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"Making Twos": Pairing as an Alternative to the Taxonomic Mode of Representation

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Melpa-speaking children do very poorly on cognitive tasks, in general, and as compared to children from another traditional society in Papua New Guinea. Causes for this difference are sought in an analysis of the tasks which shows them to require a taxonomic strategy for successful performance and in an analysis of the folk taxonomies of the respective societies which shows them to vary in complexity. Further study of Melpa representation reveals that this can better be represented as a pairing rather than a taxonomizing tendency. This finding allows a reinterpretation of the cognitive task results. [Cognition, child development, ethnosemantics, world view, Melpa, Papua New Guinea]

INTRODUCTION

The taxonomy is an important paradigm in anthropology and psychology. Initially applied to model limited domains in the respective sciences (e.g., kinship, language), its

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terms of reference have broadened considerably at the theoretical and methodological levels. The taxonomy has become central to major theories of culture (Tyler 1969) and theories of human thought processes (Werner 1948; Bruner, Goodnow, and Austin 1956; Friendly 1979). Furthermore, "schools of thought" associated with these theories have been responsible for much of the cross-cultural, comparative research of the last two decades and for the development of appropriate methods, represented by ethnoscientific and concept identification studies. Having come so far in locating an ideal site, it is noteworthy that few have actually attempted to build a bridge across the gorge (Cole, Gay, Glick, and Sharp 1971). On the contrary, cognitive psychology has used the taxonomy in amending unitary theories to allow for cultural differences in modes of cognitive functioning (Bruner, Olver, and Greenfield 1966; Olson 1976) while cognitive anthropologists have used the taxonomy in amending relativistic theories to allow for universals in patterns of culture (Berlin and Kay 1969; Brown, Kolar, Torrey, Trương-Quang, and Volkman 1976).

The research to be reported here forms a part of a larger study (Lancy 1978) which set out explicitly to build the bridge. In the process, we came increasingly to question the centrality of taxonomies in culture and in thought. Our reappraisal indicates that taxonomies may play an important role in many societies but that in others, alternative organizing principles are more important (see also Super, Harkness, and Baldwin 1977).

PONAM VERSUS MELPA: A SERIES OF CONFRONTATIONS

The first round of research, begun in 1977, was a comparative study undertaken in ten societies in Papua New Guinea. The level of acculturation, of urbanization, of economic development, etc., was held as close to even as possible, while ecology, language family, mode of subsistence, and overall cultural configuration varied as widely as possible within the confines of this extremely heterogeneous country. Data collection concentrated in two areas: a battery of cognitive tasks were administered to groups of children of various ages and with varying amounts of formal education; and key-informant interviews were conducted on topics relevant to developing a cognitive ethnography, viz., folk conceptions of mathematics, measurement, and classification. What emerged, in essence, was a close correlation between the tendency of the child to use taxonomiclike strategies in solving cognitive problems and the degree of depth and complexity in folk taxonomies in the language (Lancy 1978). In second and third rounds of research we have returned to selected societies at opposite ends of a strong/weak taxonomizing continuum with additional experiments and elicitation research to probe this relationship further. Henceforth we will discuss this series of studies done in two of the ten societies, Ponam and Melpa.

The Settings

Ponam Island is a small sand cay which lies just off the north-central coast of Manus island. It is one day's sail away from the provincial capital of Lorengau. The staple food is sago, which does not grow on the island, but must be traded for from Manus in exchange for marine products (chiefly smoked fish). Ponam's principal means of livelihood is fishing. They employ a diversified technology to exploit virtually the entire range of marine microenvironments available to them. Socially they are organized into political clans which govern residence and land (including fringing reef) ownership. In keeping with patterns characteristic of Oceania as a whole, exchange is a dominant fact of life; however, in contrast to other societies in the area, exchange reinforces bonds of cooperation and an egalitarian social structure (J. Carrier 1979) rather than serving to elevate the status of individuals vis-à-vis their peers (e.g., big men). In general, we find no important
differences between Ponam society and earlier descriptions of island and coastal Manus peoples save for the cessation of armed hostilities.

The Melpa live in the Western Highlands Province, between altitudes of 5,000 ft. and 7,000 ft. above sea level. More than 60,000 Melpa speakers are joined with some 30,000 speakers of Temboka within the Mount Hagen District. They are horticulturalists and pig-keepers, and their staple food is sweet potatoes, supplemented by taro, yams, bananas, sugarcane, and a wide variety of greens. There is a marked development of the “big man” complex in their society, whereby certain men gain prominence and political influence through success in activities of ceremonial exchange. Cash cropping and economic development in general have penetrated deeply into their area since the 1960s. We return at the end of the paper to the possible significance of these differences in scale and the form of political leadership between Melpa and Ponam.

Methods and Results: First Study

The first priority was to collect folk taxonomies. These were analyzed directly and also provided stimuli for the cognitive tasks. Questioning (by a native speaker) centered on objects, natural and man-made. Considering the variation in the sites, these objects, of course, varied a great deal. Attempt was made, however, to find common ground by focusing on classes which were likely to have similarly high degrees of salience across cultures (e.g., food, decorations, tools, people).

Stimuli for two of our tasks are drawn from the interview data. In one test, Polaroid photos of common objects are made. For Ponam we used 24 objects ideally groupable into six named categories and for Melpa 28 objects from seven named categories. Set size varied from 3 to 5 with a mean of 4. The pictures are spread out in front of the child and he is told (by a native speaker using the vernacular) to make a set (group, pile, “line”) of them in any way he likes. The child’s set size is recorded and he is asked why the items go together; the answer is also recorded. Our procedure closely follows the original procedure as used by Bruner and his associates (1966) and we follow their scoring criterion in determining whether or not the child’s answer reflects a superordinate structure (the likeness criterion covers all the items in a group) and whether or not the child’s answer utilizes a nominal base (the class name or phrase that had been elicited from adults). Each child has six opportunities to name a set, three of the sets he himself has constructed and three are sets constructed by the experimenter. On each of the three “free sorts” a child can score from 2 to N for set size, and over all six sorts, he can score from 0 to 6 for superordinate structure and 0 to 6 for nominal basis.

A second test which employed the classification data is the free-recall task which, like picture sorting, has seen extensive use in cross-cultural research (e.g., Cole et al. 1971). Here, 16 new items are drawn equally from four categories to compose a word list. The words are read one at a time in a random order to the child who is asked then to recall them. This is repeated three times and the child is scored on each trial for the total recalled (0 to 16) and for the proportion of items (0 to 4) which are organized in memory and recalled in category “clusters,” larger clusters being given more weight in the scoring. The results from these two tasks for Ponam and Melpa children are shown in Figures 1 to 5. Eight males and eight females from each society were chosen from three age/grade levels (means for group 1 = 7.5/0.9; group 2 = 11.9/1.8; group 3 = 12.0/5.1).

Ponam children behaved as if they recognized the taxonomic structure inherent in the stimuli, and could use it to organize and improve their recall; Melpa children did not. Set size for the Ponam children approached 4, the “objective” size of the sets if one were using a taxonomic strategy. By contrast, Melpa set size was well below or well above 4. Ponam children were more likely than Melpa children to use a superordinate structure for their
Fig. 1. Set size.  
Fig. 2. Superordinate structure.  
Fig. 3. Nominal basis.  
Fig. 4. Recall—Trial 3.  
Fig. 5. Clustering—Trial 3.
groups ($F = 48.8, p < .0001$) and were more likely to label the group with the "standard" word or phrase ($F = 70.4, p < .0001$). Typical responses to a similar set might be "They are fishing tools," for Ponam, and "We use these for digging in the garden and we use this for chopping trees and this for cutting brush," for Melpa. In the free-recall task we again found Ponam children superior (only performance on the last trial is shown) in total recall and clustering ($F = 127.8, p < .0001$, $F = 54.4, p < .0001$); furthermore, clustering and recall are correlated in the Ponam protocols (Pearson $r = .48$) but they are uncorrelated in the Melpa protocols (Pearson $r = .18$). Other tests which were used and which according to their originators (Bruner et al. 1966) reflect the presence or absence of categorical thinking (e.g., nine-block matrix, bulb-board) show a similar pattern of difference between the two groups of children. Finally, we note that Ponam children tend to improve their performance as they grow older whereas Melpa children improve only as their level of education rises. This finding is perfectly consistent with earlier research comparing "taxonomizers" with "nontaxonomizers," notably Kelly's (1977) previous cognitive research with the Melpa.

Method and Results: Second Study

Even though all of our sets or categories were endogenous, it became apparent after we had worked in several societies that some categories were very obviously "tighter" than others as reflected in the relative level of consensus among several informants as to where to place a particular item in the taxonomy. For this second study we wanted to examine taxonomizing behavior with categories previously identified as being very tight. On Ponam we used seashells (moro). These are abundant, being used for both food and decoration by the people, and they are small and durable, hence making excellent "stimuli." Sixteen shells were eventually chosen for the experiment, all but three of which were consensually named and unambiguously categorized by our adult informants as belonging to one of five categories. These were paruwof (giant clams), palasapo (cowries), mbuss (cones), djang (spider conches), and la1 (trochus sp). There were three, five, three, four, and one representative of each genus for a total of 16 shells.

Children were tested individually and administered four tests in an invariant order. First, the children were asked to name the individual shells; their performance was scored as the proportion of 13 (three had no distinct names) shells correctly named. Then, they were asked to arrange the shells in any way they liked. This test was given a score reflecting the proportion of shells correctly arranged by category. Then the experimenter rearranged (if necessary) the shells into their categories and asked the child for the name of the four (the trochus was left out) groups. This was again scored as the proportion correctly named.

The last test was for the concept of class inclusion (Inhelder and Piaget 1964). The design, however, varied slightly from the standard procedure, as we wanted to take advantage of modifications which had been shown to facilitate success. The children were shown eight virtually identical tiger cowries and asked to name this group. Few failed to name them correctly but, if so, the name (palasapo) was provided. Then four more shells were added, these taken from each of the other four categories (modification, cf. Wohlwill 1968). This larger group (moro) was also named by the child, or, if necessary, by the experimenter. The child was then asked to point to all the palasapo, then to point to all the moro (modification, cf. Wilkinson 1976). If the child pointed to only the non-palasapo shells when asked to point to the moro, he was corrected and the instruction repeated. This was done as often as necessary until the child reliably pointed to all the shells when asked to point to the moro. The child was then asked whether there were more palasapo or more moro, and was scored as successful for class inclusion if he responded moro.
In Melpa the procedure was identical, except the stimuli differed. Here we used five varieties of banana (rua), three yams (op), four taros (me), four sweet potatoes (oka), and one sugarcane (po) all of which are foods (rong). All of the items were consensually named and unambiguously categorized by adult informants, and met the further restriction that they be commonly eaten by children of both sexes (many foods are restricted in use by age or sex). The results of the comparison between children from the two societies are shown in Figures 6 to 9. Group size and mean age/grade are as follows: 1 = 16, 7.4/0.5; 2 = 16, 9.3/2.1; 3 = 24, 12.0/5.1; 4 = 16, 15.7/5.5.

These results are much less unambiguous than those reported in the first study; Melpa children now demonstrate the ability to arrange and name sets by category. On the latter task they are superior to the Ponam children (F = 24.4, p < .0001). However, these findings must be qualified by an analysis which shows that grade makes a significant contribution (arrange, F = 8.9, p < .01, name, F = 6.03, p < .02) while age does not (arrange, F = .102, NS; name, F = .054, NS). Hence, the improvement that we see may be due to the effect of formal (and, in this case, explicitly Western) education. The Ponam children's superiority reasserts itself on the last two tasks (F = 7.0, p < .01; chi square = 1.13, NS). In particular, note that the developmental effects for the class inclusion problem are significant only for Ponam children (chi square = 16.0, p < .001 VS 6.2, NS). The ability to name individual items shows a steady increase in both societies and this is attributable to maturity rather than education (F = 8.05, p < .01 VS F = .001, NS). This should not surprise us since lessons are in English and any advance a child makes in learning the names of things (as opposed to learning to categorize) in his mother tongue should be associated with a general improvement in fluency.4

A Final Study

One aspect of the previous study raised some doubt with respect to the children's performance on the class-inclusion task, so a second attempt was made to study this phenomenon. This was the status of róng, our choice for the superordinate category in Melpa. Although adults had little difficulty identifying me tawe as róng, its usage in this context is forced. Róng ideally refers to items that are about to be eaten and our me tawe, while edible and obviously prepared for cooking, were not ready to be eaten. Hence we replicated (in Melpa only) the class-inclusion study using less ambiguous materials, specifically eight ki rung (arm-bands) and four ken mapa (gold-lip pearl shell neck ornaments) both of which are coded as moke-mel (decorations). Three age groups were tested: 7–9 (N = 10), 10–14 (N = 20), and 16–45 (N = 20). Note that compared to the previous study we have added an older group on the possibility that class inclusion appears but very late in development. The results of this study are shown in Figure 10. Overall performance is improved, suggesting that selecting the appropriate stimuli makes it more likely that subjects will appreciate class relations. However, again we fail to find a developmental effect, just the reverse (trend not significant, chi square = 5.84). It is as if the taxonomizing tendency present in very young children (see also Figures 6 and 7) is muted as the child comes to learn and employ some alternative mode of representation.

Discussion

In taking stock after three rounds of research, the following points deserve mention. (1) Ponam children perform on a variety of tasks in a manner thoroughly consistent with patterns established in similar research with Western children,5 and as predicted by major cognitive development theories. They are aware of and can apply in problem-solving contexts their own folk taxonomy. (2) Ponam folk classification resembles in all essentials the
Fig. 6. Category arranging.

Fig. 7. Category naming.

Fig. 8. Individual naming.

Fig. 9. Class inclusion – 1
by now “standard” (Brown et al. 1976) taxonomic form. And, as has been often pointed out (Berlin 1973; Hunn 1975), this is not fundamentally different from the scientific or Linnean model. (3) The performance of Melpa children does not resemble Ponam and, by implication, Western children. They employ taxonomic principles in only very limited domains and the tendency to taxonomize does not routinely increase with age but is enhanced only through contact with formal education. (4) Melpa folk classification seems to be at least quantitatively different than the standard in that there appears to be a paucity of supra-generic terms. (5) We note that taxonomic principles are not completely absent either from the children’s performance or from Melpa folk classification. Furthermore, as well will proceed to show, the Melpas’ relatively limited reliance on a taxonomic mode of representation does not reflect their failure to “develop” from some amodal base (Durkheim and Mauss 1963); rather they use an alternative strategy, what we call pairing (cf. Lancy 1977) or what they call making twos.

MAKING TWOS

The pervasiveness of the taxonomy in theorizing and research on modes of representation makes it difficult to find a starting point for an inquiry into alternatives. The conviction that there are alternatives to nominal/taxonomic modes is supported primarily by people’s failure to use such a mode in situations where it would seem to be appropriate. For example, in a classic study carried out among Uzbek peasants in the eastern U.S.S.R., the experimenter asked subjects to make groups of 27 strands of wool, which differed only in color. A typical response of the men to this task: “Men don’t know colors and call them all blue. (Luria 1976:25); and women: “None of these are the same, you can’t put them together” (ibid: 27). The “correct” strategy (employed by acculturated Uzbeks), of course, is to use a color nomenclature and taxonomy to partition the strands into groups and subgroups. A convincing argument is made throughout this work that the Uzbeks’ preferred mode of representation is enactive or functional. Men have nothing to do with strands of wool, hence are unable to make any sort of differentia-
tion of the stimuli—they have no function, therefore they don’t exist. The women have a
great deal to do with strands of wool, but the task gives them only limited opportunity to
display their preferred mode of representation which, from the limited information
presented, would seem to be an imaging or iconic strategy.

Cognitive anthropologists consistently find taxonomies but this may be at least partly
due to the data-gathering techniques they employ (Gardner 1976). Symbolic/structural
anthropologists find taxonomies as well (Kluckhohn 1960), but they also find nontax-
onomic modes of representation (Sahlins 1976; Wagner 1977). Unfortunately, there have
been even fewer attempts (but see Hunn 1979) to cross over the cognitive-symbolic garge
in anthropology than there have been to cross over the cognitive anthropology-psychology
garge. Nevertheless, a concept (“binary opposition”) bearing considerable resemblance
to “making twos” has emerged as an important organizing principle in the development
of classification systems (Brown 1979).

There are a variety of phrases for expressing “together” or “group” in Melpa, but all
contain either the word “two” (rakl) or “partner” (kup). The most widely employed is tepa
rakl ndopa ni, “taking and making two to say” or “making twos.” This concept probably
underlies the poorer performance of Melpa children on cognitive tasks. We will discuss
the pervasiveness of “making twos” in Melpa with examples and then return to a con-
sideration of the experimental results.

**Plant and Animal Categories**

The Melpa, as might be expected since they are gardeners and also users of forest prod-
ucts, have terms for a wide range of plants, trees, birds, and animals. A classification
which orders all of these things into a pair, regarded as a construct of polar opposites, is
mbo = “planted” versus römi = “wild.” From the point of view of human effort and
responsibility, those things are mbo that people plant and care for, so as to bring them to
maturity and usefulness; römi are things that one may gather and use, but are not
planted or cared for; thus mushrooms and frogs are eaten as delicacies but are wild. Mbo
and römi may be said to form an overarching pair, since all things are classified as one or
the other of these (some, perhaps, are intermediate, such as the cassowary bird). It is
their oppositeness which is most stressed, not any form of alliance. Where the opposition,
in this sense, is mediated is in relation to certain plants that have both domesticated and
wild counterparts. These include sugarcane, bananas, sweet potatoes, taro, yams, certain
kinds of greens—in fact, most of the major foodstuffs. However, people’s theories about
the evolutionary relationship between these categories are not elaborated. Significantly,
nevertheless, the term for expressing this kind of link across the mbo-römi divide is öngin-
öngin: these things are same-sex siblings. A term for categories of things in general is an-
dakam, which is a syncope of anda-kangem, “grandfather-son.” It appears, therefore,
that an idea of common descent in those things classed together as siblings is implicit.

The major foodstuffs are themselves paired, and here there is definitely a notion of
similarity and complementarity. Indeed, in some cases it is arguable that pairing
represents the implicit creation of a higher category subsuming the paired categories
(Brown 1979: 794–795). The difficulty with this argument is that in these cases there is
not a lexical label for such a putative category and, while it is always possible for the in-
vestigator to think of a dimension of unity or similarity, this does not in itself show that
the Melpa hierarchizes the meaning of pairs in this way. Such a hierarchical tendency
could be shown, perhaps, only from a higher-level context of contrast.

The pairs to be discussed are:
1. po-rua rakl, “the pair of sugar-cane and bananas”
2. me-op rakl, “the pair of taro and yams”
3. op mokla rakl, “the pair of yam and mokla [a type of yam]”
4. kim-oka rakl, “the pair of greens and sweet-potatoes”
5. mui-kenggopa rakl, “the pair of asparagus and Rungia greens”
6. kng-owa rakl, “the pair of pig and dog”
7. kui-owa rakl, “the pair of marsupial and dog”
8. kui-kōi rakl, “the pair of marsupials and birds”
9. kng rong rakl, “the pair of pork and vegetables”
10. kng kokla rakl, “the pair of pigs and shells”

In these examples the underlying dimensions of similarity/complementarity are:

1. luxury foods; standing crops; planted by men
2. luxury foods; dug from ground; planted by women
3. luxury foods; mokla is a kind of yam, described as “wife of op,” hence the underlying paradigm is wam-ambom rakl, “the pair of husband and wife”
4. everyday foods, consumed together
5. vegetables, ideally consumed together because their taste is complementary
6. animals similar in their habits (pejorative: the reference is to incest and greed)
7. hunter and hunted: dog chases marsupial
8. forest creatures: used for decorations and hunted also for food
9. foods cooked together in steam-oven
10. valuables, ceremonial goods

In no case are polar opposites involved, and antagonism is relevant only in example 7, where the relationship is also transitive and not reciprocal as in other instances where there is antagonism. It should be noted, also, that items may be part of more than one pair: “pig” appears in examples 6, 9, and 10, “dog” in 6 and 7, and “marsupial” in 7 and 8. Aside from example 7, we can say that in these natural categories the accent is on functional similarities in terms of use, that is, in terms of what people do with them or think about them. Similarity is stressed most in 1, 2, 6, and 8; complementarity in 4, 5, 9, and 10. Pairing continues in some instances within the constituents of a pair also. The two best kinds of sugarcane recognized are pakla and kaemb, of bananas keninga and membokl, of taropim and kwar, and of yams kora and rumbamb. It is evident that this practice relates only to especially salient categories: the habit of continuous pairing is not carried through systematically. Rather, we may suggest, as Bulmer has done for Kalam totemic creatures, that it is precisely salience and value that are in this way picked out (Bulmer 1979). It is in this sense that pakla and kaemb stand for the whole class of sugarcane types: they are ideal versions, “the best,” as noted. Occasionally, a valued type is again further subdivided, as pakla into pakla ingk (“pakla proper”), and pakla ndim or po rarama into rarama ingk and rarama mbakl. In such cases it may be speculated that the separately labeled type is an afterthought, perhaps a kind that emerged or was imported. The original general marker is preserved and the “prime” exemplar of it is now labeled ingk (Dwyer 1979: 15).

The same process can be seen in group names. When incomers join a group or a new lineage set develops, a fresh name is given to them, while the section seen as the core is now labeled ingk. Ingk signifies, as it were, the unmarked pole; the marked pole requires a special further name (Brown 1979:794). In general, the Melpa examples fit well with Brown’s observation that “binary opposition is one way in which the principle of conjunctivity is realized in natural language categorization. . . . Thus, the principle of binary opposition in dimensional naming is the surface result of conjunctivity considerations” (Brown 1979: 806). In other words, a dimension of similarity links the items as well as a characteristic of difference, produced either by position at opposite ends of a continuum or by a cross-cutting dimension. Also, with the classification of natural categories given here it is hard to speak of a dimension of opposition at all. Po and rua are not at opposite
ends of any continuum, they are simply paired because of their perceived similarity as luxury foods. At the same time it is obvious they are different, and in many ways. There is no need to pick on a single dimension and express their difference by it, as the Melpa do in relation to, say, \textit{wuō-amb} (man/woman). In this regard these pairings of types of food are closely analogous to, if not specifically underlain by, \textit{öngin-öngin}. Same-sex siblings are equated by filiation, but separated by their individuality, expressed in their personal names. As whole individuals, they are obviously different in the same way as whole species such as sugarcane or bananas are different (cf. Lévi-Strauss on “the individual as species,” 1966: 191 ff.)

\textbf{Color-Classification}

An overarching category contrast used in relation to colors is \textit{kund} or \textit{kundi} versus \textit{pombora}. The contrast may be glossed as light versus dark or specifically as red versus black. Children tend to learn these two color terms in advance of others. The terms also categorize Europeans as \textit{kundi} versus indigenous people, who are \textit{pombora}. \textit{Pombora} can include brown, black, blue, and green; although separate terms exist for the last two colors, they are clearly derived rather than primary, since \textit{muk} (blue) refers to a type of blue clay used for decoration and \textit{nde omong} (green) refers to tree leaves. \textit{Kund}, however, does not include white or yellow. For white there are separate primary terms, \textit{körök} and \textit{kurumukl}; \textit{wande} (yellow) is again taken from a type of earth used in self-decoration. Despite the fact that “white” has a separate primary term, this term is not regularly paired or otherwise dominantly linked with other terms, whereas one regularly does hear \textit{kund/pombora} employed as a marking device: to stand for the universe of all people (\textit{kund pombora rakl}, “light and dark together”), all kinds of pigs (\textit{kund kng pond kng}, where \textit{pönd} = \textit{pombora}), and different sorts of spirits or spirit-inhabited lakes (\textit{tipu kund}, \textit{tipu pombora}, “light spirit, dark spirit”; \textit{nu kund}, \textit{nu pombora}, “red water, black water”).

While in some contexts things and persons which are \textit{kund} are seen as good and \textit{pombora} are bad, in others the values are reversed. For example, there are two volcanic lakes at the summit of Mount Hagen. The “red” one is dangerous, while the “black” one is said to be friendly. “Red” can stand for friendly relations of alliance, or for sexual attraction, while “black” may mean both group cohesion and aggressiveness towards others, associated with the masklike effect of charcoal worn by male dancers at \textit{moka} exchange festivals (Strathern and Strathern 1971: 153 ff.). But, equally, red is the color of blood and of dangers accompanying female menstruation. In another contrast, poison or sorcery-stuff is typified as black, in opposition to the shining white headdresses that dancers should wear at the celebration of the ending of a Female Spirit cult (A. J. Strathern 1979a). In this context alone a white/black opposition is employed. In general we find the same pattern here as for foods: an overarching contrast, and the use of contrasted pairs to signify general categories (“people” as \textit{kund or pombora}).

\textbf{Counting}

Two methods of counting are traditionally used. In one there are numerals for 1 to 4, then $4 + 1$, $4 + 2$, $4 + 3$, and a further numeral for 8. $8 + 1$ is “eight and one thumb,” $8 + 2$ is “eight and two thumbs down.” In the other, and preferred, method one counts constantly into sets of two, summed as 4 and 8, and then adds up the sets of 8 so formed. It can be seen that the first method merely deals with the odd numbers in between the ideal numbers 2, 4, 8, and 10. The hands are explicitly used as markers for counting. In reckoning items displayed for a ceremonial prestation, an orator begins on his left hand,
bends down two sets of two fingers, then two sets again on the right hand brings them together to record a full eight, spoken of not as two hands but as "one hand," i.e., a completed set with the fists brought together. On a single hand the thumb may be bent down to represent 5 (pomb tenda, "one thumb"), or both may be brought down after an eight to represent 10 (pomb rakl pip, "both thumbs closed"). The practice of taking items in pairs is therefore seen in its most marked form in counting, a fact which suggests that "making twos" is in other contexts also at least partly a device for aiding memory. Now that the Melpa have money from cash cropping they have imposed exactly the same patterns of counting on it, and this has been facilitated by the introduction of decimal currency. Bits left over from sets expressible in the dominant 2, 4, 8, 10 idiom are explicitly disliked, although 5 toea (the toea is the "cent" part of the currency, and the kina is the "dollar" part) or 5 kina are acceptable as a half of 10: $2 \times 5$ forms a pair, adding up to a desirable whole. One kum or "packet" also equals 10 kina, and five such kum equals 50 kina or "one bicycle," the notional cost of an introduced artifact that itself presents a unity made up of two parts (wheels). (The bicycle is called wil-wil, i.e., "wheel-wheel," a pair homologous in structure with öngin-öngin again.)

**Group Names**

Hermann Strauss, a missionary-anthropologist who worked with Central Melpa speakers from the 1930s through to the 1960s, has stressed the overall tendency to pair items in Melpa thought. Strauss occasionally injects his own philosophy into the account he gives of Melpa religion and society, but his linguistic knowledge was very comprehensive and he bases his arguments on solid evidence from the Melpa language, as in the following quotation, which also reflects back to our preceding section:

Why do the Mbowamb not count their groups singly but always put two together? Of each group-pair they speak, as of two individuals, in the dual form. One may clarify this pairing of groups by reference to Mbowamb [Melpa] thought. Pairing is used widely in the culture. They speak, for example, of mug1 moi ragl, "the sky and earth pair," ants kadlimp ragl, "the sun and moon pair," rumbugl röngmo ragl, "the night and day pair," tepam mam ragl, "the father and mother pair," and so on. The months are reckoned in twos, linked as "elder and younger brother." Animals, birds, objects, foodstuffs, valuables, and so on, are always enumerated in pairs. Counting itself is always done in twos. People feel that odd numbers should be made up so as to become even. Such a number is incomplete, it is rather like the half of a whole: a thing by itself cannot properly be counted. They say tsi kawa rndom, "one has fallen out of line". . . . Things require their complement to achieve full being . . . and this is because of the emphasis on exchange, of giving out and receiving back. In counting on the fingers a single hand is considered only a half, it is only a proper hand when it is brought together with the other hand as an eight, engak (the two thumbs are not counted so long as they remain "outside"). [1962: 15-16]

In this same passage Strauss goes on to quote a Melpa idea that a young child while still at the breast should look up and laugh at a visitor who is dubbed the child's "cockroach-partner," i.e., a make-believe future spouse. A child that laughs in this way will grow up to be healthy and normal, to marry and have children. One that does not will "take his own navel-string and eat it," that is, will be "turned back" into its own group. The action of laughing in this way is called "to make man-woman," and Strauss links it directly to the notion of making connections with others and so initiating reciprocal exchanges. The idiom of "brotherhood" between paired tribes indicates the same.

Strauss's text here takes us straight into the domain of group names (A. J. Strathern 1971, 1972). There is a complicated hierarchy of names and levels of grouping, not all of which are found, of course, in a given group. At each level, one finds at least some emphasis on pairing. The emphasis is strongest at the two basic political levels of the tribe and the clan. Each tribe tends to have its pair-tribe, each clan its pair-clan, and at a
given time these dyads are exclusive, though over time they may change. The effectiveness of alliance also varies, but the idea of pairing is definitely that which Strauss identified. Pairs are called mbi kup, “helping names,” and the pairing can be expressed by raising two forefingers together and pressing them to one point at their tips. To be kōu, “single,” “by oneself,” is a misfortune, unless one is exceptionally strong or able, when one may boast of doing things on one’s own. The myths which, as Strauss says, underlie tribal pairings, usually signal their message in the idiom of marriage also. Thus, for the Kawelka tribe, their alliance with the Tipuka is conveyed by the story of a Kawelka ancestor meeting a Tipuka woman and marrying her.8

Within the tribe, also, there is a tendency to make pairs of intermarrying clans; and if a pair-clan is not available in this way, then the men of a clan may align themselves with a neighboring cross-tribal group. These processes may be illustrated from the internal structure of the Kawelka (Fig. 11).

The diagram shows a fairly marked binary structure. It conceals, though, several complications, of which the most significant is that the Kundmbo are in fact an exogamous clan on the same level as the two Membo-Mandembo, who form a pair. While the top level of the segmentation states a pairing, it is there more for logical neatness than effective alliance. In other words, the Kundmbo are in fact rather out on a limb in Kawelka, awkwardly counterposed to the much more numerous allied pair of Membo-Mandembo. In these circumstances, we find that Kundmbo have de facto paired with the Kimbo, their western neighbors from Minembi tribe. And, in general, they maintain close links through marriage and exchange with other Minembi groups. They are less unequivocally members of the Kawelka alliance than Me-Mande, as the other two are called for short.

The Kawelka case is not intended in itself to indicate that binary structure dominates every level of group segmentation, since the correspondence is not exact even in the case itself and a presentation in binary terms obscures processes of change, though changes do tend to lead to further binary structures emerging.9 In one other context binary arrangements tend to prevail (again, not exclusively), and that is in ghost invocations. Below the level of the groups indicated in Figure 12 there are small lineage sets known as “father-sons” groups. When invoking ancestral founders of these at pig sacrifices, a bigman may call them in pairs, indeed each set is usually said to have had a pair of founders who were ōngin-ōngin raki, “brother pairs”; and it is this idea of brothers as a pair, sometimes seen also as komone-akel raki, “senior and junior pair,” that the phraseology emphasizes. If we follow Strauss’s argument that in pairing completion is symbolized, then the binary idiom can also be seen as standing for the whole clan. The clan is thus seen as a set of groups in alliance, an idea separate from the description of it in the descent idiom as “sons of one father.” Further, although the komone-akel idiom appears to stress the priority of elder versus younger brother, in fact again it is much more their linkage as a pair of brothers than their disjunction in terms of seniority-juniority which is “in focus” in most contexts of usage. In general, the pairing idiom as applied to groups connotes both complementarity and a measure of balance through equality.

Kin Terms

In address, almost all such terms are self-reciprocal, including those for parent-child relationships.10 Father and child may, and often do, call each other ta, mother and child ma, MB and Zch. apa, grandfather and grandchild kouwa, and so on. In reference, however, the senior (parent) is distinguished from junior (child); thus tepam-kangem, “father and son”; mam-mboklam, “mother and daughter” (note that these are established pairs, and one does not hear very often, if at all, tepam-mboklam or mam-kangem). But MB and
Zch. are a self-reciprocal pair in reference also, pam-pam, as are grandparent-grandchild, kouwa-kouwa. This manifest stress on self-reciprocals can be interpreted as a feature which underemphasizes authority and disjunction in favor of the idea of relationship itself. The self-reciprocals do in a sense preserve a focus on the senior generation, since ta is clearly a transform of tepam and ma of mam; that is, the terms of address derive from the reference terms for the senior kin, not the junior. To distinguish generation and sex, markers can also be added, thus wuō-ta = father, kang ta = son; but again a son is sometimes addressed as wuō-ta by his father and replies with the same term. On the analogy of öngin-öngin we argue that this form of usage stresses the solidarity and friendship of the pair, i.e., when the same name is given to both, they are absorbed into their relationship, whose duality unites them. Where the names of things paired are not the same, equivalence is not so stressed.

**Ideas of Persons and Status**

*Wamb nyim-korpa, ou-kel, kit-kae,* "people who are important or worthless, big or small, bad or good. . . ." The Melpa order people into binary categories of this sort, and the most significant one is the first, for others tend to be refractions of it. What sort of "binary opposition" is it? It is a pair of opposites on a continuum of status, mediated by
the status of “ordinary person.” Notably, it is attached not only to “big-men” versus “rubbish-men,” but also to “male” versus “female” categories (M. Strathern 1978:185–186). If women become *nyim*, they move toward the male pole; a man who is *korpa* has become in some fashion female. In this way femaleness is denigrated, while individual women may be recognized as *nyim*. To become *nyim* one must work and struggle, for there is always the danger of being “eaten” by *korpa*, as happens if one eats gifts without reinvesting them and making returns. Insofar as a metaphorical relationship is established between *nyim-korpa* and *wuō-amb* (man/woman), the binary distinction in the first is given a more rigid and polar appearance than is in fact the case; conversely, the *wuō-amb* contrast acquires an aura of “achievement,” hence the theme of “the achievement of sex” (M. Strathern 1978).

There is another point to add: the social relationship between *nyim* and *korpa* men is not exactly coordinate with that between men and women. The *nyim-korpa* pair indicates differentiation of status but not, in itself, complementarity or antagonism. It is doubtful whether the two together are seen to make up a “unity,” or an “alliance.” They are just opposites. If this is so, *nyim-korpa* is very far removed from the ōngin-ōngin (same-sex siblings) form of pairing, and indicates the axis of inequality rather than equality. This is much as one would expect.11

This example of *nyim-korpa* indicates how different the underlying significance may be in different instances of pairing. *Nyim-korpa* appears to stand as an “irreducible” pair along with *wuō-amb*, ōngin-ōngin, and *mbo-rōmi*, and each of these has its own resonance and application.

Moving from status difference to basic concepts about the person, we find that these are ordered in a binary fashion also and interpenetrate with the basic pairs already elucidated (Fig. 12). *King* is contrasted both with *mīn* and with *noman*, and this may help to explain why *mīn* and *noman* are partially associated, although they are not the same. *Min* survives death and becomes a *tipu*, ghost, but *noman* does not. In life, however, it is *noman* and *king* that have the closest regular relationship. An upset in the *noman* shows in illnesses in the *king*, and these may be the result of justified attack by *mbo tipu*, “family ghosts”, or just plain violence by *tipu rōmi*, “wild spirits of the bush.” In variant form, the *mbo tipu* may allow the *tipu rōmi* to attack by withdrawing their protection. Conversely, a good state of the *noman* results in health, growth, and fertility of the *king*.12 The *noman* itself is seen as divided into upper and lower parts and may be aligned straight or crooked. Above there are many thoughts, which confuse a singleness of purpose lying below. This singleness of purpose is what is straight and conduces to unity with others under the influence of big-men. When the upper thoughts confuse the issue, people’s minds lie crooked or even “athwart” one another (*peta rōpa petem*), they cannot, then, act in concert. The group of “brothers” splits into fragments, and ill luck or sickness will result, for again ghostly displeasure is involved. Refusal to help others with requests is what produces this situation: it gives rise to *popokl*, anger, wrong doing and treachery, then sickness and death. In a pejorative vein, men say that it is women whose minds are not single, and who therefore by implication are responsible for pulling them apart. Yet it is women also who provide the very basis for reciprocity and exchange which they see as the origin of all that is good, *ukl kae*. A good wife is therefore one who, while providing the “roads of exchange,” also “listens to her husband’s talk.”

The *noman-king* pair thus posits a “whole”; and that whole is the social person. For its significance, it also depends on other basic pairs: *wuō-amb*, ōngin-ōngin, *mbo-rōmi*, and *nyim-korpa*. Essentially, it expresses the idea that cooperation is important between the sexes and between group members and also between exchange partners linked through marriage, because its denial will result not just in the failure of enterprises and descent into *korpa* status, but in physical failure, allowing the inroad of sickness and death.
Underlying all the other binary oppositions, then, is that of life and death (wamb kui kont rakl, “the pair of the dead and the living”). The living are those who have bodies, which experience health and sickness; but the living are governed ultimately by the dead, who have no bodies through the fact that noman governs king.

DISCUSSION: PAIRING AND TAXONOMIZING

The foregoing sections indicate that “making twos” is both pervasive and important in Melpa culture. As noted earlier, this does not mean that taxonomies are absent. Figure 11 shows that in group names binary pairings can be extended into a taxonomic-like form; although terms for natural, rather than social, categories never show a very great taxonomic depth.

Equally, the examples illustrate the diversity of content in pairs: similarity, difference, complementarity, alliance, hostility, equality may variously be signaled, and this gives depth to the device in its application to social categories. At the level of Melpa grammar itself it is significant that comparative forms do not exist as such, e.g., there are no terms for “bigger/smaller,” only for “big” (ou) and “small” (kel), so that any comparison in this dimension dichotomizes the items and can deal with only two items, properly speaking, at a time. Grammatical markers for either/or are accordingly present and much used (e.g., as in ou mona kel, “big or small,” where mona is clearly related to the simple negative mon = “no”). The fact that opposites are usually furnished with separate terms is also interesting, for it means that they appear in a “developed” form unlike the example of differentiation by the use of marked/unmarked terms cited by Brown (i.e., profundo = deep, poco profundo = shallow [1979:794]).

If “making twos” is, then, an established and salient form of categorizing things for the Melpa, can we show that it definitely “interferes with” or “blocks” taxonomizing when Melpa people are confronted with the artificial situation of cognitive tasks? The third study done with “decorations” (moke-mel) rather than food (rông) suggested that this was indeed so; and a replication of the original “picture-sort” task, albeit done with a small sample, gave strong backing to the idea that a “mental set” in favor of pairing is at work, at least with Melpa adults.

First, the class-inclusion task. The experimenter (AS) made tape recordings of the proceedings in this as well as noting down the formal results. Arm-bands and pearl shells were used, making up a superordinate category of decorations (moke-mel). Any subjects who did not volunteer this category were prompted, and all agreed to it readily. There is an association between arm-bands and men, and between pearl shells worn as neck decorations, and women; and children, in particular, grasped this distinction (the male/female or madwoman pair). Adults often corrected this, and explicitly pointed out that there was no rigid association since both sexes can wear both kinds of ornament. (No adult was allowed, however, to interrupt the sessions with children.) Eight arm-bands and four neck-shells were shown, named, counted, and mixed together and the superordinate category firmly established with the subject. In some instances, the experimenter warned the subject that a “tricky” or difficult question was coming next. Then it was put: “Are there many arm-bands or many moke-mel (decorations)?” As noted above, the question had to be in this form, because there are no direct comparatives in Melpa. All subjects understood that a quantitative comparison was in fact being requested. Many, however, still answered, “There are many arm-bands.”

After a while, the experimenter hypothesized that this was largely because the superordinate character of the category “decorations” did not make a strong impression on the subjects, and that they were not accustomed to thinking along the lines required by the test. Instead, presented with what was an implicit pair, “arm-bands + neck-shells,” they dichotomized the pile, and implicitly retranslated the term moke-mel back into “neck-
shells." This was not because "neck-shells" are a more "ideal" form of "decorations" than arm-bands, but simply because arm-bands had been named as an item already in the question. The order of naming in the question was retained because substituting "neck-shells" for "arm-bands" would always produce a formally correct answer, but only as a result of typing the "arm-bands" as "decorations"! Manipulation of the items tended to confirm the hypothesis that pairing predominated over taxonomizing. If more shells than arm-bands were used, the answer switched to "shells." If exactly equal numbers were shown, informants were nonplussed and said, "The numbers are the same" (mel mbo kapokla kapokla or kanda kanda). Of course, this was not so for all. Adult men, in particular, managed to answer correctly (6 out of 10). The samples tested were small and too much significance should not be attributed to the results as such; but observation and discussion both confirmed strongly that pairing did indeed inhibit taxonomizing, and that in this sense the task runs counter to predominant Melpa thought-patterns.

The picture-sort task results further strengthened this view. Informants were asked to place together, in any sets they liked, the pictures used in the original study. Unschool ed men and women, young and old, were chosen from people whom the experimenter has known for 16 years. The numbers were small again (N = 9), and it is not the quantitative pattern of results which is important here. Rather it is that these "tests," which were also tape-recorded for bystanders' comments and those of the subjects themselves, revealed only two overall principles of classification: function and pairing. The two were often related, also, since items sharing a function might be ordered into a pair or pairs. Informants varied greatly in the size of the sets they made but not in terms of the basic principles they used. There were pictures of a man and of a woman, and in two separate instances informants succeeded in grouping almost every item in the pile into gender-linked sets around these two. Beginning, then, with a string of functions (what the man does, what the women does) they each ended in a grand pair, under the title of man/woman. One of the informants here was a young, married woman; the other a middle-aged man.

In another, very striking sequence, two old men, one of very high status (nyim), the other his low-status helper (korpa), separately grouped each picture, again as far as possible, into a pair. The flexibility of pairing is shown in the fact that their pairings were not identical; the strength of the tendency toward pairing is shown in the fact that the low-status man was very worried about a single picture that was left over, and kept tacking it onto the other pairs he had made. The "big-man" also commented as he laid the pictures out: "Let us make them into husband/wife sets"—thus replicating the basic model that informed the very different "surface" pattern produced by the two subjects as noted above. Another phrase used regularly was "Let us make them into helping sets" (mbi kup): the same term as is used for alliances between clans and tribes.

We suggest, therefore, that in the case of the Melpa, pairing is indeed an alternative to taxonomizing, and that interplay between the two patterns requires close attention. In addition, a potential further contrast with Ponam appears: in Ponam, there is great stress on social order, and theoretical hierarchies are matched by an insistence on egalitarianism in practice (A. Carrier 1979; J. Carrier 1979). In Melpa, social life is flexible (see also Sankoff 1972) and there is a stress on the creation of new alliances and the fluctuating rise and fall in status of ambitious big-men. Theoretical egalitarianism is matched by the constant creation of inequality. Order and taxonomy are thus linked in Ponam society and culture, flexibility and pairing in the case of the Melpa.

**FUTURE DIRECTIONS**

The taxonomy has been elevated to an artificially high status as the mode that humans employ to organize and act upon discrete elements in the environment (Rosch, Mervis, Gray, Johnson and Boyes-Braem 1976). The taxonomy is compelling because it is the best
representation of relationships among elements in nature and because taxonomizing is the best strategy for organizing, storing, and retrieving elements (especially words) in memory (for a very striking demonstration see Ericsson, Chase, and Faloon 1980).

Both of these "bests" require substantial qualification, however. The taxonomy is the best way of representing nature given the theory of evolution. Alternate theories of how nature came to be or even indifference lead to other "best" representations. As Shweder (1977) points out, pretechnological societies do not have a monopoly on nonscientific ("magical," "primitive") ways of looking at the world. The recent vigorous resurrection of "creationism" among highly educated and literate peoples underscores this point. Taxonomizing is the best mnemonic strategy given conditions of heavy, complex, or novel information load (Lachman and Lachman 1979). Most experiments on memory involve one or more of these features; moreover, the prime subjects for such experiments have belonged to the student tribe, among *homo sapiens*, the foremost victims of heavy, complex, and novel information loads. Alternate patterns of information load lead to alternate "best" mnemonic strategies.

Interestingly, issues like these must have been a preoccupation of Alfred Russel Wallace a century ago (Gould 1979). Wallace, the coauthor of the theory of evolution, reneged on the theory in excluding man from his rightful place on the evolutionary tree. He did so because he could not reconcile (see especially Wallace 1891) the incredible capacity for humans to process information (as evidenced by the accomplishments of a learned man of society in Victorian times) with the fact that such capacity went largely unused throughout the entire period of human evolution (extrapolation based on his observations of "primitive" peoples in what is today Eastern Indonesia). Wallace's dilemma has never been completely resolved.

*Our* next step will be quite modest. We have designed two new "tests" to use with the Melpa and others. Both involve the use of abstract, pictorial stimuli rather than concrete, verbal material. One test is designed to probe for the presence of taxonomizing strategies, the other for pairing strategies. By moving away from familiar words and situations we hope to discover whether the Melpa preference for pairing is located not only in their language and culture but is also an integral part of their cognitive make-up. Administration of the tests will be sufficiently flexible so that, regardless of their preferred strategy, we can observe how easy or difficult it is for them to learn to use taxonomizing and pairing to solve problems never before encountered.

NOTES

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1 Other follow-up research has probed the relationship between culture and the acquisition of school-based mathematics (Roberts 1978; Roberts and Kada 1979); the acquisition of indigenous counting systems (Saxe 1979, in press a, in press b); children's games (Roleasmalik 1979); patterns of children's social behavior (Lancy and Madsen, in press; Madsen and Lancy, in press); culturally patterned classification and number systems (Cheetham 1978; Kettenis 1978; Pumuye 1978; Smith 1978; A. Carrier 1979; Biersack 1980. and intra-cultural variation in conservation of length (Lancy, Souviney and Kada, in press).

2 Complete details will be provided in Lancy (in preparation).

3 We had not done this in many societies before it became apparent that the resulting tax-
onomies varied greatly in depth. This variation was systematically compared by developing a “complexity index.” The elicited taxonomies had up to six levels; a score of 1 was assigned to terms three levels from the bottom, 2 to terms four levels from the bottom, 3 to terms five levels from the bottom, and 4 to the unique beginner if there was one. These were summed to yield an index for each language. Similar thinking seems to motivate Brown’s (1977, 1979) comparative analysis of the frequency of life-form terms in different languages. For the ten sites, the index varied from 4 to 12, Ponam has an index of 12, Melpa an index of 6. In all of the sites, including Ponam and Melpa, the index is a very good predictor of success on cognitive tasks which require taxonomic processes for their “solution” (Lancy, in preparation).

4 We are somewhat surprised by the Melpa child’s inability to name these plants. Apparently the acquisition of specific and varietal names is a drawn-out process. Compare, for example, the more proficient Mayan child at the same age(s) (Stross 1973).

5 To be sure, there is an age delay compared to Western norms (Dasen 1977) but the pattern of development is very similar. See also Price-Williams’s (1962) comparable findings with the Tiv in Nigeria.

6 From Achsah Carrier’s dissertation research, now in progress, it is clear that Ponam kin terms are structured by a multilevel taxonomy as well.

7 For further details of counting see A. J. Strathern (1977).

8 In the Maplke people’s tribal origin story, two brothers quarreled over the rights to a vegetable garden, and one left home, taking with him a little pig and a bow and arrows. A snake ate his pig (i.e., a wild creature destroyed his last domestic resource), and he traveled on in fear. Coming to a garden, he picked a banana from it and was seen by its owner. This owner, unlike the quarrelsome brother, offered him another bunch to eat and later also sent his sister to see him. The two married, and the stranger handed over his bow and arrows as bridewealth, for it was all he had left. He and his wife had three sons, and these founded the Maplke tribe. The wife was from the Epilke tribe, and since then the two groups have sometimes fought: the Epilke say, “We beat you with the weapons you yourselves gave us” (A. J. Strathern 1979b: 102–103). The Maplke story is cited because it illustrates a further point: the friendship of affines is contrasted with the hostility of brothers, but it too can turn into hostility. Here we see the “opposition scenario” (Schieffelin 1976: 107 ff.) which enters into pairing. Either brothers or affines may be paired; they also may fight. The same is true for the Kawelka and Tipuka groups, between whom there is extensive marrying, exchanging, and fighting. Indeed, exchanges are usually predicated on past hostilities, and it is a death that switches relations into one or the other mode since death itself is the sharpest change of state imaginable.

9 Thus, if the paired groups are not active in the exchange relations, this is a sign that the pairing is in decline, and they will certainly take up a different pairing later. In the Minembi tribe, Yelipi clan was previously paired with Papeke, indeed the two formed an exogamous unit, suggesting that they were earlier paired subclans within a single clan. They fought, however, and broke apart, and the Yelipi were driven out. They were forced to seek refuge in a territory granted them by maternal kinsmen among the Kengeke clansmen of the Tipuka tribe. In succeeding years, via exchanges with the Kengeke and intermingling of residence, the Yelipi began to pair themselves with their hosts rather than with Papeke. This pairing breaks a “rule,” however, in that the Kengeke are already paired with Kendike in their own tribe; and the new arrangement has not been fully established. The Yelipi, in effect, are left without a proper pair-clan, though they have local alliances with a Kawelka clan, the Kundmbo, and with other Minembi to whose territories they have further migrated.

10 This is of interest, given Fortes’s observation that “it is very rare indeed (if it occurs at all) for parent and child to designate each other by the same kinship term in reference or to use self-reciprocal kinship terms in address” (1969:257).

11 What is of further interest to note is that there is no particular relationship posited between the nyim and the korpa, despite the fact of their pairing. A big-man does not directly rely on those who are korpa. Rather, if he has direct helpers at all, they are his wives and children, and kintmant men, “workers” who “help” him. Kintmant is not synonymous with korpa. In fact, an informant,
Nikint, talking about Onombe, who "works for" Ndmaba, Nikint's father, described him as
kintmant-nga wuo nyim mukl, "a truly big-man among workers"; so there is achievement among
kintmant also. However, there is no opposite of kintmant, with which it can be paired. If one writes:
nym — korpa
wuo — amb
? — kintmant

one sees there is a gap in the scheme, precisely where the economic relations might be clearly re-
vealed: The category of "employer" does not appear, because kintmant are not paid. Rather, they
are represented as absorbed into the nexus of kinship-based ideology: they "help" big-men, in the
capacity of "brothers" or like "female men." Stereotypes have developed also to assimilate such men
to the category of those who are small (kel); or short (etamb); or ugly (kit), and therefore unattract-
tive to women; all patent rationalizations rather than accurate descriptions, though over time such
kintmant men may come to resemble their stereotypes.

12 Because it is the immortal part, min is stressed nowadays by Christian converts, who use the
min-king axis to index heavenly versus earthly things; yet it is noman which is by far the more im-
portant concept in ethics among the living.

13 We are much indebted to Achsah and James Carrier for establishing this point about Ponam
through their field research, and thus enabling a contrast to be made with the Melpa.

14 Just as the big-man social inequality syndrome is characteristic of most of the (formerly) New
Guinea Highlands, our reading of the admittedly scarce literature on symbolic anthropology for the
region indicates that pairing is also widespread. The Paiela in Enga province (Biersack 1980), the
Kewa in the Southern Highlands Province (Leroy 1975) and the Oksapmin in the West Sepik Prov-
ince (Perey 1973) all have world views in which pairing is important and none are even remote
"neighbors" of the Melpa. The six Highlands languages which Brown (1979) used in his survey all
encode "mammal" via binary opposition (e.g., "large mammal"/"small mammal"). Examples can
be found outside the region as well (e.g., West New Britain; Valentine 1963).

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