12. Colour and Kinship: Two Case Studies in 'Universal Semantics'

What do We Mean by Semantic Universals?

One of the recurring speculations of linguistics is: how far is it possible to apply the same semantic analysis to all natural languages? How far, that is, are the rules and categories of meaning, such as we have considered in the past six chapters, characteristics of the human faculty of language, wherever it may manifest itself? It is commonly felt that the 'deeper' one gets into the substructure of language (i.e., the further one abstracts from the physical substance of language towards its conceptual content) the nearer one gets to a common core of linguistic universals.

But debate about universals can easily become confused unless certain distinctions are made. The first distinction is that made by Chomsky (1965: pp. 27–30) between *formal* and *substantive* universals. Formal universals are, roughly, general characteristics or rules of language construction such as must be postulated by anyone who aims to construct a general linguistic theory; substantive universals, on the other hand, are universal characteristics of human language in terms of what units or elements or components a language contains. On the semantic level, we may associate formal universals with 'universal rules of logical structure' and substantive universals with 'universal categories of conceptual content'. Examples of statements postulating each type are:

(a) 'All lexical definitions in all languages are analysable as a set of components.' (*formal*)
(b) 'All languages have the contrast between "animate" and "inanimate".' (*substantive*)

The distinction between the two types of universality is not clear in all details, but it is easy enough to see why the first kind need not presuppose the second. Any serious linguistic theory must put forward some general hypotheses about the nature of human language, otherwise it ceases to have any interest except as an *ad hoc* procedure for analysing this language or that. (Thus, by aspiration at least, the proposals made in the past six chapters of this book regarding a model of semantic analysis have been statements about the universal character of human language: they would fail in generality if it were discovered that they were inapplic-

able to some languages.) Belief in formal universals, that is, is usually taken for granted by any theoretically inclined linguist.

On the other hand, a linguistic theory can get on quite well without substantive universals, and may in fact deny their existence. One can postulate some general principles of syntactic structure, for instance, and deny that there is some category 'noun' which is identical in all languages. Similarly for semantic analysis: one can believe in the applicability of componential analysis to all languages, without insisting that all languages make use of a contrast between ADULT and −ADULT. Hence most of the discussion and disagreement on this subject centre round substantive universals.

A second distinction, within the category of substantive universals, should be made between a strong and weak interpretation of what 'universal' means. The strong version of a universal hypothesis would say 'all languages have a category *x*'. But common observation of variation between languages convinces us that in many cases at least, a claim of this strength is false. So with semantic features, as with phonological features, it is natural for a weaker version of a universal hypothesis to be proposed. This claims that 'There exists a universal set of semantic features, of which every language possesses a subset'. Pressed to its furthest extent, this hypothesis is so weak as to be vacuous: it could be satisfied by the limiting case of a purely 'Whorfian' world (p. 27) in which every language possessed its own set of unique features, and in which there was no degree of conceptual identity between languages at all. In practice, such a hypothesis becomes less weak to the extent that we are able to discover that the *same* semantic categories are operating in *different* languages. But the decision to espouse the weak universal hypothesis for semantic features and oppositions is a matter of principle rather than substance at the present stage of our knowledge: it means that categories of meaning can be regarded as 'language-neutral', i.e. as belonging to the common human faculty of language rather than to the ability to speak this language or that. 'Language-neutral hypothesis' might, indeed, be a better term to use for this case than 'universal hypothesis'. I shall nevertheless adhere to the usual practice of referring to both cases as 'universal', distinguishing where necessary between *strong* universality (= 'all languages contain *x*') and *weak* universality (= '*x* is a member of a universal set').

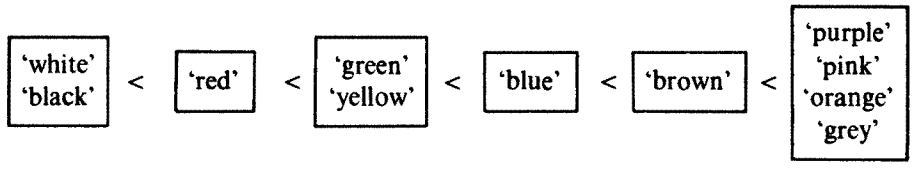
One reason for the tentativeness of discussion of semantic universals has been until recently a scarcity of detailed research on the comparison of conceptual systems in different languages. But there are two notable exceptions to this generalization. Much attention has been given to the semantic fields of colour and kinship – two fields that have attracted

the analyst's attention both because of their intrinsic interest to anthropologists and others, and because of their relative isolability, as conceptual spheres, from the rest of the language. Rather than give any speculations of my own on semantic universals, therefore, I shall give a brief and simplified account of semantics in these two areas, and from this draw what conclusions I can about the plausibility of a 'universalist' view of meaning.

Colour Terminology: The Hypothesis of Berlin and Kay

In the field of colour terminology, the study by Berlin and Kay *Basic Color Terms* (already discussed in Chapter 3, pp. 24, 27) was based on a comparison of almost a hundred languages. Berlin and Kay's book was remarkable not only for its coverage of data from a wide range of diverse languages, but also for the surprising claim it made for universalism on a terrain previously regarded as a happy hunting-ground for relativist semantics. It has, in the past, seemed almost too easy to show that the systems of colour terminology of different languages differ widely and unpredictably in the way they cut up the 'continuum of colour'. Contrasting colour-charts for such languages as Hanunóo and English (see p. 25) show this clearly in diagrammatic form. Yet from the unpromising diversity of material from every major part of the world, Berlin and Kay arrived at the bold hypothesis that there is a universal set of exactly eleven colour categories, from which each language takes a subset.

The claim of Berlin and Kay was an unusually precise one: not only did they say there are eleven basic categories ('white', 'black', 'red', 'green', 'yellow', 'blue', 'brown', 'purple', 'pink', 'orange' and 'grey'), but that these categories are ordered (or in strict mathematical terms, partially ordered) as shown:



The ordering relation indicated by the symbol < represents 'conditional universality', and is explained as follows: for any two colour categories [x] and [y], [x] < [y] means that if a language contains y, it must also contain x. On this basis, it is possible to set up a small number of major types of colour vocabulary (Type 8 in the table is a category subsuming Berlin and Kay's Types 8–22):

Type	*No. of terms*	*List of Terms*	*Example of language*
1	two	'white', 'black'	Jalé (language of the New Guinea highlands)
2	three	'white', 'black', 'red'	Tiv (Nigeria)
3	four	'white', 'black', 'red', 'green'	Hanunóo (Philippines)
4	four	'white', 'black', 'red', 'yellow'	Ibo (Nigeria)
5	five	'white', 'black', 'red', 'green', 'yellow'	Tzeltal (Mexico)
6	six	'white', 'black', 'red', 'green', 'yellow', 'blue'	Plains Tamil (India)
7	seven	'white', 'black', 'red', 'green', 'yellow', 'blue', 'brown'	Nez Perce (North American Indian)
8	eight, nine, ten, or eleven	'white', 'black', 'red', 'green', 'yellow', 'blue', 'brown', purple', and/or 'pink' and/or 'orange' and/or 'grey'	English

The difference between Types 3 and 4, it will be seen, is not a question of the number of terms, but of whether 'green' or 'yellow' is the fourth term added: there is a possibility that either 'green' occurs without 'yellow' or that 'yellow' occurs without 'green', so that no ordering relation can be set up between these two categories. The four colours 'purple', 'pink', 'orange' and 'grey' are unordered for the same reason, and for convenience are placed together in the table.

To the hypothesis so far stated Berlin and Kay added a further 'evolutionary' hypothesis, which stated that the types of vocabulary as ordered above represent a fixed sequence of historical stages through which a language must pass as its basic vocabulary increases. (Types 3 and 4 represent alternative stages; Type 8, on the other hand, can be regarded as representing a single final stage of development, as the last four terms 'purple', 'pink', 'orange' and 'grey' tend to get added quickly and in no fixed order.)

To anyone familiar with the apparent arbitrariness and diversity of colour terminologies, their comparative uniformity according to Berlin and Kay looks too good to be true. But Berlin and Kay made it clear that the neatness of this picture depends upon our acceptance of two important assumptions. The first assumption is that it is reasonable to draw a line between 'basic' colour terms and other colour terms of secon-

dary importance. For example, *white*, *red* and *green* are judged basic colour terms in English on such criteria as:

(1) the fact that their range of reference is not included in that of any other colour term (as *scarlet* and *crimson* refer to types of *red*).
(2) the fact that they are not restricted in reference to a small number of objects (as *blonde* is largely restricted to hair).
(3) the fact that the meaning of the whole word is not predictable from the meaning of its parts (as it is in such cases as *blue-green*, *bluish*, *lemon-coloured*).

The second assumption is that since people are able to judge the focus or centre of a colour range more easily and consistently than they can judge its periphery, colour concepts should be identified by the foci rather than the boundaries of their range of reference. Accordingly, in a three-colour system, the terms 'white', 'black' and 'red' will obviously spread themselves over a wider range of hues and intensities of colour than they will within an eleven-term system; but because their foci are in close correspondence, it will still be possible to identify them as 'the same category'. One consequence of this interpretation of colour terms is, of course, that many objects that would be labelled by the 'red' term in one language would not be labelled by the 'red' term in another: accordingly the 'red' term in one language would not be infallibly translated by the 'red' term in another. Nevertheless, the important point is that within this system, colour semantics ceases to be completely arbitrary, and becomes predictable within quite narrow limits. As Berlin and Kay were keen to point out, there are, mathematically, 2,048 possible combinations of eleven categories, whereas only twenty-two types actually occurred in their data.

Since the publication of Berlin and Kay's study in 1969, there has been much controversy over their theory of colour terms, and new evidence has been adduced both in its favour and against it. There is also uncertainty over the details of the theory. Berlin and Kay noted, for instance, that two languages were exceptional in that they appeared to have twelve basic colour terms (Russian has two basic terms in the 'blue' area, and Hungarian in the 'red'), and it has been argued since (by Forbes 1979) that French is another twelve-colour language, having two basic terms, *brun* and *marron*, corresponding to 'brown'. In fact one of the authors (Kay, 1975) has proposed a revision of the theory, in which the position of 'green' in the diagram is taken by a new basic term 'grue', which, as its name suggests, is a cover term for 'green or blue'. But however much opinions may vary, psycholinguistic evidence (see Clark and Clark, 1977, pp. 524–7) points strongly to the conclusion that the relative uniformity of colour semantics in different languages has much to do with the uni-

formity of the human apparatus of visual perception. Whatever language a person speaks, he will tend to perceive certain focal colour stimuli as more salient than others; and his language, too, will tend to discriminate colours on the basis of these perceptually salient areas.

Kinship Semantics: the Componential Method

Like colour terminology, kinship terminology offers the fascination of a relatively homogeneous set of lexical meanings whose organization differs markedly from language to language, and yet somehow has an underlying element of uniformity. In this case, however, the common ground between languages is cultural rather than perceptual. It is no accident that the most important contributions to this field have come from scholars with a primary interest in anthropology, such as F. G. Lounsbury and W. H. Goodenough, who were the first to develop the technique of componential analysis (see Chapters 6 and 7) to any degree of sophistication. Later, Lounsbury developed a different method of analysis, which we shall not discuss in this chapter, involving rules of reduction – see Lounsbury 1964a, 1964b, 1965, D'Andrade 1970.

Like colour terminologies again, kinship terminologies have traditionally provided linguistics with scope for the airing of 'relativist' ideas, since the categories of kinship manifestly differ radically from one language or culture to another. But there is also scope for the universalist – we see this from the fact that the 'data' for an analysis of kinship terminology are normally presented in terms of a universal or at least language-neutral set of symbols such as F = 'father', M = 'mother', B = 'brother', S = 'sister', s = 'son', d = 'daughter', H = 'husband', W = 'wife'.

The technique of componential analysis (see Goodenough 1956, 1965, 1970; Lounsbury 1956, 1964a) starts with identifying the range of reference of a term by a list of 'denotata', or specific relationships expressed in terms of the above symbols. Thus the range of the term *uncle* in English can be specified as:

> FB ('father's brother', MB ('mother's brother'), FSH ('father's sister's husband') or MSH ('mother's sister's husband').

The task of analysis is then to set up and justify the significant dimensions of contrast and the components of meaning which distinguish the use of one term from that of another. This entails finding common features in each of the denotata of a term (as 'male' 'collateral' and 'one generation above the person from whom the relation is being traced' are features common to the four denotata of *uncle* listed above); so that the disjunctive referential specification of a term (as '*x*' OR '*y*' OR '*z*' ...) is translated into a componential, *con*junctive listing of features ($a + b + c$).

In English, it is obvious that the dimension of sex (MALE/−MALE) is important as a distinguishing factor – it is the sole feature that separates 'uncle' from 'aunt', 'brother' from 'sister', etc. Another opposition of significance for English kinship usage is the distinction between *lineal* kin (related by vertical descent on the family tree) and *collateral* kin (whose connection involves a horizontal link between two siblings on the family tree). Brothers, aunts, nephews, cousins, etc., are all collateral, while fathers, daughters, grandparents, grandchildren, etc., are all lineal.

As an exemplification of the method, here, much simplified, is part of Lounsbury's analysis of the kinship semantics of an American Indian (Iroquois) tribe, the Seneca (Lounsbury, 1964a). *Table I* gives a part of the data on which Lounsbury bases his analysis: the data given here covers only consanguineal (blood-related) kin within one generation of ego. (Incidentally, we use the terms *ego* and *alter*, according to anthropological convention, to refer respectively to the person from whom the relationship is traced, and the person who is actually referred to in the kinship term. Thus in the phrase *Charlie's aunt*, Charlie is ego, and his aunt is alter.)

It may reassure the reader later to know now that kinship analyses have a mind-teasing quality of mathematical puzzles. The only cure for bafflement is to think hard and hope that the light will dawn!

TABLE I

1. *haʔnih* 'my father'	F; FB; FMSs, FFBs, FMBs, FFSs, FFFBss, etc.	A
2. *noʔyẽh* 'my mother'	M; MS; MMSd; MFBd, MMBd, MFSd, MMSdd, etc.	
3. *hakhnoʔsẽh* 'my uncle'	MB; MMSs, MFBs, MMBs, MFSs, MMMSds, etc.	B
4. *akeːhak* 'my aunt'	FS; FMSd, FFBd, FMBd, FFSd; FFFBsd, etc.	
5. *hahtsiʔ* 'my elder brother'	B; MSs, FBs; MMSds, FFBss, MFBds, FMSss, MMBds, etc. (when older than ego)	C
6. *heʔkẽːʔ* 'my younger brother'	(same, when younger than ego)	
7. *ahtsiʔ* 'my elder sister'	S; MSd, FBd; MMSdd, FFBsd, MFBdd, FMSsd, MMBdd, etc. (when older than ego)	
8. *kheʔkẽːʔ* 'my younger sister'	(same, when younger than ego)	

TABLE 1 *Cont.*

9. *akyä:ʔse:ʔ* 'my cousin'	MBs, FSs; MMSss, FFBds, MFBss, FMSds, MMBss, etc. *also*: MBd, FSd; MMSsd, FFBdd, MFBsd, FMSdd, MMBsd, etc.	D
10. *he:awak* 'my son'	(a) s; Bs; MSss; FBss; MBss; FSss; MMSdss, etc. *for male ego*	E
	(b) s; Ss; MSds, FBds, MBds, FSds; MMSdds, etc. *for female ego*	
11. *khe:awak* 'my daughter'	(a) d; Bd; MSsd, FBsd, MBsd, FSsd; MMSdsd, etc. *for male ego*	
	(b) d; Sd; MSdd, FBdd, MBdd, FSdd; MMSddd, etc. *for female ego*	
12. *heyè:wõ:tẽʔ* 'my nephew'	Ss; MSds, FBds, MBds, FSds, MMSdds, etc. *for male ego*	F
13. *hehsõʔneh* 'my nephew'	Bs; MSss, FBss, MBss, FSss; MMSdss, etc. *for female ego*	
14. *kheyè:wõ:tẽʔ* 'my niece'	Sd; MSdd, FBdd, MBdd, FSdd, MMSddd, etc. *for male ego*	
15. *khehsõʔneh* 'my niece'	Bd; MSsd, FBsd, MBsd, FSsd, MMSdsd, etc. *for female ego*	

The glosses 'father', 'cousin', etc., are not to be mistaken for English translations of the Seneca words: they are no more than roughly corresponding labels, chosen on the grounds that the *nearest* kinsman denoted by the Seneca term would be denoted by that term in English. Like the labels 'black', 'white', etc., for colour categories, they represent merely a useful terminological convention.

Rather than follow the steps of Lounsbury's argument, I shall simply present and explain the results of his analysis, changing the symbols in order to make them easier to understand in the context of this book. The data have already been prejudged by *Table I*, to the extent that certain groupings, A, B, C, D, E, F have been indicated. The solid horizontal lines, it will be seen, separate different generation groups:

Members of A, B are one generation senior to ego
Members of E, F are one generation junior to ego
Members of C, D are of the same generation as ego.

These features can be symbolized >GENERATION 'senior generation', <GENERATION 'junior generation' and =GENERATION 'same generation' respectively. For example: the definition of (1) *haʔnih* 'my father' will contain the feature >GENERATION, while that of (10) 'my son' will contain the feature <GENERATION. Of the other dimensions of contrast, two are fairly easy to recognize. First, there is the familiar contrast of

sex (±MALE) on the basis of which all the terms in *Table I* (except *akyä:ʔse:ʔ* 'my cousin') can be paired off with other terms: for example, with respect to sex, term 1 'father' contrasts with term 2 'mother', and term 3 'uncle' contrasts with term 4 'aunt'. Second, there is the contrast of seniority ±SENIOR which applies only to the sibling terms 5–8 ('elder/younger brother' and 'elder/younger sister').

The contrast which is most difficult to understand is that which is marked on *Table I* by broken lines: i.e. what is it that distinguishes Group A from Group B, Group C from Group D, and Group E from Group F? Certainly the English 'translations' do not help here. In English and other well-known languages the major dimension of contrast, apart from generation and sex, is collaterality: it is this, for example, which primarily distinguishes the meanings of *uncle* and *father*, or of *daughter* and *niece*. But in the Seneca data, kin of different degrees of collaterality are bracketed together under the same kinship category: for example, F (father), FB (father's brother), and FFSs (father's father's sister's son), are all denoted by the term *haʔnih*.

A different kind of semantic contrast must therefore be sought. For the senior generation Groups A and B, we can bring together *haʔnih* 'father' and *noʔyẽh* 'mother' on the grounds that the sex of alter is the same as the sex of the linking parent of ego; whereas this is not the case with *hakhnoʔsẽh* 'uncle and *akeːhak* 'aunt'. The matching kin are italicized in:

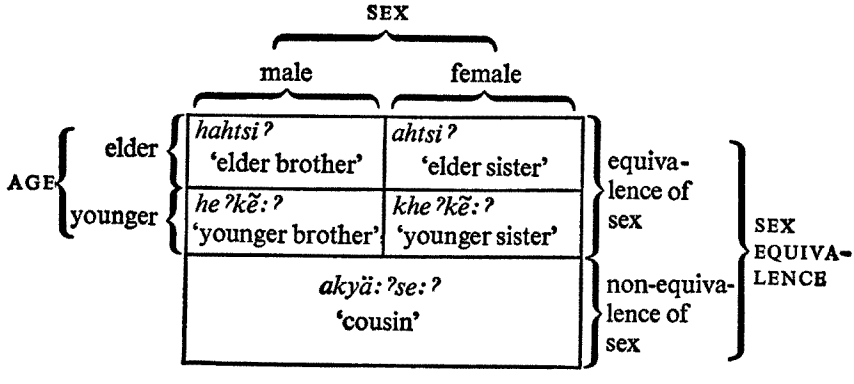
1. *haʔnih* 'father'	*F*; *F B*; *F* M S *s*; *F* F B *s* : etc.	match
2. *noʔyẽh* 'mother'	*M*; *M S*; *M* M S *d*; *M* F B *d*: etc.	match
3. *hakhnoʔsẽh* 'uncle'	*M B*; *M* M S *s*; *M* F B *s*; etc.	do not match
4. *akeːhak* 'aunt'	*F S*; *F* M S *d*; *F* F B *d*: etc.	do not match

[In the case of the simple father and mother relations F and M, the equivalence-of-sex criterion is satisfied vacuously, by the fact that alter and the linking parent are one and the same person.] It can be seen that for the first terms 1 and 2, the sex of the italicized relations is the same, while for terms 3 and 4 it is different.

If we now look at Groups E and F, we find that they contrast with one another in a way which is similar to that in which Groups A and B contrast. In Group E, ego is of the same sex as alter's linking parent: that is, for a male ego, the last symbol but one in each formula is male; whereas for a female ego, the last symbol but one is female. (Once again, in the case of the simple son and daughter relationships, the criterion of equivalence of sex is satisfied vacuously by the fact that ego and the parent of alter are identical.) In Group F, on the other hand, there is a difference of sex between ego and alter's linking parent. Because the sex of ego enters into the definition of Groups E and F, it is quite natural

that the denotation of the terms for 'son' and 'daughter' varies according to whether ego is male or female. But in spite of this, it is possible to give a unified definition for each term: for *khe:awak* 'daughter', for example, it is sufficient for a definition to specify, in addition to >GENERATION −MALE, that alter's linking parent is of the same sex as ego.

The third and final set of terms to examine are those belonging to Groups C and D: the 'brother'/'sister'/'cousin' terms. If we look back at *Table I*, we see that there is a major contrast between the 'brother'/'sister' terms on the one hand and the 'cousin' term on the other. For Group C, the linking parent of ego and the linking parent of alter are of the same sex, whereas this is not the case for Group D. For example, FBs ('father's brother's son') is classed as a 'brother', while FSs ('father's sister's son') is classed as a 'cousin': the test here is whether the first and penultimate symbols of the denotative formula match in sex. (In the case of direct siblings, the symbols B and S can be expanded as Fs or Ms, Fd or Md, in which case the first and penultimate symbols are again identical.) In diagrammatic terms, the oppositions of these five terms can be represented as follows:



Notice now that we come across three contrasts which differ slightly but are all concerned with equivalence of sex between relatives of the same generation. For senior generation kin, the question to be answered 'yes' or 'no' is: Is there a sex equivalence between ego's linking parent and alter? For junior generation kin, the question is the converse of this: Is there a sex equivalence between ego and alter's linking parent? And for kin of the same generation as ego, the question is: Is there a sex equivalence between ego's linking parent and alter's linking parent?

In the conclusion of his analysis, Lounsbury says that these are all instances of the same semantic contrast, so that the analysis can be simplified by using a single componential opposition, which we may now symbolize ±PARALLEL and specify as follows:

+PARALLEL: 'There is equivalence of sex between the two kin of the generation above ego or alter (which ever of those is junior)'

−PARALLEL: (The negative of the above)

The choice of label reflects the anthropological distinction between 'parallel cousins' and 'cross cousins'.

Referring back to *Table I*, we may now see that the broken horizontal lines separating classes A from B, C from D, and E from F, in fact correspond to the +PARALLEL/−PARALLEL distinction. For =GENERATION terms, there is a further opposition of seniority, which may be represented ±SENIOR; and to separate the field of kinship as a whole from other fields of meaning, the feature KIN may be included. With these additions, the componential definitions of terms 1–15 finally run as follows:

1. *haʔnih* 'my father'	KIN >GENERATION +PARALLEL +MALE
2. *noʔyẽh* mother'	KIN >GENERATION +PARALLEL −MALE
3. *hakhnoʔsẽh* 'my uncle'	KIN >GENERATION −PARALLEL +MALE
4. *akeːhak* 'my aunt'	KIN >GENERATION −PARALLEL −MALE
5. *hahtsiʔ* 'my elder brother'	KIN =GENERATION +PARALLEL +MALE +SENIOR
6. *heʔkẽːʔ* 'my younger brother'	KIN =GENERATION +PARALLEL +MALE −SENIOR
7. *ahtsiʔ* 'my elder sister'	KIN =GENERATION +PARALLEL −MALE +SENIOR
8. *kheʔkẽː* 'my younger sister'	KIN =GENERATION +PARALLEL −MALE −SENIOR
9. *akyäːʔseːʔ* 'my cousin'	KIN =GENERATION −PARALLEL
10. *heːawak* 'my son'	KIN <GENERATION +PARALLEL +MALE
11. *kheːawak* 'my daughter'	KIN <GENERATION +PARALLEL −MALE
12. *heyẽːwõːtẽʔ* 'my nephew'	KIN <GENERATION −PARALLEL +MALE
13. *hehsõʔneh* 'my nephew'	KIN <GENERATION −PARALLEL +MALE
14. *kheyẽːwõːtẽʔ* 'my niece'	KIN <GENERATION −PARALLEL −MALE
15. *khehsõʔneh* 'my niece'	KIN <GENERATION −PARALLEL −MALE

Further extensions and refinements of this analysis are discussed by Lounsbury; but this brief and simplified sketch has, I hope, illustrated the method well enough. Componential analysis is a technique for analysing the kinship semantics of each language in its own terms, without any prior assumptions about a universal set of potential components of kinship. But prior assumptions are to be found in the data of analysis, the so-called 'denotata'. The fact that the data for each language are expressed in terms of the elemental family relationships of the 'nuclear family' (F, M, B, S, d, s, H, W) in itself implies a universal or language-neutral conceptualization of basic kinship relations, even though anthropologists may disagree as to the precise significance of these universal categories, and even though the cultural interpretation of the categories varies from one language to another. To call the formulae F, MB, MSd, etc., 'data' is in fact a misnomer, for these are themselves linguistic formulae in need of interpretation. Could it be that the nuclear-family concepts embodied in these formulae are the language-neutral categories from which the varied and more complex systems of different languages can be derived? If so, there will be a universal 'key' to kinship terminology, resembling the universal colour-set of Berlin and Kay.

A Predication-Componential Analysis of Kinship Semantics

Here it is worth recalling the limitations of componential analysis, which led me to postulate in Chapter 8 an additional layer of analysis, in terms of predications. One of the chief reasons for introducing predication analysis is the need to account for relational structures of meaning, as opposed to purely classificatory structures. That kinship terms involve relational structures is obvious: any expression like *Bill's mother* expresses a relation between two people, identified by the generalized labels *ego* and *alter*. Therefore why not try treating relationships *as* relationships, instead of reducing them to taxonomic classes? Predication semantics should be well adapted to the analysis of kinship terms.

I shall now outline English kinship semantics in terms of predication analysis as well as componential analysis. My goals will be (a) to show how certain advantages arise from using the predication method, and (b) to explore, within a different framework, the question raised at the end of the last section, regarding the relation between universal and language-specific aspects of kinship semantics. (To simplify matters I shall concentrate on blood-relationships (consanguineal) rather than relationships via marriage.)

A fair amount of progress can be made towards a predication-

componential analysis of kinship terms by simply using the two oppositions of sex and parenthood:

$$\begin{cases} +\text{MALE 'male'} \\ -\text{MALE 'female'} \end{cases} \quad \begin{cases} \rightarrow\text{PARENT 'is parent of'} \\ \leftarrow\text{PARENT 'is child of'} \end{cases}$$

We see that the second opposition is a relative opposition (p. 102) because of the converse relation between 'parent' and 'child':

John is a parent of Joe is synonymous with *Joe is a child of John.*

The relation of parenthood/childhood indeed underlies all asymmetric converse relations between sets of kinship terms (as 'uncle' and 'aunt', for example, are converse to 'nephew' and 'niece').

On the predication level, all kinship relations are represented as downgraded (qualifying) predications (pp. 144–8). Thus the meaning of *a boy's mother* can be represented:

(1) $-\text{MALE}'\ \langle \textbf{the}'\ .\ \rightarrow\text{PARENT}\ .\ \text{HUMAN}\ -\text{ADULT}\ +\text{MALE}\rangle$

And the definition of *mother* by itself can be represented in the same way, except that the second argument (denoting ego) is null:

(2) *mother*: $-\text{MALE}'\ \langle \textbf{the}'\ .\ \rightarrow\text{PARENT}\ .\ \emptyset\rangle$
'female (who is) parent of . . .'

On this basis, a term like *grandfather*, the meaning of which includes a chain of two parental relationships, can be defined by means of one downgraded predication within another:

grandfather: $+\text{MALE}'\ \langle \textbf{the}'\ .\ \rightarrow\text{PARENT}\ .\ \emptyset''\ \langle \textbf{the}''\ .\ \rightarrow\text{PARENT}\ .\ \emptyset\rangle\rangle$
'male (who is) parent of (someone who is) parent of . . .'

Definitions of this kind fit the pattern of noun definition exemplified on p. 209. In fact, all kinship terms have definitions which fit this kind of format. It is therefore convenient to adopt a simplified notation in which we omit the brackets, the definite operators, and the indices of coreference. What is more, even the null feature symbol '$\emptyset$' can be omitted as predictable, because no English kinship term contains any specification of the sex of ego or of linking kin. With all these omissions, the above definition of *grandfather* is reduced to a skeletal form as follows:

$+\text{MALE}\ .\ \rightarrow\text{PARENT}\ .\ .\ \rightarrow\text{PARENT}\ .$

It is consequently possible to define a whole set of English kinship terms fairly simply as follows (*Note*: The two points '..' signal a null argument (except for the presence of the downgraded predication) – i.e. an unspecified linking kin):

father: +MALE.→PARENT.
mother: −MALE.→PARENT.
son: +MALE.←PARENT.
daughter: −MALE.←PARENT.
grandfather: +MALE.→PARENT..→PARENT.
grandmother: −MALE.→PARENT..→PARENT.
grandson: +MALE.←PARENT..←PARENT.
granddaughter: −MALE.←PARENT..←PARENT.
great grandfather: +MALE.→PARENT..→PARENT..→PARENT.
(etc.)

Having observed that the oppositions of 'sex' and 'parenthood' account without difficulty for the definition of lineal kin terms, let us now see if these two oppositions can provide definitions of collateral kin:

brother: +MALE.←PARENT..→PARENT.
sister: −MALE.←PARENT..→PARENT.
uncle: +MALE.←PARENT..→PARENT..→PARENT.
aunt: −MALE.←PARENT..→PARENT..→PARENT.
nephew: +MALE.←PARENT..←PARENT..→PARENT.
great niece: −MALE.←PARENT..←PARENT..←PARENT.
. →PARENT.

On the face of it, these seem to be adequate definitions; for example, the definition of brother is spelt out as:

'male child of parent of . . .'

But the alert reader will notice that this definition errs in making the claim that every male person is his own brother. If Boris's brothers, for instance, are all those people who are male children of Boris's parents, then Boris must be his own brother. Putting it more technically, this definition wrongly makes out the 'sibling' ('brother-or-sister') relationship to be reflexive (p. 105). Notice, too, that all the other definitions of collateral kin above have a parallel flaw: according to the definitions of *uncle* and *aunt*, one's father is also one's uncle, and one's mother is also one's aunt.

We must conclude that to account for collateral kin terms within a system of componential-plus-predicational analysis, it is necessary to bring into play a further semantic primitive, namely the relation of 'siblinghood'. This is represented with a double-headed arrow, because siblinghood, though irreflexive, is symmetric (p. 104); that is '*x* is a sibling of *y*' entails '*y* is a sibling of *x*'. Now *brother*, *sister*, etc., are redefined:

brother:	+MALE.↔SIBLING.	'male sibling of . . .'
sister:	−MALE.↔SIBLING.	'female sibling of . . .'
uncle:	+MALE.↔SIBLING..→PARENT.	'male sibling of parent of . . .'
aunt:	−MALE.↔SIBLING..→PARENT.	'female sibling of parent of . . .'
nephew:	+MALE.←PARENT..↔SIBLING.	'male child of sibling of . . .'
great niece:	−MALE.←PARENT..←PARENT..↔SIBLING.	'female child of child of sibling of . . .'

So long as the 'sibling' relation is defined as irreflexive, as well as symmetric, this analysis gets round the problem of defining siblings so as to exclude ego. But the relation ↔SIBLING is not really a new semantic primitive at all, for its significance can be derived from the already used opposition 'parenthood'. To explain what *sibling* means, we need only say that 'siblings are two *different* people who share the same parent(s)'. A formulaic version of this statement is as follows:

Rule of implication (*A*):

'x.←PARENT..→PARENT.y' *entails* 'x.↔SIBLING.y' where $x \neq y$.

i.e. 'x is the child of the parent(s) of y' entails 'x is the sibling of y' (so long as x is not identical to y).

This special 'rule of implication' (a notion to be more fully explained in Chapter 13) defines the 'derived' relation of siblinghood in terms of the more basic relation of parenthood.

As we have just seen, with the help of the 'sibling' relation, more remote collateral relations, such as *uncle*, can also be represented. The same applies to relatives of more than one degree of collaterality, that is to those who are denoted by the blanket term *cousin* in its wide sense:

First cousin: ←PARENT..↔SIBLING..→PARENT.
Second cousin: ←PARENT..←PARENT..↔SIBLING..→PARENT..→PARENT.

Third cousin: ←PARENT..←PARENT..←PARENT..↔SIBLING..→PARENT
..→PARENT..→PARENT.

(etc.)

Although I do not wish to challenge a purely componential analysis on the lines of Lounsbury and Goodenough for the limited purpose of analysing and classifying kinship terminologies, the analysis using both components and predication structures has certain advantages which are

not to be ignored, as well as showing how kinship semantics can be integrated within a general theory of meaning.

Firstly, it correctly represents converse (p. 103) relations between kinship terms (e.g. between *parent* and *child*, between *grandparent* and *grandchild*, between *uncle-or-aunt* and *nephew-or-niece*, etc.). These converse relations are exhibited through the mirror-image relation of one formula to another. Thus, barring the feature of sex, which is variable, the formulae for *uncle* and *aunt* read from left to right are the same as the formulae for *nephew* and *niece* read from right to left.

Secondly, it correctly represents symmetric or mutual kinship relations, such as that between sibling and sibling, and that between cousin and cousin. These symmetric relations are shown by symmetrical formulae – i.e., formulae which read the same from left to right as from right to left.

Thirdly, it correctly indicates how more indirect kinship relations can be decomposed into a combination of more direct ones. For example, the following circumlocutions identify relations we would place in the category 'niece', and this is shown by the fact that the specifications of their meaning are subsumed in the definition of niece (i.e. are the same as the 'niece' formula except that they contain extra features):

brother's daughter: −MALE.←PARENT.+MALE.↔SIBLING.
sister's daughter: −MALE.←PARENT.−MALE.↔SIBLING.
niece: −MALE.←PARENT..↔SIBLING.

Similarly, one could show that all the following refer to first cousins of Malcolm:

Malcolm's uncle's son — *Malcolm's father's sister's daughter*
Malcolm's mother's nephew — *Malcolm's mother's brother's daughter*
etc.

It would not be difficult to show how this sort of analysis can be used to explain a large number of entailments, inconsistencies, tautologies, and contradictions – in short, a large number of basic statements (see p. 73) – which a semantic analysis, within the present conception, ought to be able to account for. (The ability to account for these basic statements is, indeed, what I mean when I say above that the analysis 'correctly' represents certain facts.) Here are examples of basic statements derivable from the analysis, and illustrating the three advantages I itemized above:

'Bill is Jake's father' is synonymous with 'Jake is Bill's son'.
(converseness of 'parent'/'child' relation)
'Bill is Kate's cousin' is synonymous with 'Kate is Bill's cousin.'
(symmetry of 'cousin' relation)

'Susan is Mrs Brown's daughter's daughter' entails 'Susan is Mrs Brown's granddaughter.'

(decomposition of *granddaughter* into *daughter's daughter*)

But for a fuller analysis of English kinship usage, one would need to grapple with further problems. Consider, for example, the above definition of *uncle* as +MALE. ↔SIBLING.. →PARENT. This deals only with blood-related uncles (FB, MB) and leaves out of consideration uncles related through marriage (FSH, MSH). For a fuller definition of *uncle*, therefore, one would have to introduce an optional marriage link:

uncle: +MALE[. ↔MARRY.]. ↔SIBLING.. →PARENT.

(the square brackets indicate optionality)

Even this is not an entirely adequate definition, since – as Goodenough points out in his study of Yankee kinship terminology (Goodenough 1965) – not everyone who marries an aunt is regarded as an uncle.

Consider also the terms *ancestor* and *descendant*. The system of analysis given so far would not be able to yield unitary definitions of these terms. Instead, the meaning of *descendant* would have to be presented rather as an indefinitely large set of defintions like this:

.←PARENT..←PARENT.	'grandchild' or
.←PARENT..←PARENT..←PARENT.	'great grandchild' or
.←PARENT..←PARENT..←PARENT.←PARENT.	'great great grandchild'
(etc.)	or ... (etc.)

Ancestor would have to be defined similarly, as the converse of *descendant*. But this multiple, open-ended specification of the meaning of a single word runs counter to the principle, taken for granted in the last chapter, that a definition should be a single specification consisting of a finite number of features (p. 189). We would like to show that 'grandchild', 'great grandchild', etc., are hyponyms of 'descendant', and yet avoid the recursive listing which was given above as a makeshift definition for *descendant*. One reason why this recursive definition is unsuitable is that it suggests that *descendant* is infinitely ambiguous, and that in one sense it is a synonym with *grandchild*, in another sense it is a synonym with *great grandchild*, and so on indefinitely. So to avoid making this absurd claim, let us formulate another rule of implication like that which introduced the 'sibling' relation:

Rule of implication (*B*):

(i) '*x*. →PARENT. *y*' entails '*x*. →LINEAL (1 GENERATION) . *y*'

(ii) 'x. →LINEAL ..→PARENT. y' entails 'x. →LINEAL
i GENERATION $i+1$ GENERATION
i.e. (i) One's parent is one's first-generation ancestor, and
(ii) One's parent's ith generation is one's own $i+1$th-generation ancestor
(where i is any positive whole number)

The effect of this two-part rule is to derive from the relation of 'parenthood' two new semantic oppositions: the relative opposition of 'lineal descent' (→LINEAL/←LINEAL) and the hierarchic opposition of 'generation' (1 GENERATION/2 GENERATION/... etc.). One result of the rule is that for terms such as *father, grandfather*, etc., there are two different but (largely) equivalent definitions:

+MALE. →PARENT..→PARENT. = +MALE. →LINEAL . 'grandfather'
2 GENERATION
'male parent of parent of' = 'male second-generation ancestor'

Such definitions do not represent an ambiguity, but rather alternative conceptualizations of the same content (see p. 249 below).

Another effect of this rule is the desired one of providing single definitions of *ancestor* and *descendant*, in such a way as to show 'grandfather', etc., to be hyponyms of 'ancestor', and to show 'grandson', etc., to be hyponyms of 'descendant'. In fact, the definition of *ancestor* seems to vary somewhat from speaker to speaker. Some people would feel that an ancestor should at least be of the male sex (and therefore distinct from an ancestress); others feel that a person must at least be dead, before he can qualify for this exalted station. So two possible definitions are:

ancestor: { +MALE. →LINEAL.
−LIVE. →LINEAL.

It goes without saying that Rule (B) can be read not only from left to right, but (according to the mirror-image convention) from right to left. Thus it also provides us with a unitary definition of *descendant*: . ←LINEAL.

If the sole purpose of Rule (B) were to permit unitary definitions of two relatively infrequent words of the English language, *ancestor* and *descendant*, its importance might not seem sufficient to merit the costliness of a special rule. But rule (B) is also necessary for the provision of a unitary definition of *cousin* (in its wider sense of any distant relation, viz. any relative remote by more than one degree of collaterality). All these, for example, are types of cousin:

(a) .←PARENT..↔SIBLING..→PARENT 'first cousin'
'child of sibling of parent of . . .'

(b) { .←PARENT..←PARENT..↔SIBLING..→PARENT. / .←PARENT..↔SIBLING..→PARENT..→PARENT. } 'first cousin once removed'

(c) .←PARENT..←PARENT..↔SIBLING..→PARENT..→PARENT. 'second cousin'

(etc.)

But all these, and other types, can, thanks to Rule (B), now be subsumed in the single formula: .←LINEAL..↔SIBLING..→LINEAL.

The final problem that arises is how to define the notion of 'kinship' itself. A first approximation to a specification of the general relation 'is kin to' would be: .←LINEAL..→LINEAL. (i.e. 'is a descendant of one's ancestor'). But this definition has the same kind of flaw as the definition of *sibling* as. ←PARENT..→PARENT.: namely, it treats the irreflexive relation of kinship as if it were a reflexive relation, and so implies that I am my own kinsman. Therefore we require yet one further rule, parallel to Rule (A), to make clear that for x to be kin to y, x must be distinct from y:

Rule of Implication (C):

'x. ←LINEAL..→LINEAL.y' entails 'x.↔KIN.y' (where $x \neq y$) i.e. 'x is a descendant of an ancestor of y' entails 'x is kin to y' (where $x \neq y$).

The rules just given (Rules of Implication (A)–(C)) bring a new dimension to semantic analysis, because they introduce the possibility of a *single meaning* (like 'first cousin') being specified in *different ways*. Both (p) and (q) are definitions of (*first*) *cousin*:

(p) .←PARENT..↔SIBLING..→PARENT.
(q) .←LINEAL ..↔SIBLING..→LINEAL.
1 GENERATION 1 GENERATION

Notice, however, that these definitions indicate not a double ambiguity, but a single content which is capable of being conceptualized in two different ways. We can see a kinship bond either in terms of individual parent and sibling relations (the atomic relations which make up the 'nuclear' family unit), or we can see it in terms of mathematical co-ordinates on the broad expanses of a family tree. Thus kinship may be regarded not as a single conceptual domain, but rather as a field in which different conceptual domains (different conceptualizations of the same content) overlap. Rules of implication such as Rules (A)–(C) seem

to match up to psychological reality, in that the shortest formula (in terms of number of features) appears to represent the kind of conceptualization most appropriate to a given relationship. Thus the simplest definition of *nephew* (+MALE. ←PARENT.. ↔SIBLING.) is also the one which accords best with one's intuitive feeling of what such a relationship is, in contrast to the more cumbersome definition bringing in the question of ancestry:

$$+\text{MALE}..\overset{1\ \text{GENERATION}}{\leftarrow\text{LINEAL}}\quad..\leftrightarrow\text{SIBLING}.$$

Rules (A) to (C) above relate a detailed, atomic view of kinship by stages to a general, abstract view. The overlapping domains can be imagined as microscopes pointed at the same object, one focusing on a narrow range with stronger magnification, another focusing on a wider range with weaker magnification.

Rules of Implication

Rules of implication (or, as one might prefer to call them, 'semantic transformations') are needed for certain areas of meaning, such as kinship, where otherwise it would be impossible to provide a unitary, finite definition for a particular meaning. These rules are posited with reluctance, as they destroy the one-to-one relation of formulae to meanings which we should otherwise wish to preserve. But there seem to be many areas of lexical meaning where alternative conceptualizations are possible, and where therefore special rules of implication have to be set up. Apart from kinship, a simpler example of such semantic overlap is the relation between the two polarities 'warm'/'cool' and 'hot'/'cold'. Clearly the second opposition covers approximately the same area of meaning as the first, except that it represents a contrast of greater intensity. To convey this relationship between the two oppositions, special rules of implication would be required to explain such facts as the approximate synonymy of *The weather is hot* and *The weather is very warm*, also of *The weather is slightly hot* and *The weather is warm*. There is a similar overlap between the polarities 'like'/'dislike' and 'love'/'hate'.

Bi-directional rules of implication are, of course, rules of synonymy; and it might be asked whether Rules (A)–(C), and other rules of the same kind, would not best be formulated bi-directionally. My own mind is open on this matter, as I have yet to find enough convincing evidence in favour of one solution rather than another. There is one consideration which has led me to formulate these rules as uni-directional entailments in this chapter, but this consideration cannot be explained until we deal

with the problem of the universality of kinship concepts – a subject to which we now return.

Kinship and Semantic Universals

The preceding componential-predicational analysis of English kinship semantics is like the purely componential analysis of Lounsbury's Senecan analysis in one respect: it can be seen as providing a bridge between the culturally very general, if not universal, categories of sex and parenthood involved in the 'nuclear family', and the culturally-relative factors of kinship classification which determine how generation seniority, collaterality, consanguinity, and other abstract variables of that kind are handled by a particular language. It is tempting to see the two oppositions of +MALE/−MALE and →PARENT/←PARENT with which we started the second analysis as strong universals, i.e. as semantic contrasts present in every language. But all such plausible generalizations seem to fall foul of counter-instances in anthropological literature.

Goodenough (1970: pp. 4–38) reports a number of cultures (e.g. the Nayar castes of South India) in which the nuclear family of parents and children has no place: and Lounsbury (1969) mentions cases of cultures where biologically one or the other parent is held to have only an incidental part in procreation. Therefore the abstraction 'parenthood' subsuming motherhood and fatherhood is at best only a near-universal (in the strong sense) of kinship semantics.

This brings us up against another anthropological debating point: how far should kinship relations be defined in terms of the biological primes of sex and procreation? How far, on the other hand, can they be regarded as purely social institutions? The analysis of English kinship usage given in this chapter provides for both 'biological' and 'social' views, if we identify the basic oppositions of 'sex' and 'parenthood' as biologically founded, and the derived relations of siblinghood, ancestry, and cousinship as definable in terms of rights, duties and other social rather than biological correlates. The rules of implication, then, have the effect of deriving the socially institutionalized superstructure of kinship from a core of biologically founded relations. It is appropriate that these rules should be formulated as uni-directional, rather than bi-directional entailments, to allow for cases where kinship relations exist in social terms (e.g. through adoption) without any underlying biological relation.

The rules of implication, so considered, become the means for stating differences between conceptualizations of kinship in different languages. For example, the 'parallel'/'cross' opposition in Seneca kinship

terminology would have to be instituted through a rule roughly as follows:

Rule of implication (D):

(a) '*x* .←LINEAL ..→LINEAL . *y*' entails
α MALE γ GENERATION γ GENERATION α MALE
'*x*.↔PEER .*y*'
+PARALLEL

(b) '*x* .←LINEAL ..→LINEAL . *y*' entails
α MALE γ GENERATION γ GENERATION β MALE
'*x*.↔PEER .*y*'
−PARALLEL.

(where *x* may be identical to *y*)

Here use is made of a widely employed convention in linguistics: the Greek symbols α and β indicate variables ranging over the terms of an opposition. Thus α MALE ... α MALE represents matching features of sex; while α MALE ... β MALE indicates non-matching features. γ GENERATION ... γ GENERATION symbolizes a matching number of generations. The rule defines the notion of 'generation-peer' which is as crucial to the Senecan system as 'sibling' is to the English system. Specimen definitions run as follows:

1. *ha?nih* 'my father' +MALE.↔PEER ..→PARENT.
+PARALLEL
5. *khehsõ?neh* 'my niece' −MALE.←PARENT..↔PEER .−MALE
(female ego) −PARALLEL
9. *akyä:?se:?* 'my cousin' .←PARENT..↔PEER .→PARENT.
−PARALLEL

Two comments on the interpretation of these definitions:

(a) The ↔PEER relation is reflexive as well as symmetrical, so *ha?nih* as defined above includes one's father in the narrow sense of 'male parent'.

(b) Recalling that the above, like all the preceding definitions of kinship terms, are simplified renderings of downgraded predications, we may define each 'elder sibling' or 'younger sibling' term by two separate downgraded predications: one relating ego to alter as regards kinship, and one relating them in terms of relative age. This overcomes what would be a problem if we tried to compress all of the meaning into one downgraded predication: how to get the 'older than'/'younger than' relation to stretch directly between ego and alter, while the 'sibling' relation links them only indirectly. Thus the meaning of *ahtsi?* 'elder sister' will be specified by three separate features, of which two are downgraded predications:

−MALE
⟨X⟩
⟨Y⟩

(where X = 'who is child of parallel peer of parent of ego')
(where Y = 'who is older than ego')

We may assume that some of the derived relations introduced by implication rules (such as the 'sibling' rule Rule (A)) are widely applicable to different languages, and therefore that they can be treated as 'weak universals' in the sense of being language-neutral. Work by Lounsbury using his 'reduction rules' which are somewhat similar to the present rules of implication invites the conclusion that such rules are independent of given languages and cultures, and may form the basis for a general system of classification for kinship terminologies (Lounsbury 1964a, 1964b, 1965).

In comparison with colour semantics, the case for universals in kinship semantics is complicated by the cultural nature of the phenomenon studied. Talking about 'universal kinship categories' begs the question of whether there are *cultural* universals of kinship, that is, whether the cultural realities referred to by kinship terms remain constant from culture to culture. There is room for scepticism even on so fundamental an issue as whether the term 'kinship' refers to anything that can be characterized in a culturally neutral way. None the less, those who are philosophically inclined to a weak universalist position will find that it enables them to see a common basis in the obviously similar conceptualizations of kinship that arise in geographically and linguistically diverse environments.

Conclusion

After noting Chomsky's distinction between formal and substantive universals, we have seen that the second of these categories demands a further subdivision into 'strong universals' (characteristics common to every language) and 'weak universals' (language-neutral characteristics, belonging to a universal set from which each language takes a subset).

An instance of a 'weak universal' hypothesis is Berlin and Kay's hypothesis that there are eleven basic colour categories, which are conditionally ordered such that the presence of one category depends on the presence of certain other categories. 'Weak' is, however, a rather unfortunate description of this hypothesis, which makes strong predictions as to what is and what is not a possible set of basic colour categories for any human language. Two of Berlin and Kay's colour categories, 'black' and 'white', in fact qualify as strong universals. In

kinship terminology, too, there are good (though not uncontested) arguments for taking up a weak universalist position which not only accepts the language-neutrality of such categories as parenthood, sex and marriage, but recognizes them as basic to kinship semantics in the vast majority of languages. The examples of colour and kinship suggest, therefore, that there is some merit in making the contrast between strong and weak universals as a matter of degree, rather than an all-or-nothing affair.

The rules of implication introduced in this chapter form a bridge between the universal and the culturally relative aspects of kinship semantics. I believe that such rules have an important place in semantic theory, and it is to a more detailed study of them that I shall turn in the next chapter.