Definitions of Cross Versus Parallel: Implications for a New Typology (an Appreciation of A. Kimball Romney)

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Following a brief introduction to typologies and the background of classifications of kinship terminologies, the author addresses this problem of needed revisions in our typology of kin terminological systems. First, he lays out an example involving the definition of cross versus parallel features in Dravidian- and Iroquois-type terminologies in which a lack of attention to explicit formal characterizations of systems has led to needless confusion. Second, he turns to the problem of developing that new general typology for kin term systems. The findings that produce the need for a new typology depend on analytic advances since Murdock's codification, and so he offers a brief overview of those advances and the findings that necessitate typological restructuring.

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Typologies provide the sets of categories into which we sort our ethnographic cases and the variables we use to categorize those

cases. Typological decisions determine what content or attributes of ethnographic descriptions are brought into systematic ethnological treatments. Often, moreover, comparative typological definitions are relied on for the categories we use to structure our actual ethnographic descriptions. It was the reliance on such categories[1] that drove the ethnoscience attempt at reforming ethnography by grounding it in the "emic" (see Pike, 1954/1967) categories of the people being described (for early examples, see Conklin, 1955, 1962; Frake, 1961, 1962; for a fuller and more worked out approach, see Frake, 1964a, 1964b). But however we may approach ethnography, we cannot compare across cultural systems without a comparative framework represented by typologies.

The traditional typology of the kinship terminological system was based on diagnostic features of recognized types,[2] but the types were not formally defined and there was no formal linking of the features to the systems they were supposed to represent. Some so-called types that did not distinguish coherent groups of systems (such as Murdock's [1949] "Sudanic" cousin type) pretty much dropped out of use. In areas such as kinship (but also in ethnobotany and in ethno-agricultural studies), typologies have not kept up with analytical advances, although some ad hoc typological distinctions have been introduced for systems that were similar to one another but that did not fit neatly into any of the accepted types. For example, ever since Lounsbury's (1964a) classic early componential analysis paper, we have known that Iroquois and Dravidian kinship systems represented two radically different terminological systems with crucial differences in their relationship to social categories. Yet the traditional classification of cousin terms often used in cross-cultural studies does not distinguish Dravidian- from Iroquois-type systems. Lounsbury's distinction between Iroquois and Dravidian types is an example of typological distinctions introduced by authors that are not (yet) integrated into the basic ethnological typology. Thus, we still see otherwise sophisticated cross-cultural studies looking, inter alia, at the relationship between what are called Iroquois-type cousin

terms and various social features (some of which involve marriage patterns)—but where the Iroquois rubric includes both Iroquois- and Dravidian-type systems (such as Korotayev, 1999).

In this article, I address this problem of needed revisions in our typology of kin terminological systems. First, I lay out an example involving the definition of cross versus parallel features in Dravidian- and Iroquois-type terminologies in which a lack of attention to explicit formal characterizations of systems has led to needless confusion. This example illustrates the role that formal systems play in type definitions, the way that psychological and social considerations are relevant, and the way in which new questions sometimes necessitate revisiting old theoretical constructions. Clarification of the issues raised by the contrast between Iroquois and Dravidian kinship systems can help develop a standard for a revised typological framework.

Second, I turn to the problem of developing that new general typology for kin term systems. The findings that produce the need for a new typology depend on analytic advances since Murdock's (1949) codification, and so I offer a brief overview of those advances and the findings that necessitate typological restructuring. (For more on this topic, see Kronenfeld, n.d.) I do not offer a full and revised typology because (a) the logical (or mathematical) relationships among the various potentially relevant distinctions are not well understood; (b) the important ethnographic data on systemic, cognitive, and use aspects of many of these distinctions are still missing; and (c) we still lack an adequate understanding of the ethnological or comparative predictive power of these potential kin terminological types to other social, cultural, or psychological variables. My goal in this discussion is to help contribute to eventual typological revision by encouraging the ethnographic and ethnological work that will address these points.

SOME HISTORICAL CONTEXT

Before entering into the central argument of this article, let me review some of the major advances in the study of kinship terminologies that have come after Murdock's (1949) stocktaking. In this overview, I will take the successive advances as they were framed at the time and will not raise some of the questions about them that we would need to ask today if we were to consider their current import. These questions primarily concern the goals that an

analysis addresses and the perspective from which it addresses them. Goals can include a characterization of the denotative definitions of the set of kin terms or a characterization of the terms' connotative associations and regularities. Perspectives can be either the interior "emic" ethnographic one of speakers of the language that includes the terms or the exterior, ethnological one of comparative treatments; related are the questions of whether one is simply describing the regularities of a system as opposed to representing the system's underlying structure and whether a representation of the structure is in terms of an outside analytic language or based on a formal presentation of the system in its own terms.

Componential analysis, as initially developed by Goodenough (1956) and Lounsbury (1956, 1964a), was an approach to the formal analysis of kinship term semantics that was modeled on Prague School phonological analysis (see Trubetzkoy, 1969). Componential analysis involved working from a reasonably full distribution of referents of terms in a domain back to the semantic distinctions (i.e., components) that defined the terminological categories. Relevant components included attributes such as sex of relative, generation, relative age (i.e., elder vs. younger), direct versus collateral, and so forth. Romney (1965; Romney & D'Andrade, 1964) significantly advanced componential analysis by introducing a new notational scheme and a clearly defined analytic procedure. Componential solutions produced feature definitions that applied to the complete set of denotative referents of analyzed categories; for example, in a componential analysis of English kin terms, one's own first cousin, one's grandfather's first cousin, and the grandchild of one's grandfather's first cousin would not in any way be distinguished from one another as referents of the cousin category.

As the first attempt at formal analysis of cultural or semantic domains, componential analysis played a pivotal role in the development of later cognitive and mathematical work in anthropology. Making a theoretical contribution whose import still has not been fully assimilated in anthropology, componential analysts made clear that terminological systems were more than collections of isolated terms or simple patterns indexed by diagnostic equations. "Equations" refers to the falling together of two kin types—two kinds of genealogically defined relatives—into the same kin term category; "diagnostic equations" were those that were considered characteristic of some terminological type. Instead, it was shown

that terminological systems had to be analyzed and understood as coherent, integrated systems in which terminological assignments of referents were derived from an explicit set of (axiomatic) concepts and operations—as we shall see in the distinction between Iroquois- and Dravidian-type systems.

Subsequent to the development of componential analysis, Lounsbury (1964b) offered an analytic alternative to it for the study of kinship semantics—and thus for semantic studies in general. He showed that Crow- and Omaha-type systems (which were extremely difficult to analyze componentially) could be quite easily analyzed via a different approach, now called extensionist. Lounsbury found a small set of rewrite rules that, when applied iteratively, allowed the full ranges of kin-type referents of each kin term in a given system to be reduced—through a succession of simpler kin types—to a kernel kintype referent—now spoken of also as a focal, core, or prototypic referent. An example of such a rewrite rule, here one from the Crow-type skewing rule, is that someone's mother's brother's son, as a linking relative, may be rewritten as (i.e., is terminologically equivalent to) that someone's mother's son. The new kind of kinship rule was based on relative products rather than on the class intersections of componential analysis. Relative meant that the product of mother times brother (i.e., mother's brother) was different from the product of brother times mother (i.e., brother's mother). In his analyses, Lounsbury used the traditional notational scheme built around English kin terms for immediate relatives; these sometimes made the genealogical patterns and the relationships between different genealogical strings hard to follow. Romney's (1965) new notation system (Romney & D'Andrade, 1964) more closely mapped actual genealogical features and offered a better medium for representing kintype expressions and Lounsbury's rules. The new notational scheme and analytic approach provided the basis for Kronenfeld's (1976) successful construction of a computer program for analyzing kinship terminological systems.

The semantic analysis of words—here, kin terms—has two aspects. One analytic problem concerns the delineation of which kin types go together in any given kin term category (spoken of as reference or reference relations); a separate problem concerns the attributes that distinguish one kin term category from another (spoken of as sense or meaning relations), that is, how does father relate to or contrast with mother, uncle, and so forth. Early whole category componential analysis attempted both tasks, if not entirely

satisfactorily. The newer Lounsburian system of relative-product-based rewrite rules reduced the range of kin-type referents of each kin term in a given system to a focal kin type, thus accounting for what went together in a given category. However, this new analytic approach did not offer any way to treat the sense relationships among different kin terms in the system. What has emerged gradually in later work is the understanding that these interterm relations are best handled by a more restricted form of componential analysis that only considers and applies to the set of focal referents of the various kin terms. The core referent versus extended referent approach to semantic analysis was extended by Berlin and Kay (1969) to basic color terms, although without the relative product calculus that seems peculiar to the kinship domain (see also Kempton, 1978, 1981; Kronenfeld, 1996; Rosch, 1973, 1978).

Since Lounsbury's work, other relative product approaches have been developed based more closely than earlier approaches on native speaker definitions and reasoning and using native concepts (i.e., kin term categories) in the mechanics of the actual formal analysis. These are formalizations of one sort or another of definitions such as someone's uncle's child is that someone's cousin. These analyses operate on kin terms, whereas Lounsbury's form operates on kin types. Each approach has advantages and disadvantages (Kronenfeld, 1980b).

Each method for terminological analysis implies a typology by grouping together different terminological systems that are based on similar categories or operations or by distinguishing terminological systems that are based on contrasting categories or operations. The typological products of each method also are important because of the implications regarding what data need to be collected and what are appropriate categories for intersystem comparisons. An important question concerns how the typologies of the various methods relate to one another.

In their study of sibling typology (see also Kronenfeld, 1974), Nerlove and Romney (1967) greatly advanced our understanding of the importance and usefulness of a good typology, especially one that combines a careful logical analysis of potential types with a consideration of the attributes that structure empirical relevance. That is, Nerlove and Romney compared the logical categories produced by their abstract typological framework with the types that actually were found to occur empirically. They identified the principles (here, cognitive constraints on human information processing) that distinguish types that occur from types that do not and

used those principles to greatly simplify their resulting typology (4,140 logical possibilities reduce to 12 occurring types). The simplification, although empirically based, is neither capricious nor ad hoc but is carefully derived from general cognitive findings from psychology and linguistics. The kind of comparison made by Nerlove and Romney could serve as a model for future ethnological and ethnographic work.

PARENTS' CROSS VERSUS PARALLEL STATUS IN DRAVIDIAN- AND IROQUOIS-TYPE SYSTEMS

An example of an empirical perspective growing out of Romney's kinship work concerns the general definition of a cross versus parallel distinctive feature. In brief, the prototypic parallel relative, a parallel cousin, is the child of one's parent's same-sex sibling, and the prototypic cross relative, a cross cousin, is the child of one's parent's opposite-sex sibling. Analytic issues concern the applicability of the distinction to more distant relatives in one's own generation and to relatives in the generations of ego's parents and children, including the definitions that might apply to such applications and the analytic benefits that might flow from such wider applications.

Two major alternative applications of the distinction to more distant relatives have been empirically identified: Dravidian- and Iroquois-type patterns (noted by Morgan in 1871). Lounsbury formally defined the distinction and noted some social concomitants. An implication of this distinction that is unclear concerns the cross versus parallel status of ego's parents in systems with a Dravidian-type cross and/or parallel feature, and it is to that issue that I now turn.

The problem seems interesting and worthy of attention because authors (e.g., Fat, 1998, and Allen, 1998, in the 1993 Maison Suger conference) have made different presuppositions about the cross or parallel status of ego's parents (and reciprocally ego's children). Some treat both parents as parallel (e.g., Fat, 1993; Keesing, 1975) and others treat one as parallel and one as cross (e.g., Allen, 1998; Kronenfeld, 1973, 1980a). I say "presuppositions" because the issue has not been explicitly discussed, at least in any general form. Lounsbury's (1964a) analysis had already provided a definition of cross versus parallel relatives that was general across the three medial generations (ego's, ego's parents, and ego's children's generations) and general for Iroquois-type systems—and that

explicitly contrasted the cross and/or parallel status of distant relatives of ego's generation in Iroquois-type systems with their status in those of Dravidian type. In the parental generation, similar contrasts were shown between the two types of systems in their classification of ego's parents' siblings and cousins. Lounsbury's Iroquois analysis treated both parents as parallel but offered no Dravidian comparison.

Some scholars have been tempted, on the basis of Lounsbury's model, to treat both parents generally as parallel in all types of systems that make the cross and/or parallel distinction. At the same time, however, Lounsbury's (1964a) article had made explicitly clear that there could be no general definition of cross and/or parallel that worked for both Iroquois- and Dravidian-type systems because it was precisely in the definition of the extended range of the cross versus parallel distinction[3] that the two types of systems differed from each other. Tyler (1966) discussed kinds of cross and/or parallel variability. In analyses of the matrilineal Fanti terminology with Cheyenne-type and Crow-type variants (Kronenfeld, 1973, 1980a), I treated mother as parallel and father as cross.

Thus, my original goal in this article was to find an efficient, multigeneration definition of the Dravidian cross and/or parallel feature that would enable explicit componential analyses of the extended ranges of Dravidian systems similar to Lounsbury's analysis of Iroquois-type systems. I wanted to find a general Dravidian-type cross-parallel feature (i.e., definition of the difference between cross and parallel relatives) that was comparable to Lounsbury's Iroquois-type feature. Second, it seemed desirable that the feature should be consistent with the widely shared (although assuredly not unanimous) view that kin term categories have focal referents and extensions.[4] The solution turned out to be one that Paul Kay (1965) had already arrived at but of which subsequent authors, myself included, had missed the import.[5]

THE SUBSTANCE OF THE CONTRAST

Cross and parallel are analytic anthropological concepts rather than overt native emic ones (such as father, Smith family, or Anona *ebusua*, Fanti for Anona family, which refers to a lineage or clan depending on context). In the case of an emic concept, one can ask whether some formal definition of the concept is accurate; that is, does the formal definition accurately capture some indicated aspect

of the meaning of that concept—whether it be reference, connotation, conditions of use, or something else. Among alternative accurate definitions, we can then consider which are more or less useful for some given purpose. In the case of analytic anthropological concepts where we are matching no overt native category, there exists no separate accuracy issue; we have only the criterion of their usefulness for one or another analytic purpose—albeit we recognize that "useful" in this context can imply strong claims about the native cognitive structuring that produces the observed regularities.

Lounsbury's argument for his Iroquois solution[6]—which involved treating both parents (along with their same-sex siblings) as parallel—depended on the fact that with his generalization, he was able to cleanly (i.e., conjunctively or using a single logical specification) define a single cross and/or parallel feature that applied equally to all three medial generations (G_{+1}, G_0, G_{-1}). There was nothing obviously counterintuitive about this because Iroquois-type systems have no systematic marriage rule involving cross versus parallel cousins and thus no structural reason for linking the social group affiliations of ego's parents with the affiliations of ego and ego's spouse.

Kay (1965) was able to define a comparably general (and conjunctive) cross-parallel feature for Dravidian-type systems.[7] Rather than taking both parents as parallel (as is sometimes done on the model of Lounsbury's [1964a] Iroquois work), it makes more sense—for Dravidian-type systems—to take one parent as parallel and one as cross (which parent is which depends on rules of succession, kin group affiliation, and so forth). This makes the relationship of cross-parallel to sociological attributes (including the group affiliations of spouse pairs for different generations) very neat and clean (as discussed later) and makes conceptualizing intergenerational cross-parallel relations much simpler.[8] Because in Dravidian-type terminologies people marry their cross relatives and not their parallel relatives, the idea of having one parent parallel and one parent cross makes mom and dad relationships more regular (i.e., a cross relative is married to a parallel relative in G_{+1}, paralleling what happens in G_0) and—if translated into some "we versus they" or "we marry them" conceptualization—seems not to place any undue cognitive difficulty on the child. In a patrilineal version, Mom is cross; Mom's child is unlike Mom and hence parallel, as is Mom's sister's child. Mom's brother is like Mom and hence cross, as is his child. Dad's sister is like Dad (parallel); her child is

unlike her but like her husband and hence cross. This is the logic that Kay formalized.

THE CURRENT ISSUE—WHAT DOES IT TELL US?

Having outlined some of the issues involved in the contrasting cross-parallel definitions (whether both parents are treated as parallel or one as parallel and one as cross), I would now like to move on to the empirical problem that definitional contrast posed: Which definition is more useful in telling us about the mental and social lives of the users of relevant terminological systems. That is, given the indicated differences between Iroquois- and Dravidian-type systems in their extended definition of cross versus parallel relatives, what might we want to infer or understand about other aspects of the culture or social lives of the people who have one or the other system? What about the relevant people's cognitive or social lives produces uniformity in terminological patterns that we see within types and the contrast we see across them—especially where the focal kin types for the two types of systems are essentially identical.

In "Morgan vs. Dorsey" (Kronenfeld, 1989), I suggested, unoriginally, that the Dravidian-type way of extending the cross and parallel categories directly reflected a we/they moiety-like system in which "we" marry "them." I noted that the potentially complex genealogical tracking involved in the cross and/or parallel determination (that is, in calculating the assignment of kinfolk to the terminological categories that map onto the analytic cross and/or parallel feature) could easily be avoided in ordinary practice by reasoning from the we versus they status entailed either by moiety membership or by the kin terms distinguishing moiety membership (whether the moieties be explicit or only implicit). However, without the cognitive framework provided by such social categories, the cognitive difficulty in such tracking would make the Dravidian type an unwieldy system for its users. Conversely, I could find no social correlate of Iroquois-type calculations, meaning that the Iroquois cross- and parallel-extended categories reflected no social categories and that no social categories were available to facilitate terminological calculations. However, a simpler Iroquis rule for cross and/or parallel determination eliminated any potential cognitive need for such a social correlate. Because I could find no other directly useful function served by the

Iroquois-type contrast, I concluded that Iroquois-type systems represented either what Dravidian-type systems degenerated into when the structuring social categories were lost (and thus the terminological calculations became too unwieldy) or what was produced when cultures without the relevant social categories attempted to emulate the kin reckoning of cultures that did have such categories. In either historical scenario, the basic set of kin term categories and the componential relations among their focal referents remains unchanged, but the basis by which the kin categories are extended out to more distant relatives changes significantly from the Dravidian-type base to that of the Iroquois.

In a different way of conceptualizing the contrast between Iroquois- and Dravidian-type systems, we note that Dravidian-type cross and parallel categories are intrinsically sociocentric (Kronenfeld, 1989); that is, the categories produced by the cross and/or parallel distinction are constant across all perspectives or points of entry (even if the determination of which category is cross and which parallel depends on to which group the reference person belongs). This sociocentricity makes attractive an analytic appeal to a social consistency—for example, that the categorical attributes of ego's parents' marriage and other marriages in their generation be not unlike the attributes of marriages in ego's own generation.

The social parallels, then, seem very neat for Dravidian-type systems, but they do not work at all for Iroquois-type systems. Iroquois-type systems entail no presumed marriage relations— and they are intrinsically egocentric, which makes more sensible the traditional treatment of Mom and Dad as both parallel. They are egocentric in the sense that two given genealogical relatives can be in opposed categories (i.e., one cross and one parallel) from the perspective of one of the relatives while in the same category (i.e., both parallel) from the perspective of the other. (See Kronenfeld, 1989, for a fuller discussion of these cognitive and social issues.)

I want to suggest, then, that the difference in the cross and/or parallel status of ego's parents in the two types of systems reinforces the analytic suggestions made previously concerning the social and psychological factors that have helped to shape the two types of kin terminological systems. In Dravidian-type systems, what makes mother different from father is that ego belongs to the social category of one parent and not of the other, and the terminological system reflects that fact. Links through the one parent stay

within ego's social category (are parallel), whereas links through the other parent move over into the opposed category (are cross). The system is thus asymmetric. In systems lacking such analytically affinal social categories, such as Iroquois-type systems, the two parents are equivalent relative to any features that affect the terminology, and so the calculations, besides being simple, are also symmetric. The differences between the cross and/or parallel status of parents in the two types of systems reflect the fact that one presumes a marriage relationship between social categories whereas the other does not.

TOWARD GENERAL CONCLUSIONS: WIDER TYPOLOGICAL ISSUES

In view of the preceding example (and from others such as Gould, 2000; Kronenfeld, 1976, 1980b, 2001a, 2001b, 2001c), I want to urge that our basic typologies need rethinking. In the discussion that follows, I shift my focus from Dravidian- and Iroquois-type terminologies to the full range of terminologies that appear in our typologies of kin term systems and similarly from the cross and/or parallel attribute that distinguishes Dravidian-type systems from those of Iroquois type to the broad range of attributes that have figured in the definitions of our present range of types and in the distinctions among types. Our present classification of types of systems seems to have something of a haphazard "apples and oranges" quality when we try to consider what kinds of factors structure the systemic ethnological differences among types. The kinds of attributes or information that structure some contrasts between types are quite different from the kinds that structure other contrasts. The contrasts between types sometimes obscure empirical relations found between types.

Some differences among types of kin terminologies represent an addition (or subtraction) of distinctive features within the paradigm of focal referents (Kronenfeld, 1996, 2001a). Hawaiian-type systems can be seen as based on a basic generation feature, whereas Iroquois- and Dravidian-type systems taken together can be seen as adding a cross and/or parallel feature to that generational one. Cheyenne-type falls in between by applying the cross and/or parallel feature to ego's parents' and children's generations but not to ego's own. The series formed by Hawaiian, Cheyenne, and Iroquois and Dravidian types invites the kind of analysis that

Hage (1998a, 1999b, 2001) has been exploring in a number of recent papers. One might want to add a second series linking generational Hawaiian type to Eskimo type based on the Eskimo's addition of a nuclear family versus a non–nuclear family distinction to the generational base, leaving aside arguments regarding the uniformity of Eskimo as a type and not worrying about whether the Eskimo-type nuclear family addition is framed in terms of lineality (as in Wallace & Atkins, 1962) or in some other way (e.g., in Romney & D'Andrade's [1964] direct versus collateral distinction). I should note, of course, that a logical ordering of Hawaiian to Dravidian types does not necessarily imply that the simplest system (here, the Hawaiian type) represents the earliest. Movement can be in either direction (addition of features or subtraction), and one can imagine other starting points (from which subsequent movement takes place) besides the simplest Hawaiian type—depending on the kinds of situations that one sees as first giving rise to kinship reckoning.

Sometimes Crow- and Omaha-type systems are treated as if they belong on the preceding scale with Hawaiian and Iroquois and Dravidian types, but my own work suggests that a totally different factor (from the accumulation of distinctive features that structure that scale) is at play: the presence of a skewing extension overlay (over one of the other types) that happens to have the systematic effect of deleting cross-cousin categories. In skewing, a pair of cross (first) cousins get treated terminologically as if they were parent's sibling and sibling's child to each other—and more distant relatives linked through these cross cousins have their terminological categories shifted, consistent with the cross-cousin shifts. Thus, in a Crow-type system, someone's mother's brother's child becomes terminologically equivalent to that someone's brother's child (and, reciprocally, someone's father's sister's child becomes terminologically equivalent to that someone's father's brother or father's sister). Furthermore, mother's brother's child's child becomes terminologically equivalent to brother's child's child. In an Omaha-type system, father's sister's child becomes terminologically equivalent to that someone's sister's child (and, reciprocally, mother's brother's child become terminologically equivalent to mother's brother or mother's sister). Again, the wider consequences hold; the person's father's sister's child's child becomes terminologically equivalent to that person's sister's child's child. Lounsbury (1964b) describes the wider regularities and provides a set of rewrite rules that captures the equivalences.[9]

The potential relevance of extension patterns to our typological considerations is reinforced by the discussion earlier in this article of the contrast between Iroquois and Dravidian types in which there is no difference in the paradigm of focal referents (and thus in the distinctive features that structure that paradigm) but in which there are systematic differences in the extension patterns correlated with social and cognitive features. Differing patterns of extension from identical focal referents (or differences in the systematic equivalences that generate these patterns) offer another way for types to contrast with one another.

Morgan's (1871) major distinction between classificatory and descriptive systems (based on whether lineals are systematically classed with collaterals[10]) is still useful. Read and Behrens (1990) and Gould (2000) demonstrate the basic importance of the distinction for the formal understanding of kin terminologies. However, the distinction obscures an interesting similarity between Iroquois and/or Dravidian and Eskimo types. Iroquois- and/or Dravidian-type systems show the kind of grouping anthropologists commonly refer to as bifurcate merging (grouping father's brother with father), whereas Eskimo-type systems show the kind of grouping anthropologists commonly refer to as lineal (grouping father's brother with mother's brother; see Greenberg, 1966).

Gould's (2000) exterior (non-emic), ethnological analysis and Read's (1984, 2001; Read & Behrens, 1990) inside, ethnographic analysis offer similar algebraic accounts based on the productive equivalences that mathematically generate the terminological systems being analyzed. Gould defines structural types based on the different sets of kin category equivalences. His typology captures in a comparative ethnological frame the structurally relevant defining features of a wide range of terminologies. Because of their ethnological perspective and his focus on shared properties, which characterize classes of systems, his derivations leave out some of the local detail of different specific terminologies. It is too soon to tell how productive this typology will be for cross-cultural comparisons of social concomitants of kin term systems, but it seems likely that it may subsume the Murdockian and Lounsbury systems.

Read (1984, 2001; Read & Behrens, 1990) has developed an algebraic analytic approach with a computer implementation that is emic and ethnographic. His procedures analyze kin term systems as systems of symbols based on an emic product of kin terms from which the structure implicit in the kin terminology viewed as a

system of symbols can be produced. The definition of kin terms in the form of genealogical categories can be determined from the algebraic representation. His structural approach includes the detail of each particular system and provides a different mode for comparisons of terminologies than occurs within the ethnologically oriented approaches. It enables comparisons of the formal shape of rule systems across terminologies as well as comparisons of the resulting structure represented by the interrelations among the categories. It will be interesting to see what ethnological insights might result from such comparisons.

CONCLUSION

Although I have not offered a new typology for organizing the universe of kinship terminologies, I have discussed limitations of present typologies. Some analyses entail potentially useful typological attributes. It is possible that one of these analyses may provide the typological restructuring that is needed, but this seems unlikely. I think it more likely that any new, generally and broadly empirically useful typology will have to embody elements from several of these approaches. The empirical question concerns which of these various formal approaches or considerations are useful in terms of enabling clean and powerful linkages between terminological systems on one hand and social, cognitive, and/or historical attributes on the other.[11]

Typology, especially the possibility of a kin terminology typology that facilitates the finding and expression of powerful empirical regularities, brings us back to Professor Romney. The typology of true sibling categorizations that he and Nerlove produced stands as a shining example, with its blending of creativity, logic, psychology, and empirical kinship, of how to approach the typologizing enterprise.

Notes

1. I am avoiding the word *etic* here because in anthropological use, it often connotes an idea of objectivity or scientific validity, and I do not want necessarily to invite any such claim for the comparative ethnological categories I am discussing.

2. The list of types gradually grew as ethnographers found new terminological patterns. The most recent was by Murdock (1949), who also gave us diagnostic features (terminological equivalences) for each.

3. That is, as the distinction applied to cousins more distant than first cousins.

4. In brief, in semantic approaches that contrast focal referents with extended referents—spoken of as extensionist semantic approaches—semantic categories are defined in terms of focal (kernel, core, or prototypic) referents and other referents are defined relative to these focal ones. The semantic distinctions (the components of componential analysis) that distinguish categories from one another apply not to the complete sets of referents of the contrasted categories but to the focal referents of each. Similarly, what are sometimes spoken of as essential properties of categories only necessarily apply to focal referents. The approach derives from work by Lounsbury (especially 1964b) and Berlin and Kay (1969); the idea was borrowed from Berlin and Kay by Rosch (1973, 1978; and see Rosch & Mervis, 1975), for example, in psychology but in an overly simple form that incurred some serious problems. See Kronenfeld (1996) for a presentation of my version of this approach as it applies to word semantics in general; that treatment includes an overview of the relationship of my approach to that of others (such as Rosch's), of the history of componential analysis, and of the relationship of extensionist approaches to componential analysis.

5. A relevant and important question concerns why the importance was missed by many serious scholars of kinship terminologies. Some of the reasons are mundane and analytically uninteresting if assuredly relevant. Part of the problem was that readers at the time were not particularly aware that there was any serious issue concerning the cross versus parallel status of parents and thus did not pay much attend to that particular aspect of Kay's treatment—an aspect that Kay himself did not foreground. Part of Kay's problem, as he suggested in his 1967 work, was that he had not been totally clear about the intended range of applicability of his analysis. It also did not help that he did not relate his analysis to Lounsbury's Iroquois analysis.

But I want to suggest that at least one reason is of some more general interest and speaks to the need for us to revisit old analyses as analytic issues change or evolve—where pertinent analytic issues include the goals of analysis, the understandings or presuppositions we bring to an analysis, and the scope and power of our formal analytic tools. I think that at least part of the reason that I and others missed the import of Kay's article was that a concern with such issues as the technical definition of a cross-parallel feature (a feature most anthropologists tend to speak of only in rough and general terms) struck even formalist anthropologists as a kind of mathematical arcanity that had no particular substantive or cultural import. Many of us read Lounsbury's article as being about the existence of systematic differences between Iroquois-type systems and those

of Dravidian type (including his observation that the latter was consistent with moieties whereas the former was not) without going too deeply into the technical aspects of the actual definitions, especially regarding issues not foregrounded by Lounsbury in his presentation. On the other hand, it was my more recent concern with the social and cognitive implications of alternative forms (here, of the cross-parallel distinction) that led me to the concern with the cross versus parallel status of ego's parents.

6. In Lounsbury's Iroquois solution, if ego and alter are of the same generation, then one compares the sexes of the parents through whom they are related to each other. If ego is a generation above alter, then the comparison is of ego's sex with that of alter's linking parent. If alter is a generation above ego, then the comparison is of alter's sex with that of ego's linking parent. If the compared relatives are of the same sex, then ego and alter are parallel relatives; if the compared relatives are of opposite sexes, then ego and alter are cross relatives.

7. Kay's solution for Dravidian-type systems involves counting the number of parent-child links between ego and alter for which the parent's sex is opposite to the sex on which the system's unilineality is based—hence, female parent links for a patrisystem and male links for a matrisystem. An odd number of such links produces a cross relative, whereas an even number produces a parallel relative.

8. This solution to the cross-parallel feature is logically equivalent to a formalization of a bilateral alliance system because the moiety relationship considered here involves the presupposition of marriage between the moieties. But the two approaches foreground differing approaches to the calculations involved and about the implied native cognitive operations. Thus, the difference between the two approaches seems important.

9. Lounsbury's types (I, II, III, IV, and V) concern whether, in some given system, skewing applies not only to cross cousins but also to parents' cross-sex siblings on one side or the other.

10. Morgan (1871) uses classificatory and descriptive in what we see as several different senses. One—the most useful—distinguishes as classificatory systems in which lineal relatives are terminologically grouped with collaterals and opposes such systems to descriptive systems that consistently distinguish lineals from collaterals. Hawaiian-, Cheyenne-, Iroquois-, Dravidian-, Crow-, and Omaha-type systems are all classificatory, whereas Eskimo-type systems are descriptive. Kroeber (1909) focused—critically—on another, less useful sense of Morgan's distinction in which descriptive means that each genealogical position gets its own kin term, whereas classificatory means that several genealogical positions are placed together in a single kin term. By Kroeber's interpretation, most English kin terms are descriptive, whereas *cousin* in English is classificatory.

11. Of these potential typologizing bases, that of the distinctive feature components, especially (in effect although not explicitly) the version that

attends to the components that distinguish focal referents of terminological categories from one another, has been the most studied–since Murdock's (1949) classifications of aunt and cousin terms had already picked much of it up (even if the single-sex emphasis tended to preclude exploration of some marking effects). Significant starts have been made for other typologizing bases. Lounsbury's classic Iroquois analysis brought to our attention the sharp differences between Iroquois- and Dravidian-type cross-parallel definitions. Greenberg (1966), in the work on which Nerlove and Romney's (1967) sibling typology article was based, introduced the application of marking to the comparative treatment of kinship terminologies. More recently, Trautmann (1981) has contributed a historically considered comparative treatment of terminologies in the Indian subcontinent that makes use not only of distinctive focal components but also of Lounsburian equivalence rules. N. J. Allen (1998) has offered a potential developmental sequence that addresses some typological issues and that involves a consideration of some basic extension patterns. Hage (1998a, 1998b, 1999a, 1999b; also see Hage, 2001) has contributed historically oriented comparative treatments of Oceanic systems and Salish that are based on an application of Greenberg's (1966) marking theory via graph theory to terminological comparisons. F. K. Lehman (1993, 2001; Lehman & Witz, 1974) has been systematically exploring the structure of kin terminologies. Kronenfeld (2001b) has used Sydney H. Gould's formalism to address some relevant terminological issues concerning social features and historical transitions. On the emic side, Ian Keen (1985) has provided an analysis based on a natural language approach. Read (1984, 2001) has provided a formal algebraic treatment based on native speaker categories and operations.

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