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TOWARDS AN
AXIOMATIC
FORMULATION OF
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INSIGHTS

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Thinking Scientifically about Kinship – towards an axiomatic formulation of ethnographic insights¹

Patrick Heady²

Abstract

Progress in kinship anthropology has been slowed both by real difficulties in analysing complex data and by poor communication between competing schools of thought. Formulating ethnographically-based insights as axioms should make it possible to explore their implications more thoroughly and to test them more systematically. It may also facilitate comparisons between theoretical and empirical results obtained by social and cultural anthropologists and those obtained by evolutionary anthropologists – with potential benefits for anthropology as a whole.

¹ The ideas in this paper, including the appendix, have come together gradually. I am very grateful to colleagues at this Institute and on the *Kinship and Social Security* (KASS) project for many conversations about the themes discussed here. In the last three years I have also benefited greatly from the chance to participate in Dwight Read's and Fadwa El Guindi's kinship circle at the American Anthropological Association annual conference, and from correspondence with Dwight Read, David Kronenfeld and Bernard Chapais. Siri Lamoureaux introduced me to some of the linguistic literature on kinship terminology.

The main paper originated during conversations with Günther Schlee about the theoretical background to what has now become the project on *Kinship Universals and Variation*, and valuable comments on an earlier draft were made by the editors of *Bulgarian Ethnology* (a version of this paper has appeared in *Bulgarian Ethnology* 2013 issues 3 and 4.), by Mikolai Szoltysek and Martine Guichard and by John Eidson. A recent lecture by Steve Reyna helped me rethink the opening paragraphs about interpretative methods and scientific generalisation.

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Introduction

The title of this paper expresses an aspiration that has been out of fashion among social and cultural anthropologists for several decades – even though, until the 1960s, kinship was widely seen as the area in which anthropologists had made most progress towards the then widely accepted goal of establishing a natural science of society. Looking back, most social anthropologists would think the optimism of those days was an illusion. Several factors have contributed to this change of view. The focus of interest within kinship studies has shifted away from the earlier concerns with property, residence, marriage rules, political structures, and terminology, towards greater concern with gender, domestic roles, and the creative management of relationships – with the result that earlier work seems less relevant than it once did. Another factor has been sharp criticism of particular theoretical constructs – including the various versions of structuralism and functionalism, quasi-legal notions of corporate lineages, and culturally inappropriate ways of understanding kinship ties.³

However, the rejection of the earlier tradition of kinship studies is not just a question of particular interests and theoretical constructs. There has also been a widespread rejection of the natural science analogy and of the search for universal laws that might underlie the varieties of observed practice. As Carsten points out (2004: 18), this rejection – which extends beyond kinship studies to many other fields of socio-cultural anthropology – has been accompanied by an emphasis (associated particularly with the work of Geertz (2006 [1973])) on interpretive ethnography, whose aim is to understand what people do in specific situations in terms of the meanings that the situation itself, and alternative courses of action, have for the people concerned. This change in intellectual goals has often been described as “the interpretive turn”, a metaphor which suggests that turning towards interpretation must involve turning away from scientific generalisation. And in fact there is considerable literature which asserts that the use of interpretive methods is incompatible with the formulation and testing of scientific hypotheses.⁴

But are interpretation and science really incompatible? There are strong reasons for thinking that they are not. Any scientific investigation of thinking, intentional creatures, of which humans are the most striking but not the only example, must include hypotheses about their thoughts and intentions (i.e. it must include interpretations). There is no obvious reason why some aspects of these thoughts and intentions should not be species-wide and subject to common causes and constraints. The idea that many aspects can be generalised in this way underlies the well-known doctrine of the “psychic unity” of humanity, which would be accepted by most social and cultural anthropologists.⁵ Historically important as an argument against racism, the doctrine of psychic unity has also received a great deal of empirical confirmation – both recently in comparative studies of emotion (Anderson 2011), and much earlier in the successful formulation of generally applicable interpretive concepts such as those of gifts and rites of passage (Mauss 2002 [1923]; van Gennep 1981 [1909]).

³ For discussions of all these points, see Carsten (2000, 2004).

⁴ For a critical review see Føllesdal (1979).

⁵ See Barnard (2012: 133–134) for an account of Bastian’s role in originating the doctrine, which was then championed by Tylor.

Interpretive generalisations are as important in kinship studies as in any other field of anthropology. Indeed some classic theories – such as Radcliffe-Brown’s (1952 [1941]) notion of the equivalence of siblings, or Lévi-Strauss’s (1969 [1949]) view of marriage as a form of gift – depend on the universal applicability of particular interpretive schemas. More recently, Godelier (2004) and Barry (2008) have incorporated findings from the current wave of interpretive studies into universalistic theories of kinship. So the importance of interpretive methods seems to be generally accepted – by the supporters as well as the opponents of a scientific agenda. The key question, for those of us who would like to see the social anthropology of kinship re-emerge as a generalising science, is how best to combine the many interpretive generalisations that have accumulated over more than a century of ethnographic research into an overall predictive framework.

That question is addressed in the present paper. More specifically, the paper discusses the feasibility of formulating the social and cultural anthropology of kinship as an open set of inductively derived axioms (including axioms relating to meaning and motivation) that can be combined to generate further propositions – which would in turn be tested against both existing data and new research in order to revise and extend the set of underlying axioms.

The presentation of the argument falls into four distinct steps. It opens, in the next section, with an account of the crisis of kinship anthropology in the late twentieth century – highlighting some of the specific issues that underlay the near abandonment of the earlier scientific paradigm and that must be addressed more effectively in any renewed scientific approach. This general review is followed by a discussion of one particularly contentious issue, namely the role of genealogical data.

After these ground-clearing exercises, the second part of the presentation moves on to the positive task of identifying empirical regularities that might form the starting point for deriving a system of axioms. Rather than attempting to cover the whole field, I will focus on a limited number of themes from the classic kinship agenda and on writers whose work lends itself to being treated in an axiomatic way. The discussion focuses on the logic of the kinship system as such – concentrating on the psychological mechanisms that may be involved and the kinds of relationships they make possible. It is presented in three sections which cover, respectively

- how reproductive and spatial relationships interact to define social kinship;
- kinship terminology;
- and the connections between kinship, identity, and behaviour.

These three sections, taken together, outline a theory of some universal aspects of human kinship.

The third stage of the argument concerns the potential advantages of expressing this theory in axiomatic form. The presentation consists of two parts: in the paper itself the advantages are described; and in the appendix they are demonstrated. The appendix reproduces a short conference paper (Heady 2012), which outlines a set of axioms concerning the aspects of kinship referred to above and shows how – using a simple algebraic notation – they can be combined to generate testable propositions. The ideas presented in the conference paper are very preliminary and are not intended as a fully developed theory. But even so, the approach generates some interesting and

broadly realistic conclusions – suggesting that further work to refine the axioms, and to derive and test specific predictions, would be worthwhile.

Amongst the advantages of an axiomatic approach is an increased ability to compare theoretical findings between different disciplines, which leads to the fourth part of the main paper. It consists of an overview of some developments in evolutionary theory and primate studies and of the light these may throw on the ethnographically based theories, which the paper has been discussing up to that point. The paper concludes with a discussion of the prospects for empirical research.

The Crisis of Kinship Anthropology

In the 1930s and 1940s, the main theoretical inspiration for the British school of kinship studies came from Radcliffe-Brown (1952 [1941]), who was himself inspired by Durkheim's (1981 [1895]) view of societies as functionally integrated systems – in which kinship structures played an important coordinating role. His ideas set the tone for most of the work on Australian and African kinship and strongly influenced work in other parts of the world as well. An impressive amount of research was carried out, but since the middle of the twentieth century there was a growing feeling that the existing theoretical paradigm needed to be changed – partly to deal with the complexities of the data that had been collected, and partly to deal with logical gaps in the paradigm itself. The discussions over the next few decades were complex, but it is possible to identify a number of common themes.

The first of these was dissatisfaction with the teleological nature of functional explanations – and a wish to replace, or at least supplement, them with causal explanations expressed in axiomatic form. The search for rigorous causal explanations was a widespread aspiration in both sociology and anthropology, and found expression in the writings of many prominent kinship anthropologists, whose opinions on other topics were quite diverse. These included Murdock (1949), Lévi-Strauss (1969 [1949], 1980 [1950]), Leach (1961b), Fortes (1969), and Goody (1976).

The second common theme was a feeling, shared by many of the same writers, that these causal explanations needed to incorporate propositions about individual psychology. Lévi-Strauss may have been the first to point out that social behaviour in general, and kinship in particular, cannot be explained without a theory of the cognitive capacities and fundamental motives, which lead people to play their part in the system (Lévi-Strauss 1969 [1949], 1980 [1950]; see also Bloch 2013) – but he was by no means alone. Other writers, who posited universal psychological mechanisms in order to explain widespread aspects of kinship practice, included Homans and Schneider (1955), Fortes (1969), and Goody (1976). But, though the aspiration was often expressed, and a number of attempts were made, the serious work of integrating the analysis of structure and function with a systematic psychology of social cognition and motivation never really took off within social anthropology. When the work finally did start, the initial impulse behind the theories came from outside social anthropology – in fact from biology – and predictably ignored many of the insights anthropologists had achieved. But I will come to that part of the story in a little while.

The failure to develop a systematic psychology of kinship may have been linked to another problem that was much discussed at the time: that kinship never exists in a pure form, visibly separate from other aspects of social life. A moment's thought will show that this is inevitable: kin

relationships matter because of their implications for practical affairs and emotional experience. But to the extent that this is true, kin relationships are also economic, political, religious, and so on – and are therefore subject to the social and practical constraints associated with these other aspects of social life. This is not to deny that kinship may contribute motives and perceptions that are irreducible to other aspects of social action – but it always does so as part of a process that involves other perceptions and motives at the same time. This poses two essential questions. The first is whether – for theoretical purposes – it is feasible to make an analytic separation between the motives and perceptions associated with kinship and the other motives and perceptions, which are relevant to the process concerned. The second is whether we can then combine these partial theories – of kinship and of the other relevant social spheres – into an integrated theoretical explanation of the process as a whole.

These questions initially attracted extreme responses. In his study of *Pul Eliya*, Leach (1961a) argued that interactions between relatives could be explained entirely by economic motives. Fortes (2006 [1969]: 221–228) had little trouble demolishing this argument, but failed to provide a convincing general account of the interaction between kinship and economic motivations. He asserted, but did not show, that kinship could be treated as a largely self-contained sphere of relationships. The inability to separate out an analytic core that could be assigned specifically to kinship troubled many writers, and seems to have played a major role in the subsequent collapse in Anglo-American kinship studies. Needham expressed the concern with characteristic vigour when he wrote that the word “kinship” as used by anthropologists “designates no distinct type of phenomena; it provides no clue to comprehension; and does not indicate the kind of analysis that will be appropriate” (Needham 1974: 41). Similar concerns were expressed by participants in a set of lectures held to commemorate the hundredth anniversary of Morgan’s (1999 [1870]) path-breaking study of kinship terminology (Reining 1972). Not all were pessimistic, Keesing (1972), for instance, believed that the situation provided an opportunity for the development of more complex, and hence more adequate, theories of kinship practice. Nevertheless, the general view, expressed by Eggan (1972), was that the situation called for a paradigm change.

It was Schneider who converted the widespread unease with the existing paradigm into an attitude of outright rejection. He did so by arguing that the concept of kinship had no real cross-cultural validity, since its apparent cognitive core – the recognition of genealogical relationships – was an illusion created by the research methods of anthropologists themselves (Schneider 2002 [1984]). This was the decisive point – since it gave scholars a rationale for abandoning the search for a general theory of kinship and its connections with the rest of social life. Since I believe that the search for such a theory is both important and feasible, I will have to deal with Schneider’s argument. But before I do, there is another cross-current to consider: the advent of socio-biology and Sahlins’s (1976) influential reaction to it.

The fundamental idea behind socio-biology is simple and applies to any innate, genetically transmitted characteristic (including innate psychological characteristics) of human beings or any other creatures. An innate characteristic will only be perpetuated if it enables its possessors, on average, to reproduce more successfully than they would without it. When we come to socially relevant characteristics, such as a capacity for empathy or altruism, the important words in the previous sentence are “on average”. An altruistic act might well lessen the individual’s chances of

reproduction, or even of staying alive, but it may still be beneficial on average, if it helps other individuals with the same altruistic inclinations to survive and reproduce.

The central aim of socio-biological theory is to identify the situations in which this will be the case. There are several such situations, but the first to be identified and rigorously thought through concerned help between close biological relatives. It turns out that an innate willingness to help close biological relatives, provided that the cost is not too high, would on average favour its possessors' reproductive chances more than would an inclination to pure selfishness (Hamilton 1963). This does not prove that such an innate inclination exists, but it does suggest that it is a possibility. Hamilton's ideas about kinship altruism and other theories from behavioural biology were popularised in Wilson's (2000 [1975]) book *Sociobiology: the new synthesis*. This included a final chapter advocating the extension of these theories to human behaviour, and predicting – somewhat optimistically for the job prospects of biologists! – that the social sciences would eventually be seen as a subfield of behavioural biology.

For some reason, Sahlins let himself be provoked by this and published a short book in which he made a number of cogent criticisms of Wilson's position (Sahlins 1976). One of these, to which I will return later, was that in many societies – those with so-called 'classificatory' kinship terminologies – the words people use for their relatives are not based on biological closeness. If Sahlins had stopped there, things might have been alright. He would have shown that there was no immediate prospect of biology displacing anthropological theory – while at the same time leaving open the possibility that further developments of socio-biological theory might yield insights which anthropologists could use. Instead, he advanced two other arguments that effectively closed off the possibility of dialog. The first was to assert a strong version of cultural determinism, which only allowed a residual role for innate psychology – and hence for the hesitant steps towards a psychological treatment of kinship that had been made during the previous three decades by social and cultural anthropologists themselves. The second was to assert that, whether they personally intended to or not, socio-biologists were objectively promoting a right-wing agenda – and that their ideas should therefore be rejected.

The climate of opinion set by Schneider and by Sahlins is still a factor to be reckoned with in social and cultural anthropology – and so is the negative stereotype that many biological anthropologists now have of social and cultural anthropologists. This is depressing for people who think, as I do, that both perspectives have a good deal to contribute to our understanding – and also that the socio-biological interest in altruism and cooperation is far from being intrinsically right-wing. Fortunately, there have been several attempts in recent years to overcome the division between biological and social perspectives on human kinship – in text-books and readers (Stone 2001; Parkin and Stone 2004; Schlee and Trillmich 2007), by re-analysing a classic problem in the social anthropology of kinship (Bloch and Sperber 2002), and most of all in work on the origin and evolution of human kinship systems (Knight 1991; Allen et al. 2008; Chapais 2008; Barnard 2011, 2012; Read 2012).

It would also be wrong to think that work in the earlier scientific tradition entirely disappeared from social and cultural anthropology. Most of the books just mentioned draw extensively on the earlier tradition of kinship research as do the books by Godelier (2004) and Barry (2008) mentioned in the introduction. There has also been important theoretical work on the structure of

kinship terminologies (discussed below), combined with renewed empirical investigation of some specific controversies (Godelier et al. 1998; Trautmann and Whiteley 2012). There have also been advances in the application of network methods to investigate patterns of marriage (Schweizer and White 1998) and of mutual assistance (Heady and Schweitzer 2010; Heady and Kohli 2010).

So, although the dominant trend in socio-cultural anthropology has been to move away from rigorous and testable theories, it is also true that those kinship researchers who are committed to a scientific approach can now draw on a richer and more varied theoretical repertoire than ever before. In what follows I will ask whether it is possible to revive the moves towards a causal and psychological view of kinship that were gradually developing during the third quarter of the twentieth century – drawing on authors from that period, but also on earlier and more recent work.

Kinship and the Genealogical Method

Before we can start applying any theories to kinship, we need to establish that kinship can be meaningfully defined – and that means confronting Schneider's (2002 [1984]) argument that the apparent universality of kinship is an illusion produced by the research methods which anthropologists have used.

The working definition of kinship used by virtually all scholars, even those who question it theoretically, is that it concerns relationships that can be described, partly at least, in genealogical terms – both the primary relationships between parents and children, siblings and partners, and relationships that are defined by successive links of this kind (e.g. husband's mother, father's sister's son, and so on). The practice of collecting information about people who are connected in these ways is known as the 'genealogical method'.

Schneider's argument, which has often been repeated since (e.g. Holy 1996: 144–155; Bamford and Leach 2009), was that the genealogical method imposes an appearance of genealogical coherence on social systems, which may in fact be based on completely different ideas. So how exactly does the 'genealogical method' work? As first described by Rivers (1910), and subsequently refined by authors such as Barnard and Good (1984), it has several elements. The first step is to identify the terms used for the closest kinship connections: if the aim is to obtain a biological genealogy, these would be the words for begetting and giving birth; if the aim is to obtain a social genealogy, these would be the words for relationships within the conjugal unit, and any qualifying adjectives that are necessary to ensure that the word is understood in this sense rather than in a wider 'classificatory' sense. We can refer to individuals connected in this way as "primary relatives".

The next step is to construct genealogical networks by first asking the informant for the names of his or her primary relatives; then asking for the names of their primary relatives (the informant's secondary relatives); and so on. Rivers recommended continuing the process to include all relatives connected with the informant by up to four intermediate genealogical links.

The third step depends on one's specific research objectives. A common objective, which is relevant in the present context, is to identify the full set of kinship terms and to establish their genealogical meanings. The researcher refers to each member of the network in turn, asking

whether there is a standard word that can be used to refer to people with whom one is related in this way.

The fourth and final step is to repeat the process with several other informants – and check that all of them use the same words to describe people with whom they have the same kind of genealogical connection.

It should be clear from this description that, if there were no standard terms that could be applied on the basis of genealogical position, the whole procedure would quickly break down. Either the informant would say that no word existed, or if he wanted to seem helpful he might invent an *ad hoc* term in order not to disappoint the researcher. However, the latter possibility can quickly be detected by comparing the terms provided by different informants – since they will only provide the same terms if these are in fact generally accepted as a possible way of referring to the genealogical connections concerned. The empirical fact is that this procedure, or variants thereof (e.g. Leaf 2006), does obtain genealogy-consistent kinship terminologies in every society in which it has been tried (Godelier 2004: 116–117).

So, it seems that people do think genealogically in all societies – at least over a fairly short range – and therefore it is meaningful to enquire about how these relationships are understood and integrated into other aspects of social life. This is what kinship anthropology was always concerned with, and the theoretical issues that were debated before Schneider's critique were real, not the product of some epistemological illusion. It is now time to return to the issues themselves, and the ways in which they can be theorised and researched.

Social Kinship as a Fusion of Reproductive and Spatial Relationships

The best place to start is with the concept of genealogy itself. At first sight, it looks biological – but in practice it never is, or at least not entirely. As Durkheim (1897), amongst many others, has pointed out, the possibility of adoption and the frequent divergence of biological and social fatherhood mean that in most societies the existence of a biological connection is neither a necessary nor a sufficient condition for the social recognition of a kinship tie. Durkheim used this fact to argue that kinship is essentially a social institution – a point that would be hard to disagree with, but it hardly is an adequate analysis of the issues involved. In the same article, Durkheim felt obliged to concede, although it did not really suit his argument, that kinship groups are also associated with the idea of biological connectedness. So there is a genuine paradox here, which seems to apply to virtually all societies: kinship in general is felt to be a matter of biology, but at the individual level biology does not always decide which people are considered kin. How can kinship be both biological and non-biological at the same time?

The answer may be that kinship involves two distinct kinds of connectedness that usually go together – but either of which is enough, in itself, to constitute a kinship-tie when this is not the case. If reproductive biology is the basis for one kind of connectedness, the other is probably spatial location. This is not a new point: it is well-known that family connections are often thought of in terms of houses (Lévi-Strauss 1984; Carsten and Hugh-Jones 1995), and that in societies where there are no permanent dwellings, there are often strict rules of avoidance that govern which categories of relatives can share the same domestic space (Elkin 1979: 147–154).

This is consistent with a more abstract point, made by White and Jorion (1992) and more recently by Read, Fischer and Lehman (2014) – namely that genealogies need not be analysed as connections between individuals. They can equally well be seen as systems of elementary family units – in which each unit contains a parental couple and their children, and where each parent provides a link to the unit in which he or she was previously a child, and each child provides a potential link to the unit(s) in which he or she will become a parent. Units of this kind can be treated algebraically as abstract entities, but the fact that we actually think of them spatially is shown, not just by the points made in the last paragraph, but by the fact that transfers of individuals between these units are almost universally marked by rites of passage, which conspicuously involve spatial movement (van Gennep 1981 [1909]).

This creates interesting possibilities: not merely that by bringing someone to live in the same domestic space they can be adopted into the family, but also the possibility of reckoning the connections between family units in two quite distinct ways. The first of these, which is used in most European societies, is in terms of genealogical closeness or distance. This kind of connection, which Fortes (1949) referred to as the web of kinship, is probably important in all societies. But there is another possibility, which is drawn on in many societies, but not by all. This is to group family units together spatially – either in terms of where they normally reside, or in terms of the places where they worship, or where their remains are interred. This kind of grouping is particularly common in unilineal descent systems – in which (for instance) a set of patrilineally related families may share a village, or a section of a village, and treat each other as kin (e.g. by cooperating and observing an incest prohibition) while other relatives, with whom the genealogical connections are equally close, may be scattered through neighbouring villages and considered not as kin but as potential affines.⁶

Though organisational convenience may be one factor underlying this spatial clustering, the implicit messages conveyed by spatial grouping are equally important. This point emerges clearly in situations where spatial distinctions are insisted on, even though the physical distances are too small to make much practical difference. For example, in Australian aboriginal societies with a Kariera kinship system, adult opposite-sex siblings should not sit down to eat together even if they are part of the same travelling group. This prohibition preserves the spatial separateness of their families of reproduction, which means that their children (each other's cross-cousins) can be considered not as kin but as potential marriage partners. This contrasts with the kinship tie and consequent incest taboo that holds between parallel cousins, whose families of origin are allowed to sit down and eat together – despite the fact that, in genealogical terms, parallel cousins and cross-cousins are equally close (Elkin 1979).

The Bororo of South America provide another example in which the physical distances were too small to matter practically. Traditionally, the two moieties occupied opposite sides of the village circumference, with each clan having its own position along part of the circumference of the moiety to which it belonged. The village layout thus mapped the socially recognised kinship groups of which the village was composed – but not the patterns of genealogical relatedness, since the preference for marrying members of the other moiety meant that most people would have had close relatives living on the opposite side of the village circumference (Levi-Strauss 1969 [1958]). In

⁶ See Keesing (1975) for a thorough discussion and several ethnographic examples.

both these examples it is the spatial arrangement of family units, not their genealogical closeness, which proves decisive for kinship identity – and the obvious inference is that the spatial arrangements have been adopted in order to make the kinship identities clear. In other cases – in which the distances involved are greater – there may also be practical grounds for particular spatial arrangements. But even so, it is likely that the resulting patterns will often be understood as implicit statements about the strength and nature of different kinship ties.

Before moving on, it is worth noting that neither genealogical nor spatial relationships are merely a matter for individuals or for the families to which they are genealogically or spatially close. The visibility of residence patterns and the emphasis given to rites of passage ensure that the relationships concerned are played out before a wider audience – often consisting of the local community as a whole. This is another, very important sense in which Durkheim was right to insist that kinship ties are a fully social affair.

Kinship Terminology

However, Durkheim (1897) viewed another argument as the decisive proof that kinship was fundamentally social. This was that the kinship terminologies used in different societies classify relatives in quite distinct ways – defining various kinds of kinship with their own, society-specific patterns of practical and ritual interaction. Durkheim illustrated his argument with the example of the Omaha word *inaha*, which refers not only to a person's own mother (M), but also to all the women in M's patrilineal descent group. The discussion makes it clear that he had other classificatory terminologies in mind as well. Specifically, he endorsed Morgan's (1877) argument that classificatory terminologies were consistent with clan-based societies, whereas descriptive terminologies expressed kin relationships in societies where private property played a fundamental role.

Subsequent research on kinship terminology divided into two broad streams. English and French anthropologists generally followed Morgan and Durkheim in assuming the existence of a connection between terminology and social structure and analysed terminological data on this basis.⁷ The other stream, which was more characteristic of American anthropology, flowed from an article by Kroeber (1909) in which he argued that the genealogical meaning of kinship terms was primary, and that it was premature to assume any connection with social structure. Instead, he proposed that terminologies should be considered as systems of semantic classification and analysed in terms of the psychological principles underlying the classification. As a starting point, he produced a list of eight features, which might or might not be present in any terminology. Notable work following this tradition includes the componential school of kin-term analysis within cognitive anthropology (Goodenough 1968), and within linguistics, the application of marking theory to kinship terms (Greenberg 2005 [1966]). The work of Lowie (1928) drew on both streams – identifying important typological differences between terminologies, and discussing their potential significance for kinship practice.

In the 1960s, a new line of argument developed within the American tradition of cognitive analysis. The new approach highlighted the fact that the set of genealogical positions validly

⁷ The best-known example of this approach is Lévi-Strauss (1969 [1949]).

referred to by a single kinship term is often very complex – which makes it unlikely that local people could hold this range of genealogical meanings in their minds. For this reason, it seems more likely that people learn a simpler series of rules, which generate the right term when it is required (Lehman 2011). Several systems of generative rules have been proposed (Lounsbury 1969; Read 2001; Jones 2004). Read argues that the simplest solution would be for children to start by learning the relationships between the kinship terms as a set of purely verbal rules. Provided the terminological system treats the primary kinship terms (for parents, children, partners, and siblings) in a consistent way, it can also be applied consistently to the relationships between real people – without needing to specify which of the many possible genealogical meanings of each kinship term is actually involved.

While this explanation is neat, and there is a good deal of evidence that people do learn the meaning of kinship terms in this way (e.g. Levinson 2002), it also seems curiously free-floating. It is implausible to suppose that people would learn a set of twenty or so interrelated categories purely as a set of empty signifiers. Kronenfeld (2009) has argued, from within the American tradition, that more attention needs to be given to the connections between terminology and practice – and it seems clear that terminological systems need some kind of external cognitive support. I would argue that this support might derive from the spatial relationships referred to above. An example illustrating this possibility is Leach's (1958) famous analysis of the Trobriand kinship term *tabu* (a classificatory term applying to the women in the ego's father's mother's matrilineal sub-clan, and to their husbands), in which he suggested that this and other kinship terms could be matched onto residence in different lineage-based villages. Lounsbury's (1965) rejoinder, that *tabu* could also be specified by generative re-write rules applied to genealogical positions, missed the points that spatial localisation might provide cognitive support for the terminological equivalences, and that both location and terminology might be ways in which implicit ideas about kin identity were made manifest. A rather more straightforward example would be the Kariera system described above. The cross-parallel distinction, which governs its avoidance rules, is also embodied in the kinship terminology that classes parallel cousins with siblings and uses quite distinct terms for cross-cousins – while also distinguishing the parents of both groups (Elkin 1979; Radcliffe-Brown 1913).

Structural and semantic analyses come together in a number of detailed studies of the way kinship terms are used. Carried out by ethnographers with cognitive and linguistic interests, these studies generally find that the basic (or, as linguists would say, 'unmarked') forms of kinship terms do not distinguish explicitly between social, genealogical, or biological meanings. However, they also show that the terms can be qualified ('marked') in ways that indicate which of these meanings is intended. Firth (1963 [1936]: 241–245) provides an excellent description of how kin terms can be modified in the Polynesian island of Tikopia. Astuti (2009) provides a more recent example – in which she directly confronts the Schneiderian argument that terms having social meanings implies that people are indifferent to the biological connections involved. The general message seems to be that, while kinship terms do sort genealogical relationships into distinctive social categories as Durkheim claimed, they nonetheless retain an element of genealogical meaning as Kroeber argued. The fact that the unmarked terms can be understood in either sense suggests that, rather than

replacing genealogical with social meanings, they serve to align both levels of reality in a broadly consistent scheme.

Kinship, Identity, and Behaviour

The idea of a connection between the spatial and terminological structuring of kinship ties is supported by the data presented in Murdock's (1949) cross-cultural study – which shows that some aspects of kinship terminology are strongly correlated with residence patterns. In fact, Murdock's study does more than that, since it also shows that both terminology and residence patterns are correlated with the existence and structure of named descent groups, and with the form taken by incest prohibitions. This brings us to the important theme of kinship identity.

Barry (2008) has recently argued that kinship is a form of shared identity, transmitted by, but not identical to, descent. The exceptions he notes are similar to those discussed above: (i) that kinship does not necessarily include all lines of filiation (so that, for instance, cross-cousins often do not count as kin) and (ii) that kinship can be expanded beyond descent by means of adoption, ritual kinship, and so on. Where his definition adds something is in the forms of behaviour that necessarily accompany the recognition of a shared kinship identity. These are mutual solidarity and the avoidance of sexual intercourse and therefore also of marriage. Barry does not claim that other authors have ignored these facts, but he argues that – with the partial exception of Fortes – they have derived the link between identity, solidarity, and exogamy from other factors. Barry's innovation is to argue that this three-way link is the irreducible core of kinship, and should not be derived from anything else.

Fortes (2006 [1969]) identified two kinds of kin relationship, both of which start from the individual's place within the elementary family unit. One of these is the personal web of kinship, consisting of close genealogical ties through both parents. The other is membership of political kinship groups to which the individual belongs by virtue of descent and/or residence. In the tribal societies Fortes is concerned with, these political descent groups typically include only one of the person's parents, and therefore only a fraction of the person's web of kinship. But they can still be very large – including distant collateral relatives and people to whom no definite genealogical connection is known, but who are nevertheless referred to and addressed in kinship terms.

Both kinds of kinship ties – the personal web and shared descent-group membership – are characterised by a “principle of prescriptive amity”. Fortes' discussion of this principle is quite subtle. He presents it as a rule, but also as a universal assumption: an ethic which people everywhere expect each other to observe – an “axiom” which they can use to predict each other's behaviour (Fortes 2006 [1969]: 232). Consistently with this, Fortes believes that altruistic inclinations towards kin may well be innate. He states (*ibid.*: 251) that “it is conceivable – and I for one would accept – that the axiom of amity reflects biological and psychological parameters of human social existence”. At the same time its implications can be socially structured by the way kinship categories are defined, and can be further refined and reinforced by legal rules (*ibid.*).

However, ‘amity’ is only one side of the picture. There are two other factors involved. One is that amity is not extended to people outside the two kinds of kin relationship, thus making them actual or potential enemies. The other is the principle of kin-exogamy, which means that marriage

partners must be sought amongst these potential enemies. “It is as if marriage and warfare are thought of as part of a single constellation the direct contrary of which is kinship and amity” (ibid.: 234). This is expressed in the saying, reported from tribal societies in many parts of the world, that “we marry those we fight”. Nevertheless, intermarriage is not possible without the acceptance of a shared ethical and legal framework, and unrestricted hostility only occurs between groups who have no affinal links at all (ibid.: 235).

Barry and Fortes are not saying quite the same thing, though their arguments are closely connected. In order to clarify things, and also to extend the argument further, I will define a couple of terms of my own. I will continue to use *kinship* to refer to the whole complex of relationships that involve (but may go beyond) genealogical connections. Within this complex, I will use *web relationship* to refer to any genealogical connection, and *identity* to refer to the connection between people who are considered to be in some sense ‘the same’. In terms of these definitions, Barry’s argument is that shared identity necessarily implies amity and exogamy. Fortes would agree with this, but would add that web relationships also imply a degree of amity. The possibility of conflict is least within an identity-sharing group (though personal rivalries are still possible), greater where web relationships are the only connection, and greatest with people who share neither identity nor web relationships. On the positive side, shared identity can be a basis for joint political action.

As we have seen already, identity can be marked by spatial position and by the use of appropriate categorical kinship terms – but these are not the only markers of identity. In his ethnography *Death, Property and the Ancestors* (1962) and in his comparative study *Production and Reproduction* (1976), Goody in effect suggests that the transmission of property, in the forms of inheritance and marriage payments, transmits identity as well. Access to property is in some ways analogous to occupancy of a particular spatial position – so it may be that similar implicit concepts are involved. Be that as it may, this aspect of identity plays a major role in the interconnection between kinship and economic relationships.

Axioms and Implications

Looked at closely, Fortes’ propositions about amity turned out to contain several distinct axioms: connecting amity with both web relationships and identity, identity with exogamy, and the absence of amity with the probability of conflict. It might also be possible to formulate some of the other ideas reviewed in the last three sections as axioms – about genealogy and space, identity, property, and terminology. In several instances this would probably need a good deal more clarification and research – but the advantages of proceeding in this way would be considerable.

The first advantage is that once the individual axioms have been formulated it is possible to make connections between them, and so derive further properties of the system as a whole. Since the points discussed in the previous three sections cover many of the core aspects of kinship, an axiomatised version would make it possible to explore the internal logic of kinship and derive testable propositions about such things as the relationship between terminology, residence, property, and marriage rules. This is what I attempted to do in the short conference paper on *Intermediate Perspectives* (Heady 2012) reproduced in the Appendix. The conference paper

focuses on identity and uses a very simple set of axioms in order to provide an initial idea of the possibilities.

The second advantage comes in dealing with a problem that was noted near the start of this article – namely that actual kinship behaviour is never determined solely by the internal logic of the kinship system, but also by its interactions with other spheres of social life including economics, religion and political power. The point here is that the connections with these other aspects of social life can also be expressed in axiomatic terms. Indeed, several such axioms have been suggested by the authors cited above. For instance, as regards economic life, there are

- the generous practical cooperation that goes with amity (Fortes)
- the absence (or at least limitation) of amity that is required for contractual relationships (Fortes)
- the desire of parents to benefit all their children when there is significant material wealth to be inherited (Goody).

In other social spheres there are

- the common political allegiance that goes with shared identity (Fortes)
- the accompaniment of shared kinship identity by shared spiritual identity (Godelier).

There may well be other relevant axioms, and it may also be the case that some of these axioms need to be reformulated in the light of further research. Nevertheless, there seem to be enough links here to construct theoretical models that include both the logic of kinship and those of other spheres, such as economics, and so make it possible to track the effects of each sphere upon the others.

The third benefit of axiomatisation is that it enables us to formulate a number of basic questions in more precise ways. The first of these is a functional one: who benefits from the relationships described by the axioms? In some instances, the benefit seems clearly directed at the kinsfolk themselves: this would seem to be the case both with amity between individuals closely connected by the web of kinship and also with the political solidarity exercised by those who share a common kinship identity. In other cases, however, the benefit seems wider: a matter of better social coordination because people know what to expect. This seems more relevant to the ways in which kinship terminologies clarify identities (Read 2012) and to the association between identity and inheritance rules.

A second question relates to the variability of human kinship systems. If the internal axioms explain what they have in common, how can we explain their variability? Part of the reason is clearly the interaction between kinship and other social spheres – which may be accounted for by the linking axioms described above. But it is not clear that this is the whole story. It may also be important to take account of theories of social and cultural evolution (Boyd and Richerson 1988; Runciman 2009). This is clearly a vast topic. But for that very reason, the only thing that can be done in this paper is to note its importance, and leave it for another occasion.

The third question relates to the nature of the axioms themselves. If they were found to apply universally in all societies, then it would be reasonable to suppose that the psychological concepts and motives on which they are based must be innate. But is this likely to be the case? The possibility of an innate psychology of kinship is one of the central concerns of evolutionary anthropology – which is the topic of the next section.

The Relevance of Evolutionary Approaches

An axiomatic approach is helpful here, since the work of Hamilton and his successors has meant that much evolutionary theory is now also formulated in an axiomatic way. Most socio-biological work on kinship is still concerned with testing Hamilton's original ideas about kinship altruism and other ideas about ways in which people (and other creatures) can enhance the reproductive prospects of their close biological relatives (Burton-Chellew and Dunbar 2011). Though the results are largely positive, the relevance of this work to social anthropological concerns has often seemed limited – since it explains, at best, altruism between people who are separated by no more than two or three genealogical steps. It could therefore have some relevance to understanding inclinations towards solidarity within an individual's personal web of close kin – but has not seemed particularly relevant to social anthropological findings concerning wider, structured, or rule-based kin relationships (Brown 1991: 107).

There is still a substantial gap between evolutionary theory and the ethnographically based axioms outlined above – but there have been a number of developments within evolutionary theory, which suggest that the gap may be closing. The first of these was a paper by Hamilton himself, which used the converse of his explanation of altruism between close biological relatives to account for competition and conflict between distant and non-relatives (Hamilton 1970). Next came a book by Hughes (1988), which argued that the kin-selection principle could also account for solidarity between close affines, since both have an interest in the well-being of their joint biological descendants. Most recent is an article by Jones (2000), in which he argues that any individual has a genetic interest in cooperation between other people who are related to him – since by helping each other to survive and reproduce they will also be passing on some of his own genes. Jones uses this argument to explain the existence of third-party rewards and sanctions in support of mutual assistance between relatives, and also the extension of kinship solidarity well beyond the point predicted by Hamilton's original explanation of kinship altruism.

Jones's argument brings evolutionary theory very close to Fortes' notion of an *ethic* of prescriptive altruism – and the earlier points about hostility towards non-kin and support between affines (once the marriage has occurred) also find echoes in Fortes' analysis. Nevertheless, there is one central point in which the evolutionary theories remain far removed from our ethnographically derived axioms – the absence of a distinction between *web relationships* and *identity*. Because genetic relatedness is bilateral, arguments based directly on genetic selection can explain how solidarity expands through a network of relatives, but not why solidarity should be particularly strong between relatives (often distant or even notional) who share a kinship identity – such as, in some societies, membership of the same patri- or matri-lineage. To put the same point another way, evolutionary theory seems as far away as ever from an explanation of kinship *structure*.

Nor does evolutionary kinship theory have much to say about the avoidance of incest. It is true that biologists⁸ offer explanations in terms of an evolved disposition to avoid the health risks associated with in-breeding – but the principle involved is quite distinct from Hamilton's theory of kinship altruism. Evolutionists do have some very interesting things to say about identity and incest-avoidance – but these derive from the empirical observation of primate behaviour, and in that respect are closer in spirit to the findings of human ethnography than to the entirely *a priori* deductions of Hamiltonian theory (Chapais 2008: 60–70).

It is true that we cannot ask other primates about their social ideas, but their behaviour suggests that they may operate with an implicit sense of identity, which combines spatial and reproductive elements and can be brought into operation at both the family-network and territorial-political levels. Thus, females typically have their own personal space, which they share with their offspring, and the group as a whole also has its own territory, which members help each other to defend. The offspring remains with the group in which their mother lives until they reach adulthood, at which point young adults of one sex leave to join other groups while their brothers or sisters (as the case may be) stay on – resulting in the persistence of either patrilineal or matrilineal local groups (according to the species concerned) with a *de facto* practice of group exogamy. If we equate the spatio-reproductive unit formed by a mother and her offspring with the human elementary family, and assume that the local band is united by a sense of shared identity, then these arrangements come very close to those attributed by Barry and Fortes to human kinship.

Needless to say there are also differences. Chimpanzees and Bonobos, our nearest primate relatives, form patrilineal bands. Chapais (2008) argues that the crucial difference between their systems and those of human beings is the human practice of pair-bonding, which means that each elementary family contains a parent of each sex. Combined with longer child-rearing and increased cognitive capacities, this means that human beings are able to keep track of relatives on both sides of the family – which provides the necessary cognitive basis for both Fortesian webs of kinship and the Lévi-Straussian process of building intergroup solidarity by the exchange of sisters.

To this we can add the human ability to recruit local groups using a number of different residence and marriage rules, to sub-divide local groups into residentially distinct kinship categories, to regulate inheritance, and to track the relationships concerned by the use of kinship terminologies. So it is clear that human kinship is far more sophisticated and flexible than that of even our closest primate relatives. But that does not mean that we should reject the resemblances altogether. Since these resemblances involve not only the fusion of spatial and reproductive relationships identified in this paper, but also the identity-amity-exogamy complex and the two-level domestic-and-political structure identified by Fortes and Barry, there are strong grounds for supporting Chapais' argument that much of the deep structure of human kinship is inherited from our primate ancestors.

So between them, both Hamiltonian theory and primate studies contain elements that are reminiscent of human kinship – while the facts of human kinship suggest interpretations of the psychological processes underpinning primate behaviour. This is a three-way comparison, and none of the elements match up exactly. Primate behaviour does not conform exactly to Hamiltonian theory – since overt cooperation takes place with only one side of the genetic kindred – and Hamiltonian theory and primate analogies fit different aspects of human kinship (the association

⁸ Including Hamilton, cited by Chapais (2008: 62).

between amity and *web relationships* in the case of Hamiltonian theory, and the complex of behaviours associated with *identity* in the case of primate behaviour). Nevertheless, in their different ways, both Hamiltonian theory and primate studies provide reasons for thinking that some of the concepts and emotions associated with human kinship may be innate – and therefore invariant. They do not prove this, but they do entitle us to treat this invariance as a working hypothesis – to be confirmed or refuted by studies of human society.

Concluding Discussion

I hope that the discussion in this paper will have persuaded some readers that the near abandonment of scientific kinship research within social and cultural anthropology at the end of the twentieth century was unnecessary – and that there are now good prospects for its revival. The central tasks would be (i) the attempt to specify and refine a set of ethnographically derived axioms and (ii) the use of these axioms to derive patterns of systematic variation, which can be tested using data from comparative research.

In both cases, a great deal could be done by the reanalysis of existing data – both in the original ethnographies and in comparative data bases such as the *Ethnographic Atlas* and the *Human Relations Area Files*. However, in some instances the testing and refinement of axioms may require new data. At the Max Planck Institute for Social Anthropology, we coordinated a project in which a combination of historical data, interpretive ethnography, and computerised genealogical interviews was used to investigate kinship patterns in different parts of Europe⁹ (Grandits 2010; Heady and Schweitzer 2010; Heady and Kohli 2010). The findings included data on the relationship between terminologies, residence, and other aspects of kinship practice (Schlee and Heady 2010); and a test of the predictive power of Hamilton's and Hughes's theories of kinship altruism – with positive results (Heady and Ou 2010). Though the findings were of broad theoretical relevance, the restriction to Europe limited the generality of the conclusions. For that reason, we are now carrying out pilot studies, jointly with colleagues in other institutions, in order to adapt the *Kinship Network Questionnaire* (KNQ) used in the European study for research in non-European societies.¹⁰ In this way, we hope to contribute to the revival of scientific kinship anthropology.

⁹ *Kinship and Social Security* (KASS) was largely funded by a grant from the European Union's Sixth Framework research programme.

¹⁰ As part of a project entitled *Kinship Universals and Variation* (KUV) – coordinated by the Department 'Integration and Conflict' of this Institute and involving colleagues from the Chinese Academy of Social Sciences and the Minzu University of Nationalities, Beijing.

APPENDIX

Intermediate Perspectives: theorising the interface between kinship terminology and practice¹¹

Patrick Heady

Abstract

In this paper I address a tacit boundary within the socio-cultural anthropology of kinship – namely that between terminology people and practice people. The former tend to stress the internal logic of terminological systems, while being rather cautious about their implications for practice. The latter, if they attend to terminology at all, tend either to highlight ad hoc associations or to focus on large-scale intercultural comparisons in which particular terminological features or short-hand classifications (Eskimo, Hawaiian, Dravidian, Crow-Omaha) are correlated with residence, inheritance, and marriage patterns. Though crude, these do provide evidence that terminology and practice are linked. I will review the main explanations for these statistical associations that have been offered from the practice viewpoint – asking whether some general principles can be extracted from them, and whether these can be related to the internal logics described by terminology theorists. The aim is to identify some “intermediate perspectives” that might help us understand how terminological systems and patterns of practical interaction adjust to each other.

Introduction

As Barnard (2000) points out in his history of anthropological theory, the first part of the twentieth century saw three major theoretical approaches to kinship terminologies: Kroeber's (1909) which viewed them as systems of categories with no practical bite; that of Rivers (1968 [1914]), which saw them as indications of past social structure; and that of Radcliffe-Brown (1952 [1941]), which saw them as structuring contemporary behaviour. Given this background, the development of cognitive theories of kinship terminology – including the generative approaches of Scheffler and Lounsbury (1971) and of Leaf (2006) and Read (2001) – has been rather paradoxical. It is clear that, like Radcliffe-Brown, these authors see kinship terminology as fundamental to the organisation of human social life. However, like Kroeber, they direct their attention primarily to the logical structure of the terminologies and are much less precise about the implications of their analyses for social organisation and practical behaviour.

It seems to me that this leaves an important gap. The findings, which Murdock (1949) and Goody (1976) obtained from the *Ethnographic Atlas*, demonstrated clear relationships between aspects of terminology and residence, marriage, and inheritance rules. Though the correlations are well short of absolute, some of them are very strong. To account for these relationships, we need systematic accounts of the cognitive structures underlying practical kinship behaviour and of the formal mechanisms, which connect them with the structures of the terminologies themselves.

¹¹ Paper prepared for the American Anthropological Association (AAA) conference session on *Boundaries of Discipline, Boundaries of Kinship*, San Francisco, November 2012.

The Signifier–Signified Approach

A simple algebraic short-hand will help us to compare ideas. Suppose that person **a** refers to persons **b** and **c** by the same kinship term. We can write this as

$$\mathbf{K}(\mathbf{b} \mid \mathbf{a}) = \mathbf{K}(\mathbf{c} \mid \mathbf{a}) \quad (1)$$

This equivalence would be the joint outcome of the terminological structure and of the genealogical connections between the three individuals.

A common view was expressed by Tax (1937) (cited by Murdock (1949: 107)), when he claimed that “Persons toward whom ego behaves in the same manner he will call by the same term; (...) persons to whom ego behaves in a different manner he will call by different terms”. We can write this as

$$\mathbf{K}(\mathbf{b} \mid \mathbf{a}) = \mathbf{K}(\mathbf{c} \mid \mathbf{a}) \leftrightarrow \mathbf{B}(\mathbf{b} \mid \mathbf{a}) = \mathbf{B}(\mathbf{c} \mid \mathbf{a}) \quad (2)$$

where the double arrow indicates that each statement implies the other.

There are major difficulties with this proposition. First: it is probably not completely true of any kinship system in the world (Keesing 1972). Another problem concerns the underlying theory of meaning. One possibility would be a simple Saussurian set-up with kin-terms as the signifiers and behaviour as what is signified. But this is rather implausible. After all, every language contains many behaviour words, which relatives could use if they wanted to; but kinship terms are usually quite distinct from these words. It looks as though we need to take another approach to the semantic content of kinship terms.

The Identity Approach

I will argue that, although kin terms do not directly refer to behaviour, they provide the necessary context by structuring conceptions of identity and distinctness, and it is these conceptions which underlie the major regularities of kinship behaviour. We can express this idea by slightly re-writing the previous proposition, to give

$$\mathbf{K}(\mathbf{b} \mid \mathbf{a}) = \mathbf{K}(\mathbf{c} \mid \mathbf{a}) \leftrightarrow \mathbf{R}(\mathbf{b} \mid \mathbf{a}) = \mathbf{R}(\mathbf{c} \mid \mathbf{a}) \quad (3)$$

I have substituted **R** for **B**, to indicate that kin terms correspond, not to detailed behaviour, but rather to abstract relationships. Relationships are not the same as identities, of course, but they can imply them.

To see how this works, suppose that **T** is the term by which person **a** refers to the other two individuals. As each kinship term is generally paired with a reciprocal term for the inverse relationship (Read 2001) we can write the joint statement

$$\mathbf{K}(\mathbf{b} \mid \mathbf{a}) = \mathbf{K}(\mathbf{c} \mid \mathbf{a}) = \mathbf{T} \quad \& \quad \mathbf{K}(\mathbf{a} \mid \mathbf{b}) = \mathbf{K}(\mathbf{a} \mid \mathbf{c}) = \mathbf{T}^{-1} \quad (4)$$

which implies that

$$\mathbf{R}(\mathbf{b} | \mathbf{a}) = \mathbf{R}(\mathbf{c} | \mathbf{a}) \quad \& \quad \mathbf{R}(\mathbf{a} | \mathbf{b}) = \mathbf{R}(\mathbf{a} | \mathbf{c}) \quad (5)$$

What this says is that in relation to person **a**, persons **b** and **c** share a common social position – both from **a**'s viewpoint and their own. We can write this as

$$\mathbf{K}(\mathbf{b} | \mathbf{a}) = \mathbf{K}(\mathbf{c} | \mathbf{a}) \rightarrow \mathbf{I}_R(\mathbf{b}, \mathbf{c} | \mathbf{a}) \quad (6)$$

where the expression on the right of the arrow should be read as “**b** and **c** share a common identity in relation to **a**”. The subscript **R** is there to remind us that this is a relational identity because, as we will see in a moment, there are other kinds as well.

The reason identity matters is that it appears to be relevant to the results from the Ethnographic Atlas that I cited earlier. The aspects of behaviour that were strongly correlated with terminology included property inheritance, marriage rules, and residence patterns. In each case, there is a potential link to identity – firstly, because joint or successive property ownership is often thought of in terms of identity (“carrying on the name”); secondly, because shared or distinct identities can be expressed by physical closeness or avoidance, which both have implications for residence; and, thirdly, because a principle underlying many marriage rules is that the previous identities of marriage partners should be quite distinct.

This gives us two more identity expressions

$$\mathbf{I}_S(\mathbf{a}, \mathbf{b}) \quad \text{and} \quad \mathbf{I}_O(\mathbf{a}, \mathbf{b}) \quad (7)$$

for spatial identity and identity due to shared or successive ownership. It also gives us a new rule, which applies to any form of identity

$$\mathbf{I}(\mathbf{a}, \mathbf{b}) \rightarrow \mathbf{U}(\mathbf{a}, \mathbf{b}) \quad (8)$$

where the right-hand expression indicates that **a** and **b** are unmarriageable.

The final question is what happens when different forms of identity interact. I will argue that the default position is

$$\mathbf{I}(\mathbf{a}, \mathbf{b}) \circ \mathbf{I}(\mathbf{b}, \mathbf{c}) \rightarrow \mathbf{I}(\mathbf{a}, \mathbf{c}) \quad (9)$$

which means that, regardless of the kinds of identity involved, if **a** is identified with **b**, and **b** is identified with **c**, then **a** is also identified with **c**.

Applying these Principles

Although this notation may seem a little unfamiliar, the underlying idea – that of identity – runs right through the social anthropology of kinship. So it is not surprising that, by combining the identity equations, we can generate many of the relationships between terminology and behaviour, which are reported in ethnographies.

For instance, if we combine spatial and relational (i.e. terminological) identities in equation 9 and then link it to equation 8, we have

$$I_S(\mathbf{a}, \mathbf{b}) \circ I_R(\mathbf{b}, \mathbf{c} | \mathbf{a}) \rightarrow I(\mathbf{a}, \mathbf{c}) \rightarrow U(\mathbf{a}, \mathbf{c}) \quad (10)$$

which says that if \mathbf{a} and \mathbf{b} live in the same household, then \mathbf{a} cannot marry anyone to whom she refers to by the same term as \mathbf{b} – which seems to be a basic principle of most classificatory systems.

If we substitute spatial identity directly into equation 8, we have

$$I_S(\mathbf{a}, \mathbf{b}) \rightarrow U(\mathbf{a}, \mathbf{b}) \quad (11)$$

which, among other things, explains why systems with Dravidian kinship terms and cross-cousin marriage often have a set of avoidance taboos – between adult opposite-sex-siblings and between spouses and their parents-in-law – which operate together to keep the necessary spatial distinctions in place.

The identity equations could also be used to generate predictions about the relationships between kinship terminology and different systems of sharing and inheriting property.

A final point is perhaps the most interesting of all – namely that in many situations it might not be possible to combine the three kinds of identity in a fully consistent way, which also allowed marriages to take place. In these situations, it would be necessary to find ways of cancelling some of the implications of shared identity – which might provide an explanation for many of the puzzling features of kinship-related ritual.

Conclusion

The aim of this paper has been to look for “intermediate perspectives”, which would throw light on the connections between terminology and practice. We seem to have found one in the concept of identity. It may seem to be a disappointingly familiar idea – but I hope this brief discussion shows that it still has the capacity to provide effective explanations and may also help bring together the cognitive and social perspectives on kinship anthropology.

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