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**Kinship and evolved psychological dispositions:
The Mother's Brother controversy reconsidered.**

To Jack Goody

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Abstract.

The article revisits the old controversy concerning the relation of the mother's brother and sister's son in patrilineal societies in the light both of anthropological criticisms of the very notion of kinship and of evolutionary and epidemiological approaches to culture. It argues that the ritualized patterns of behavior that had been discussed by Radcliffe-Brown, Goody and others are to be explained in terms of the interaction of a variety of factors, some local and historical, others pertaining to general human dispositions. In particular, an evolved disposition to favor relatives can contribute to the development and stabilization of these behaviors, not by directly generating them, but by making them particularly "catchy" and resilient. In this way, it is possible to recognize both that cultural representations and practices are specific to a community at a time in its history (rather than mere tokens of a general type), and that they are, in essential respects, grounded in the common evolved psychology of human beings.

One of the most discussed topics in the history of anthropology has been the significance of the relationship between mother's brother and sister's son in patrilineal societies. However, the subject seems to have entirely faded from the hot topics of the discipline since the sixties. We believe that, in reviewing this academic story of strange excitement and then total neglect, we can understand both some of the fundamental epistemological problems of anthropology and suggest some of the ways new approaches might throw light on questions which have been more often abandoned rather than resolved.

The history of the mother's brother controversy.

The behavior, which had so intrigued anthropologists, was involved with the rights, recognized in many unrelated patrilineal societies, of male members of the junior generation over the property and even the person and wives of senior male members of their mother's lineage, typically the mother's brother.(note 1) The example which came to be most discussed

was that of the BaThonga of Southern Africa because of the particularly full and surprising description of the customs involved given by Junod, an early missionary ethnographer, in a famous book published in 1912 (Junod 1912). There the relation primarily concerned the right of mutual insult between the sister's son and the mother's brother as well as his wives and unclear claims to the property of the mother's brother by the sister's son. The tolerated violence of the behavior, as well as the sexual overtones, contributed to the fascination with the custom and probably titillated the various scholars who have discussed the subject. But it was not so much this one example which interested scholars, but the conviction that they were dealing with a peculiar relationship which occurred again and again in many totally unrelated societies, something which was all the more unexpected as it contradicted patrilineal organizational principles—since mother's brother and sister's sons usually must belong to different lineages—, and the respect usually accorded to senior generations.

Examples of this peculiar relationship were thought to have been found among Australian Aborigines, in Amazonia, southern Europe, Oceania, India, not to mention other parts of Africa. Even today recent ethnographers have been struck, again and again, by the prominence accorded to this relationship by the people they have studied in many different places, for example: Northern India (Jamous 1991), Amazonia (Viveiros de Castro 1992), and Melanesia (Gillison, 1993). But this apparent recurrence itself raises a problem, a problem that is central to the argument of this paper. The various manifestations which so many anthropologists have recognized as different instances of the peculiar mother's brother/ sister's son relationship are clearly cognate and it is an interesting fact that, in many places in the world, people consider the relationship between mother's brother and sister's son as very special and very interesting, but these cases *also* turn out, on closer examination, to be very varied: sometimes involving symmetrical joking, sometimes asymmetrical joking, sometimes avoidance, sometimes significant economic privileges, sometimes sexual rights, sometimes only ritual manifestations, and, furthermore, while in some cases it is actual mother's brothers and sister's sons who have the rights in question sometimes the relation involves wide classificatory groups. The variation is in fact so great that it becomes very difficult to say exactly what thing it is which the various examples share, and this inevitably has made many wonder whether the many scholars who have turned their attention to the question have not been dealing with a non-existent category.

At first, anthropologists assuming a universal history to humankind along a single evolutionary path, as well as, implicitly, a universal cognitive representation of filiation and marriage, saw in such practices as the aggressive rights of the sister's son over his mother's brother's property a survival of mother right and the proof of the existence of an earlier matrilineal state (Rivers 1914). The explanation of the sister's son's privilege in terms of this alleged matrilineal stage was then famously dismissed by Radcliffe-Brown who, using his refutation to demonstrate the character of structural-functional accounts, supplied a synchronic explanation for the practice (Radcliffe-Brown 1924). Thus the controversy over the mother's brother could not have been more central in the short history of social anthropological theory and the success of Radcliffe-Brown's argument was a key element in the gradual marginalization of notions of evolution from the mainstreams of the subject.

Radcliffe-Brown's explanation was, at first, mainly in terms of the "extension of sentiment" hypothesis. More particularly he argued that the sentiments of a child towards its mother were extended to the mother's family, thus the mother's brother was a kind of male mother who acted accordingly in a maternal fashion and so gave gifts to his sister's son. More important, however, was the argument that such customs could only be understood in terms of their

function as part of the total social structure. Radcliffe-Brown's argument, therefore, not only went against evolutionism but also was to be a dramatic demonstration of the value of what has come to be known as structural-functionalism. For Radcliffe-Brown, therefore, the idea of an identical and single history of humankind was abandoned but a universalistic element remained in that he assumed a universal cognitive basis for the representation of kinship, mothers were always mothers and patriliney's attempt to underplay this caused problems which had to be resolved by strange customs. Furthermore, because of the commonality of the fundamental building blocks of kinship systems, large-scale comparisons could be made between societies, which were to be the foundations of the new "natural science of society".

In turn, Radcliffe-Brown was criticized by Fortes and then by Goody who, while retaining the fundamental principle of a synchronic explanation in terms of a systematic social structure, criticized Radcliffe Brown's explanation for being over general, since it would predict a much greater degree of universality and uniformity than the evidence warranted. Goody's criticism takes the form of noting that, although the sentiments of children towards their mother's were everywhere the same, the specific practice in question was only found in certain societies with patrilineal descent groups without the counter balance of matrilineal inheritance and that any explanation must be tied to the occurrence of this type of group. Furthermore, and here following the later Radcliffe-Brown, he specifies the character of the institution much more narrowly than the earlier evolutionist writers, insisting on the element of privileged aggression in the snatching of property by the sister's son in ritual contexts. This strange custom he, like Fortes, explains in terms of the contradiction between what he argues is a universally bilateral kinship system and the occasionally occurring unilineal descent system. Sister's sons are grandchildren of their mother's father in the kinship system and are therefore their heirs while, in the descent system, they are in no way their successors, since descent only goes in the patrilineal line. This contradiction is resolved by the tolerated snatching of meat by the sister's son at the sacrifices of his mother's brother because, in this way, he recuperates some of his grandparental inheritance from the son of his maternal grandparents who has obtained (abusively in terms of the kinship system, but legitimately in terms of the descent system) all the inheritance coming from his maternal grandfather. This argument is clinched by a comparison of two closely related groups who vary in their property system and where the degree of inheritance "deprivation" of the sister's son correlates with the degree of snatching.

This piece of work is a particularly fine example of the structural-functional analyses of its time. It assumes, with a characteristically confident tone, that the comparison of the social structure of different societies will reveal recurring connections between different features, which, it could then be assumed, had a form of synchronic causal relationship between them. This sort of comparison also implied a belief that the basic institutions of societies were everywhere of much the same kind, that they were represented in much the same way, that we knew that there were men and women in all human societies, that there was marriage and that there was filiation. According to this way of thinking, patriliney is a particular perspective put on the universally recognized facts of procreation. The belief in the universality of the basic representations of kinship of Radcliffe-Brown is thus modified but not abandoned since these representations, when they occur, are about natural, objective facts that exist independently of actors' representations. Furthermore, the emotional reaction to a certain state of affairs, in this case ambiguity over filiation, is assumed to be basically the same for all humans irrespective of culture and to produce, therefore, similar behaviors in similar circumstances. These different but related assumptions of a common ground is what made the use of comparison as a discovery procedure possible. Variations were significant because it could be assumed that they occurred within the same natural field consisting of identifiable elements, thus the

general principles of Radcliffe-Brown's natural comparative science of society remained possible.

This identity of the basic building blocks of kinship systems is precisely what came under challenge in the subsequent developments of the subject. The first clearly expressed formulation of the coming epistemological shift is to be found in Leach's 1955 paper on marriage (Leach 1955). This shift was emphatically repeated and expanded in the introduction by Needham to the ASA volume *Rethinking Kinship and Marriage* (Needham 1971). The basis of their arguments was that marriage or kinship, as understood by social and cultural anthropologists were not externally existing phenomena, but were merely glosses for loosely similar notions found in different cultures. As Needham put it, there was no such *thing* as kinship. Subsequently, in a more empirical mood, Schneider attempted to demonstrate that Austronesian kinship was a fundamentally different phenomenon to European notions of kinship and, aiming at understanding the former with the words appropriate for the latter, was a source of confusion (Schneider 1984). Thus, generalizing comparisons of kinship systems were not possible since they did not involve, as was previously assumed, comparisons of like with like.

Similar in inspiration but even more startling-though to many less convincing in its extreme forms-was the point made by a number of feminists that there were no such things as women and men beyond a specific cultural context. Explicitly drawing on Schneider's critique of kinship, Yanagisako and Collier argued that the differentiation between female and male, that anthropologists had incorporated in their analyses, was a "cultural construction" and was of a quite different order than any sexual difference between organisms that might exist in nature (Collier and Yanagisako 1987). These anti naïve empiricist points had two consequences for the kind of argument Radcliffe-Brown, Fortes, and Goody had presented. First of all, as was noted above, it could be argued that the grand comparisons of structural functionalism involved operations like adding apples and pears and, secondly, the social units, such as lineages for example were not similar "natural things" occurring in different societies but different and unique historical/cultural representations constructed in different settings and therefore incommensurable (see Kuper 1982). The only reason, according to these writers, why kinship had seemed so similar among different human groups across the globe was because of an ethnocentric tendency to see similarities and forget differences. Finally, the last universalistic element in the Goody argument, the similarity of behavioral response in all humans to similar situations also came under attack by anthropologists who claimed that emotions too were culturally constructed (Rosaldo 1980) and could therefore not be intuited from introspective sympathy.

The implication of all this for the type of comparative enterprise that Goody and others had been engaged in seemed clear: it made it impossible. It led, if not necessarily, at least quite directly to the deep relativism of much modern anthropology. The systematic comparison, which for the structural-functionalists was to be a first step towards scientific generalizations, became clearly illegitimate if there could be no assurance that the units of analyses were commensurate. Those who studied kinship had deluded themselves that they had been dealing with biological facts, which it would be reasonable to assume would be severely constrained by nature and therefore comparable, while in reality they had been dealing with representations which, it was implicitly assumed, were the product of unique histories and therefore could take any and every form. In the case of the particular example of the mother's brother controversy the recurrence of the institution which had intrigued the earlier writers was a mirage. Every case was different and the very terms of the relationship: mother,

brother, sister and son did not indicate the same kind of thing in different cultural contexts. Thus as Structural-functionalism was successful in dealing the first blow against anthropology as a natural science, the culturalist attack on structural functionalism seemed to have destroyed any hope of attempts at generalization. We had been left with nothing but anecdotes about the infinity of specific situations in which human beings find themselves.

The theoretical history we have just told can be seen as unidirectional, it is the history of the gradual abandonment in the belief in the possibility of anthropology as a generalizing science. It assumes that because human beings have the ability of transmitting information between individuals through symbolic communication, this frees them totally from any natural constraints and makes them essentially different from other animals, who can only transmit most, if not all, information genetically. Animals must wait for changes in their genomes for becoming different. Humans, on the other hand, change with their representations. The existence of these representations is made possible by the learning and computational potential of the human brain, but their contents, it is implicitly assumed, are not *at all* constrained or even influenced by genetically inherited brain "hardware". These contents are determined, rather, by historico-cultural processes. Human history is therefore liberated from biology and people may represent the world and each other as they please. The belief in the need for cross-cultural regularities resisting historical specificity becomes simply wrong: the product of a category mistake. The extension of the aims of natural science to the study of culture and society would be like studying smells with rulers.

The aim of this paper is not to deny the validity of, at least, some of the criticisms of earlier anthropological approaches which have just been touched on. Indeed we recognize the relevance of their arguments and there is no doubt that the whole enterprise of the Radcliffe-Brownian structural-functional analysis rested in part on the dubious foundations of misplaced naïve realism. We agree with Leach, Needham, and Schneider that phenomena, described by anthropologists under the label of kinship, are cultural, and therefore historical constructions and that people's thoughts and actions are about these constructions rather than about unmediated facts of biological kinship. The implicit argument, which would see representations of kinship, marriage and gender as merely, the inevitable recognition of "how things are" will not do. We will argue, however, that this does not mean that the attempt to invoke natural factors, or even biological factors, as explanations of such cultural representations must be abandoned as though these representations and the people who hold them have, somehow, floated free from the earth onto the immaterial clouds of history. Anti-realism too can be utterly naïve.

We choose the example of the mother's brother/sister's son relationship in patrilineal societies to demonstrate our argument, simply because it has been so critical in the history of the subject and we try to show that it is possible to envisage, in a case such as this, an approach which combines the particular with the general, even though, we must recognize that the actual carrying out of such a study lies beyond what we can and do do here.

The abandonment of over-powerful theories in anthropology came, in the first place, from the realization that the implicit and explicit cultural "universals" of traditional anthropology were not as uniform as they had been assumed to be. But anthropologists who seem to argue for a radically relativistic constructivism, often seem to lack confidence in their own arguments. Their reasoning has taken them to a point that negates what all those with a reasonable acquaintance of the ethnographic record know. This is that the regularities, which have fascinated the subject since its inception, are surprisingly evident. Thus, it is a common

experience for younger anthropologists, reared on the diet of relativism which the studies mentioned above exemplify, to be shocked by discovering the old chestnuts of traditional anthropology in their field work, just when they had been convinced that these were merely antique illusions. (note 2)

The dilemma that this particular history reveals is, in fact, typical of the subject matter of anthropology as a whole. What happens is that, first of all, some cross-cultural regularities are recognized: the incest taboo, for example. These lead to quick explanations in terms of the evolution of culture, their "functions", either for society as a whole, or for individual well being, or for reproductive success. These explanations are then shown to be based on a gross exaggeration of the unity of the phenomena to be explained. Then explanation is abandoned altogether and declared impossible, leaving anthropologists, and even more the wider public with the feeling, that the original question has been more evaded than faced. In this way is the very idea of the possibility of anthropology destroyed.

The epidemiological approach to representations.

The aim of this paper is to shun such evasion and to sketch a theoretical model applied to a particular case, in other words to seek how a possible explanation might be framed in the case of a particular example of one of these "obvious" regularities, in this case the varied but similar peculiar relationships of the mother's brother and the sister's son in different societies. We want to do this without either exaggerating the unity of the phenomenon, or avoiding the problems discussed above concerning misplaced realism, which recent theoretical criticism has well illuminated.

What is involved in explaining a cultural phenomenon? Here is a way of framing the question. All members of a human community are linked to one another, across time and space, by a flow of information. The information is about themselves, their environment, their past, their beliefs, their desires and fears, their skills and practices. The flow is made up of rapid and slow currents, narrow rivulets and large streams, confluence and divisions. All information in this flow is subject to distortion and decay. Most information is about some here-and-now situation and does not flow much beyond it. Still, some information is more stable in content and more widely distributed. It is shared by many or even most of members of the community. When anthropologists talk of culture, they refer to this widely shared information.

What explains the existence and contents of culture in the social flow of information? An answer of a sort is provided by modern interpretive anthropology, which aims to show that the elements of a culture (or of a cultural subsystem) cohere together and constitute an integrated worldview (in particular Geertz 1973). This is not the approach we favor. Without denying the insightfulness of such interpretive scholarship and the relative systematicity of culture, we are among those who have argued that this systematicity is often much greater in the anthropologists' interpretation than in the culture itself (e.g. Leach 1954, Bloch 1977, Sperber 1985a)-and hence is exaggerated (as is acknowledged by James Boon 1982:3-26, who speaks approvingly of the "exaggeration of cultures"). More importantly, even if cultures were as systematic as claimed, this would fall quite short of explaining the spread and stability of these coherent wholes, unless one takes as given that there are factors and mechanisms in the flow of information that somehow promote systematicity. Rather than assuming their existence, we favor studying the factors and mechanisms actually at work in the spread and

stabilization of cultural phenomena and leaving here as an open question the degree and manner in which they may indeed promote systematicity.

Our explanatory approach to this flow of information in society is that of the "epidemiology of representations" (Sperber 1985b, 1996). It is naturalistic i.e. it aims at describing and explaining cultural phenomena in terms of processes and mechanisms the causal powers of which are wholly grounded in their natural (or "material") properties. More specifically, the kind of naturalistic explanations of cultural phenomena we favor invokes two kinds of small scale processes: psychological processes within individuals, and processes of physical, biological, and psycho-physical interactions between individuals and their immediate environment (including interactions with other individuals) and that we call "ecological" processes. Typically, the scale of the processes invoked is much smaller than that of the cultural phenomena described and explained in term of these processes. It is the articulation of large numbers of these micro-processes that allows one to redescribe and explain cultural macro-phenomena. This contrast with more standard social science accounts that explain cultural macro-phenomena in term of other social and cultural macro-phenomena. (note 3)

We view, then, the flow of information as a natural process occurring in the form of causal chains of micro-events that take place both in individual mind/brains and in the shared environment of the individuals involved. Inside minds, we are dealing with processes of perception, inference, remembering, decision, and action planning and with the mental representations (memories, beliefs, desires, plans) that these process deploy. In the environment, we are dealing with a variety of behaviors often involving artifacts, and in particular with the production and reception of public representations that can take the form of behaviors such as gesture or utterances, or of artifact such as writings. We call these representations "public" because, unlike mental representations, they occur not within brains, but in the shared environment of several people. Thus not just discourse addressed to a crowd, but also words whispered at someone's ear are "public" in the intended sense. Mental events cause public events, which in turn cause mental events, and these chains of alternating mind-internal and mind-external events carry information from individuals to individuals. A simple example is provided by a folktale, where the main mental events are those of comprehension, remembering, recall, and speech planning, and the main public events are tellings of the tale. What makes a particular story a folktale is the fact that repeated sequences of these mental and public events succeed in distributing a stable story across a population over time.

All these events taking place inside and outside individual minds are material events: changes in brain states on the one hand, changes in the immediate environment of individuals on the other. As material events, they possess causal powers and can be invoked as causes and effects in naturalistic causal explanations. They differ in this respect from the abstract meanings invoked in interpretive explanation (see Sperber 1985a: ch. 1). That meanings can be causes is contentious, and what kind of causal powers they might have, if any, is obscure (see Jacob 1997). For instance, attributing to a folktale a meaning that coheres with, say, basic values of the culture in which it is told may, in a way, "make sense" of the tale, but it does not come near explaining its distribution, and hence its existence as a folktale in that particular culture.

It could be objected that the micro-events invoked in an epidemiological approach are at the level of individual minds and behaviors. How, then, can their study help explain cultural macro-phenomena that exist not on an individual but on a societal scale? We have already suggested that these macro-cultural phenomena are made up, at a microscopic level, of these

causally linked micro-events. To this, it is sometimes objected that the vast majority of these micro-events cannot be observed: anthropologists will never witness more than a very small sample of the public micro-events involved, and mental events cannot be observed at all. Here, however, the comparison with medical epidemiology should help dispose of this objection.

Epidemiological phenomena such as epidemics are macro-phenomena occurring at the level of populations, but they are made up of micro-phenomena of individual pathology and interindividual transmission. In most cases individual pathological processes are not directly observable and are known only through symptoms and tests, while the vast majority of micro-events of disease transmission go unobserved. This, however, has been a challenge rather than an impediment to the development of medical epidemiology. In the epidemiology of representations, the situation is, if anything, better than in the epidemiology of diseases. Our communicative and interpretive abilities give us a great amount of fine-grained information about the representations we entertain and about the process they undergo, whereas pain and other perceptible symptoms, generally provides much coarser and hard-to-interpret information about our pathologies. Also, most events of cultural transmission require the attention of the participants, whereas pathological contagion is typically stealthy. Hence cultural transmission is much easier to spot and observe than disease transmission.

In spite of the limited evidence at its disposal, medical epidemiology has provided outstanding causal explanations of epidemiological phenomena. It has rarely done so by following actual causal chains of transmission, and much more often by helping identify the causal factors and mechanisms at work both within and across individual organisms. *Mutadis mutandis*, the task of the epidemiology of representations is not to describe in any detail the actual causal chains that stabilize (or destabilize) a particular cultural representation (although, in some cases, it is of great historical interest to be able to do so), it is to identify factors and processes that help explain the existence and effect of these causal chains. For instance, showing that a particular folktale has an optimal structure for human memory and that there are recurring social situations in a given society where people are motivated to tell it or to have it told, helps explain why the tale is told again and again with little or no distortion of content in that society.

The central question, which an epidemiological approach focuses on, is: what causes some representations and practices to become and remain widespread and relatively stable in content, in a given society, at a given time?(note 4) In so framing the question, we depart from the goal of generally explaining all or even most sociocultural phenomena in one and the same way, either as fulfilling a function (a coarse functionalist approach), or as contributing to reproductive success (a coarse sociobiological approach). True, from an epidemiological point of view, all explanations of sociocultural phenomena will have to invoke both mind-external ecological factors linked to the transmission of cultural contents, and mind-internal psychological factors linked to the mental representation and processing of these contents. However, the particular factors at play and the way they combine vary with each case (just as, in medical epidemiology, a different combination of organism-internal physiological factors and of organism-external environmental factors characterizes each disease).

Because of this multiplicity of co-occurring causes, we aim only at identifying some of the factors that contribute to explaining particular instances. These factors play a causal role only in specific historical and environmental circumstances and therefore can never be sufficient to explain fully the local cultural forms. Caused in part by the same factors, these forms have

recognizable similarities-which we aim to help explain. On the other hand, we merely identify a couple of important and recurring factors among many other diverging factors: each cultural form in its full local specifics is therefore unique to its particular historical context.

This, of course, is, first of all, simply to return, though more explicitly and critically, to the general type of multi-factorial explanations that were typical of anthropology before its recent relativist turn. Two things may be new, though. Rather than accepting implicitly some nondescript naturalism or objectivism about kinship, we appeal quite explicitly to naturalistic considerations about evolved, genetically transmitted, psychological predispositions. The result of this explicitly naturalistic account is, however, weaker in its predictive pretensions than the type of accounts found, for example in Goody's functionalist thesis. There the sister's son's privilege appeared as an almost necessary solution to a structural problem found in certain patrilineal societies. Similarly, this solution was to account for the particular form of the institution: e.g. snatching of significant property. According to our more explicitly naturalistic, but at the same time more modest account, there are some factors that increases the chances of the sister's son privilege stabilizing as a cultural form in these societies and we can expect, and not be disturbed by, a wide range of unaccounted variation in practices, since these will always be combined with many other factors and many different histories. We avoid, or so we hope, both the too strong explanations of functionalism, old style cultural evolutionism, or of sociobiology, without giving up on causal explanation either.

A few easy examples will give an idea of the range of factors that an epidemiological approach would consider relevant and the complex interrelation between mind-internal and mind-external factors. Density of population is a mind-external factor in the stabilization of drumming as a means of communication. The fact that percussion sounds tend to pre-empt human attention is a mind-internal factor in the culturally stabilized uses of percussion instruments. The ability of human memory to retain more easily texts with specific prosodies is a mind-internal factor in the stabilization of various forms of poetry; familiarity with specific, historically evolved, poetic forms is a mind-internal factor in the acceptability, learnability and therefore chances of cultural stabilization of new poetic works. The effectiveness of internal combustion engines for moving vehicles is a mind-external factor contributing to the stabilization of the techniques involved in constructing and maintaining these engines; however, untutored human minds do not spontaneously or even easily acquire these techniques; hence the recognition of the effectiveness of internal combustion is a mind-internal motivating factor in the setting up of appropriate institutional teaching without which the relevant technologies would not stabilize. Institutional teaching itself involves a complex articulation of mind-internal and mind-external factors.

As these examples illustrate, both mind-external and mind-internal factors explaining cultural phenomena can pertain just to the natural history of the human species and its environment, or involve also the sociocultural history of the populations involved. On the mind-external side, density of population is a natural factor found in all living species but that can be modified by cultural factors. Demographic density has a wide variety of cultural effects, the stabilization of drummed communication in some low-density populations being a marginal but obvious illustration. On the mind-external side again, the presence in the environment of vehicles powered by internal combustion engines is a wholly cultural factor-which does not mean that it is non-natural: it is, after all, the product of evolved mental mechanisms exploiting natural laws-that contributes, among many other sociocultural effects, to the stabilization of the techniques necessary for their constructions and maintenance. On the mind-internal side, the tendency of human attention to be pre-empted by percussion sounds, even if it can be

culturally modified, is basically a natural trait that humans share with other animals. The ability to organize knowledge in a hierarchy of concepts is typically human, and although it is likely to have a strong natural basis, it is certainly enhanced by language, writing, and formal teaching. Familiarity with specific poetic forms is a wholly cultural trait. This illustrates an important disanalogy, among several, between the epidemiology of diseases and the epidemiology of representations: culture occurs both inside and outside of minds, whereas diseases, qua diseases, occur only inside organisms.

The epidemiological model therefore does not deny the complexity of the process of human history. It fully recognizes that culture is both in us and outside; that it is not-not even remotely-just a matter of human beings with genetically determined mind/brains reacting to diverse environments according to the dictates of their nature. But the recognition of this complexity and of the unique fact that humans are beings that, in a strong and important sense, make themselves, still leaves room for considering, inter alia, the role of factors such as human psychological dispositions resulting from natural evolution. However, just as cultural patterns are never simple phenotypic expressions of genes, they are never simple social-scale projections of the individual mind. Culture is not human mentation writ large. It is, rather, the interaction of psychological dispositions with mind-external factors in a population that can best explain the fitful recurrence of certain types of behaviors and norms in a whole variety of guises. The inability of other models to do this, an inability common in the social sciences, has left anthropology ill equipped to explain many of the cross cultural regularities which have, in the past, rightly fascinated the subject.

A rich example of the relationship between evolved psychological dispositions, mind-external factors and cultural phenomena is afforded by the case of language. A common assumption in cognitive psychology is that humans come equipped with a language faculty. This language faculty is neither a language nor a disposition that generates ex nihilo a language in the individual; it is a disposition to acquire a specific language on the basis of external linguistic inputs. The disposition is assumed to work like this. Infants react differently to sounds patterns typical of human speech: they pay particular attention to these sounds, they analyze them differently from other sounds, they look for special evidence such as speaker's gaze in order to associate meaning to sound, they structure meaning in partly pre-formed ways, they test their knowledge in themselves producing speech, and generally they develop a competence in the language of their community. The fact that the language acquired by the members of a community depends on the public linguistic productions encountered in this community is a truism. However, the languages found in all human communities depend on the psychological disposition that individuals bring to the task of language acquisition. Generally, human languages have to be learnable on the basis of this disposition. More specifically, phonetic, syntactic, and semantic forms are more likely to stabilize when they are more easily learnable. All so-called "natural" human languages, that is languages, the evolution of which is essentially the output of spontaneous collective linguistic activity, will therefore exhibit structural features that makes them highly learnable as a first language by humans.

Languages, Chinese, English, Maori, and so forth, differ because they have different histories, with a variety of factors such as population movements, social stratification, the presence or absence of writing, affecting these histories in subtle ways. However, these mind-external, place-and-time specific factors interact at every generation with the language faculty found in every human. It is this interaction that determines the relative stability and the slow transformation of languages and that puts limits on their variability. For a variety of

sociohistorical reasons, topics of conversation, preferred words, socially valued patterns of speech, and so on, vary continuously over time in a manner such that every generation is presented with a somewhat different sampling of linguistic inputs, to which it reacts, in the acquisition process, by unconsciously bringing about minor changes to the underlying grammar. Generally, whereas day-to-day cultural changes in language use may introduce new idiosyncrasies and difficulties such as hard to pronounce borrowed words, the language learning disposition operating at the generational time scale pulls the mental representations of these inputs towards more regular and more easily remembered forms. For instance, the more difficult phonology of borrowed words, or the more difficult semantics of meanings stipulated as part of sophisticated theories are likely to be normalized by language learners in the direction of easier forms. This determines a slow evolution of languages that is constrained both by the necessity of inter-generational communication, and by the universal constraints of language acquisition.

The case of language learning, therefore, illustrates how the existence of a genetically inherited disposition is a factor in the stabilization of cultural forms, not by directly generating these forms, but by causing learners to pay special attention to certain types of stimuli, and to use-and sometimes distort-the evidence provided by these stimuli in specific ways. This leaves of course room for much cultural variability. Moreover, dispositions capable of affecting cultural contents may be more or less rigidly constraining, the language acquisition device envisaged by Chomskyans being on the more constraining side. In general, cultural representations departing from those favored by underlying dispositions, though possible, don't stabilize as easily. In the absence of other stabilizing factors counterbalancing the dispositions (e.g. institutional support), hard to learn representations tend to get transformed in the process of transmission, in the direction favored by the dispositions.

The epidemiological approach to culture provides a way of understanding the relationship between psychology and culture that neither denies the role of psychology, nor reduce culture to mind. In a nutshell, the idea is that psychological dispositions in general (whether evolved basic dispositions, or culturally developed dispositions) modify the probability-and only the probability-that representations or practices of some specific tenor will spread, stabilize, and maintain a cultural level of distribution.

How might all this help explain the regularities in the relationship between mother's brother and sister's son in patrilineal societies that are the topic of this article? To this we now turn.

Applying the theory to the mother brother/sister's son relation.

Underlying the theories of the structural functionalists concerning the mother's brother/sister's son relation in patrilineal societies is the assumption that all human beings really reckon kinship bilaterally. This makes the occurrence of unilineal rules to form descent groups something which somehow "goes against nature". Thus Fortes (Fortes 1969) contrasted, on the one hand, the domestic domain where relations were governed by biology and natural emotions, and, on the other hand, the lineage domain which was constrained by politico-jural considerations which conflicted with this biology. For him, therefore, the claims of the sister's son were a kind of reassertion of underlying bilaterality. Goody, although distancing himself somewhat from the Fortesian formulation, seems to imply something similar in that the reason why the sister's son is being "cheated" from his inheritance by the

patrilineal rule is because in reality, he, like the maternal uncle's children, is a true descendant of his mother's parents. The objection to Fortes's and Goody's position, however, has been, as we saw, that they seemed to assume that people act in relation to genetic relations, rather than in terms of a very different thing, their representation of socially specified relations. But what if there was some indirect causal link between the social representations and genetic relations? Then the accusation of naïve empiricism might fall away and the Fortes/Goody argument might be partly reinstated. How this might be possible is what much of the rest of this paper is about.

We begin by noting that support for the structural functionalist's assumption of the universal bilaterality of kinship seems to come from an unexpected source. This is Hamilton's neo-Darwinian explanation of kin altruism, and its development in sociobiological theory (Hamilton 1964). However, this kind of theory has been rejected out of hand by most social and cultural anthropologists (e.g. Sahlins 1976). It is necessary to briefly outline the theory of kin altruism and why it has been rejected to see if, after all, it might not be used legitimately in favor of the kind of argument implicit in the writings of Goody and Fortes.

The by now familiar kin altruism argument can be summarized as follows. Genealogical relationships in the strict biological sense exist among all organisms including humans. The transmission of heritable biological traits through genealogical relationships is what makes natural selection possible. Natural selection favors genes which have the effect, given the environment, of rendering more probable more replications of themselves in future generations. This includes genes that promote the reproduction of the organism in which they are located, genes that promote behaviors favorable to the survival and reproduction of descendants of the organism in which they are located, and also-and this is fundamental to the Hamilton thesis-genes that promote survival and reproduction in yet other organisms which, being genealogically related, are likely to carry copies of the same genes. A gene causing an organism to pay a cost, or even to sacrifice itself for the benefit of its lateral kin may thereby increase the number of copies of itself in the next generation, not through the descendants of the cost-paying or self-sacrificing organism (which may thereby lose its chance of reproducing at all), but through the descendants of the "altruistic" organism's kin who are likely to carry the very same gene.

The potential contribution of "kin altruism" to what is known as "inclusive fitness" favors the emergence of a disposition to helpful behavior adjusted to the genealogical distance between the altruist and the beneficiary. For such a disposition to exert itself, the organism must have the possibility of discriminating kin from non-kin, and among kin, degrees of relatedness. This does not mean, of course, that the organism must have the conceptual resources to represent genealogical relatedness and its degrees precisely and as such. What it means is that, if the ecology is such that degree of relatedness can, at least roughly, be discriminated thanks to some simple criterion such as smell, appearance, or habitat, then a disposition exploiting this possibility may be selected for.

The importance of the theory of kin altruism for evolutionary biology and for the sociobiological study of animal behavior is not in dispute. But what are its consequences, if any, for the study of human behavior? At first sight, this theory transposed directly to humans, would predict that the requirements of this altruism should, in humans, favor an instinctually based universal bilateral recognition of kinship. This would give a priori support for the structural functionalist's assumption. Here, however, is where the objections of most anthropologists come in.

These objections are fundamentally two. One, the great variability in kinship systems throughout the globe seems unaccountable in terms of panhuman characteristics. Secondly, humans live in the world via their representations, and how you get from genes to representations or norms is just not thought through in the sociobiological literature (which has been criticized precisely on this ground by evolutionary psychologists; see Tooby & Cosmides 1992).

The first objection means that the explanation in terms of genes is far too direct. One should note however that the sociobiological position not only is compatible with the recognition of some degree of variability, but also purports to explain it. The expression of genes is always contingent on environmental factors, and it may be part of the contribution of a gene to the fitness of the organism that it has different phenotypic expressions in different environments. For instance, the sex of many reptiles is determined not directly by their genes, but by the temperature at which eggs are incubated, females developing better, it seems, and being more often born in a warmer environment, and male in a colder one (Shine, Elphick, & Harlow 1995).

Closer to our present concern, Alexander (1979) offers an explanation of both matrilineal inheritance and sister's son rights in patrilineal societies in terms of uncertainty of paternity. An evolved disposition to favor kin should be sensitive to degrees of doubt or certainty of relatedness. In particular, a man's investment in his putative children should be sensitive to his degree of confidence that he is actually their biological father. If there are reasons why this degree of confidence should be low, then a man's closest relative in the next generation may well be his sister's children. On this basis, Alexander predicts "that a general society-wide lowering of confidence of paternity will lead to a society-wide prominence, or institutionalization, of mother's brother as an appropriate male dispenser of parental benefits" (1979: 172). One may accept the premise that there is an evolved disposition to favor kin that is sensitive to confidence in relatedness and yet doubt Alexander's conclusion, in particular regarding the institutionalization of matrilineal inheritance. True, there is ethnographic evidence showing that confidence in paternity tends, with exceptions, to be lower in matrilineal than in patrilineal society as the famous case of the nineteenth century Nayers illustrates (Gough 1959) but it is most probably even lower in societies which have neither matrilineal nor patrilineal descent groups (Gibson: 1986, Stack: 1983). Furthermore, a correlation is not sufficient to determine that there is a direct causal relationship, let alone what the direction of such a causal relationship might be.

The ethnographic and historical record shows that matrilineality and patrilineality and related patterns of inheritance are fairly stable systems, with very rare documented examples (such as Barnes 1951) of a society shifting from one to the other. On the other hand, changes in sexual mores towards or away from greater permissiveness and associated lower confidence in paternity are very common and may be caused by rapidly shifting economic, demographic or ideological factors. It cannot be the case, then, that a lowering of confidence in paternity systematically, or even frequently, leads to the institutionalization of matrilineality. Alexander's claim, therefore, is at best unconvincing. One could, for that matter, argue that the greater commonness of low confidence in paternity in matrilineal society is an effect rather than (or as much as) a cause of the descent system. When the inheritance system is matrilineal, then a man knows that his heirs will be his sister's children rather than those of his wife. His chances of investing in his wife's children welfare may be further reduced by rules of separate residence of the spouses, as are often found in matrilineal societies. To the extent that the opportunities for a man to invest resources in his wife's children are limited, it may

matter relatively less whether these children are biologically his own, especially if the counterpart of greater paternity doubts is a greater chance of having children with other men's wives. This fits well with the common ethnographic observation that, in most matrilineal societies, there is less control over the sexual fidelity of women.

Extending Alexander's line of reasoning to the case with which we are concerned here, one should predict that the chances of having institutionalized privileges for the sister's son in an otherwise truly patrilineal system should be greater when paternity doubts are greater too (but not great enough to tip the system over towards matrilineality). In this case, however, there is no evidence that we know of showing a correlation between institutionalized privileges of sister's son and paternity doubts, let alone a causal link in the hypothesized direction.

The second standard anthropological objection to a biological account means that, even if we accept that a disposition to Hamiltonian kin altruism is biologically advantageous and therefore likely to have somehow evolved, something which is clearly plausible, it is not clear at all what would follow regarding cultural norms of human behavior. Probably nothing directly and unconditionally since dispositions to behavior need not actually lead to behavior, let alone to culturally codified behavior; they may be offset or inhibited in indefinitely many ways. Moreover, assuming that a disposition is not inhibited, it still need not be reflected in a cultural norm. In most human society, for instance the disposition to use, in certain conditions, an eyebrow flash as a sign of recognition is both uninhibited and culturally uncoded (see Eibl-Eibesfeldt 1975). Should we then, like most cultural and social anthropologists simply forget about all this biological stuff and, like the theologians and philosophers of old, recognize that the categorical uniqueness of human beings frees them completely from animality?

The epidemiological approach offers a way of avoiding this type of dismissal, yet taking into account what is valuable in the objections. Let us accept, as a hypothesis, that there is an evolved disposition to try and differentiate people in a way sensitive to their degree of genealogical relatedness to self. (note 5) It is most unlikely that such a disposition would be such as to cause the individual to seek actual genealogical information as such. It would be rather a disposition merely to seek whatever available information might indicate relatedness to self. Now, such a disposition would favor the cultural stabilization of systems of representation providing for such ego-centered differentiation without determining their exact nature. The disposition would not be the source of these representations. These would arise as part of the process of distribution of ideas and practices—the historical dialectic of thought and communications so to speak—and its interaction with the individual cognitive development of the members of every new generation. The epidemiological approach seeks factors explaining the transformation and stabilization of representations in the process of their transmission, including biological factors. It does not pretend, as might a classical sociobiological approach, that these biological factors somehow generate the representations or that culturally sanctioned behaviors are phenotypic expressions of genes.

One prediction that would follow from the hypothesis we are considering is that individuals would tend to show interest in evidence of relatedness, whether or not culturally codified. For instance, if a single kinship category included full-sibling, half-sibling, and more distant relatives, with the same cultural norms of behavior vis-à-vis all, the prediction would be that individuals would nevertheless tend to differentiate both cognitively and behaviorally between these different types of individual falling under this common category (see for instance Bloch 1998). This further interest could be carried out individually, without being

particularly culturally condoned, as we have just envisaged, or it could contribute to the stabilization of further cultural representations (e.g. folk-theories, tales, alternative or complementary terminologies for kin) drawing finer-grained distinctions than the basic kinship terms system. In other words, whenever representations involving classifications and norms which distinguish kin in terms of closeness appear amidst the babble and multiplicity of other representations caused either as a result of individual imaginations and circumstances, or through more general socio-historical circumstances, these particular representations will seem strangely "right", "attractive", "natural" or "obvious" to people. This would be the case without individuals being at all sure why these representations have these qualities, and even, if they gave reasons, these reasons would often be merely *post hoc* rationalizations.

Assuming this general framework, we should make the following predictions. In unilineal systems where transmission of rights and goods and generally helpful behavior creates an inequality of treatment among individuals that are equally closely related to ego, and therefore goes against the predisposition in question, there should be a general, non deterministic, tendency to compensate for this imbalance. Norms or institutions capable of playing, in such a system, a compensatory role would simply stand a greater chance to stabilize than in systems where the imbalance did not exist in the first place. The special rights of the sister's son found in some patrilineal cultures could well be a case in point.

The relationship between biological disposition and cultural norm we are envisaging in this case is one between a biological causal factor obviously not sufficient and maybe not necessary, but such as to render more probable the emergence and stabilization of norms of the type in question. We emphasize that this more sophisticated naturalism makes, in this case, weaker claims than the common-sense naturalism of anthropologists such as the cultural evolutionists of the nineteenth century, and Malinowski, Radcliffe-Brown, Fortes or Goody. According to their common-sense naturalism, there are natural kinship facts that people are somehow aware of and that guide their sentiments and behaviors. This makes a strong universalistic claim about human cognition, emotion and behavior, which are taken to be neatly attuned to natural facts. If these classical claims may superficially appear misleadingly weaker and more acceptable than those we are tentatively considering here, it is only because they are made, for the most part, implicitly, whereas we have tried to spell out a possible naturalistic approach.

According to the approach we are considering, there are indeed biological facts, and in particular genealogical relationships. These however need not be cognized as such by people. A predisposition to attend to reliable correlates of these relationships cognitively, emotionally or behaviorally, in one or several of a multiplicity of possible ways, is likely to have evolved in many species, including the human species. In humans, this attention to relatedness encounters a wealth of relevant cultural inputs. More specifically, the developing child, searching his or her environment for evidence of relatedness to others, finds kinship terms ("kinship" now in the cultural rather than the biological sense), people identified as related to her by means of these terms, dos and don'ts relating to kinship categories, folk-theories, etc. Because of her evolved disposition, the child attends to this information or even seeks it, retains it, guides her behavior accordingly, and becomes, in turn, a transmitter of such information.

At this stage we seem to be just defending a weakened, updated and explicit version of the implicit or less explicit naturalistic claims of Fortes and Goody regarding the mother's

brother/sister's son relation in certain patrilineal societies. In fact, given the sweeping and careless way in which these claims have been dismissed, this is worth doing anyhow. We are defending them, however, in a way that is not contradicted by the very real uniqueness of each case. Furthermore, unlike sociobiologists assuming a fairly direct connection between genes and culture, we claim only an indirect relationship of genetically favored receptivity to specific information, favoring in turn the stabilization of cultural representations of a more or less specific tenor.

Why ritualized transgression?

From Junod to Goody, ethnographers have stressed the transgressive style in which the sister's son's rights are exerted. This may take many forms, from ritualized insults among the BaThonga to ritualized snatching of meat among the Lo Dagaba. Why should it be so? The general approach we are proposing might help us understand not just the recurrence of the recognition of the subsidiary rights of the sister's son in his mother's brother's property, but also of the ritualized transgressions so often involved in exerting those rights.

From a cultural-epidemiological point of view, cultural norms (such as the norm that authorizes a Lo Dagaba man to snatch meat from his mother's brother) are just a kind of representations that are widely distributed in a population through various processes of transmission. What makes them norms is the fact that they represent the way things are required or allowed to be. In the social science literature, norms are mostly envisaged as causes of behaviors conforming to them. However, norms play other causal roles, which may be no less important than that causing conformity. In particular, norms serve to pass approval or blame on behaviors attributed to oneself or to others, or just on behaviors that occur very rarely, if at all, but the very possibility of which captures imagination and defines the limits of what is acceptable. In most societies, for instance, norms against cannibalism are much more important as a topic of narrative and conversation than as a guide for behavior. It would be interesting to know how much the norm permitting a sister's son to take his mother's brother's good in one or another ritualized way results in actual taking of goods with significant economic effects, as opposed to being a topic of conversation with occasional symbolic enactments, serving to define social roles more than to reallocate economic resources. Alas, the literature does not seem to offer the kind of data that would answer this question. Moreover, things are likely to differ in this respect across different societies and times.

Norms are not just causes of behaviors, they are also effects of behaviors. Their spreading is caused by the different types of behaviors that are themselves caused in part by the norms. In other words, norms are cultural to the extent that they are distributed by causal chains where mental representations of the norms and public behaviors (including public statements of the norm) alternate. Again, it would be interesting to know how much a norm such as that permitting snatching is maintained by actual acts of snatching, and how much by statements of, and about the norm.

Both universal and culture-specific factors may contribute to the acceptability and attractiveness of a norm and therefore to its chance of reaching, in a given socio-historical situation, a cultural level of distribution. Whatever the extent to which a norm permitting ritualized transgression causes behaviors that conform to it, the cultural stability of the norm

is a sign of its psychological acceptability and attractiveness-which have to be explained. Here we propose some considerations relevant to such an explanation.

Suppose that there is a type of behavior that, for different reasons, is simultaneously attractive and unattractive in the same society. As a result, there are, in that society, factors that would favor the stabilization of a norm approving this behavior, and other factors that would favor the stabilization of a norm prohibiting this behavior. In such conditions, the stabilization of one of the two types of norm is an obvious obstacle to the stabilization of the other, opposite type.

In such a case, things can go in one of three ways. The first possibility is that indeed the stabilization of one norm effectively counteracts factors that would have favored the stabilization of the other. For instance, religious iconoclastic movements have, in different societies, effectively suppressed any type of image even though the receptivity to iconic representations, we assume, was still psychologically present and would have otherwise favored the cultural approval of image production. In such a case, a psychological disposition, although present, fails to favor any direct cultural expression. The second possibility is that the factors favoring opposite norms end up stabilizing some compromise norm, as when images are accepted and even encouraged, but only with religious themes. Then, there is a third possibility, where the stabilization of one norm helps the stabilization of a well-contained, ritualized form of the opposite norm. One norm dominates but the other norm applies in clearly insulated circumstances. This state of affairs may actually contribute to the stability of the dominant norm by highlighting the exceptional character of its occasional violation. Thus Bloch has argued that the sexual chaos expected at certain stages of Malagasy royal rituals must be seen as "scene setting" for the extreme domestic order dramatized in the next stage (Bloch .1987).

The behavior studied by Goody might well be such a case of a potential conflict of norms that results in the stabilization of two sharply contrasting cultural norms caused by very different factors. One is wholly dominating, in this case patrilineal descent and inheritance, while the other, the rights of the sister's son, takes the form of an authorized transgression with ritual aspects, the very transgressive character of which contributes to the stabilization of the dominant patrilineal norm. This suggestion is, of course, reminiscent of a line of argument, famously initiated by Gluckman (Gluckman 1954) and developed by the Manchester school, and in particular in the work of Victor Turner (Turner 1969). What, however, the epidemiological approach does and the Gluckman type explanation does not, is seek to explain the macro-cultural fact of the asymmetrical equilibrium between a dominant norm and its authorized, or even prescribed, transgression in terms of factors affecting the micro-processes of cultural transmission.

Given the stabilization of a patrilineal norm (the explanation of which is not the topic of this article) and the persistence of evolved psychological factors favoring investment of resources in all close kin, whether patrilineally or matrilineally related, we may expect individuals to be welcoming to expressions of these psychological factors provided that they are not incompatible with the patrilineal norm they have internalized. These psychological factors may find an expression through the informal helping by the mother's brother of his sisters children. Here, however, we are talking of individual attitudes rather than of a culturally sanctioned practice. A cultural practice that acknowledges the rights of one's sister's children would normally go against the patrilineal norm, and would be unlikely to stabilize (unless the patrilineal norm itself was in the process of destabilization). On the other hand, expressing

interest in the sister's son/mother's brother relationship while highlighting the fact that this relationship does not ground normal, regular rights of sharing or inheritance is a way or reasserting by contrast that very patrilineal norm. More specifically, ritualized transgression practices of the type we are discussing here underscore the out-of-the-ordinary character of a sister's son rights over his mother's brother good, and thereby contribute to highlighting the normal character of patrilineal transmission of goods. Thus the combination of the dominant patrilineal norm internalized by all members of the society, and the psychological factors favoring all close kin render people receptive and welcoming to a norm of ritualized expression of sister's son rights.

Note that the norms and practices or ritualized transgression that are likely thus to stabilize are "catchy" because of their psychological rather than because of their economic effects. These are first and foremost "symbolic" practices that need not have any significant-let alone any major-effect regarding the actual allocation of resources between direct and lateral descendants. This is a further contrast between the epidemiological account we are sketching here and any sociobiological account that would explain such practices in terms of their putative effects, through reallocation of economic resources, on social stability or biological fitness.

All that we have said, of course, does not amount to a comprehensive explanation of the particular forms of the sister's son's privileges in any one the societies discussed by so many ethnographers, and it is important to understand why. There are two reasons for this-beside the very sketchy character of our attempt. Firstly, we have relied on the hypothesis that there is an evolved human disposition that is aimed at modulating behavior in a way sensitive to degrees of biological relatedness, but this hypothesis is based on speculation, however well-motivated, more than on conclusive hard evidence. Secondly, we are not offering an explanation for such facts as why, for example, Lo Dagaba sister's sons behave in precisely the way they do. Indeed, we think an uni-factorial, or bi-factorial, explanation of such an ethnographic datum would inevitably be insufficient. Actual cultural practices, as performed by specific individuals at a given time, are embedded in the social historical processes that have distributed, stabilized and transformed cultural representations and practices in the population to which these individuals belong. Each of these historical flows is unique. These processes are influenced by many types of factors, evolved psychological predispositions being only one type of relevant factor. Mostly, but not exclusively, cultural processes are influenced by other cultural processes. People's behavior, and in particular their conformity or non-conformity to norms, is guided by the representations they have of the world rather than by the way the world simply is. People's representations are influenced in several ways by the phenomena they are about, but they are influenced also-and to a greater extent in most cases of interest to anthropologists-by other representations, and in particular culturally transmitted ones.

All these difficulties and caveats do not mean that we need to abandon altogether generalizing explanations of the kind we have attempted here. In other words, the recognition of the value of the objections to kinship studies by such as Needham and Schneider need not lead to a denial of the relevance of general unifying causes, amongst which are some universal human dispositions likely to have been naturally selected in the course of evolution. Such a method, precisely because it sets non absolute conditions for the expression of general factors, can overcome the difficulty which we have highlighted at the beginning of this paper and which seems to have overwhelmed anthropology. Reasoning in terms of such things as evolved human dispositions has, all too often, produced too powerful explanations. While the refusal

to try to explain obvious, though partial, recurrences across cultures, in the end seems perverse and inevitably leaves anthropological questions to be answered by others in naïve ways which repeat the errors which had made anthropologists stumble in the past.

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Notes

(note 1) In a way that is typical of the time the focus was almost exclusively on male roles.

(note 2) Maurice Bloch remembers how, as a student, he was bored with the mother's brother controversy and convinced that it was an insignificant aberration in the history of the subject but how, subsequently during field work in Madagascar, he had to listen all night to a drunk endlessly repeating "I am your sister's son and it is your duty to give me a drink". He then felt haunted by Radcliffe-Brown.

(note 3) Of course, explaining cultural phenomena in terms of micro-interactions is not new in anthropology. See for instance the work of Fredrik Barth (e.g. Barth 1975, 1987) which has been a source of inspiration to the epidemiological approach.

(note 4) How stable do representations have to be to count as "stable"? From the epidemiological viewpoint, there is no expectation that there will be a neat bipartition, among all representations that inhabit a human population, between individual representations that never stabilize in the community on the one hand, and cultural representations that are transmitted over time and social space with relatively little modification. We expect on the contrary to have a continuum of cases between the idiosyncratic and the widely cultural. This viewpoint differs quite radically from the memetic approach to culture of Richard Dawkins and others (e.g; Dawkins 1976, Blakemore 1999) for which memes are true replicators and other mental contents are not. One might wonder then when is a representation stable enough to be seen as a cultural representation? We argue, against that very question, that, from an anthropological point of view, representations are best viewed as more or less cultural depending on the width, duration and stability of their distribution.

(note 5) Hirschfeld 1984 can be read as suggesting a similar approach, and as insisting, quite rightly, that an essential relatedness and not just any kind of relatedness is aimed at. On the other hand, his description of this kind of relatedness in terms of a 'natural resemblance' seems to us inadequate.