronological position (near the western end of the Mediterranean, at a time roughly contemporary with the chalcolithic of Iran and Western Asia generally), but because of its artistic character and the transparency of its symbolism. BREUIL's identification of these figures as females may be of more than parochial significance⁽⁹²⁾; and the way in which they are connected is also of interest comparatively. Though the variety of these ligatures permits, as the Abbé observes, a wide latitude of interpretation, it seems possible to distinguish among them two main types: one evidently consisting of common limbs, as can be seen most clearly at the upper right of Fig. 51 *b*; the other taking the form of lines attached to the figures apparently by their heads. The fact that in all the "genealogical" patterns considered so far (including the earlier Maglemose ones) the figures are invariably connected by their arms and legs suggests that this form of connection is, in all probability, the original one. Hence we surmise that connection by the heads, which apparently occurs at several places in Fig. 51, may be simply the result of carelessness. At a later stage of our study we shall consider certain mythological and linguistic evidence which tends to support this conclusion.

The S-shaped curves connecting some of the figures in the Spanish cave-painting of Fig. 51 might be likened to the two curves attached to the bottom of the large figure on the Maglemose implement, Fig. 43 *a*. If the analogy is not accidental, there is all the more reason for regarding the latter curves as representing the limbs of the figure, and for supposing that they were originally joined to the limbs of two similar figures at the lower left and right, and so on in an endlessly repeating pattern. Such a pattern would then be related on the one hand to the Spanish patterns of Fig. 51, *a* and *b*, and on the other hand to the more evolved and highly "geometrized" hexagon patterns of the Maglemose as shown in Figs. 44-50. Needless to say, verification

(91) Freely translated by us from Breuil, 1933-35, 4, p. 16 f.

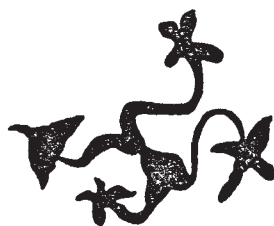
(92) See our earlier identification of the Maglemose designs of Figs. 44a, 45 and 46 as representing females, by virtue of their "breasts", and Breuil's suggestion (cited in our note 70) that the component elements of the Iranian pattern, Fig. 39, are females, by virtue of the voided "pubic" triangles. The reader may also recall our suggestion that the design of the Celebes *ikat*, Fig. 2, is composed of females (by virtue of the "breasts") and that certain American designs (Schuster, 1955, figs. 1, 2) are females (by virtue of their genitals).

Illustrations on opposite page:

- Fig. 51 a, b, c. Designs painted on a cave wall. "Los Letreros". Velez Blanco, Almeria. Spain
4000-3000 B.C.
- Fig. 52 a, b, c. Human figures carved on the earth at an aboriginal initiation ceremony.
New South Wales, Australia. 19th century.
- Fig. 53. Geometric motives (M-marks, chevrons) associated (a, g, m) with repeating
patterns of human figures in early cultures.



51 a



51 b



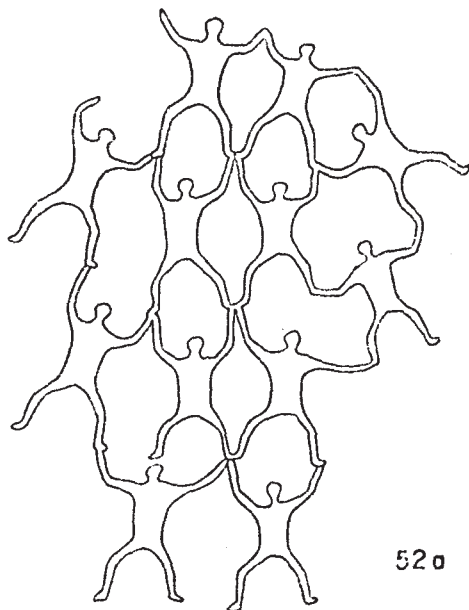
51 c



52 c



52 b



52 a

<p>a b c</p>	<p>f g</p>	<p>i j</p>	<p>m</p>
<p>d e</p>	<p>h i</p>	<p>k l</p>	<p>n o</p>
<p>Spanish Caves</p>	<p>Maglemose</p>	<p>Predynastic Egypt</p>	<p>Chalcolithic Iran</p>

of this surmise depends upon further study and, above all, upon the availability of additional material.

No matter whether this particular analogy proves to be valid or not, there can hardly be any doubt that the genealogical idea embodied in the Spanish cave-painting is the same as that underlying all the Maglemose patterns considered heretofore, and that the two traditions are basically related. Incidental evidence of this relationship may be seen in the fact that there are certain "geometric" motives more or less closely associated with the series of connected human figures in both traditions, — and also in certain other ancient traditions, approximately contemporary with the Spanish eneolithic. A number of these "geometric" motives are assembled in Fig. 53.

What is the meaning of these columns of M-marks, which make their appearance, along with "genealogical" patterns of linked human figures, so early in prehistoric times, and then find their way into similar contexts in several later traditions? The Abbé BREUIL has, in fact, offered an explanation for these motives, *in so far as they occur in the cave-paintings of the neo-eneolithic (i. e., neo-chalcolithic) period in Spain*. BREUIL would regard designs like that of our Fig. 53 c as representing a series of abbreviated human figures; and designs of the type of Fig. 53 d and e he would interpret as a kind of "Tree of Jesse", the branches of which are formed by the paired arms of series of human figures, probably male, sharing a common trunk⁽⁹³⁾. Though BREUIL's interpretation, based upon his familiarity with the processes of conventionalization prevailing among the cave-painters of neo-eneolithic Spain, was presumably meant by him to apply only to the art of those people and that epoch, there are indications that it has an even wider validity; for in several different prehistoric cultures, as already suggested, we find the motive of series of M-marks associated with the motive of linked human figures of the type which we have identified as "genealogical patterns". The first association of this type with which we have to deal is that between the two groups of motives in the Spanish cave of Los Letreros, represented respectively by Fig. 51 a-b and Fig. 51 c — the latter reproduced again in Fig. 53 a. The association is, to be sure, not an exclusive one, in so far as several other motives occupy spaces on the rock wall between those which we have chosen to reproduce close together in the three parts of Fig. 51. It should be noted, however, that all these motives belong to the same color-series and are thus contemporary. The thesis of their conceptual relation is supported

(93) These suggestions were made to the writer in a letter of the Abbé Breuil from Paris, April 25, 1955. See also Breuil, 1933-35, vol. 3, fig. 50 and p. 98; fig. 52 and p. 105; vol. 4, p. 21. Compare similarly arranged agglomerations of more "naturalistic" human figures in the pottery of Tepe Moussian: Herzfeld, 1941, fig. 40. See also note 109 below.

by the circumstance that closer combinations of the same type occur in other traditions of the same epoch.

Before considering these, however, let us look again at the engraved decoration of the Danish mesolithic axe from Lammefjord, Fig. 50. To the left of the "genealogical pattern" with which we have been chiefly concerned are columns of V's or chevrons. Though these are, to be sure, not the same as M-marks, there can be little doubt of their equivalence, since columns of true M-marks occur on at least two other Maglemose artifacts, where they are arranged in groups in much the same way as the columns of V's are grouped on the Lammefjord axe⁽⁹⁴⁾. If now BREUIL's interpretation of the columns of M's in the Spanish caves as series of male figures applies equally to the columns of chevrons on the Lammefjord axe of perhaps two millennia earlier (a proposition which can hardly be regarded as in itself implausible), then we suddenly find within our grasp the possibility of understanding the decoration of the Lammefjord design as an organic and sensible whole; for not only the element at the right but also that at the left of Fig. 50 would then represent a genealogy: the former most probably composed, as we have seen, of female figures⁽⁹⁵⁾, the latter, following Breuil's surmise, of males. That this interpretation of the Lammefjord design is no mere fantasy appears from the circumstance that two elements clearly analogous to those at the left and right of the Lammefjord axe occur in close association in the engraving of an ostrich egg from predynastic Egypt, which is roughly contemporary with the Spanish paintings of Fig. 51 a-c ⁽⁹⁶⁾; and that columns of M-marks are specifically associated with series of connected human figures in at least one tradition of Near Eastern chalcolithic pottery decoration, as shown in Fig. 53 m. In the light of these associations, it may be

(94) Thus Müller, 1918, fig. 1 (of which our Fig. 53f is a detail), and *op. cit.*, fig. 2 (=Clark, 1936, fig. 62, no. 7). In view of the culture-historical importance of the motive of a column of M-marks (which occurs also on a Maglemose amber pendant, Brøndsted, 1934-35, fig. 1), Clark's failure to include this motive in his repertory of Maglemose designs (1936, fig. 60) must be regarded as a serious omission.

(95) Cf. note 92.

(96) See Kantor, 1948, fig. 2. This egg, the carving of which is attributed to the Amratian period, presumably about 4000 B.C., is kept in the Museum of the Oriental Institute, Chicago. On it the motive by the side of the "genealogical" pattern (which is evidently a simplified version of the design at the right of Fig. 50) is similar to the column of chevrons at the left of Fig. 50, with the addition of an axis, like that of Fig. 53 k or l. Isolated "phytomorphic" motives of this type are, of course, common in predynastic Egyptian pottery decoration; but the association of such a motive with the excerpt of a "genealogical" pattern in Amratian times takes on special significance in view of the Maglemose parallel. It should be added that another design, similar to both the Maglemose and the Amratian "genealogical" designs, occurs in a prehistoric rock-engraving in southeastern Norway: Engelstad, 1934, pl. 59, fig. 1 (left). Though this design does not seem to be accompanied by the chevrons associated with the other two, nevertheless the recurrence of what might be called the "Lammefjord pattern" on the one hand in predynastic Egyptian art and on the other hand in a presumably neolithic Norwegian petroglyph shows how important such excerpts of "genealogical" patterns were in the artistic traditions of the fifth to fourth millennia B.C. For such excerpting in the New World, cf. Schuster, 1955.

asked whether the introduction of a band of Σ 's or sigmoid marks at the bottom of the modern Papuan "genealogical pattern" of Fig. 5 is wholly accidental; for this band seems to correspond to the band of chevrons at the side of the "genealogical pattern" of the Lammefjord axe of Fig. 50, which the main Papuan design so remarkably resembles. (^{96a}).

Quite apart from the question of associated M -marks, the very fact that "genealogical patterns" composed of linked human figures occur as early as the fourth millennium in Spain and the sixth in Denmark may have implications for the history of such motives in the New World. For these early occurrences in Western Europe, themselves perhaps peripheral phenomena in relation to some still earlier but unknown focus of diffusion in Western or Central Asia, obviously permit us to envisage a relatively early transmission of such patterns from the Old World to the New, at a fairly "primitive" cultural level — as we have already suggested in connection with the Patagonian designs of Figs. 37 and 38. At the same time, it should be emphasized that a motive which was already well established in a decorative style of say the sixth millennium B.C. in Europe might well have been, or rather must almost certainly have been, widely diffused throughout Eurasia in subsequent millennia, and hence could have been transmitted to the New World more than once, at different times and in association with different cultures. An attempt to reconstruct the history of such patterns in both hemispheres and to determine the times and routes by which they reached the New World from the Old does not lie within the scope of this study. Our purpose is merely to call attention to the existence of the historical problem and to point out the need for further studies which might contribute to its eventual solution. Gaps, both chronological and geographical, there are many; but it can hardly be doubted that they are gaps in available evidence rather than in actual fact. Undoubtedly many of them will be filled, once these patterns are recognized as representative of a type, and the nature of the historical problem becomes manifest.

(^{96a}) In a communication made to the Vth International Congress of Prehistoric and Proto-historic Sciences in Hamburg in 1958 (to be published in *Anthropos*), the writer established more firmly the anthropomorphic origin and genealogical connotation of the Maglemose motives which are here shown as Fig. 53 f and h. In the light of these considerations, the writer's present view is that the grouped chevrons at the left of Fig. 50 (= Fig. 53 g; cf. also the grouped "branches" of Fig. 53 k) probably represent something like a genealogical count, which is deliberately and by no means accidentally associated with the genealogical picture at its right. In fact, we hope to show in later studies that the "anthropomorphic" chevrons at the left of the Lammefjord design are really equivalent to a kind of *notching*, no doubt numerative, which has a long archaeological prehistory and also survives in significant association with ancestral representations (i. e., genealogical images) in many modern "primitive" cultures. (Cf. note 126). This interpretation of the Lammefjord design of Fig. 50 is perhaps not at variance with a sexual differentiation between the two parts of the composition (male pattern at the left, female at the right) suggested above in our text. But in any case, we feel that the view, advanced only tentatively in our text at this point, of the band of sigmoid marks at the bottom of the Papuan "genealogical" pattern, Fig. 5, as conceptually related to it, is now strongly supported. The palpably "mesolithic" character of the main part of the Papuan design (cf. note 87) tends to confirm this view.

The most interesting, and perhaps most significant, peculiarity of the Spanish cave-paintings, Fig. 51 *a* and *b*, which sets them apart from all the other designs considered heretofore, is their loose composition: their failure to form a regularly repeating pattern. The fact that the "genealogical principle" was applied to the decoration of Maglemose artifacts in the form of rigidly repeating patterns of highly conventionalized figures a few millennia before the Spanish cave of Los Letreros was painted does not mean that the later Iberian designs are necessarily derived from the earlier Baltic ones. It can only mean that the Iberian designs represent the late survival of a much earlier stage of development. Undoubtedly the two traditions evolved in different ways and at different rates from a common origin, which must be sought in still older palaeolithic prototypes. Though we do not know (or at least have not yet recognized) such prototypes in the palaeolithic art accessible to us, we do have indirect means of penetrating the barrier closed to us by history — and we are not the first to make use of such means. Others have already found in the customs, beliefs and rituals surviving among the primitive Australian aborigines plausible solutions for some of the enigmas posed by the art of our earliest ancestors.

In Fig. 52 are reproduced the outlines of certain earthworks prepared for an initiation ceremony held towards the end of the nineteenth century by the Kamilaroi tribe of New South Wales. Mathews reports that the "life-size" men of Fig. 52 *a* "were formed by cutting a nick or groove in the ground along the outline of each"; and that "all the figures were joined together, the hands and feet of one joining the hands and feet of others"⁽⁹⁷⁾. The analogy between Fig. 52 *a* and the Spanish cave-painting of Fig. 51 *a* is perhaps obvious. Both arrangements are noteworthy for their irregularity: in neither are the figures joined in a rigidly repeating pattern. Especially significant is the fact that the Australian figures are connected, as Mathews says, by their limbs. Only once does a leg rest on the head of another figure; and this obvious accident (at the lower left of Fig. 52 *a*) may be regarded as an exception which proves the rule of ligature by the limbs. (Does this Australian accident justify our surmise that ligature by the head which occurs in several places in the Spanish composition is likewise the result of accident or carelessness, and that the primary form of connection is there also by the limbs?) Perhaps the chief difference between the Australian and the Spanish compositions lies in the circumstance that the Australian figures are supposed to represent, as we shall see, males; while the Spanish figures are most probably intended, as Breuil says, for females. A possible exception

(97) Mathews, 1895, p. 415.

to this rule is one apparently male figure at the lower right of the Spanish group, Fig. 51 *a*.

The resemblance between the modern Australian and the prehistoric Spanish compositions is hardly accidental. Undoubtedly it arises from the circumstance that both represent something like the primitive substratum from which all the regularly repeating patterns known to us must be evolved. The survival of the Australian tradition into modern times is like an outcropping of this substratum, which is elsewhere hidden under subsequent formations. The importance of the Australian design of Fig. 52 *a* lies in that it is not "dead" like all the other designs of its type with which we have to deal, but that the making of it was part of a ritual still traditionally observed until modern times, when it came to the attention of European observers, able to transmit to us at least an inkling of what it meant to the aborigines who made it. In 1894 Mathews was told by the Kamilaroi that the design of Fig. 52 *a* "represented the young men who were with Baiamai at his first camp". And Baiamai was the Creator of the Kamilaroi. The Creator himself was represented, not as part of the connected group of Fig. 51 *a*, but separately as an earthen figure of heroic proportions (some 15 feet or 4.5 meters in length), shown in Fig. 51 *b*, opposite his consort. Gunnanbeely, who was carved in life-size: Fig. 52 *c*. Mathews continues: "They say that Baiamai created them (the Kamilaroi) and gave them the country and all that is in it for their use, after which he and Gunnanbeely went away. A short distance from these (that is from our Fig. 51 *b* and *c*) the figure of a man and woman were formed on the ground behind a tree, and were partly hidden. The blacks said that these represented their original parents, whom they call Boobardy and Numbardy, — meaning father and mother respectively". (This pair of figures is not reproduced by MATHEWS: perhaps they were represented *in coitu*).

What are we to make of these explanations? Obviously we have to do with a complex of ideas centering about the theme of *creation*. And this theme is represented in three different ways: first by the images of the Creator-pair, Fig. 51 *b* and *c*; secondly by the pair of figures called "father" and "mother", whom the Kamilaroi evidently regard as their more immediate ancestors; and thirdly by the composition which chiefly concerns us, that of "the young men at Baiamai's first camp", Fig. 52 *a*. The conceptual relation of the last group to the two pairs of creator figures is somewhat obscure. Yet it seems reasonable to suppose that "the young men who were with Baiamai at his first camp" must have been the first figments of his creation or the first human beings, and thus in one sense or another ancestors of the Kamilaroi: perhaps they were the progenitors of various tribal subdivisions. Though MATHEWS was not told why these figures were joined together by the hands and feet,

the whole matter becomes clearer in the light of another Australian ritual observed and recorded in another part of the continent some forty years later.

In 1935 URSULA McCONNEL described and illustrated photographically a ritual which she had observed among the Wikmunkan and Wiknatara aborigines on the western side of Cape York Peninsula, in northeastern Australia. This ritual was performed by "a line of men lying on the ground . . . with hands clasped (symbolic of continuity). One in the middle represents a woman with a baby (made of beeswax) lying on her abdomen. Those on the left of the 'woman' are men who were growing old. Then came woman and birth. Those on the right are the children who came after as a result of sex and birth. At the end of the line stands a man who swings the *moipaka* (i. e., bull-roarer) (female). The ritual symbolises the continuity of life by means of sex and birth". The author adds: "It must be realized that the spiritual power behind this ritual is believed to be invoked by its performance and to bring about the desired continuity of life. Hence its sacred character"⁽⁹⁸⁾.

There are, to be sure, differences between the arrangement of the performers in this ritual and that of the men in "Baiaimai's first camp". In this ritual we have a single line of men connected only by their hands: in the Kamilaroi carving, a group of figures spreading in all directions and connected not only by their arms but by their legs as well. Yet it is fairly obvious that both arrangements illustrate essentially the same idea: that of creation and procreation. What the Kamilaroi represented statically in art the aborigines of the Cape York Peninsula enact in ritual. The symbolism of continuity explicit in the clasped hands of the ritual is implicit also in the joined hands and feet of the Kamilaroi figures. About this symbolic use of the limbs we shall have more to say presently. Here it is perhaps unnecessary to attempt to account for every detail of the Cape York ritual: for example, the circumstance that all the performers are men and that even the central parturient woman is impersonated by a man⁽⁹⁹⁾, or the circumstance that a "female" bull-roarer is swung in connection with the performance. It is enough for us to recognize the ritual as a symbolization of the genetic process and a prayer for its continuation. It is undoubtedly a ritual of the type observed by Miss McCONNEL in Cape York which underlies the Kamilaroi representation of Fig. 52a; and it may be reasonably inferred

(98) McConnel, 1935, pp. 70-71.

(99) Is this simply a consequence of the male monopoly of ritual or could it perhaps be associated with the custom of *couvade* (to be considered later)? Could this female impersonation have anything to do with the circumstance that in the Spanish cave-painting, Fig. 51a, we find one apparently male figure inserted among a "genealogy" of females?

that some such ritual is depicted also in the Spanish cave-painting for which Breuil postulated a genealogical significance. If, as seems likely, the same explanation applies ultimately to all the patterns of more highly conventionalized human figures reviewed in this study, it is obvious that the ritual recorded by Miss McCONNEL is of fundamental and far-reaching importance.

The immense antiquity of this theme, its wide diffusion among modern peoples at every stage of cultural development, and its survival in a primitive ritual intended to insure tribal survival — all these circumstances attest its central, not to say transcendent, importance in human cultural history. Much more could be said about the reflection of this theme in art, and many additional artistic motives could be cited to which it provides the key in other cultures (for example, in Africa); but we shall restrict ourselves, in the concluding part of this discussion, to some observations about the manifestation of this theme in the realms of mythology, custom and language. These observations, besides helping us to understand the artistic motives, are also elucidated by them, and may thus prove to be of interest as stimuli to further research.

Throughout this study we have had occasion to observe the function of the *limbs* as means of connection between the figures in 'genealogical' patterns. If the clasped hands in the ritual just described symbolize genetic continuity, there can be little doubt that this is the meaning also of the common limbs in the Spanish cave-painting of Fig. 51, of those in the highly conventionalized Maglemose designs of Figs. 44 to 50, and of the limbs in all the other "genealogical" patterns considered in this study.

Now the importance of the limbs as genetic bonds is manifest not only in art, but also in other expressions of human tradition. Throughout many parts of the world we encounter myths and legends about the birth of human beings from the limbs — sometimes from the arms or fingers, more commonly from the legs, and most commonly from the knees. Those born in this way are generally imagined as 'the first people'; and the limbs from which they spring are those of an Ultimate Ancestor. An investigation of the details and distribution of these myths would constitute a fascinating study in itself. Here we shall do little more than list the occurrences known to us. In Africa, myths referring to birth from the knees or legs are distributed from the east central part of the continent southward

apparently to the Hottentots⁽¹⁰⁰⁾. In East Asia the theme occurs among the Yami of Botel Tobago, an island off the southern tip of Formosa⁽¹⁰¹⁾; and in Micronesia among the Marshall Islanders^(101a). It is incorporated in the Finnish epic of the *Kalevala*⁽¹⁰²⁾, and in at least one Indo-European cosmogonic legend⁽¹⁰³⁾; not to mention the Greek myth of the birth of Dionysos, god of fertility, from the thigh of Zeus⁽¹⁰⁴⁾. The theme was current among the Carib Indians of the Antilles⁽¹⁰⁵⁾, and survives in South America at least among the Chocó and Uitoto of Colombia and the Umutina of south-central Brazil⁽¹⁰⁶⁾. For each instance here cited, presumably more could be found in surrounding areas^(106a).

(100) African myths and legends about birth from the knees are conveniently summarized by Alice Werner, 1925, pp. 156-159, 222; and the theme is treated more fully in its culture-historical implications by Baumann, 1936 (see his index, s. v. "Kniegeburt"), with references to Ehrenreich, Graebner and Rank. Though Miss Werner regards the Hottentot Creator's name of "Wounded-Knee" as reminiscent of knee-birth, Baumann (*op. cit.*, p. 20) gives reasons for doubting this association. In another connection, however, Baumann (*op. cit.*, p. 48) admits the possibility of a symbolical equivalence between "wound" and "vulva". (Cf. our note 141). Perhaps the question about the ultimate meaning of the Hottentot Creator's name should still be regarded as open.

(101) Del Re, 1951, pp. 39-40. For the Palaung of Burma, cf. our note 106 a. For the genetic symbolism of the knee in the Philippines and Borneo see note 130.

(101a) Erdland, 1914, p. 192.

(102) *Kalevala*, rune 9: (The writer is indebted to Dr. Henry Wassén for kindly calling his attention to this passage. See note 106.) Cf. also rune 1.

(103) Schayer, 1935, p. 320. (To be quoted below).

(104) Roscher, 1884-86, cols. 1045-46.

(105) Laborde, 1674, p. 5: "Louquo.....avoit un gros nombril d'où il fit sortir les premiers hommes de mesme que de sa cuisse faisant une incision." (Bosch-Reitz in *Timehri* 5, 1886, p. 226, mistranslates *nombril* as *nostril*). Cf. note 11.

(106) For the Chocó see Wassén, 1933, pp. 116, 134, and Wassén, 1935, p. 133. In a letter from Buenaventura, Colombia, April 3, 1955, Dr. Wassén informed the writer that the distribution of the theme of birth from the knees will be treated comparatively in a forthcoming publication by himself and Nils Holmer on the *Nia-ikala* (see *Etnologiska Studier* 23, Göteborg, 1958, pp. 18, 25 f.). For the Uitoto see Preuss, 1921-23, v. 1, p. 51; for the Umutina, Schultz, 1949, and a slightly simpler version, Oberg, 1953, p. 108. According to Schultz, the two legs produce four children: a male and a female from each leg. There is, however, no indication of subsequent intermarriage between these pairs, as occurs with apparent logic in the Formosan story.

(106a) The following additional information came to the writer's attention in the course of a trip to the Far East undertaken with the assistance of the Wenner-Gren Foundation for Anthropological Research in 1956:

Prof. Eiichirō Ishida of Tōkyō University kindly supplied the following data:

"Widely spread in northern Japan is the folktale motif of the birth of a tiny boy from the swollen knee of an old woman, or sometimes of an old man. Thus in Iwate prefecture the boy Suneko-Tampako, 'Knee-Spit,' is born from the knee of an old woman who prayed with her husband for a child and was instructed by the Bodhisattva Kannon to smear saliva on her knee. (Presumably saliva here represents semen. — C. S.) In a variant from Sado Island, Niigata prefecture, a bean-sized boy is born from the swollen finger of his childless mother. The diminutive child in these folktales generally transforms himself into a handsome youth who marries a heroine and brings wealth and happiness to his aged parents. Seki, 1953, pp. 279 f., 283).

"In a widespread Japanese folktale, the boy Momotaro is born from a peach, *momo*, floating down a stream. Though tales about miraculous birth from various fruits and vegetables are common in Japan, it is noteworthy that *momo* in Japanese means 'thigh' as well as 'peach', and that in an Ainu tale of the Momotaro type, which is probably of Japanese origin, the hero, Omu-taro, is said to be born from the thigh (*omu*) of his mother. In a variant of this type from Aomori prefecture in northernmost Honshu, the boy is miraculously born from the heel of his mother after the rest of her body has been devoured by an ogress. [Cf. the Papuan tale cited in our note 120] (Seki, *op. cit.*, p. 320 f. Cf. Ishida, 1956)''.

In addition to this Japanese evidence may be noted Skeat and Blagden, 1906, vol. 2, p. 185: a Jakun (proto-Malay) legend of the first woman, "whose children were produced out of the calves of her legs;" and the citation by Gill, 1876, p. 10, of a tale from Mangaia according to which the boy Rongo came from a boil on his mother's arm, when it was pressed. (Cf. our note 71).

Furthermore, Prof. H. Otley Beyer of Manila informed the writer (oral communication, April, 1956) that he knew of tales about the birth of children from the knuckles of the hand among at

However these myths may vary in details, their basic relationship to each other is hardly open to question. Birth from the knees or legs is generally preceded by a swelling of the affected parts, analogous to that preceding normal birth from the womb. Often both knees are involved: sometimes a male child springs from one knee and a female from the other, or different races or social subdivisions spring from the two knees, or respectively from the inside and outside of the knee. In the *Kalevala* and in the Yami myth of Botel Tobago, birth from the knees is closely associated with the theme of the discovery of iron (presumably a late intrusion). The Yami have rationalized this form of pregnancy by supposing that the penes of their progenitors were joined to their knees⁽¹⁰⁷⁾. These stories often appear grotesque to the point of absurdity: yet the vastness of their diffusion, perhaps throughout every continent of the world, makes it impossible to dismiss them as meaningless. We believe that the Australian ritual just described, together with the many "genealogical" patterns studied in this essay, provide a logical explanation for, and are at the same time logically explained by, these stories. We have seen that the conception of the limbs as bonds of connection between generations, which survives in at least one modern "primitive" ritual, goes back some ten thousand years in art. It would hardly be surprising, then, that the same idea

least three ethnic groups of the Mountain Province of Luzon, including the Ifugao. Such tales are of interest in connection with other evidence of the genetic role of the fingers, to which we shall refer presently. (See notes 108, 119, and the general discussion of finger-mutilation at the end of our text). Undoubtedly such Philippine tales about birth from the knuckles go far toward explaining also the tattooing of little human figures on the phalanges of the fingers of certain Paiwan women of Formosa, which we hope to discuss elsewhere later. In certain other Philippine tales, miraculous birth takes place from *between* the fingers, rather than from the knuckles (presumably a rationalization of knuckle-birth, in which the cavity between the fingers is equated with the womb). Cole, 1915, pp. 18, 110, etc.).

Especially interesting is a Palaung tale from Burma (Milne, 1924, p. 284), according to which: "long long ago....it was the man and not the woman who bore the children. The man carried the unborn child in the calf of his leg until the time when it was large enough to be born.... Then the man said....'Take the baby and keep it warm in thy stomach....' He then saw that the woman had taken good care of the child....;so, after that time, he gave over to the woman the care of the children."

Remarkable here is the explicit priority of male over female birth (which the Greeks inverted in the myth of Dionysos: see note 139 below). The Palaung story also provides a significant parallel for the Tupinamba explanation of the *couvade* (see below at note 140). The bearing of the Palaung story upon the *couvade* appears in certain details omitted from the above quotation: namely, an accompanying and clearly symbolic transfer of the labors of fruit-gathering from the female to the male in exchange for her role in child-bearing. In the light of this Palaung story, the *couvade* appears as a reversion to an original state of affairs, when men labored in childbirth and women in the production of food.

Dr. V. Raghavan of Madras has kindly called my attention to two Hindu myths which clearly belong in this series. The celestial damsel (apsaras) Ūrvasī is said to have been born from the thigh of the (male) sage Nāvāyana; and the Brahmins are said to have "churned" King Prthu and Lady Archis from the arms of the tyrannical King Vena, after he had been killed by the curses of his oppressed subjects. Since all Indian kings are traditionally members of the Rājanya or Kshatriya caste, the latter story clearly corresponds to the Vedic "birth" of this caste from the arms of the cosmic Man or Purusha (see below at note 111). Furthermore, the theme of birth from some member of a dead (i.e., sacrificed?) body has occasional parallels outside India: see the second Japanese story cited earlier in this note, and further references there.

(107) Cf. notes 101 and 142. Del Re's account is evidently translated from Ogawa & Asai, 1935, p. 753 f. A slightly variant and apparently less original version of the same tale is published by Sayama & Ōnishi, p. 18 f. I am indebted to Mr. Ch'en Ch'i-Lu of National Taiwan University for both Japanese references.

should be reflected in tales and legends, especially those purporting to explain the origin of man, all over the earth. The vagaries of these legends might be likened to the conventionalizations of the artistic patterns which we have studied.

A fascinating question is that which came first: the idea or its projection in art. Perhaps both came into being at once: for man thinks in images. It is, at any rate, obvious that the genealogical diagram or pattern must have played an important, perhaps an indispensable, role in the perpetuation if not in the original conception of the genealogical idea. Sometimes it is hard to explain a mythological theme except by reference to a visual pattern of the type which we have made the subject of the present study. Thus, for example, a certain myth current along the north shore of New Guinea relates how two heroes (apparently conceived as "the first man" and his nephew) built a canoe carrying "all the animals" to sea (thus a kind of ark), and used for lashings of this canoe the "drawn-out sinews and blood vessels of the arms and legs of his [the nephew's] mother". Then somehow, according to the story, "men and women sprang from the cut-off ends of these lashings" and proceeded to populate certain islands, which are duly enumerated⁽¹⁰⁸⁾. This gruesome and apparently nonsensical story makes sense when it is referred to the visual image of a genealogical pattern in which figures are joined by their arms and legs; for in such patterns, just as in myths about birth from the knees, the genetic principle resides in the limbs. The "mother" in this story is, as it were, excerpted from such a genealogical pattern, and progeny are conceived as springing from her limbs in much the same way as plants spring from the cuttings of a parent stalk⁽¹⁰⁹⁾. Conversely, certain artistic phenomena observable in "genealogical patterns" of the type we have studied can be explained in terms of the mythological theme of birth from the limbs: thus for example certain South American pictographs and petroglyphs represent a figure (sometimes clearly female) excerpted from a repeating pattern, its limbs ending in a multiplicity of lines which can best

(108) Riesenfeld, 1950, p. 369. The same author recounts a myth in which two children are born from the blood of a woman's arms (*op. cit.*, p. 264), and another in which two sons are born from the blood of a woman's finger (*op. cit.*, p. 360). We shall have more to say presently about the genetic and genealogical role of the fingers. For the use of genetically potent "limbs" in the construction of boats, cf. the Irish and Old Norse use of words for "knee" in the special sense of ribs in the frame of a boat: Loth, 1923, p. 144.

(109) The idea of birth from the limbs is, in fact, assimilated to the theme of plant-fertility in an earlier episode of this story, in which the arms and legs of the same mother are described as having the thickness of a tree and producing yams. (Riesenfeld, 1950, p. 368). Similarly, a Hawaiian goddess, Haumea, is described as having "a breadfruit body, trunk and leaves", and also as being dismembered to produce the tribe of Pele from her parts. (Beckwith, 1951, pp. 110-112).

The familiar image of the "Tree of Life" is doubtless based upon this evidently widespread association; even though Cahen, 1926, p. 66, would deny its antiquity, despite the obvious community of words for "joints" of the body and "nodes" of a stalk, for "legs" and "branches", etc., in Indo-European (and perhaps other) languages. (Cf. notes 93 and 129).

be understood as the genetically potent "drawn-out sinews and blood vessels of the arms and legs" of a procreative Mother⁽¹¹⁰⁾. Evidence of relation between genealogical patterns in art and such tales of genesis could no doubt be multiplied, to the benefit of our understanding of many an obscure phenomenon in both art and legend.

Perhaps such legends about birth from the limbs are to be explained as fragments of a cosmogonic myth, according to which the world in general and mankind in particular originate from parts of a primordial cosmic giant. Myths of this type are to be found among "primitive" peoples in many parts of the world though not necessarily among the same peoples who tell the stories (about birth from the limbs), and they are also commemorated in the literatures of early civilizations. Thus, for example, a Vedic hymn explains the origin of the world and of man from parts of such a cosmic being (the *Purusha* or *Man*), who is sacrificed and presumably dismembered for this purpose. The four primary castes of the Indian social system are said to be derived from the body of this being as follows: "The Brahmin (priest) was his mouth, his two arms were made the *Rājanya* (warrior), his two thighs the *Vaiçya* (trader and agriculturalist), from his feet the *Çūdra* (servile class) was born" ⁽¹¹¹⁾.

Though the joints of the limbs are not specifically mentioned in this hymn, the knees do play an important role in a popular variant of the theme which survived until recent times in the unwritten literature of Russia. In the "Poem on the Book of Profound Mysteries" various features of the physical world are explained as parts of the body of a primordial Cosmic Being, and in some versions of the poem a man is said to be descended from various parts of the body of this being (obviously a Christian substitute for this more abstract figure); the tsars coming from his head, the boyar-princes from his arms or parts of his body (not specified), and the peasantry or common people "from the holy knee of Adam". Schayer has shown that this poem is related not only to the Vedic *Purushasūkta* but also to its surviving in the written literatures of various eastern European peoples⁽¹¹²⁾. It is perhaps unnecessary to emphasize that early literary traditions do not necessarily perpetuate the most archaic variants of a theme; and there is good reason to believe (as we have already seen, and shall see again) that the generative function of the knees in the Russian poem is an archaic trait, probably inherent in the prototype from which all these legends must be descended. Schayer was him-

(110) See Schuster, 1955, figs. 1, 2, and especially 4. We do not mean to imply that all "genealogical patterns" are necessarily composed of females, even though this is apparently true of some early examples (Figs. 44-46, 51, and perhaps 39), and seems to be implicit in the female impersonation practiced in making the "living pattern" of the Australian ritual described at note 98.

(111) *Rigveda* X, 90 (tr. Edw. J. Thomas, 1923, p. 122). Cf. our notes 106 a, 132 and 141.

(112) Schayer, 1935, p. 320.

self aware that this type of myth, which was familiar to him chiefly in Indo-European and Semitic literatures, had relations to the oral traditions of "Austro-Asiatic and Oceanian civilizations". Actually its relations are even wider. For it seems very likely that stories about birth from the knees or legs, which are found, as we have seen, in widely separated parts of the world, are all ultimately related to such a cosmogonic myth as fragments to a whole. The basic myth of creation by dismemberment is certainly much older than any of the literatures in which it was first recorded; and it seems very likely that such a myth lies at the bottom, or very near the bottom, of all the phenomena studied in this essay. In civilized literary traditions the cosmic being appears as a mystical abstraction; but among more primitive peoples it seems likely that he was, in the first place, simply a deified ancestor.

The idea of the creation of the human race from the *membra disjecta* of a prototypic human being implies the idea of human sacrifice. Though the allusion to such a sacrifice in the Vedic hymn seems merely allegorical, one cannot escape the impression that the allegory must have been preceded by the reality, and that in more primitive, pre-Vedic times, human beings must have been sacrificed, perhaps periodically, to symbolize the creation, or periodic re-creation, of the world and of mankind. Since a human sacrifice symbolizing the Creation, is *ipso facto*, the archetypal sacrifice, it would be of interest to examine rituals of human sacrifice wherever they survive in the modern world, with a view to determining in how far they may be explained as a recapitulation of the Creation, and more specifically, in how far the dismembered parts of the victim may be associated with divisions of the social body which he symbolizes. Though such a task cannot be accomplished within the limits of the present study, we may make a few observations about the disposition of the limbs in connection with the primitive practice of cannibalism — assuming that the preceding dismemberment of the victim is, in a fundamental and instinctive, if not always in a ritual sense, a sacrifice.

Though cannibal practices vary enormously around the world, and it is difficult to disengage symbolic motives from mere savagery and bestiality, still we do seem to find a special emphasis upon the importance of the arms and legs, or hands and feet, in many of these practices, which may be due, in the final analysis, to something more than a gourmet's interest in a "joint" of meat. Thus, for example, when STADEN depicts four Tupinamba women racing around the huts of their camp, each carrying one of the freshly dismembered arms and legs of the victim⁽¹¹³⁾, this may be more than an expression of

(113) Métraux, 1928, p. 154 and pl. VI, 1; also Volhard, 1939, p. 353 and fig. 9 (after Staden).

cannibal joy pure and simple. It clearly suggests an association of the four "quarters" of the victim with the four geographical and social quarters of the camp, thus implying that the sacrifice creates, or recreates, the Tupinamba world. A predilection for the arms and legs or hands and feet of the victim as cannibal tidbits, observed among other South American tribes⁽¹¹⁴⁾, may stem ultimately from a recognition of the importance of these parts in terms of the same concept. In so far as ritual sacrifice and cannibalism among the Tupi-Guarani tribes is related to similar practices in Mexico and Central America⁽¹¹⁵⁾, it is perhaps not without significance that the part of the sacrificial victim reserved for consumption by the king of the Aztecs and the nobles of the Nicarao was invariably the thigh⁽¹¹⁶⁾. It hardly seems likely that this choice was dictated by purely epicurean considerations. Though its original motivation may have been forgotten, it was probably rooted in the same idea as the Tupinamba treatment of the four limbs just mentioned. And it is perhaps for this reason that the arms and legs, hands and feet, or fingers and even toes of the victims are, in so many other parts of the world, either regarded as special cannibal delicacies or reserved as perquisites of chiefs and nobles⁽¹¹⁷⁾.

The fact that among the Tupinamba the tips of the victim's fingers were assigned as a special treat to distinguished guests⁽¹¹⁸⁾ takes on significance in the light of an episode in a creation myth of the Bacairí, according to which "the first woman" became pregnant by swallowing the finger-bones of dead Bacairí Indians⁽¹¹⁹⁾. The

(114) Volhard, 1939, pp. 358-360, citing the Parintintin (Tupí) and the Chavante, Botocudo and Coroato (all Ge).

(115) Radin, 1942, pp. 105-109.

(116) Volhard, 1939, pp. 327, 331, citing Seler's translation of Sahagún, and Joyce.

(117) The evidence can be found in Volhard's compilation on cannibalism (1939), as follows: pp. 169-171 (SE Australia); p. 193 (Papua); p. 244 f (Loyalty Islands and New Caledonia); pp. 218-252 (Fiji); pp. 8, 9, 29, 30, 33, 44, 52, 57, 64, 98, 105, 150 (Africa and Madagascar). Volhard, pp. 100, 114, cites two African instances of an *avoidance* of eating the tips of the fingers and toes in cases where the victim had been diseased, on the grounds that the disease was concentrated after death in these extremities. We suspect that the idea that disease is concentrated in the finger-tips is a rationalization of a forgotten motivation, which originally had to do, as elsewhere, with the *potency* of the fingers: a potency so great that it would harm rather than strengthen the eater. We suspect the same basic motivation for the Kwakiutl avoidance of eating the hands and feet (Volhard, p. 315). Cf. note 119, and see Baumann in Wassén, p. 26, as cited in our note 106.

(118) Métraux, 1928, p. 155, citing Thevet.

(119) Von den Steinen, 1894, p. 373. The "first woman" was herself subsequently killed, dismembered and eaten. (Cf. note 109). Probably connected in some way with this myth and with the Tupinamba custom just cited is the Guaraní (southern Tupí) practice of cutting off the right thumb of the sacrificial victim before his body was dismembered for the cooking pot. (Friederici, 1922, p. 126). Underlying this abstention from the eating of a finger is probably the same motivation as cited at the end of our note 117. The Guaraní explanation, that the amputation was undertaken in order to prevent the victim's ghost from drawing a bow in vengeance, like a similar explanation cited by Friederici for a similar amputation of the right thumb, would then be a rationalization of the real motivation, which had been forgotten, and which emerges in the widespread practice of finger-mutilation in mourning for dead relatives. A primary association of the fingers with relatives (for which we shall presently cite evidence) was evidently extended to the *principle* of relationship, thence to the closely associated idea of procreation, and finally to that of potency (perhaps with the help of phallic allusion). Our guess is that the Guaraní amputation was undertaken in order to

genetic potency of the fingers comes to light again in the Papuan story of a culture-hero who was dismembered and eaten, except for one finger: the next morning he appeared again alive⁽¹²⁰⁾. This seems to imply that the survival of a single finger is sufficient to assure the regeneration of the whole body, in much the same way as a plant may spring from a cutting.

The idea that a special genetic potency resides in the fingers could be conceived as a specialization of the genetic role of the limbs, as we have observed it in art, legend and ritual. But it may be that the matter must be conceived the other way around, a social significance having been first imputed to the fingers, even before the limbs to which they are attached were conceived as symbols of social organization and relationship. The reason for this inference lies in the custom of finger-mutilation — specifically, the amputation of one or more phalanges of a finger or fingers of a living person — which is practiced by a great many "primitive" peoples in different parts of the world, including South America⁽¹²¹⁾. The reasons given for this custom by its practitioners are various; but there seems to be little doubt that the most common motivation is that of expressing sorrow for the death of a close relative, or attempting to preserve the life of a sick or dying one. In other words, the finger and its parts are so closely associated with relatives that they come to be actually identified with them. It is for this reason, then, that the illness or death of a relative demands the sacrifice of a finger or part of a finger. This sacrifice is, as it were, a partial death of the individual, by which he partakes in the death of someone closely related to him.

When we are confronted with a usage occurring so widely throughout the modern world, it may be safely assumed that it began in very ancient times. And we have proof of its antiquity. For it is well known that silhouettes of hands with missing fingers or parts of fingers were projected on the walls of caves in the Franco-Cantabrian zone of southern France and northern Spain at the beginning of upper palaeolithic times, specifically in the Aurignacian period, some

complete the "killing" of the victim by inhibiting his procreative power: if the amputated finger had been eaten (as among the Tupinamba and in the Bakaïrî myth), the object would have been to acquire rather than merely to destroy the victim's potency. The basic idea remains the same; but the phenomena of behavior vary according to the attitude assumed in relation to it.

(120) Volhard, 1939, p. 195, citing F. E. Williams.

(121) The literature on finger-amputation is, of course, too extensive for detailed citation here; but the following works cover the subject in a general way and include references to further literature: Ackerknecht, 1947, p. 35 (South America); Dembo & Imbelloni, 1938, p. 203 (citing Azara for the Charrúa practice, Uruguay, which may be regarded as classical: the phalanges of the fingers were amputated progressively beginning with the little finger, one phalanx for the death of each relative); Lagercrantz, 1936 (Africa); Preuss, 1896 (who considers all mutilations made in mourning); Söderström, 1938 (including a good review of most theories currently advanced in explanation of the practice).

20,000 years ago⁽¹²²⁾. That the practice of finger-mutilation spread to the New World in relatively early prehistoric times is indicated by the occurrence of silhouettes of hands showing similarly mutilated fingers in caves of extreme southern Patagonia, which MENGHIN would date from 9000 to 8000 B. C. ⁽¹²³⁾.

Now if mourning for close relatives is the real reason for the custom of finger-mutilation, as it is the reason most commonly given by the peoples who still practice the custom today, then it follows that the fingers must have been conceived, already some 20,000 years ago, as representing relatives or degrees of relationship. It may be regarded as a safe conjecture that *this association arose through the use of the fingers as digits in counting relatives for purposes of social classification*; and we may suppose that this numerative function of the fingers led, at a very early time, to their actual identification with certain relatives or classes of relatives. It is this identification which explains the custom of mutilating the fingers in token of mourning for relatives. Among peoples with limited powers of numerary abstraction, the counting may have taken place first on the fingers as units, but probably from early times on the knuckles or phalanges, as some Australian aborigines have done their counting until recently⁽¹²⁴⁾; degrees of relationship being symbolized, in all probability, progressively from the distal to the proximal joint of each finger.

Needless to say, we do not know precisely what relationships were assigned to various parts of the fingers in Aurignacian times: presumably modes of counting varied from one people to another. It is, of course, obviously impossible to amputate the second or third phalanx of a finger without amputating also the tip; and it may be, thus, that the choice of a finger or part of a finger to be amputated is not always strictly determined by the classificatory position of the mourned relative on the hand, but reflected only a generalized association between relatives and fingers. Nevertheless, the custom of amputating fingers in mourning for deceased relatives is hardly to be explained except by assuming that the fingers were first used

(122) See Casteret, 1930, and Obermaier, 1926, both referring especially to the Gargas cave in the Central Pyrenees.

(123) Menghin, 1952 a, pp. 11, 16, with pls. I, II, V, the last in color; also Aparicio, 1933-35, pls. 17-24.

(124) Thus Prof. Radcliffe-Brown in a letter from Grahamstown, S. Africa, June 11, 1953, informed the writer that "In Western Australia, where there are no words for numerals beyond four, a count can be made of days by means of the joints of the fingers. Going in one direction (starting from the root of the thumb), the count is 14; returning, the count is 13—giving a total of 27, approximately a moon." Lévy-Bruhl, 1922, Chapter V, cites a number of instances of counting in Australia and Papua which begin with the fingers of the left hand (taken as units; not by knuckles or phalanges), thence proceeding to the left wrist, elbow and shoulder, followed by the neck and sometimes features of the face or head, and continuing downward successively by the corresponding joints of the right side, to the fingers of the right hand.

for classifying them. And such usages survive, as we shall see presently, into recent and even modern times. The idea that genetic potency resides in the fingers or finger-tips, which is reflected in the Bacairi creation-myth and in Tupinamba cannibalism (and in corresponding ideas and customs elsewhere in the world) appears, then, as a magical projection of the genetic idea which is expressed negatively in the custom of finger-mutilation. The analogy between the fingers and the branching of plants probably played a role in this symbolism from the very beginning. This idea is reflected in legends explaining human generation somewhat mystically in terms of the propagation of plants, and again in the parallel or identical nomenclature for human joints and the joints of the stalks of plants, branches, etc., to which we shall return later.

Is there any relation between the custom of finger-mutilation and that of human sacrifice — or more specifically that of dismembering the human body to symbolize the creation, which we have postulated as the basic motive of human sacrifice? Though such ideas would appear to be related conceptually, we do not know how they are related historically. It has been generally assumed that the custom of human sacrifice is a relatively late development, and even that cannibalism appears only at a relatively high and thus late stage of social evolution^(124a). We shall revert to this question presently. Here we wish only to suggest that a study of the history of these institutions might receive a fresh impetus from consideration of their symbolic significance, in so far as that can be reconstructed by comparative observation. We believe that the function of the fingers, and in all probability the finger-joints, in classifying relationships, which is implicit in the widespread custom of finger-mutilation, represents a natural point of departure for such studies.

If, as seems very likely, relationship was first reckoned on the joints of the fingers, the same method of reckoning could have been easily extended or transferred to other joints of the body. It is probably in terms of such an extension or transfer that we must understand the "joint-marks" which are firmly established in the artistic traditions of so many peoples in both hemispheres⁽¹²⁵⁾. The relation of these "joint-marks" to the reckoning of kinship comes to light in certain drawings in illuminated manuscripts of mediaeval German codes of

(124a) For an upper palaeolithic representation of human sacrifice (on the wall of a cave at Addaura near Palermo, Sicily) see Blanc, 1954, and Blanc, 1955; and we understand that Breuil in a forthcoming publication will likewise interpret as human sacrifice certain representations (presumably Aurignacian) in a cave at Cougnac near Gourdon (Lot) in France. Blanc has also developed evidence suggesting the existence of cannibalism, possibly of a ritual character, in still earlier times. Circumstances prevent citation here of the Italian publication in which he presented his evidence for prehistoric cannibalism.

(125) Schuster, 1951.

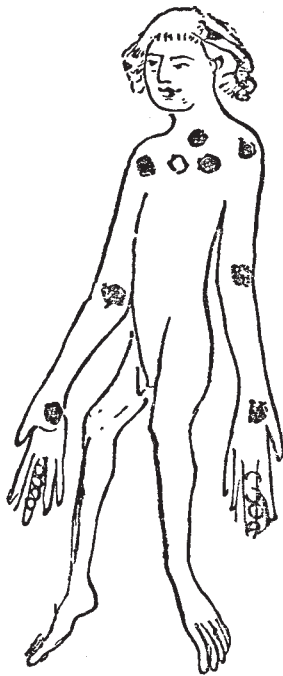
law, an example of which is reproduced in Fig. 54. Though the reason for introducing such drawings into legal codices was apparently to provide a key to the sequence of relationship governing the rights of inheritance, the idea of using the human body as a chart of relationship was hardly invented by mediaeval jurists: no doubt they simply codified an image which had come down to them from earlier times⁽¹²⁶⁾.

The drawing of Fig. 54 represents, in effect, a genealogical chart in the form of the human body, in which "The father and mother stand in the head, full brothers and sisters in the neck, first cousins at the shoulders, second cousins at the elbows, third cousins at the wrists, fourth, fifth and sixth cousins at the joints of the fingers. Finally come the nails, at which would stand the seventh cousins . . ." ⁽¹²⁷⁾. In this scheme, remoteness of relationship increases with distance from the head, and the joints of the fingers represent the remotest relatives. Though this sequence appears to be logical, we believe that it may nevertheless represent an inversion of the historical development: in other words that it was the joints of the fingers which may have been used first, in primitive times, for counting relationship, and that the count was subsequently extended to the joints of the major limbs.

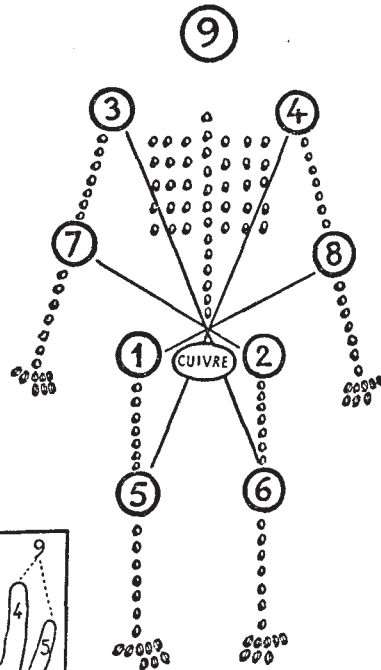
That the use of the human body as a kinship chart was not the invention of a mediaeval German jurist but goes back to more primitive conceptions appears from the fact that a similar chart occurs traditionally in a West African culture. The Dogon, who dwell within the great bend of the Niger, still today lay out the scheme of a man on the ground by means of stones, as shown in Fig. 55, to illustrate the marital relationships of the ancestors of the eight clans composing their society. In this chart the four primary joints on each side of the body (shoulders, elbows, hips and knees) are marked by large stones (here numbered by the anthropologist for the convenience of the European reader to indicate the relative social

(126) It should be mentioned here that in illuminated manuscripts of the *Sachsenspiegel* the image of our Fig. 54 is invariably accompanied by another, in which a human body, similarly marked at the joints, is surmounted by two heads: one male and one female. This two-headed image is of immense culture-historical significance; and we hope to devote a special study to its comparative consideration on a later occasion. It may suffice to allude here to its probable relation to a type of monument widely diffused among modern "primitive" peoples, namely a *forked post*, not infrequently anthropomorphic, and often *notched*. We believe that the *notching* on such posts represents the survival of a palaeolithic tradition, and that it must have been associated since immemorial times with the principle of genealogical enumeration (see note 96 a). Such notches would then be equivalent to the *spots* inscribed at the joints of the double-headed image in the *Sachsenspiegel*. Bisexual double-headed figures in later mediaeval alchemical treatises (the so-called *rebis* = *res bina*) no doubt stem from the same tradition; but they are less original than the double-headed image in the *Sachsenspiegel*, in so far as they lack the mnemotechnic "joint-marks" for counting generations.

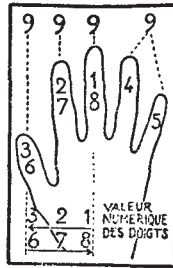
(127) Thus paraphrased by Radcliffe-Brown, 1950, p. 15, from the Leipzig, 1545, edition of the *Sachsenspiegel*. I am indebted to Dr. Hans Dietschy of Basel for first calling my attention to the verbal image in the *Sachsenspiegel* through this citation. The existence of the corresponding illumination came to my attention when investigating the source of Radcliffe-Brown's paraphrase of the text of the *Sachsenspiegel*.



54



55



56

Fig. 54 - Genealogical chart (*Verwandschaftsbild*) in the *Sachsenspiegel*, a 14th-century German legal codex.

Figs. 55, 56 - Genealogical charts of the Dogon. West Africa. Modern.

rank assigned to them by the Dogon); and we are informed that the males and females of "opposite" clans intermarry according to the lines connecting the joints diagonally across the center of the diagram. The ninth stone, marking the head of the figure, represents the chieftainship of each clan. The eight stones of the joints are explained as "tokens of affection" left by the original ancestors of the respective clans, and as "receptacles of their vital energy, which they wished to keep in circulation among their descendants". This diagram, which lives in the memories of Dogon elders versed in the lore of their tribe, was said to have been originally "vomited" on the floor of a tomb in the place of the body of the first mortal by a primordial serpent who swallowed him after his death. The diagram is thus a symbol of regeneration, as well as a genealogical chart; and we

are told that a similar chart, representing "the human soul", is projected by the same serpent at every birth. For the further integration of this chart in the complex cosmology of the Dogon, the reader is referred to the original account of GRIAULE, to whom we are indebted for rescuing and recording much of the immensely rich traditional culture of this West African tribe⁽¹²⁸⁾.

Of particular interest to us in the Dogon chart of Fig. 55 is the fact that it symbolizes genealogy not only by means of the major joints of the body, but also, as in the chart of the *Sachsenspiegel*, by means of the *joints of the fingers*. In the Dogon chart the fingers and toes are indeed not represented by rows of the same small stones which represent the long bones, the ribs and the spinal column, but by cowrie shells, said to symbolize the nails. As shown schematically in Fig. 56, the joints or sections of the fingers are assigned numerical values corresponding with those of the eight major joints of the body. In other words, the fingers again represent a system of marriage, each pair of marital partners being coupled on two adjoining sections of a finger (with the exception of the last two fingers, which "intermarry" with each other). The whole Dogon scheme obviously goes back to the same basic idea as the diagram of the *Sachsenspiegel*. The fact that in both schemes the finger-joints or phalanges play an important role in the reckoning of kinship is an index of the antiquity of this association^(128a). Indirectly the role of the fingers in these diagrams confirms our view that the practice of finger-mutilation was originally motivated by the principle: "For each joint, a relative; for the death of each relative, a joint".

But it is not only in its joints that the human body may serve as an image of human society. It must always have been obvious that the joints are, in fact, nothing more than locations where the bones are connected; and that they disappear with the dissolution of the flesh, while the bones remain. It seems reasonable to suppose, accordingly, that the joints must have been conceived as symbolizing, in the first place, marital unions between "members" of the social order, as represented by the bones⁽¹²⁹⁾. Though ultimate priority

(128) Griaule, 1948. For my knowledge of the deeply significant illustration of Griaule reproduced in Fig. 55 I am again obliged to Dr. Dietschy of Basel.

(128a) Undoubtedly it is this function of reckoning kinship on the finger-joints which accounts for the tattooing of conventionalized human figures on the phalanges of the fingers of Paiwan women of Formosa. (Cf. note 106a).

(129) Interesting in this connection is the use of the term "bones" to describe relationships in the male line and the term "flesh" for those in the female line, which determines the "skeletal character of affinal nomenclature" (especially in systems of cross-cousin marriage) throughout large parts of Asia, as shown by Lévi-Strauss, 1949, chapt. 24 and pp. 460-463. In a letter of Jan. 13, 1954, Prof. C. T. Bertling of Amsterdam informed me that similarly in Batak languages of Sumatra the word *tulang*, which in ordinary Malay means "bone", is used for "agnate." He adds that Malay *suku*, meaning "leg", is the common term for a component quarter of a community, genealogically and often also territorially. Cf. note 109.

in the development of the genealogical concept may have to be accorded the fingers, because of their natural suitability for numeration, it may be reasonably supposed, as we have already suggested, that early man passed easily from a counting of relatives on the fingers to the outright identification of the fingers with relatives (as implied by the custom of amputating fingers in mourning). The process of identification could then have been easily extended to the larger members and to other parts of the body. However this may be, the fact remains that certain primitive Australians count relationship upon their bodies, using not only certain joints, but also other features of the bodily topography as well. Thus STANNER reports:

"A number of tribes use signs to designate certain relatives. The usual method is to touch various parts of the body, each relative being represented by a different part. This is commonly done when silent communication is for some reason necessary, but often it simply accompanies the mention of a relative, much as many aborigines when counting on their fingers raise each finger to their lips as the numerals are ticked off. Doubtless the concept has a reflection in the belief that twitchings or strange sensations in parts of the body mean that certain relatives will soon appear. The Nangiomeri say that twitchings of the thigh mean that mother's brother is likely to appear or that something is happening to him. One informant from this tribe gave me the following list of bodily signs for relatives: right shin, brother; left shin, classificatory brother; groin, mother's brother and sister's son; shoulder, father, father's sister and son; stomach, cross-cousin and father's mother; breast, sister's son; knee, father's father and son's son; buttocks or hips, mother's father; eye, wife's uncle. The lists vary between tribes"⁽¹³⁰⁾.

It need hardly be emphasized that STANNER's report has an intimate bearing on the whole complex of questions here under consideration. We can only touch upon these matters briefly, by way of suggestion. In the first place, it must be obvious that the Australian custom is fundamentally related to the Dogon tradition of West Africa, as represented in the genealogical chart of Fig. 55 — even though this chart gives the impression of being a rigid codification of something which is more fluid and variable among the Australians. The fact that the Australian list given by STANNER includes three sets of joints (namely shoulders, knees and hips) may be regarded as prime evidence of relation to the African and European systems — even though STANNER's list does not include the fingers. We do not

(130) Stanner, 1937, p. 309 f. Omitted from our quotation are the native names which Stanner gives. The designation of "father's father and son's son" by the knee in Stanner's Australian list has a certain parallel in the Philippines, where the Tagalog designate a great grandchild as "grandchild of the knee" (*apo sa tuhod*). Dr. Robert Fox, to whom I am indebted for this information (communicated in a letter from the National Museum, Manila, May 1, 1956), adds that the Tagalog designation for a great great grandchild is "grandchild of the sole of the foot" (*apo sa*

know whether the Australians actually projected their system in a diagram, like the diagrams of the Dogon or the Germans. Yet we may see a certain psychological analogy between the Australian custom and the Dogon idea in the circumstance that the Dogon elder who communicated the image of Fig. 55 to the European anthropologist, being blind and thus unable to trace it on the ground, indicated the positions of the various ancestors and the social groups descended from them by tapping the corresponding parts of his own body, exactly as STANNER saw the Australians do (and as we may suppose a mediaeval German lawyer to have done when arguing a case of inheritance in court).

In so far as the Australian list includes other bodily parts besides the joints, it would seem to provide an ideal condition for the development of a myth of creation by dismemberment, analogous to that which we have in the Dogon story of the primordial serpent (with a human upper body) which enters the tomb of the first ancestor, swallows his body part by part, and then creates him anew by spewing forth the swallowed parts in the same order, so as to form the diagram of Fig. 55 (thus prefiguring a typical rite of initiation). We do not know whether the Nangiomeroi or other Australian tribes actually have such a creation myth; but certain tribes of southeastern Australia do observe a custom which may be regarded as prerequisite for such a myth. Thus HOWITT describes the cannibalism practiced by the Dieri as part of their burial ceremony:

"When the body is lowered into the grave, an old man who is the nearest relation to the deceased present, cuts off all the fat adhering to the face, thighs, arms and stomach, and passes it round to be swallowed by the relatives. The order in which they partake of it is as follows: — the mother eats of her children, and the children of their mother; a man eats of his sister's husband and of his brother's wife; mother's brothers, mother's sisters, sister's children, mother's parents, or daughter's children are also eaten of; but the father does not eat of his child nor the children of their sire. The relatives eat of the fat in order that they may be no longer sad"⁽¹³¹⁾.

Now, though the parts of a deceased relative devoured by the Dieri of southeastern Australia may not agree precisely with the parts of the body associated with relatives by the Nangiomeroi of northwestern Australia, still the very fact that the southeastern

talampakan). And he continues, in the same communication: "The Iloko-speaking people on the northwest coast of Luzon (if I remember correctly data which I have collected in the past) have carried this [system of designating generational position by parts of the body] even farther. Likening the generational position of ego to the waist, they define five generations by the shoulders and head (i. e., ascending generations) and by the knees and the soles (i. e., descending generations). This is extremely interesting from the standpoint of social anthropology, for it bounds the bilateral kinship group as it exists in reality".

(131) Howitt, 1904, p. 751. The same, with minor variations, in Curr, 1887, p. 63. (Cl. Volhard, 1939, p. 172).

mourners partake of specified parts suggests that the two phenomena are related. There can be no doubt, at any rate, about the deeply social significance of Dieri funeral cannibalism. Apart from the sentiment of affection by which they explain the act, it is obvious that the Dieri identify themselves with the relative whom they eat. Assuming that the deceased has "gone to join his ancestors", and has thus become one of them, we must regard eating of the deceased as tantamount to eating of the ancestor, and this rite as a re-enactment of the Creation by the dismemberment of a primordial human being, the ideal Ancestor of the tribe or race. The communal eating of parts of a dead relative by the Dieri thus probably represents the survival of an immensely primitive custom which lies at the bottom of all myths of creation by dismemberment of an ultimate ancestor (like the West African myth explaining society as a pre-human being who was swallowed by a half-human monster and then disgorged as the perfect human image of Fig. 55). The eating of the dismembered parts is doubtless essential to the rite. The deliberate sacrifice of a human victim (for example a captive) is no doubt a later development, in which the intention of the primitive "endocannibalistic" rite is really defeated, in so far as the ancestor can be properly impersonated only by a dead relative. The importance of this inference will appear in a moment. Undoubtedly the many initiation ceremonies in which neophytes are ritually "swallowed" by a mythical monster as a prelude to their ritual rebirth are inspired by the idea implicit in the Australian ritual cannibalism. If the Nangiomeri nomenclature is related, as we surmise, to the familial cannibalism of the Dieri, then the bodily parts by which the Nangiomeri name their relatives must have been conceived also as bodily parts of their ultimate ancestor. It may be said that the Nangiomeri simply enumerate these parts, the Dieri eat them, and the Dogon have them eaten by a semi-human monster⁽¹³²⁾.

Now if it is true that the Dieri custom of eating parts of dead relatives symbolizes the creation of mankind, and if it is true, as we earlier suggested, that the Tupinamba and Aztec customs of human sacrifice recapitulate that creation, we might expect to find some

(132) The relation between the designation of social connections by parts of the body and the communal eating of those in a ritual of re-Creation appears especially clearly in Ambon and the surrounding Moluccas, where at least nineteen parts of the human body are used to designate not only individuals (as among the Nangiomeri) but also certain social groups, which in their totality comprise the community (*ulū*), conceived as a human body. Even the villages occupied by clans named for the various bodily parts are laid out in a geographical scheme simulating a gigantic human figure.

It is significant that in this same region ritual cannibalism persisted down to recent times, and is still simulated on certain occasions by the ceremonial consumption of "a glass of water as symbol of the blood, and various kinds of cakes representing the heart, liver, spleen, ribs, spinal cord [it should be noted that several Ambonese words for 'spinal column' also mean 'ancestor'], intestines, etc." Moreover, in ordinary sacrifices to the village spirit, each family offers the part (nowadays the part of a pig) corresponding to the place which it symbolically occupies in the communal "body". Unfortunately the author to whom we are indebted for this information (Jansen, 1933, pp. 456 f.) was unable to communicate it in as much detail as its importance demands. (Cf. note 4).

evidence of inner relation between the Australian and the American customs. In fact there is such a relation; and it is so intimate that certain features of the American customs are hardly to be explained except in the light of those of the Dieri. The specific prohibition of the Dieri against the father's eating of his child and the child's eating of his father has its close if not precise counterpart in the fact that after a captive of the Aztecs has been sacrificed, the man who captured him must abstain from eating of him, *because of a simulated parental relationship*. This is announced ritually at the moment of capture, when the captor says to the captive: "You are the same as my son", and the captive responds: "You are the same as my father". The captor may eat of other sacrificed captives, but not of his own; "for", he says, "should I then eat of myself?"⁽¹³³⁾. This correspondence with the primitive Dieri custom can only mean that the basic motivation of the Aztec sacrifice (and no doubt also of the Tupinamba sacrifice, which is in so many respects like it) is really a ritual cannibalism, in which the parts of the body devoured are regarded as parts of a reincarnated ancestor whose dismemberment is prerequisite for the creation of the race and whose parts must be swallowed for its perpetuation. We arrive thus at the same inference to which we were first led by other considerations: namely, that each sacrifice, and more specifically each act of cannibalism, recapitulates the Creation. The motive which deters the Mexican captor from eating of his captive is no doubt the same as that which deters the Tupinamba executioner from eating of his victim; and the paternal solicitude shown by the Tupinamba for their prisoners (who often became the temporary sons-in-law of their captors) clearly confirms this interpretation. In Australia, relatives were ritually eaten when they died: in America they were created for the purpose⁽¹³⁴⁾.

If the importance of the prohibition against cannibalism in the direct male line did not strike us in the Dieri custom, it is forced upon our attention by its conspicuous survival in a ritual like that of the Aztecs, which seems to be otherwise characterized by secondary elaboration. What is the significance of this prohibition? Why does the Aztec warrior justify his abstention from the flesh of his "son" with the argument that this would be like eating of himself? Apparently there is something special in the relationship between

(133) Sahagún, as cited by Volhard, 1939, pp. 327, 329.

(134) The view here developed is at variance with that of Radin when he says: "It is perfectly clear that the series of ceremonies here described [among the Tupinamba] does not center around the one thing that has made it famous — cannibalism" (Radin, 1942, p. 105); and "most of the Tupi-Guarani overstressed the ritual eating of the captives to be sacrificed, an element which was, essentially, an unimportant detail among the Aztecs." Radin, p. 106).

It may be appropriate to emphasize here also our disagreement with the general assumption that a basic distinction must be made between "exocannibalism" or the eating of persons from other social groups and "endocannibalism" or the eating of ones own relatives. That this distinction is academic appears from the survival of an "endocannibalistic" trait as a central feature of an "exocannibalistic" rite among the Aztecs, etc.

father and child which precludes their eating of each other. Why is this relation different from all others enumerated in the account of the Dieri ritual?

Perhaps we may find a clue in the naming of relatives by bodily parts among the Nangiomeri. Although STANNER gives only the list of parts which he encountered among one particular tribe, and tells us that the lists are variable, still one cannot but wonder whether there is not a special significance in the fact that the Nangiomeri assign the "father's father and son's son" just to the knees — since we have seen what an important role is played by the knees in creation myths throughout the world. We must now make the further observation that in such myths the ultimate ancestor from whose knees the first human beings are born is almost invariably a male, and that in most instances we are given to understand that this birth takes place spontaneously, without the intervention of a female womb. In other words, the first birth is exclusively in the male line; and evidently because of its exceptional character, the relation between all fathers and children is different from other relationships, which are traced through the participation of females in the procreative act. This in itself might suffice to explain the prohibition against eating of the real son (and father) among the Dieri and of the fictive son among the Aztecs and Tupinamba. But let us first reconsider the Nangiomeri custom in relation to certain other customs; after which we may return with better understanding to this question.

We have indicated our belief that the Nangiomeri custom of naming relatives by the parts of the body is related to the Dieri custom of cutting up their relatives for eating in the sense that both customs imply the creation of society by dismemberment: ideally the dismemberment of the ultimate ancestor, and ritually that of the individual who stands for him. Cannibalism might then very well have developed out of, or in close relation to, this conception. While the familial cannibalism of the Dieri has consequences in American rituals of human sacrifice, the family nomenclature of the Nangiomeri evidently leads to systems of social classification in terms of the human body, as we see them projected in the images of the *Sachsenspiegel* and the Dogon (Figs. 54 and 55). It is noteworthy that the motive of cannibalism persists in association with the Dogon image, in so far as the "first man" represented by the image is eaten by a mythical half-human serpent. Among the Germans, at least in the immediate legal context of the *Sachsenspiegel*, the motive of cannibalism has disappeared.

Now the difference which chiefly strikes us between the Nangiomeri system on the one hand and the systems of the *Sachsenspiegel* and the Dogon on the other is the fact that the former includes the joints on a par with other features of the bodily topography, while

the two latter (and more especially the *Sachsenspiegel*) make use only of the joints in reckoning kinship. This difference, however, is perhaps not an essential one. It may reflect merely an impulse toward codification, which can be seen also in the substitution of social classes in the African and German diagrams for particular individuals as mentioned by the Nangioméri. It is noteworthy that among the Germans, at least, the primitive idea of the whole body as a chart of relationship is deeply imbedded in linguistic usage. Thus GRIMM brought together from various Germanic languages a series of kinship terms, both specific and general, which are derived, more or less obviously, from the names for head, nose, cheek, bosom, stomach, lap or womb, side, back, elbow, femur, knee, ankle and nails⁽¹³⁵⁾. Though we do not know the ages of these various designations in Germanic, or the extent to which they may have correspondences in other branches of the Indo-European linguistic family, it is obvious that the conception underlying them is analogous to that of the Nangioméri, in so far as they include joints on a par with other features of the bodily topography. Though we suggested above that the image in the *Sachsenspiegel* reveals its archaism especially in the fact that it makes use of the fingers in reckoning relationship, it now becomes obvious in the light of these Germanic terms that the body as a whole must once have been conceived as a kinship chart, even though only the joints are specified in legal practice. The fact that this image makes no use of the joints of the lower limbs, which linguistic evidence shows to have been of at least equal importance with the upper limbs, confirms our impression that the original symbolism has here been abbreviated for practical purposes. In most respects, no doubt, this symbolism survives better in the image of the Dogon.

This brings us back to the all-important question of the role of the knees in genealogy. No matter to what extent the Germanic naming of kin by parts of the body may or may not be paralleled in other Indo-European languages, the fact remains that the name of at least one bodily part is used in the terminology of kinship throughout all or most languages of the Indo-European family: namely, that for the *knee*. Many Indo-European terms for "knee" are used alternatively for ideas like "degree of kinship" or "generation". Though the semantic connection is expressed variously in the various languages, all such variations can be traced back to the homonymy of two Indo-European roots: the nominal root **g'en* for "knee" and the verbal root **g'en-*, which seems to mean "beget"⁽¹³⁶⁾. The homonymy of

(135) Grimm, 1899, p. 647. Compare the Moluccan system mentioned in our note 132 and the Philippines systems mentioned in note 130.

(136) Meillet, 1926. Most of the linguistic ideas propounded in this and the following paragraph of our text are taken from a group of four closely related articles (three of them published together in one issue of a periodical); namely, Loth, 1923; Benveniste, 1926; Meillet, 1926; and Cahen, 1926. I am indebted to Prof. J. Whatmough of Harvard for kindly calling my attention to these articles.

these roots leads to such correspondences as that between Latin *genu* for "knee" and *genus* for "descent", Russian *koliemo* for "knee" and the plural and distributive forms *koliema* and *pokolienie* for "race, line, branch, stem, generation, degree of kinship", and the Irish use of *glán* for both "knee" and "generation". There are similar correspondences in Germanic, Greek, Armenian, Iranian, Sanskrit.

Now it has been pointed out that the verbal root **g'en-* meaning "beget" (Latin *gignō*) is used to designate exclusively the parental role of the father, not that of the mother; and this has been explained in terms of what appears to be a third homonymous root, **g'en-*, meaning "know" (Latin *gnosco*). MEILLET has, in fact, concluded that there was originally but one verbal root, meaning "know", and that this came to mean "beget" by being used in a special juridical sense: "to know as one's own" or "to recognize as legitimate", with a child as the implied object⁽¹³⁷⁾. From consideration of the Latin *genuīnus*, meaning "legitimate" (the *u*-stem of which marks it clearly as derived from the root for "knee" and not from that for "beget" or "know"), MEILLET and other linguists have concluded that the homonymy of the roots for "knee" and "beget" rests, in the final analysis, upon the early existence of a *rite of legitimation or filiation* performed by the father, in which he recognized a new-born infant as his own by placing it upon his *knee*. Reminiscences of this custom persist at various levels of linguistic evolution in the Italo-Celtic and Indo-Iranian branches of the Indo-European family; and the custom is specifically alluded to in the *Iliad* (IX, 455) and *Odyssey* (XIX, 401) of HOMER, as well as, probably, in HESIOD's *Theogony* (460)⁽¹³⁸⁾. Secondarily it seems to be reflected in Germanic rites of adoption, in so far as the names of such rites show that they involved placing a child upon the knee of its adoptive parent (presumably and properly its adoptive father).

In view of the fact that myths about the birth of the first human beings from the knees (or, less specifically, from the "legs") of an ultimate male ancestor occur among so many peoples in Africa, Asia and America (as well as in "Indo-European" cosmology), it may be concluded that the rite of legitimation attested linguistically among

(137) Meillet, 1926. In a letter of Aug. 9, 1955, Professor Whatmough suggests another way in which the root **g'en-*, "know," might have come to mean "beget"; namely through the idea of "having (carnal) knowledge of", thus "knowing how," and so "being potent". Though we are not competent to judge the linguistic evidence for this interpretation, the fact that it implies a woman as object rather than the man's child seems to place it at variance with the evidence of myth and custom; and the two explanations would seem to be mutually exclusive.

(138) The passage in the *Theogony* refers to the swallowing by Kronos of his children "as soon as they came forth from the womb of their mother on to the knees." There is no pronoun in the original specifying whose knees are meant, and the passage is generally translated with "her" (i.e., the mother's) knees." Undoubtedly Benveniste, 1926, note 1, is right in supplying rather the masculine pronoun "his", and inferring that the children eaten by their father had been placed on his knees for the purpose of legitimation. See note 146.

the earliest "Indo-Europeans" is itself rooted in a broader and presumably still more ancient mythical substratum. This rite, in which the father takes a new-born child upon his knee, then appears to be a re-enactment of the creation of the first human beings. The Greek legend about the birth of Dionysos from the thigh of Zeus obviously belongs to the class of legends which explain the first birth from the legs of a male ancestor. But it is far from "primitive". We are told that Dionysos was first conceived normally by a woman, Semele (probably "Earth", who thus appears as partner in a typical "marriage of Heaven and Earth"), but that the half-formed foetus, delivered prematurely from the mother's womb, was sewn by Zeus into his own thigh, where it remained until Zeus himself, upon its maturity, cut the binding threads and released the child⁽¹³⁹⁾.

That the relation of this tale to the custom of the *couvade* was recognized by the Greeks themselves appears from the fact that they poked fun at the Jovian childbed in their later comedies (for the *couvade* was known to them as a custom of their barbarian neighbors). Undoubtedly there is such a relation. But this still does not mean that the Greek myth provides the best explanation of the *couvade*. For the Greek myth is atypical. In no other myth about birth from the legs do we find mention of a prior conception of the foetus in a woman's womb, or in fact any mention of normal birth whatever. Better than in the story of Dionysos the relation between myth and custom appears in an explanation of the *couvade* given by certain American Indians to a Portuguese voyager who visited the coast of Brazil in the sixteenth century. When SOARES DE SOUSA asked a Tupinamba husband why he observed dietary and other typical restrictions of the *couvade* during the pregnancy and parturition of his wife, the man replied: "because the child came out of his loins [*lombos*], and because all that women can do is to guard the seed in the womb where the child grows"⁽¹⁴⁰⁾. The distinction is that between planting and breeding; and it is no doubt this distinction which underlies the universal myth of the first birth from the "legs" of a male ancestor. For it can hardly be doubted that the "loins" of the male which the Tupinamba designated as the source of the seed are functionally the same as the "thigh" of Zeus. The Greeks, however, by having Dionysos born first of a woman before he was born from Zeus' thigh, were obviously rationalizing a legend which must have come down to them from more primitive times, according to which Dionysos should have been born only from the leg of Zeus, and not

(139) See the excellent discussion of Dionysos' birth in Roscher, as cited in note 104.

(140) Sousa, 1851, p. 314 (chapt. 154). Also cited by Métraux, 1928, p. 101. See our note 145.

from a woman at all. The Greek myth, thus violates the primitive conception⁽¹⁴¹⁾.

The fantastic character of all such myths lies in the displacement of the supposed source of the semen or "seed" from the lumbar region (where, if we may trust SOARES DE SOUSA's translation of an unknown native term, the Tupinamba placed it) to the upper part of the legs. It seems that in the loose anatomy of legend the femur or thigh could do for the loin or hip, and that the inertia of displacement eventually carried the focus of generation as far as the knees, where in most myths it came to rest. That, at least, seems the most plausible, if not the only possible, explanation of the fact that in such myths the most commonly designated source of the first children is the knees⁽¹⁴²⁾. It is, after all, nothing but the actual physiology of procreation which the Tupinamba and many other "primitive" peoples apprehended and then projected symbolically in their tales of the "first" birth from the legs of a male ancestor. Perhaps a displacement of the presumed source of the semen from the plausible "loins" to the implausible knees of the first male ancestor was felt to be appropriate to the supernatural character of such a mythical event. At any rate, this displacement can hardly prevent us from recognizing in such myths the manifestation of an actual physiological process. The "male birth" which strikes us at first as a fantastic inversion of nature (and so appeared to the rational Greeks, who tried to set it right) is really nothing but a figurative elaboration of one of the "facts of

(141) The same tendency to rationalize the apparently irrational theme of first birth from the legs of a male ancestor may be seen in an African tale about a hero who "slipped out of his mother's womb into her leg and was immediately full-grown". (Baumann, 1936, p. 222, no. 12; cf. our note 100, and also the mythical birth of Hephaistos from the hip of Hera, as cited by Baumann in this connection). What we would regard as the rationalistic transfer of the mythical first parturition from the leg of a male progenitor to that of a female appears also in an aetiological legend of one of the hill-tribes of India, according to which "originally the vagina was situated below the knee of the left leg. One day a chicken pecked at it, and it jumped up to a place of safety between the thighs, where it has remained ever since. But it was wounded [cf. our note 100] and blood flows from it every month." (Elwin, 1947, p. 425).

Because of the secondary nature of the Greek myth, if for no other reason, we cannot follow Bachofen, 1897, p. 256, when he deduces from it the universal priority of "matriarchate" over "patriarchate." The Greek myth nevertheless seems to be connected in some way with what is apparently an ancient initiation custom still surviving among the people of India. Thus the epithet, *διττότοπος* and *διττοτόκος*, meaning "twice-born", applied to Dionysos, have their exact counterpart in the Sanskrit term *dvijā*, applied to a man of any of the first three classes (as cited at our note 111) who has been "reborn" through investiture with the sacred thread. This thread is then evidently equivalent to that with which Zeus sewed the immature foetus of Dionysos into his thigh in preparation for its "second birth". On the ulterior symbolism of the thread, cf. note 67.

(142) It may be observed here that the attribution of a generative function to the knees some times takes the more specific form of an identification of knee with penis: thus in the *Botel Tobago* myth cited at note 107; and in the use of a single word meaning both "knee" and "penis" among the Assyrians and Babylonians (Loth, 1923, p. 147), and evidently also in pseudo-Hittite (Meillet, 1926, p. 55). Perhaps these correspondences are of the same order as the dual use of Latin *membrum* and German *Glied*, and more recent jocular euphemisms for the penis such as "third leg", "short arm", "eleventh finger" (the last in Grimm, *Deut. Wörterb.*, s.v. *Glied*, II, B, 2, a).

life:" the generation of semen in the male. The statement of SOARES DE SOUSA's Tupinamba not only explains very simply in terms of this observation the widespread myth about the birth of the first human beings from the "legs" of a male ancestor; but it also brings us as near as we shall probably ever get (and it is near enough) to the idea underlying the *couvade*. For this statement implicitly combines custom and myth in what must be their original and logical relation.

So much has been written, back and forth, about the custom of the *couvade* that it takes courage to attempt another generalization. Yet the foregoing considerations impel us to venture into the vortex. In the light of these considerations it seems to us that the statement of TAUTAIN (which is remarkably brief for a communication on this subject)⁽¹⁴³⁾, comes nearest the mark. He says that the basic motivation of the *couvade* must be the principle of *filiation* or *legitimation*: in other words, the recognition by the father that a child is really his, and an affirmation of his paternity. To TAUTAIN's statement we would only add a little extra emphasis upon the obvious fact that whereas the physiological relation of a child to its mother is proved by its birth from her body, its relation to its father is not capable of equally ineluctable proof — a circumstance which has led to countless tragedies and comedies of real life and invention. It was, no doubt, to correct this inequity of nature that man provided his own means of establishing his paternity; and it is only natural, as TAUTAIN says, that the rite by which he sought to establish it should be an imitation, or in so far as possible a counterpart, not to say an exaggeration, of the act by which woman gives birth. This impulse would adequately account for the drama surrounding the simulated parturition of the male, which has so long fascinated scholars. All this drama is nothing but byplay to the basic idea, which has been lost like the cloth under an elaborate embroidery⁽¹⁴⁴⁾.

Ultimately, no doubt, the idea expressed in the *couvade* is the same as that which led to myths about the creation of the first human

(143) Tautain, 1896, pp. 118-119. See the discussion of this view by Dawson, 1929, pp. 75 ff. (Dawson slides over this view, as over all others, and ends up nowhere, as does also Father Schmidt in a most recent treatise on the *couvade*).

(144) In view of the enormous diffusion of the idea that the first "womb" of mankind lay in the legs of a mythical male ancestor, and of the close relation of this idea to the custom of the *couvade*, we believe the statement of Métraux, 1949, p. 369, that it is doubtful whether the *couvade* is anywhere in South America intended as an imitation of childbirth, must be seriously questioned. The common South American custom of the husband's "keeping to his hammock" before, during or after his wife's parturition cannot be explained away as anything but an imitation of the woman's confinement. The food - and other taboos observed by the husband (and sometimes by the wife also) can only be regarded as a shift of emphasis from this basic motivation. That "a powerful bond exists between the father and the child" as a manifestation of the *couvade* in South America we would not gainsay. This, however, is characteristic of the *couvade* not only in South America, but everywhere, by virtue of its inherent nature as "une manifestation symbolique du rôle du père dans l'acte de la génération." (Métraux, 1928, p. 101). Métraux's characterization would apply, in our opinion, to the *couvade überhaupt*, instead of only to the Tupinamba explanation of the *couvade*, to which Métraux apparently intended to restrict it.

beings from the legs of a male ancestor: namely the priority of the male in the procreative process. On this priority is also based the special relation between a father and his children, which is so often manifested not only in the *couvade*, but also in the prohibition against the father's and children's eating of each other in the "creative" cannibalism of the Dieri and of the Mexicans. The Mexican formula justifying this abstention, "Should I then eat of myself?" obviously expresses the same intimacy of relation between father and child which we observe in the *couvade*, an intimacy based upon the idea that the child is really "born" first in the father. The source of all these phenomena is the observation that the seed is generated in the male and only secondarily "planted" in the female. What springs from such "planting" is obviously that of the sower, the father. Undoubtedly it was a universal sentiment which the Mundurucu expressed when they described the role of the mother as being like that of the earth: a seedbed⁽¹⁴⁵⁾. Undoubtedly it is this conception of the procreative process, its analogy to the propagation of plants from seed, which accounts for the elaborate repudiation of the mother's role in the *couvade*, and at the same time explains why father and child are considered as one, regardless of the woman's intrusion. The mythological motive of the man's midwifery practiced on his own leg or knee, as we encounter it not only in the Greek myth but also in the more "primitive" myths of the African Masai, the Antillean Caribs, and the Brazilian Umutina, asserts the spontaneity of the male procreative act — however this must needs be grotesquely symbolized in terms of childbirth from a woman. This mythical midwifery is neither more nor less ridiculous than the man's behavior in the *couvade*; for the two are one. It is hardly surprising that this widespread idea should have crystallized, among at least one group of people, in a special rite of filiation or legitimation, in which a father asserts his parentage by taking a new-born child upon his knee, as if that were the real "womb" from which the child had come originally

(145) Martius, 1867, 1, p. 392 (also in Spix & Martius, *Reise*, 3, p. 1339). This is essentially the role of the Greek Semele or Gē in the birth of Dionysos; although the Greeks have miscast her as the prior concipient. In this connection it is of interest that the Tupinamba custom of the father's (or maternal uncle's) lifting the newborn child from the earth (Métraux, 1928, p. 96) has a precise parallel in the Latin rite of *sublatio*, of which Loth says (1923, p. 151 f) that it was the father's first act of recognition of an infant as his own, which was followed by his placing it on his knee and naming it. Either or both acts indicated that the child was not to be destroyed (as by Kronos) but kept and "raised".

Loth adds: "La coutume de déposer l'enfant sur sol paraît avoir été d'abord une sorte d'hommage à la Terre mère. C'est également sur le sol que chez les Latins et les Germains on déposait le moribond. La terre est la mère des hommes.....: ils sortent de son sein et y retournent. La *sublatio* paraît être en conséquence l'acte le plus général impliquant la reconnaissance de l'enfant par le père."

It must be emphasized, however, that the act of legitimation by lifting the child from the earth and more especially by placing it upon the father's knee (wherever that was done) was really a *symbolic return of the child to the place of its prior conception in the male*, and thus a repudiation of the conceptive role of the earth-womb. This aspect of the matter is essential to a proper understanding of the *couvade*, of the myths about birth from the knees of a male ancestor, of the (Indo-European) homonymy of "knee" and "beget," etc.

(not a secondary womb, as it appears in the "corrected" Greek version of the myth); and it would not be surprising that a memory of this rite should be embodied, as it were, in the very base of the Indo-European linguistic tree, in the homonymous roots for "knee" and "beget", which bring forth analogous fruits in various branches of that tree. *Couvade*, myth, cannibalism⁽¹⁴⁶⁾, legitimation and language all perpetuate this one idea: an obsessive preoccupation with the special relation between father and child, based upon the prior activity of the father in the procreative process, and generally symbolized in a fictive male "womb". Perhaps even the exclusion of women from ritual life so commonly observed among "primitive" peoples throughout long phases of their social development is itself a reflex of this sentiment.

Whether and how this complex of ideas is associated with another phenomenon which we have observed, the genetic significance of the fingers, is perhaps not immediately apparent; though it seems very unlikely that the two are unrelated. Perhaps once the fiction of a "womb" in the male legs was established, its more precise location in the knee-joint was suggested by the analogy of the finger-joints, whose reference to relationship must go back, as we have seen, to immemorial times. The conjunction of these two ideas might then suffice to explain the anatomical fantasy which, once established, so deeply influenced many phases of traditional culture.

All these considerations undoubtedly have a bearing upon the designs reviewed in the first part of this essay. For the one feature which gives those patterns their schematic character and distinguishes them from mere representations of human figures is the connection of the figures by means of common limbs. These continuous limbs can only be symbolic; for there is nothing like them in nature. And what they symbolize can only be familial and social connections between the individuals comprising the patterns. It is hardly likely

(146) The intimate relation of cannibalism to this complex of ideas, of which we have seen strong hints, if not unmistakable evidence, among the Australians, the Aztecs, the Tupinamba, the Moluccans (note 132), is apparently commemorated in the Greek myth of Kronos, who devoured each of his children as soon as it was placed upon his knees, presumably for the purpose of legitimation. (See note 138). This seems to be a mythical projection of what *might* happen to children in the remote contingency that their father does not "recognize" them as his own, and as sometimes still happens under primitive economic conditions in Australia.

that the arms and legs would have been made to serve as connections between the figures if they were not in themselves symbolic of relationship. And we have seen abundant evidence of the genetic symbolism of the limbs and their joints in language, myth and ritual. It is no doubt for this reason that the structure of society may be indicated as well by the joints in the limbs of a single figure as by a multiplicity of figures joined together by their limbs. For the relation between the individual and society is that between microcosm and macrocosm, each being an image of the other. In the "genealogical" patterns to which this essay is chiefly devoted, each individual appears as a member of society; but conversely, as we see in the genealogical charts of Figs. 54 and 55, society may be symbolized by the members of each individual. The "synthetic" and "analytic" images of the social order are thus reconciled in the genetic symbolism of the limbs.

Resumo

O escopo do presente trabalho é: 1) focalizar certas composições feitas com uma série de figuras humanas ligadas entre si pelos braços e pernas, de tal modo a formar uma seqüência de padrões que se repetem ininterruptamente, e 2) sugerir uma provável explicação de tais padrões em termos de simbolismo genealógico. Tais padrões de figuras humanas em cadeia representariam o tecido da estrutura social, em que cada indivíduo se encontra relacionado aos demais pelos laços de descendência e parentesco.

Desde que os padrões desse tipo ocorrem muito cedo no Velho Mundo (sem dúvida na decoração de cerâmica chalcolítica nas proximidades do ano 3000 A. C. no Irã; provavelmente na arte decorativa da cultura Maglemose na Dinamarca, entre 8000 e 6000 A. C.; e novamente em certas pinturas cavernícolas espanholas do tipo esquemático, para as quais uma interpretação genealógica já tem sido sugerida por BREUIL), e desde que tais padrões ainda são feitos pelos aborígenes australianos modernos, para ilustrar (algumas vezes em associação com rituais de fertilidade) a origem e a continuidade da sua existência tribal, não pode haver dúvida de que os padrões desse tipo pertencem a uma herança cultural muito antiga, comum a muitos povos diferentes.

Assim, não é surpreendente a verificação de que tais padrões ocorrem também no Novo Mundo. O fato de que persistem especialmente nas tradições artísticas da Patagônia, no extremo sul da América do Sul (assim na decoração pintada nas modernas cobertas de couro dos Tehuelche; mas também, em formas convencionalizadas, em certas "placas gravadas" e certas pinturas cavernícolas da Patagônia, de alguma antiguidade) sugere que o costume de elaborar tais padrões pode ter alcançado o Novo Mundo com as primeiras migrações em nível cultural relativamente "primitivo". Isto não excluiria a possibilidade de que padrões deste tipo tivessem sido reintroduzidos no curso das influências culturais mais recentes procedentes do Velho Mundo.