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BEHIND THE PREPOSITION

GRAMMATICALISATION OF LOCATIVES IN OCEANIC LANGUAGES

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Poetry proper is never merely a higher mode *(melos)* of everyday language. It is rather the reverse: everyday language is a forgotten and therefore used-up poem, from which there hardly resounds a call any longer.

Martin Heidegger (1975:208)

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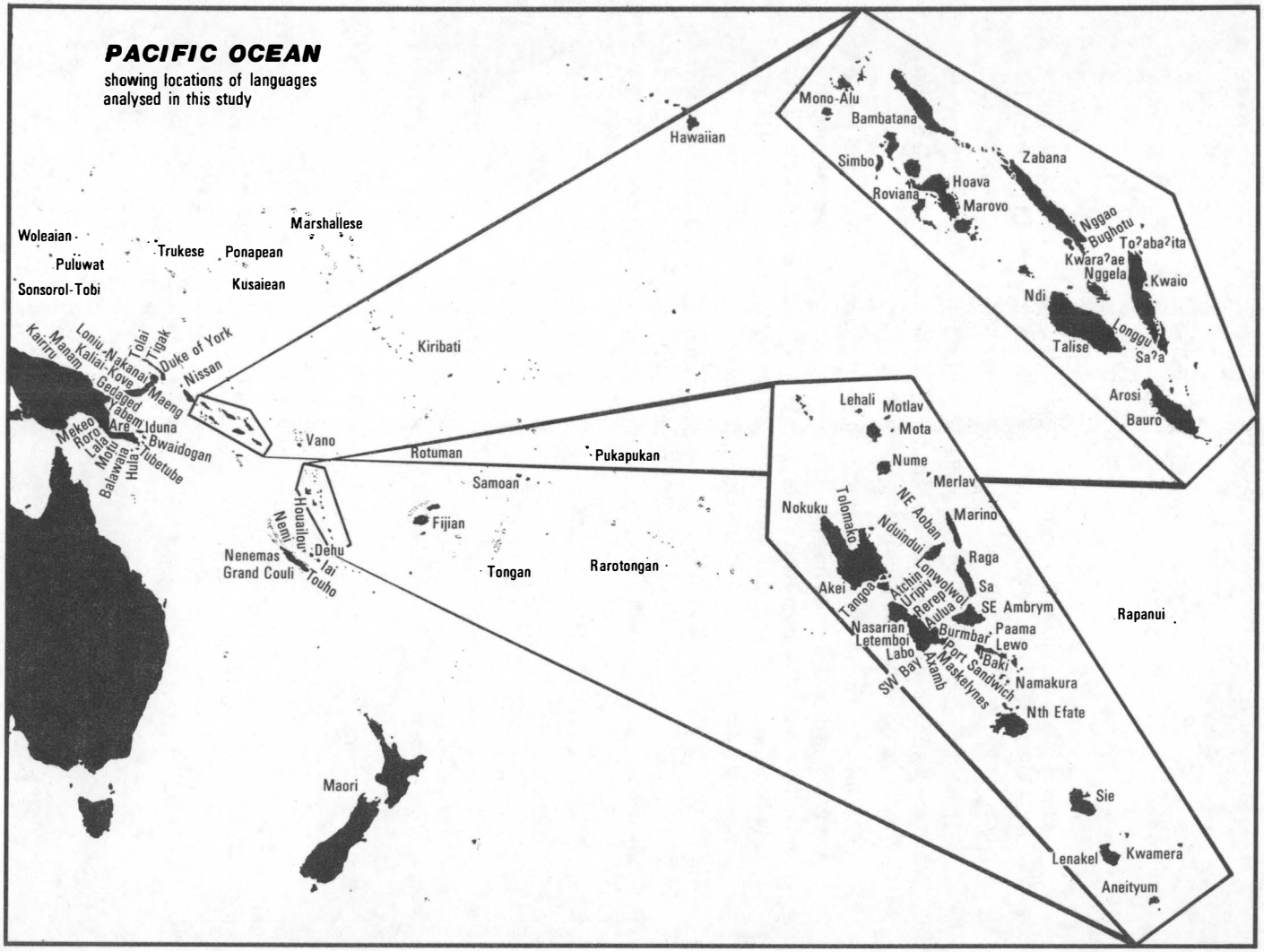

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CHAPTER 1

WORDS OF ORIENTATION

1.1 SPACE IN SEMANTICS

Many linguists have observed that expressions of location in space play a crucial role in language. Such observations are not confined to the adherents of any particular theoretical perspectives on language,
ways. For instance,
shown one way that a semantics of location might be used to provide an underpinning for the understanding of other semantic domains.

> ..
> lack perceptual counterparts,
> constrain the possible hypotheses about such concepts by adapting,
> possible,
> purposes. (Jackendoff 1983:188)

One semantic domain which has obvious connections with the semantics of location is that of time.
location in time.
granted,
recourse to such expressions as 'location in time',

Lakoff and Johnson (1980), who adopt a very different perspective towards linguistics from that adopted by Jackendoff,
other semantic domains in terms of physical locations,
DOWN', 'CONSCIOUS IS UP; UNCONSCIOUS IS DOWN', 'GOOD IS UP; BAD IS DOWN' etc. For Lakoff and Johnson,
concept (e.g.

It is probably now taken for granted by most semanticists that concepts of orientation have a central role to play in the semantics of other domains,
major motivation for studying the linguistics of location in detail. Although there is widespread agreement that the semantics of space is a central concern of linguistics there is still a vast array of different approaches which have been used to investigate the problem.

Amongst the works which provide detailed analyses of the linguistics of space are Gruber (1965), Bierwisch (1967), Fillmore (1968), Teller (1969), Bennett (1975) and Talmy (1983). These works have laid the groundwork for a semantics of space by setting out the distinctions languages mark and characterising some of the patterns formed by them. Talmy (1983) points out that languages give us two levels on which we can talk about spatial relationships:

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Talmy's macroscopic expository level is the level of the sentence, the paragraph and the discourse. On this level we can talk about conceptual information of any sort. The major resource we make use of here is the stock of 'open-class lexical elements': that of nouns, verbs and adjectives. The fine-structural level, the level with which Talmy's study was concerned,
also represent conceptual material, but the means available for doing so are much more limited. Here it is the stock of elements such as prepositions and grammatical categories that are used to mark distinctions.

The categories of 'open-class' and 'closed-class' elements are not clearly delimited. Words can, and often do move from open categories into closed ones: the limits of each overlap into the territory of the other.[1] This book is a study of the linguistics of space, but the area with which I am concerned is at the interface of Talmy's two levels. I focus on what happens when words from open categories are adopted to serve as members of closed categories. This means looking at two things. The first is to decide which kinds of open-class elements are the most likely to serve as candidates for adoption. The second aspect of the problem to be tackled is an examination of the processes at work during their adoption.

Locative concepts,
find their semantic counterparts in the formal prepositions of Oceanic languages.
situation also has its counterparts in the languages of other parts of the world.

Heine (1989) found a great deal of variability in the formal labels applied to locatives in the grammars of African languages.

> Grammars written prior to World War II frequently contain a distinct paragraph or chapter devoted to prepositions. More recently, however, this term is seldom made use of in descriptions of African languages: in fact, in quite a few descriptions it does not figure at all. This is due to developments in theoretical linguistics which no longer take it for granted, e.g. that African languages can be described in terms of word categories commonly distinguished in European languages.

He also quotes Vandame (1963:114), who says:

> This change in outlook and terminology, however has not always made access to grammars of African languages easier. What was called a preposition in earlier descriptions of a given language is now referred to, e.g., as 'possessive definites', as in Somali (Bell 1953:73), or as 'nominaux employés comme premier terme d'un syntagme complétif à relation naturelle...' in Ngambay-Moundou, although the author of the Ngambay-Moundou grammar admits that these units '...traduisent commodément nos prépositions françaises...'

There are strong parallels to this situation in Oceanic languages. The earlier descriptions tend to use the label 'preposition' for all locatives. However, these 'prepositions' are often distinguished from the European type of preposition. Ray (1926:255), writing about the Baki language says "some words used as prepositions and adverbs are probably nouns", and when writing about To'aba'ita, says "[compound prepositions] consist of local nouns preceded by the locative preposition" (1926:511). Later grammars tend to avoid the term

[1]Some words are, however, much better members of one category than the other. Since the distinction between open and closed categories is sometimes a useful one to be able to make, I continue to make use of the terms throughout this book.

'preposition',
for instance,

> ...locative bases refer to position in space or time. They are distinguished grammatically by the fact that they never take a definite or an indefinite article, and unlike all other bases they can follow the locative particles *ki, kei, i, hei* directly,

Biggs thus shows what distinguishes 'locatives' from nouns in Maori,
shows that locatives share some characteristics with nouns,
that he feels they must be distinguished. Ross Clark (1976:54-55) calls his reconstructed Proto Polynesian terms 'L-class nouns',

> ...a class of nouns can be reconstructed for Proto-Polynesian which is characterised by the absence of a preceding article...This class apparently is not defined by an arbitrary feature,
> membership in the various daughter languages, with
> semantic unity.

A number of recent studies have been concerned with words which are used to talk about spatial relationships in a wide variety of languages; words which do not clearly fall into either closed or open categories. Amongst these studies are Brugman (1983b) and Brugman and Macauley (1986) on Mixtec,
Neo-Aramaic. By taking a historical/cognitive approach these studies have provided us with a better understanding of what the reasons might be for categorial indeterminacy. Where Lakoff and Johnson found that a large number of metaphors are structured in terms of spatial relationships,
itself dependent on metaphor. One of the conclusions which was common to all of the above studies is that the human body,
have an important role to play in the way people understand and talk about spatial relationships.

Heine (1989) provided the major inspiration for this book. In his study, Heine traced the conceptual origins of adpositions denoting five locative concepts in a large sample of African languages. Next,
morphological constructions involving open-class nouns had to pass before becoming fully-fledged 'closed-class' adpositions. The present study will be concerned with the origins of some of the words used to encode relative locational concepts in a sample of 104 Oceanic languages. A complete listing of all the languages examined,
each one appears in the appendix. Heine examined the origins of five locative concepts (ON, UNDER, FRONT, BACK and IN), but I add three more to his list for this study of the Oceanic locative systems. For ease of explication I refer to these metalinguistic concepts with the capitalised words ON, UNDER, IN, OUT, FRONT, BACK, SEA and LAND. In English the concept ON would be rendered by words such as 'on',
UNDER would be translated by 'under',
'within',
by 'behind',
translated into English by expressions such as 'on the sea',

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[2]Biggs's 'locative particles' are words used to mark general location at a place, and can conveniently be thought of as prepositions.

etc. and 'towards the land', 'inland', etc.
notation when talking about other semantic domains, for example, OBJECT refers to members of the semantic domain of objects and SPACE refers to members of the domain of spatial expressions.

To many native English speakers SEA and LAND may seem odd metalinguistic categories to include with the other concepts listed above, but any Oceanist will be able to see my motivation. What are probably peripheral locative expressions in a language such as English are core components of the locative system in many Oceanic languages; they are often members of the same closed categories as are the words for the other locative concepts I discuss. On the whole, Oceanic languages are spoken by people who live on small land masses surrounded by vast oceans, where intensive interaction with the marine environment is a normal part of everyday life.

The cover labels ON, UNDER, etc.
variations in meaning.
top of' and 'above' in English,
in meaning. There are two reasons for this.
meaning alluded to, these different meanings are closely related,
broad overview of semantic and syntactic processes rather than taking a narrow perspective on meaning. The second reason is that the information I have had access to on many Oceanic languages is not reliable enough to be able to make such fine distinctions in meaning. The reliability of these sources is discussed further in Chapter 4.

My first aim is to ascertain the lexical sources of the 'locatives'. For the moment I assume that there is a concrete lexical source for each locative, but I examine the reasons for this assumption more thoroughly in Chapters 2 and 4. One of the major aims of this enquiry is to ascertain what kinds of correspondences there may be between source concept adoptions on the one hand, and perception of spatial relationships on the other. Like Heine, I am also interested in carrying out an examination of the processes undergone by lexemes on their path from open categories to closed ones.

Some mention should be made of the terminology used in later chapters, particularly the terms 'locative' and 'adposition'. Although 'locative' has been a term reserved for a particular formal category by a number of Oceanists (e.g.
label for Maori), I use 'locative' as a description of a functional category. Anything
used to mark a locative relation,
else is called a 'locative'. The terms 'adposition',
are used by different people in different ways.
which get used to convey information about spatial relationships may be classed *formally* as, say, a subset of nouns,
such functions as case-marking. As I have said,
functional label. The terms 'adposition', etc. are used in their traditional senses. Accordingly, the term 'preposition',
before nouns or pronouns to relate them syntactically or semantically to some other constituent of a sentence.

When a word gains an extra semantic role in addition to its original one, the resulting situation is a case of what is usually called 'polysemy'.
only used when the distinct senses of a word are all borne by elements that belong to the same grammatical category. As should be clear from the preceding discussion I am also

interested in cases where related nominal etyma co-exist with prepositional locatives. In order to avoid confusion stemming from the customary meaning of 'polysemy', I adopt (following Lichtenberk, 1991b), the term 'heterosemy' from Persson (1986) to cover the wider range of semantic relatedness I wish to discuss here. My use of the term differs somewhat from Persson's, for whom heterosemy is "the relation between two terms which are co-hyponyms of a superordinate and whose relation of contrast is morphologically unmarked" (1986:276). Locatives are often not easily seen as hyponymous with their etyma (which, as I have said, often co-exist synchronically). Sometimes, the relation of contrast between grammatical categories is also morphologically marked (e.g. nominally derived locatives may take locational prefixes). I use the term 'heterosemy' to refer to all cases of semantic relatedness between common morphological stems, no matter which grammatical categories they belong to, and no matter how they arise.

In this study I am concerned with the origins of what Lehmann (1982:75) calls AN-adpositions rather than VA-adpositions. The VA relation is the relation between a verb and its adverbial relator while the AN relation is one between noun phrases and adverbials. Typically, VA-adpositions describe location or movement in relation to a given object while AN-adpositions usually describe the location of an object vis-a-vis another object. VA-adpositions often imply movement while AN-adpositions invariably imply a state. This is probably a consequence of their origins: while VA-adpositions characteristically derive from verbs, AN-adpositions usually have their origins as nouns.

1.2 Structure of this study

Chapter 2 is an introduction to the linguistic tradition within which this study is located, that of 'grammaticalisation'. It also contains a review of Heine's 1989 study of the development of adpositions in African languages.

The next two chapters are concerned with historical linguistics and reconstruction, since a major part of this undertaking involves the comparative reconstruction of source concepts. Chapter 3 is a discussion of the subgrouping of Oceanic languages and Chapter 4 presents a methodology for the reconstruction of the sources of locatives. The usual methods of comparative reconstruction have to be applied with a certain degree of subtlety when dealing with locative words, since independent parallel innovation turns out to be the norm rather than the exception.

In Chapter 5 I present the conceptual sources of the Oceanic locatives and sketch out some of the broad patterns first evidenced by them. Chapter 6 provides a more detailed discussion of the patterns of source concept adoption and puts them into a framework which considers the way human beings perceive spatial relationships. There is also a discussion of the preferred grammaticalisation channels through which morphemes pass en route from being fully-fledged nouns to becoming fully-fledged adpositions and affixes.

Chapter 7 contains the major conclusions of the study.

CHAPTER 2

GRAMMATICALISATION

2.1 INTRODUCTION

The adoption of concepts such as 'face' or 'to precede' for locative expressions like FRONT is just the first step in a process. These lexemes, belonging to open grammatical categories which express meaning on Talmy's (1983) 'macroscopic expository level', become, over a period of time, members of closed class categories such as prepositions, which express meaning on his 'fine-structural level'. This process is called 'grammaticalisation'.

The term 'grammaticalisation' was first coined by Meillet (1912), but it is with Kuryłowicz (1965) that modern interest in the subject began. The first part of this chapter gives a general overview of the grammaticalisation literature, but particular emphasis is placed on those aspects of grammaticalisation most relevant to this study.

Heine (1989) gives an extensive coverage of the grammaticalisation processes that occurred during the development of adpositions in African languages. His findings on the adpositions of African languages are reviewed in the second part of this chapter.

2.2 GRAMMATICALISATION: THE GENERAL PICTURE

Meillet argued that there were two major sources of grammatical forms: analogy (e.g. irregular verbs become regular), and the development of lexical morphemes into grammatical morphemes. Traditional philologists had been studying analogy for a long time. Meillet was more interested in the development of grammatical morphemes from lexical ones: the process he dubbed 'grammaticalisation'. The French language provided one example of this process: the word *laisser* could be used as an independent word (e.g. *laissez cela*), but it could also be used as a kind of auxiliary (e.g. *laissez venir à moi les petits enfants*). According to Meillet, words used in this second, at least partially grammaticalised manner, lose some of their original semantic force:

> ...à chaque fois qu'un élément linguistique est employé, sa valeur expressive diminue et la répétition en devient plus aisée. Un mot n'est ni entendu ni émis deux fois avec la même intensité de valeur. (Meillet 1948:135)

Over a period of time the loss of semantic force becomes such that, for effective communication, more expressive power is needed than the word can any longer provide. For instance, as Meillet points out, early Latin had a word *noenum,* meaning 'not one'. Through a series of phonological reductions, the word was reduced to *non.* When the word finally reached French it had been shortened even further, to just *ne.* Concomitant with the phonological reduction came a considerable diminishment of semantic force, and eventually

speakers of French did something to return more strength to negation. A periphrastic strategy was employed, and after a time *ne...pas* 'not a step' became the standard formula for expressing negation. After this new expression had become established, speakers of French began to feel that the notion of negation was being carried by the new element, *pas*, rather than by the original one, *ne*. The new word itself then started to lose some of its semantic force: for truly vivid speech another expression was needed. Negation, (in colloquial French at least), was bolstered one more time: *pas du tout* or 'not at all' arrived.

Languages show a spiral development:

> ...elles ajoutent des mots accessoires pour obtenir une expression intense; ces mots s'affaiblissent, se dégradent et tombent au niveau de simples outils grammaticaux; on ajoute de nouveau mots ou des mots différents en vue de l'expression; l'affaiblissement recommence, et ainsi sans fin. (Meillet 1948:141)

Meillet's 'affaiblissement', or the loss of semantic force, is now usually referred to as 'semantic bleaching'. This study will be concerned with similar processes which have occurred in Oceanic languages.

For a number of years after the republication of Meillet's pioneering work, little interest was shown in grammaticalisation. By the mid 1960s, however, other scholars began to pick up Meillet's threads where he had left them. Kuryłowicz gave what has now become the 'classical' definition of grammaticalisation, that it "consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status" (Kuryłowicz 1965:52). Grammaticalisation is a process which can lead to new grammatical categories being created (e.g. a language without articles may acquire them) or one through which lexical morphemes may become members of already existing grammatical categories. Grammatical markers can also acquire new grammatical functions. When this happens old functions are sometimes lost, at other times they are retained.

Benveniste (1968) differentiated two types of what he called "linguistic mutations": innovating and conservative mutations. Innovating mutations modify the total stock of grammatical categories, either through the loss of a formal class or thorough the emergence of a new formal class, for example, gender distinctions may be lost or definite articles may be gained. Conservative mutations replace morphemic categories with periphrastic constructions. Benveniste called this process 'auxiliation':

> The auxiliation syntagm may be defined as the alliance of an inflected auxiliary with an uninflected element, the 'auxiliate'. To these two components we must add a third, which consists in the coalescence of the two, a combination productive of a new shape, distinct from either component, and a new function as well. (Benveniste 1968:86)

What Benveniste meant may become clearer by examining one of his examples: the periphrastic perfect in Latin. This construction used *habere* 'to have, hold', with the past participle. Benveniste's first component, in this case, was the verb *habere*. He points out that, of the alternative senses of the verb 'to hold' or 'to have', it was the second sense, 'to have', which the speakers of Latin had in mind when using the construction. The auxiliate was the past participle, which must have been interpreted as a verbal participle rather than as an adjective, which the form can also be in Latin. The coalescence of the two components was first achieved only in limited circumstances. The past participle had to denote "'sensory-intellective' processes inherent in the subject, rather than an 'operational' process brought to

bear on an object external to the subject" (Benveniste 1968:87), so it was verbs such as 'understand', 'discover', 'realise', etc., which were the first to be used in the new construction. This new construction was only possible because having achieved a state can be conceived as something very like possessing a state. Later, once the construction had become established, it was able to be extended to other verbs.

Benveniste also showed a number of similar processes which had occurred in a variety of different languages. When Indo-Europeanists met such processes, he said, they could assume that such changes were not confined to the Indo-European languages. The model provided by Benveniste could be used to provide a much broader descriptive framework for genetic explanation. For current purposes, we may note that such changes will also have been in operation during the emergence of the Oceanic locative systems.

While semantic bleaching is usually a concomitant of grammaticalisation (but see Traugott 1989 for arguments that this is not always the case), grammaticalised morphemes often exhibit selectional restrictions which can only be explained as deriving from the original (non-grammatical) meanings of their source lexemes. This phenomenon has been called 'persistence' by Hopper (1988). Bybee and Pagliuca (1987) illustrated the occurrence of 'persistence' in (amongst other things) the development of the English future markers 'will', 'shall', and 'be going to'. These all still show distributional quirks which are best explained as resulting from persistence of earlier lexical meanings.

Certain patterns of grammaticalisation have a tendency to recur again and again in the history of different languages. Heine and Reh (1984) studied grammaticalisation processes in African languages and provided detailed classifications of many of them. They showed that language development was almost always uni-directional, "that there is largely, though not entirely, predictable evolution, starting with semantically and syntactically autonomous linguistic units (lexemes) which, through grammaticalization, lose in autonomy and, eventually, may disappear altogether" (1984:68). One of the exceptions to this general tendency is important as far as this study is concerned. Linguistic units which have been semantically bleached (or 'desemanticised' in Heine and Reh's terms) can sometimes be re-semanticised (1984:74). There are a few cases of this sort in the Oceanic corpus, when locatives which once derived from concrete sources get borrowed to describe body parts. This is usually done for euphemistic reasons, as happened in Tongan, where *muʔa* (FRONT) was adopted euphemistically for 'penis' and *lalo* (UNDER) was adopted for 'testicles'.

As I have said, many grammaticalisation processes tend to recur over and over again. Lehmann (1985) itemised some of them. According to Lehmann, the new constructions adopted by people tend to come about and develop in a limited number of ways. For example, verbs can become tense or aspect markers, as well as directionals or temporals. They can also become negators or case markers. Case markers often become complementisers. Nouns tend to be adopted for different functions: they can be used as, for example, case markers or classifiers. Classifiers themselves often become gender markers, and demonstratives can acquire a new role as articles. Such processes are far from haphazard. Often specific requirements must be met; for example, it is always the distal demonstrative rather than the proximal one which becomes the definite article.

Two processes mentioned by Lehmann are pivotal for this study. They concern the kinds of words which typically become adpositions: verbs (which also develop into directionals or temporals) and nouns. I have not much to say about the process whereby verbs become adpositions, since the locatives I have been interested in are the AN-locatives, which tend to

derive most often from nouns. Lichtenberk (1991b) and Durie (1988) discuss some of the processes which have been undergone by verbs in Oceanic languages. This study is more concerned with Lehmann's claim that body-part nouns typically become adpositions. Body-part nouns certainly are an extremely important source of adpositions, but we will also see that other nominal sources have an important role to play.

A number of commentators have noted that grammaticalisation shares broadly similar characteristics with processes like pidginisation, child language acquisition and the differences in register between planned and unplanned speech. Traugott (1974) looked at the genesis of spatio-temporal terms in children's language, and in the process of pidginisation, and found several parallels as well as a few mismatches.

Givón (1979) related grammaticalisation processes (which he calls 'syntacticization'), creolisation, child language acquisition, and differences in registers. He concluded that there were inescapable connections between diachrony (in pidgins and creoles as well as 'ordinary languages')[3] and children's acquisition of language as well as the continuum between informal and formal language. According to Givón, grammar can be seen as a processing strategy. Pragmatic solutions to discourse-related problems get formalised into grammatical rules. These have their analogues in the way children learn a grammar through the development of pragmatic strategies, and how formal registers of language are more syntactically oriented than informal ones, which tend to be more pragmatic.

For Givón, the transformationalist approach which seeks to study 'independent syntax' is untenable as is the approach of García (1979) who argues that syntax per se does not exist at all. According to García, all language can be described as a set of 'communicative principles'. I present evidence in Chapter 6 suggesting that syntax does have an important role to play, but that it is constrained to some extent by the needs of discourse.

For the moment, the kind of relationship between grammar and discourse I assume is that defined by Lichtenberk (1991a):

> The relationship between grammatical systems and language use is not one of strict opposition; rather it is a symbiotic relation. Grammars shape discourse, and discourse, in turn, shapes grammars. The merits of studies of grammaticalization lie not only in elucidating specific aspects of the grammars of individual languages but also – and more importantly – in revealing an important characteristic of natural languages: *the noncompleteness of grammars*.

According to Lichtenberk, the noncompleteness of grammars is a consequence of (amongst other things) the gradual nature of grammaticalisation. New constructions are often limited to very specific environments and contexts. Only after a construction is established in one environment does it spread elsewhere. Some sequences of change are more natural than others. He has formulated a 'Principle of Gradual Change in Function' which says "that in a sequence of changes in function, a function that is less different from the original function will be acquired before a function that is more different from the original function".

The major focus of this enquiry will be the first step in the sequence of changes which lead to the development of adpositions from concrete nouns. When a lexeme from an 'open

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[3] I am aware that it has been suggested that all languages are really pidgins or creoles. This question need not concern us here: Givón's claims should be compatible with either view.

category', such as that of nouns, is adopted to provide the kind of meaning usually provided by lexemes from 'closed categories' such as prepositions, the person using such a communicative strategy is making use of metaphor. In recent years, metaphor has become a much more central part of linguistics, no longer confined to the fringes of the subject as it once was. Dirven (1985) claims that metaphor "seems to account for the greater part of meaning extensions of lexical items" (1985:114); Lakoff and Johnson (1980) argue that human conceptualisation is itself basically metaphorical. It has probably been an underlying assumption of all the recent commentators on grammaticalisation that metaphor lies at the root of grammaticalisation processes. Claudi and Heine (1986) showed that in Ewe, an African language, metaphor was a unidirectional process. In what they called 'categorical metaphor', words used to talk about things in one semantic domain or category, could be adopted for use to talk about things belonging to other categories or domains, but only if the source domain was at the more concrete end of the implicational scale they proposed than was the target domain. I will not take up the question of metaphor in detail now, but return to it in Chapter 6, when discussing the metaphors used to describe spatial relationships in Oceanic languages.

2.3 ADPOSITIONS IN AFRICAN LANGUAGES

Heine (1989) has provided the major inspiration for this work and I give a brief review of his findings here. I also return to Heine's paper in later sections of the book, in the discussion of the Oceanic data.

In order to better understand the locative systems of African languages, Heine started out by doing two things: firstly, he traced the conceptual sources of adpositions denoting five relative locational concepts, and then he showed what kinds of grammaticalisation channels morphological constructions had to pass through before becoming fully-fledged adpositions. The five concepts examined were: ON, UNDER, FRONT, BACK and IN.

Heine claimed that there were two source domains from which locatives were adopted. One, 'landmarks', contained concepts such as 'earth', 'soil' and 'sky'. The other, 'body parts', included 'head', 'breast', 'belly', 'back', etc. He found that there were two models for body-part sources: human body parts and animal body parts. The human model was used when a concept like ON was adopted from a noun like 'head'. The animal model was assumed to have been used whenever a derivation only made sense in relation to quadruped animals. Typical examples were when ON derived from 'back', or FRONT derived from 'head'. The animal model was only adopted in those languages where the traditional culture involved close contact with four-legged animals. These were the languages of the pastoralist societies of Eastern Africa, where close contact with animals was a basic part of daily life.

A third source domain had been identified in an earlier study of nominal locative sources by Svorou (1986). These were what Svorou labelled 'the object-part class' and what Heine called 'relational concepts'. This category includes members such as 'top', 'front', 'edge', 'middle', etc. Heine, however, says that "wherever there is etymological evidence, 'relational concepts' derive from either body parts or landmarks" (1989:88).

Heine gave data on the quantitative distribution of source concepts in 125 African languages. Table 1 gives the total numbers of adpositions in Heine's sample derived from each of the source domains, and Table 2 gives the actual source concepts from the most important of these domains, that of body parts.

TABLE 1: SOURCE DOMAINS FOR AFRICAN LOCATIVES (after Heine 1989)						
Target / Source	ON	UNDER	IN	FRONT	BACK	TOTAL
body parts	46	26	63	83	103	321
landmarks	34	50	1	1	0	86
relational concepts	28	24	30	18	1	101
other sources	1	4	3	7	2	17
no etymology	23	24	21	8	15	91
Total	132	128	118	117	121	616

TABLE 2: BODY-PART SOURCES FOR AFRICAN LOCATIVES (after Heine 1989)						
Target / Source	ON	UNDER	IN	FRONT	BACK	TOTAL
head	40			6		46
back	2				80	82
face	2			47		49
shoulder	2					2
buttocks/anus		22			22	44
foot		4			1	5
belly/stomach			58			58
heart			2			2
eye				14		14
forehead				8		8
mouth				6		6
breast				6		6
chest				2		2
palm of hand			3			3
Total	46	26	63	89	103	327

Tables 1 shows 321 body-part sources as opposed to 86 locatives deriving from landmarks: a rather strong preference for body parts. Amongst the body-part sources a clear preference is shown for the human model. Table 2 shows, for instance, that 'head' was adopted (through the human model) 40 times for ON, and only six times (through the animal

model) for FRONT. Likewise, 'back' was adopted 80 times for BACK (human model) and only twice for ON (animal model).

Heine also claimed that there was an implicational scale of choice between landmark and body-part (either human or animal) models. If any of the concepts on the scale in Figure 1 was derived from the body-part model then none of the concepts to its right could have been derived from the landmark model. For instance, if UNDER came from a body-part term, then ON, IN, FRONT and BACK must all have derived from body-part terms as well.

UNDER > ON, IN > FRONT > BACK

FIGURE 1: CONTINUUM FOR SOURCE ADOPTION IN AFRICAN LANGUAGES (after Heine 1989)

Heine said that this scale represented one of increasing deictivity, where UNDER is the most weakly deictic and BACK the most strongly deictic of the locative concepts. For him, the degree of deictivity correlated with the choice of source models. The more weakly deictic terms (UNDER, ON, IN) can come from landmark sources relatively easily, while the more strongly deictic terms (FRONT and BACK) derive almost exclusively from body-part sources. Heine points out (1989:123) that this scale correlates to some degree with the order in which children learn the words for these locative concepts in English, Italian, Serbo-Croatian and Turkish (see Johnston and Slobin 1979:539-540). As far as the preference for one source model over the other is concerned, I suggest, in Chapter 6, what I feel is a more productive perspective from which to view the data.

Several patterns of source concept adoption emerged in the course of Heine's study which linked various groups of languages: some languages rely exclusively on the body-part model (this was common among Western Nilotic languages) and other languages (particularly the Bantu ones) derive the terms for vertical orientation (ON and UNDER) from landmarks while the other adpositions derive from body parts. The third common pattern was that of many Afroasiatic languages, where 'relational concepts' figure highly in the derivations: this fact correlated with the observation that these languages show a highly synthetic-inflectional morphosyntax (Heine 1989:100)

The transition from concrete noun to adposition occurred in a relatively predictable manner. A word from the domain of OBJECTS is adopted for use in the domain of SPACE. The process linking the two was what Claudi and Heine (1986:302) had dubbed 'categorical metaphor'. Progression from one domain to the next, according to Heine (1989:106), triggers the following linguistic changes:

> (1) Since concepts of the OBJECT domain are typically encoded as nouns and those of the space domain as adverbials, we witness a transition from nominal to adverbial word classes like adverbs and prepositions.
>
> (2) This morphological transition entails a corresponding syntactic transition from a noun phrase to an adverbial phrase constituent.

Heine's next step was to ascertain how such a transfer from OBJECT to SPACE domains was effected. This entailed an examination of two problems. The first of these was whether the cognitive transfer occurred in a gradual and continuous manner, or in a series of discrete steps. Although there are a theoretically limitless number of steps between a body-part noun like 'breast' and a locative expression like 'in front of', Heine gave some examples from Swahili which suggested that there were a small number of prominent points on such a

putative continuum. The transfer could be thought of as occurring in four stages, as shown in Figure 2:

Stage	Meaning	Domain
0	body part of X	OBJECT
I	subpart of X,	OBJECT/SPACE
II	space as part of and adjacent to X	SPACE/OBJECT
III	space adjacent to X	SPACE

FIGURE 2: CONCEPTUAL TRANSFER STAGES IN AFRICAN LANGUAGES
(after Heine 1989:101)

The second part of the transfer which Heine examined was the grammatical process involved. In African languages, a number of different strategies are used to mark locatives. In some languages there is no morphological marking used to differentiate locatives from the nouns with which they are heterosemous. Some languages add locative markers to nouns in order to turn them into locatives: in languages with noun class systems this is typically achieved by moving the noun from its inherent class to a locative class. In other languages obligatory referentiality markers attached to nouns are not used with the heterosemous locatives. Another factor which sometimes serves to differentiate locatives from their nominal sources, but which does not relate to any coding strategy, is phonological erosion: grammaticalised forms are often shorter than their nominal sources.

Concepts in the OBJECT domain are usually encoded by nouns, concepts in the SPACE domain by prepositions. Heine proposed a grammaticalisation channel to account for the emergence of prepositions from nouns which came about as a result of a concept from one domain being applied metaphorically for use in the other. I examine the proposed grammaticalisation channel in more detail in Chapter 6, when I discuss its applicability to the Oceanic data.

The final substantive section of Heine's paper looked at how we might better address a syntactic description of locatives. Heine examined the postpositions of Ewe according to a number of criteria which were designed to allow him to test the degree of nominality of each of them. Some locatives retain more nominal properties than others. In his own words, this highly variable morphosyntax "can neither be described satisfactorily in terms of nouns nor of any other word category " (Heine 1989:123).

One of the major findings of Heine's study is its confirmation yet again that purely synchronic studies of language are doomed to miss explanations that a diachronic perspective can provide. For real explanatory power we need a panchronic perspective which takes both synchrony and diachrony into account.

2.4 SUMMARY

In this chapter I have summarised some of the major studies on grammaticalisation in order to give a general perspective on what is known about such processes cross-linguistically. Heine (1989) provided an analysis of the development of locative adpositions in African languages, and in so doing has given a point of departure for the analysis of

locative systems in Oceanic languages. We are now ready to embark on that enterprise. In the next chapter I turn to the Pacific Ocean.

CHAPTER 3

THE OCEANIC LANGUAGES

3.1 INTRODUCTION

All of the languages examined in this study are members of the Oceanic subgroup of the Austronesian language family. The 'Oceanic Hypothesis', first proposed by Dempwolff (1934-38) says that the languages of Polynesia, the Austronesian languages of Melanesia, and most of the languages of Micronesia comprise a subgroup of the Austronesian family. The unity of Oceanic is no longer controversial, but the precise relationships among the Oceanic languages remain the subject of debate. This chapter examines proposals that have been made for the internal subgrouping of Oceanic languages in order to arrive at a practical classification to use in this study.

The major aim of this study is to ascertain the conceptual sources of locatives in Oceanic languages. My purpose is to see what correspondences, if any, exist with more general characteristics of human perception and cognition. In some languages the conceptual source for a locative can be fairly readily found by simply consulting a synchronic description. In Fijian, for instance *mata* means 'face' or 'eye' as well as FRONT (Capell 1973:138). Since **mata* is also the Proto Oceanic (POC) term for 'face, eye' (Wurm & Wilson 1975:72), one could assume that the Fijian locative FRONT derives from the body-part noun meaning 'face' or 'eye'. In many languages, however, the word which served as the original conceptual source for a locative may no longer retain its original meaning. The original meaning can only be found through comparative reconstruction.

It should be mentioned here that the standard methods of comparative reconstruction must be applied with some caution when dealing with words such as locatives. Semantic reconstruction is often done on the premise that independent parallel innovations are not very likely. Similar patterns of change can recur quite systematically in some semantic domains. In Chapter 4 I discuss a methodology for making plausible reconstructions, given widespread independent parallel innovation.

Another aim of this study is to examine the typical grammaticalisation processes through which nouns become adpositions. A lack of sufficient fine-grained descriptive material has meant that this aim could not be fulfilled as fully as I would have liked. Nevertheless, I make some comments about the sort of processes that seem typical. In order to achieve this, I need a working subgrouping hypothesis which allows me to trace the development of lexemes through as many identifiable intermediate stages as possible, rather than just looking at what has happened to a POC root over the entire period of its development into a contemporary daughter language form. The methods of reconstruction outlined in Chapter 4 also draw on our knowledge of Oceanic subgrouping.

3.2 AN OCEANIC SUBGROUPING

For the purposes of this study, where competing putative subgroups exist, I use the model which posits the fewest number of subgroups at any level, and the greatest number of reconstructible levels between POC and its contemporary daughter language. Paradoxically, what is the most ambitious subgrouping for an historical linguist will turn out to be the most conservative for my purposes. As an example, I have adopted Ross's (1988) Western Oceanic subgroup which comprises one high-level subgroup for all the Oceanic languages of mainland Papua New Guinea and its offshore islands, New Ireland, New Britain and the western Solomons. I have done this in spite of the fact that some Oceanists prefer to retain the schema adopted by Pawley (1982), which distinguishes as many as 20 separate first-order subgroups subsumed by Ross's Western Oceanic group. If a word were reconstructed with a lexical meaning in POC and developed a locative meaning in say, Ross's Proto Western Oceanic, I would avoid making the claim that it had developed independently in 20 or so separate subgroups.[4] Adopting the subgrouping hypothesis with the fewest high-level subgroups will ensure that more conservative claims about the number of independent adoptions of source concepts would be made. Adopting this research strategy also means that I am able to gain a clearer picture of any subtle shifts in meaning or grammatical function that may have occurred during the history of a particular morpheme, as it has passed from one high-level proto-language to a lower-level one.

Unfortunately, although the strategy outlined above would constitute the ideal approach for this study, the vagaries of the data do not allow me to follow such a method as closely as I would like. There are not enough good dictionaries or grammars of Oceanic languages available to enable a researcher to follow historical development so closely. This problem is also addressed in Chapter 4.

3.2.1 THE MAJOR GROUPINGS

The first suggestion that all of the Oceanic languages belonged to one group came from Dempwolff's (1934-38) 'Oceanic Hypothesis'. Dempwolff arrived at his hypothesis after analysis of phonological innovations that had been shared by the Oceanic languages but not by any other Austronesian languages. Earlier commentators, for example, Codrington (1885) and Ray (1926), had seen the similarities between the languages of Melanesia, Polynesia and others of the Austronesian family. However, they were led, by the apparent relative phonological and morphological simplicity of the Polynesian languages, into believing these languages were only distantly related to the Melanesian ones, perhaps owing their genesis to ongoing eastward migrations from an Asian homeland into the Pacific. More recently, an updated version of this theory has been propounded by Capell (1943,1976), but the view has not generally been accepted by other Austronesianists. The evidence cited by Dempwolff for the 'Oceanic Hypothesis' has generally stood the test of time remarkably well, and from here on, I assume the unity of the subgroup.

Grace (1955) made the first serious attempt at elucidating the internal relationships of the Oceanic languages. His original classification divided Oceanic into 19 subgroups (which were not necessarily to be interpreted as first-order subgroups). Ten of these came from

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[4]Although some convergence due to borrowing is also a possibility, it has been traditionally assumed that members of closed categories and other 'core vocabulary' items are unlikely to be candidates for such convergence through contact.

New Guinea, four from the Solomon Islands, four from New Caledonia and the final group comprised the languages of Polynesia, Fiji, Rotuma, Vanuatu and those languages which have come to be known as Nuclear Micronesian (Bender 1971). Over the years, Grace refined this classification as more information became available (see Grace 1971,1981); for instance, he now recognises more subgroups in the New Guinea area. It is not always clear, however, which of the subgrouping proposals made by other scholars in the interim are now accepted by Grace.

Grace's early work was complemented by other studies such as Dyen's (1965) large-scale lexicostatistical study,[5] which, although using very different methodologies, and coming up with results which differed considerably in their details, were agreed on one important thing: no very large subgroups were recognised. Attempts at defining larger groupings have preoccupied a number of more recent studies. These efforts have generally concentrated on either the western or the eastern regions of Oceania. I deal with each area separately.

A broader consensus has probably emerged over the genetic affiliations of the eastern languages than those of the west. Although an Eastern Oceanic (EO) subgroup was mentioned by Biggs (1965), it was Pawley (1972) who presented detailed evidence for the subgroup. He listed several morphological innovations in EO as well as one phonological innovation: the loss of Proto Austronesian (PAN) word-final consonants. Eastern Oceanic would have two first-level subgroups: South-East Solomonic (split into Guadalcanal-Nggelic and Cristobal-Malaitan subgroups) and North Hebridean-Central Pacific. The latter would comprise two first-level groups: North Hebridean (again splitting into two branches: North New Hebrides-Banks and Central New Hebrides), and Central Pacific: including Fijian and Polynesian branches. Pawley also considered the position of Gilbertese (as a representative of the Micronesian languages) and Rotuman. These languages showed some characteristics symptomatic of Eastern Oceanic languages, but others which left him equivocal. Gilbertese and Rotuman were left unclassified.

Grace's (1976a) review of Pawley's study was generally sympathetic. Its major criticism was Pawley's reliance on one phonological innovation. Reacting to Grace's criticism, Pawley (1977) redefined the subgroup to exclude the South-East Solomonic languages. He also proposed that Rotuman should be included as a branch of Central Pacific. Although more information concerning the Micronesian languages is now available Pawley remains equivocal about their position (see Pawley and Green 1985).

Inclusion of more languages into putative groups intermediate between Oceanic and EO has been mooted, (e.g. Lynch and Tryon 1985), but such proposals have been weakly supported and have gained little general acceptance.

Other scholars have attempted to find larger groups in the western Oceanic region. Milke's (1965) 'New Guinea Oceanic Hypothesis' proposed that all of the Oceanic languages of the New Guinea mainland, and north-west New Britain as well as those from the islands in Morobe and Milne Bay provinces formed a first-level 'New Guinea Oceanic' subgroup within Oceanic. Since Milke's paper appeared, protagonists in the debate can be roughly divided into two camps. Those in the first hold that POC was a chain of mutually intelligible communalects, whose speakers inhabited a large area stretching from New Britain to San Cristobal in the south-eastern Solomon Islands. These communalects would have eventually

[5]The claims made by Dyen were never generally accepted. Today, we also have the results of more fine-grained comparative studies, which became possible once more descriptive data on the Austronesian languages was available. I have nothing to say about the details of Dyen's work.

fragmented into numerous small groups of fairly closely related languages. Those in the second camp hold that POC was spoken over a much smaller area, and that evidence should remain of a much smaller number of high-level subgroups. I look briefly at the views of leading exponents of each view: Pawley for the first, Ross for the second.

Pawley has written extensively both on Oceanic subgrouping and on the linguistic prehistory of the Oceanic peoples for a number of years. His view on subgrouping is a conservative one, in the sense that, with one exception (Remote Oceanic), he does not posit any large first-order subgroups. The prehistoric picture that emerges from his work is one of extreme variation at the breakup of POC with a long period of common development within each well defined subgroup after that first fragmentation. POC would have been a long and rather complex dialect chain, for which we have evidence of "...various intersecting isoglosses, each reflecting an innovation which crosscuts the established subgrouping divisions but which does not itself define a larger subgroup because there are other isoglosses crosscutting it in turn" (Pawley 1981:280). The diversity of Melanesian languages could be explained as a result of the great time depth since dispersal from the communities which spoke the ancestral language.

Ross's Oceanic linguistic prehistory, on the other hand, would be somewhat different. He says that the POC language community probably inhabited an area no greater "...than the flat triangle whose apex is formed by the French Islands (where the Bali-Vitu communalects are now spoken) and whose base stretches from the islands of the Vitiaz Strait in the west along the north coast of New Britain to Lolobao Island (today the home of the Meramera) in the east" (Ross 1988:386). Proto Western Oceanic would be the putative ancestor of the Oceanic languages now spoken along the northern coast of New Guinea, the Huon Gulf and the Papuan coast and nearby islands (the D'Entrecasteaux, Trobriands, Woodlark and Misima islands), as well as the languages of New Britain and the area stretching from New Ireland through Bougainville, Choiseul, New Georgia and Santa Isabel in the Solomons. This ancestral language could also be thought of as late POC since it was the language spoken by the people who stayed at home after the first migrant groups had left the area. The argument for this subgroup rests on five morphosyntactic developments: there appear to be no phonological developments shared by the whole group. The diversity of Melanesian languages would be explained by Ross as the result of ongoing contact between speakers of Austronesian languages and their neighbours who spoke non-Austronesian languages.

I do not wish to evaluate the merits of the competing theories here: the truth could well lie between the two positions. One of the most striking facts that emerges from a comparison of Oceanic languages is that the group as a whole is very clearly defined; so too are most of the groups at lower levels: Polynesian, North and Central Vanuatu, etc. At intermediate stages the picture is much hazier: only a few groups (e.g. Central Pacific or Pawley's Remote Oceanic) have sharp outlines. The innovations proposed by Ross for Western Oceanic may have occurred over a relatively short period,[6] in which case Pawley's view of the general history could be correct. We now have enough information about a wide range of Oceanic languages to be sure of at least one thing: any evidence for subgroups larger than those proposed by Pawley will remain fairly meagre.

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[6]Notwithstanding the fact that (as Grace (1985) points out), unified speech communities may exist for fairly lengthy periods of time without very much change occurring in their languages. Change may also occur very rapidly in other languages.

At this stage I should mention one more proposal that has been made for another higher order subgroup involving two groups of languages from the east of the Oceanic region. Until recently, little comparative work had been done relating the languages of New Caledonia and the Loyalty Islands (or, to use Geraghty's (1989) term, the Southern Oceanic languages) to others. Geraghty (1989) has proposed that these languages should be seen as comprising a subgroup with those of South Vanuatu, whose further external relationships remain uncertain. I assume the validity of his claims.

As I have already said, my current purposes are best served by adopting the hypothesis with the fewest number of high-order subgroups. The broad subgrouping I have adopted for this study is as shown in Figure 3. In this diagram and all the ones which follow, only the languages which form part of the sample have been included.

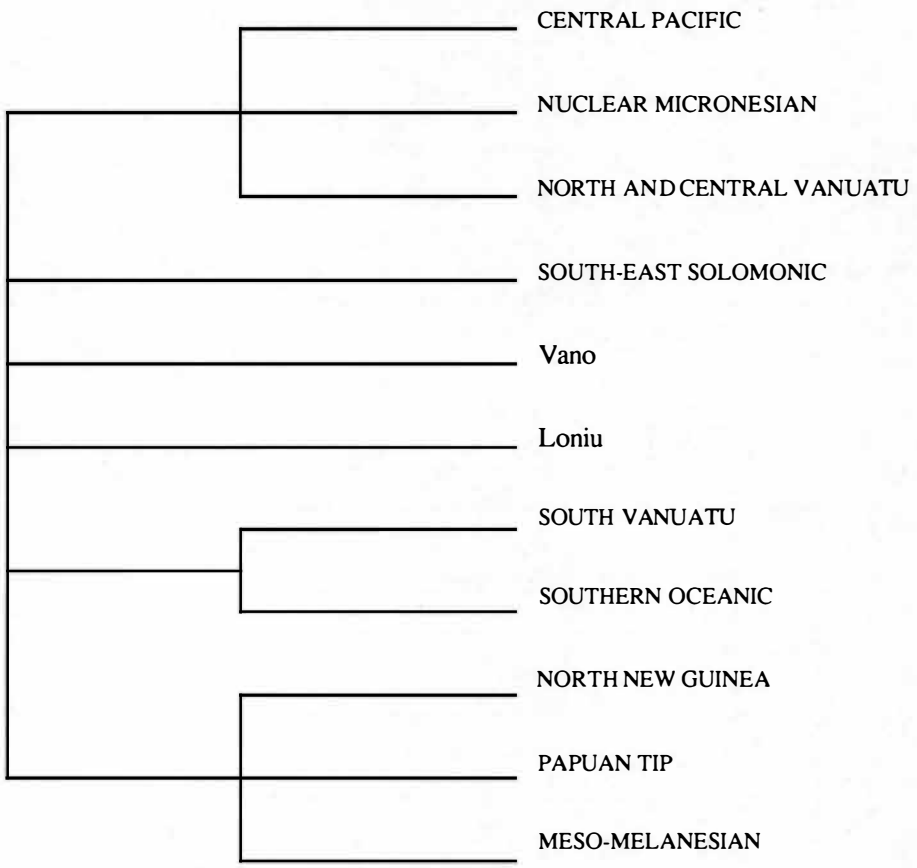

FIGURE 3: SUBGROUPING OF OCEANIC LANGUAGES
(after Pawley 1972, Ross 1988 and Geraghty 1989)

3.2.2 WITHIN THE MAJOR GROUPS

As more detailed descriptive material has become available, our knowledge of the relationships among languages within some of the major groups has also become more

comprehensive. I outline briefly what we know about them in this section. Ross (1988) has proposed three major subgroups within Western Oceanic (WO). The first of these, the North New Guinea cluster, and its internal relationships, in so far as they are relevant to the languages discussed here, are shown in Figure 4. This cluster extends along the northern coast of New Guinea and through a large area of south-west New Britain. It also takes in the languages of the Huon Gulf.

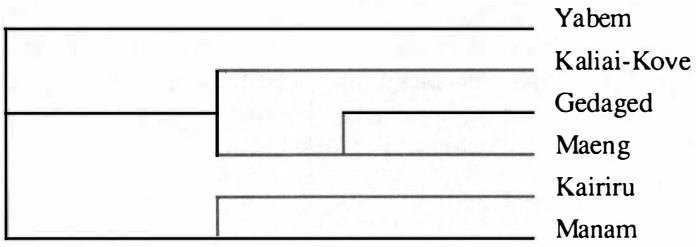

FIGURE 4: NORTH NEW GUINEA LANGUAGES
(after Ross 1988)

The second WO subgroup, Meso-Melanesian, includes the Austronesian languages of the north and north-east of New Britain, and of the island chain which stretches from New Ireland through Bougainville, Choiseul to New Georgia and Santa Isabel, about half-way down the Solomon Islands. The relationships between the Meso-Melanesian languages which are part of the sample are shown in Figure 5.

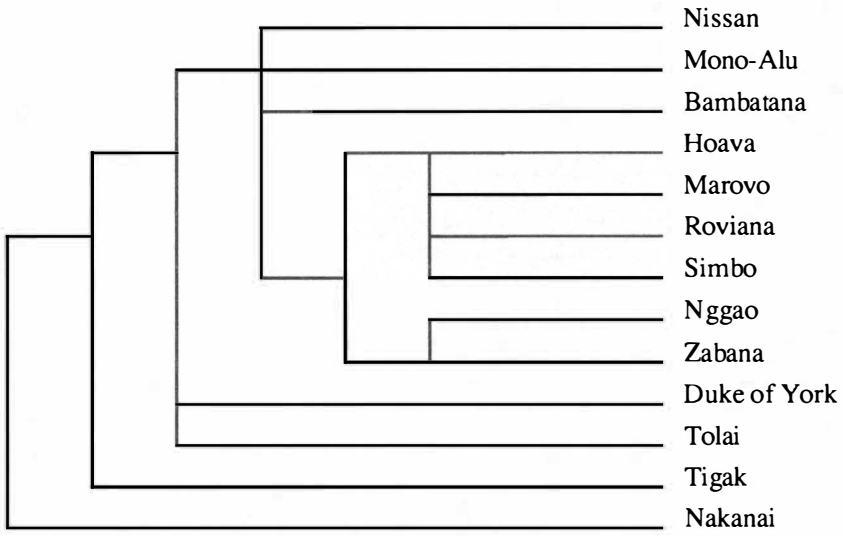

FIGURE 5: MESO-MELANESIAN LANGUAGES
(after Ross 1988)[7]

[7]One minor modification to Ross's proposal for the Meso-Melanesian languages has been incorporated. Work currently being carried out by Karen Davis and Matthew Fitzsimons (pers. comm.) suggests that the languages of Santa Isabel and New Georgia are no more closely related to each other than they are to any of the other North-West Solomonic languages. I treat Santa Isabel and New Georgia as separate first-order subgroups of North-West Solomonic.

The final subgroup of Western Oceanic is the Papuan Tip subgroup. The Papuan Tip languages include all the Austronesian languages of the Papuan coast and nearby islands: the D'Entrecasteaux, Trobriands, Woodlark and Misima islands. Papuan Tip is the most clearly defined subgroup within Ross's Western Oceanic: its essential unity has long been recognised in works such as Capell (1943), Grace (1955) and Pawley (1975). Pawley provided most of the arguments used by Ross to demonstrate the group's homogeneity. The components of the Papuan Tip subgroup, again, in so far as they are relevant to the languages under discussion here, are shown in Figure 6.

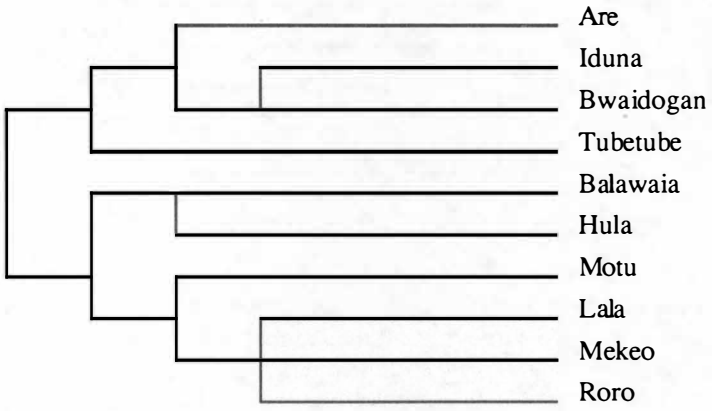

FIGURE 6: PAPUAN TIP LANGUAGES
(after Ross 1988)

A detailed examination of Ross's evidence is beyond the scope of this study; for the reasons already outlined I have adopted Ross's subgroup theories (with the minor modification mentioned in footnote 7).

The languages of the Admiralties Islands area are also surveyed by Ross, who drew heavily on the work of Blust (1978). His conclusions are in accord with those of Blust: that the languages are a genetically coherent cluster which constitutes a first-order subgroup of Oceanic. Loniu is the only representative language from this group in my sample.

The external relationships of the South-East Solomonic (SES) languages have long been the object of debate, as I have already mentioned. It is commonly accepted that there are two major groups within the area: Guadalcanal-Nggelic (GN) and Cristobal-Malaitan (CM). Tryon and Hackman (1983) provide a major survey of all the languages of the Solomon Islands and give details of the subgrouping within both the GN and CM groups. Their position on the CM group (that it splits into a Malaitan group and a Cristobal group) has been overtaken by the view propounded by Lichtenberk (1988): that there are three major subdivisions within the CM subgroup: Central and North Malaitan, South Malaitan-Cristobal, and an isolate, Longgu. The subgrouping of SES languages is shown in Figure 7. Since the wider affiliations of SES remain in doubt, I have treated them as a first-order subgroup of Oceanic.

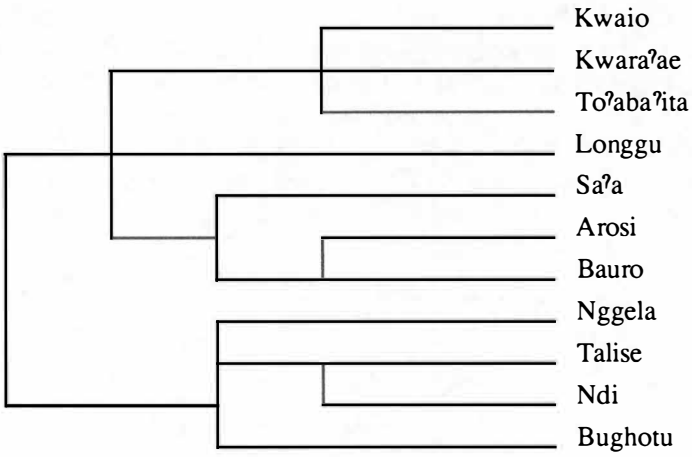

FIGURE 7: SOUTH-EAST SOLOMONIC LANGUAGES
(after Lichtenberk 1988)

The languages of northern Vanuatu have also undergone much more detailed study in the last 15 or so years. Extensive surveys of all the languages of Vanuatu by Tryon (1976) and of the languages of south Malekula by Charpentier (1982) now provide a firm platform for future work to be built on. Ross Clark (1985) describes in some detail the interrelationships within the North and Central Vanuatu subgroup, painting a subtle picture of the 'groups, chains, clusters and waves' which define their complex affiliations. A simplified tree-diagram representation of Clark's schema is provided in Figure 8.

Lynch has been the major contributor to our understanding of the southern Vanuatu languages. The standard work on the internal subgrouping of the South Vanuatu languages is Lynch (1978a), and it is this work that I use as the basis for ascertaining source concepts in this study. The subgrouping picture is summarised in so far as it applies to the languages under investigation in Figure 9.

The languages of New Caledonia and the Loyalty Islands have been relatively well described for a long time now, ever since the pioneering work of Leenhardt (1930, 1946) was published. Until recently, however, the very complicated phonological systems of these languages have hampered comparative work. Haudricourt (1971) gives a fairly comprehensive outline of the area's linguistic situation, but it was not until Geraghty's (1989) study that a serious attempt was made to apply the comparative method to the languages which Geraghty calls the 'Southern Oceanic' group. The subgrouping I have adopted comes from Haudricourt's and Geraghty's studies and is shown in Figure 10.

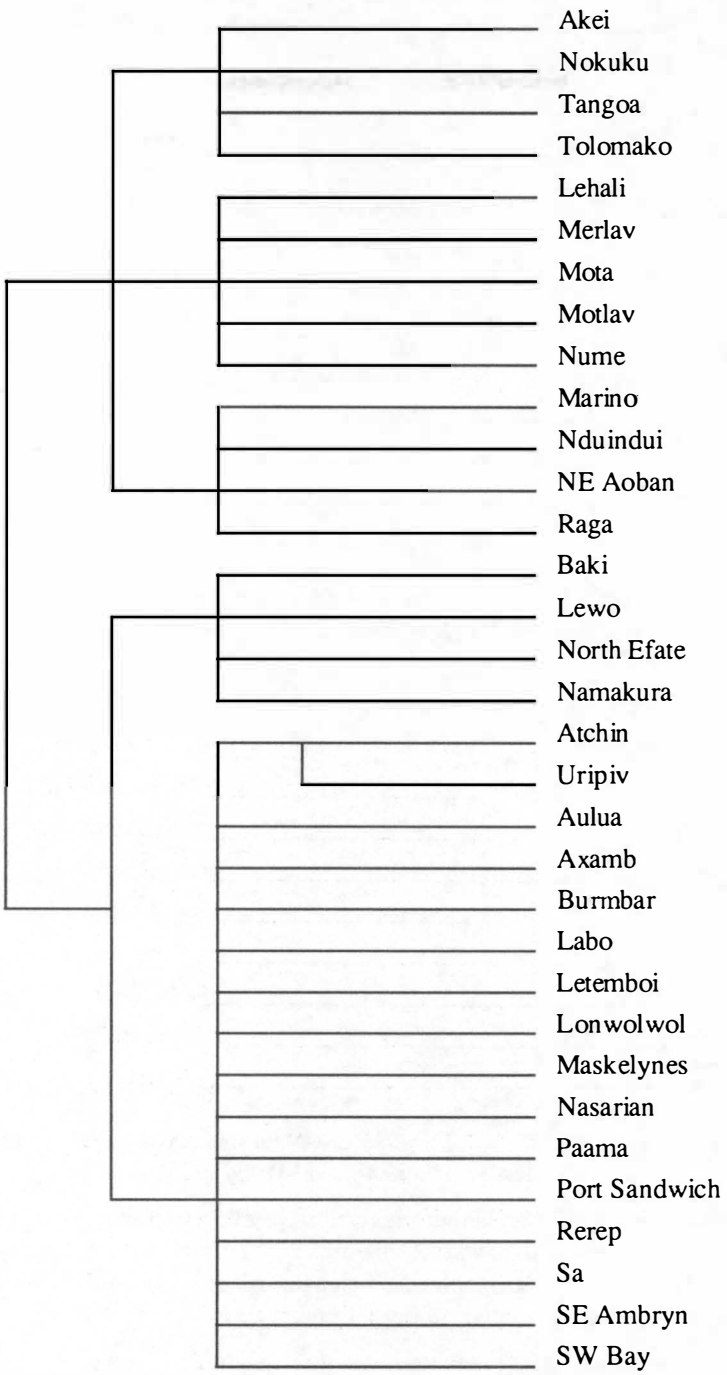

FIGURE 8: NORTH AND CENTRAL VANUATU LANGUAGES
(after R. Clark 1985)

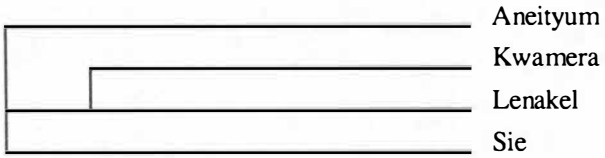

FIGURE 9: SOUTH VANUATU LANGUAGES
(after Lynch 1978a)

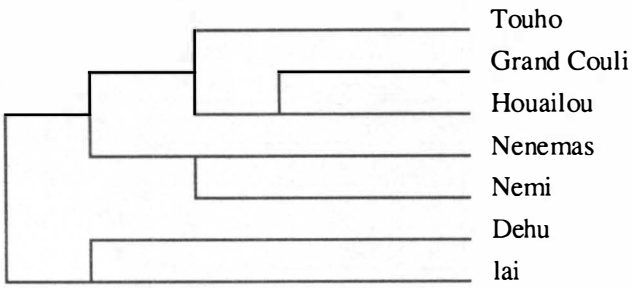

FIGURE 10: SOUTHERN OCEANIC LANGUAGES
(after Haudricourt 1971 and Geraghty 1989)

A useful survey of the interrelationships of the Micronesian languages can be found in Marck (1975). Marck derives much of the detail of his work from Bender (1971). I follow the proposals for subgrouping contained in these works. They are illustrated in Figure 11.

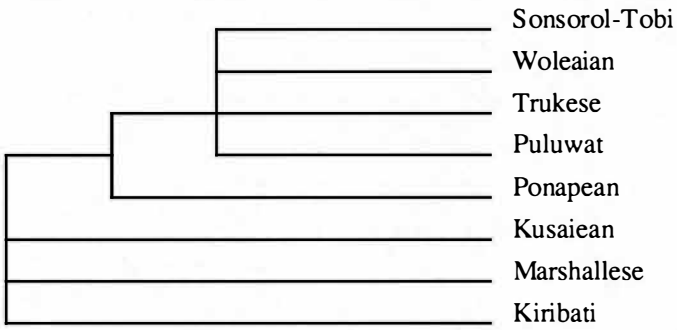

FIGURE 11: NUCLEAR MICRONESIAN LANGUAGES
(after Bender 1971 and Marck 1975)

The fact that all the Polynesian languages form a closely related group has been clear since the days of the first European explorers in the region. With the possible exception of Easter Island, there is now also a fairly clear consensus on the internal relationships of the Polynesian family. I adopt the subgrouping proposed by Pawley (1966).

After some initial doubt about the matter, it is now generally accepted that Rotuman is also closely related to the Polynesian languages (see Pawley 1979, Geraghty 1986). The position of the Fijian languages is much more complicated (Geraghty 1983). The data used in this study come from Standard Fijian, a dialect of Geraghty's 'Tokalau Fijian' which he says originally subgrouped with the Polynesian languages (Geraghty 1983:389). The internal relationships of the Central Pacific languages which have been included in this study are shown in Figure 12.

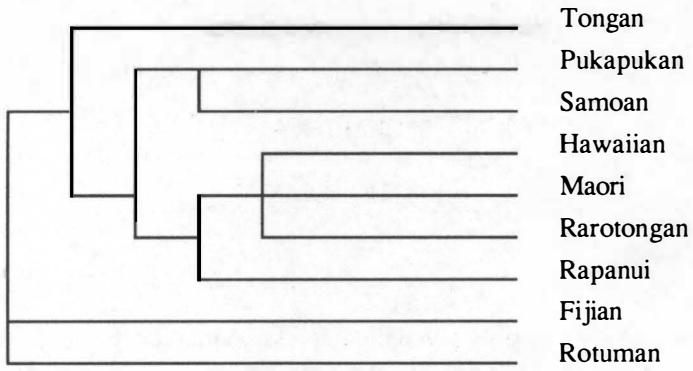

FIGURE 12: CENTRAL PACIFIC LANGUAGES
(after Pawley 1966,1979 and Geraghty 1983,1986)

3.3 SUMMARY

In this chapter I have reviewed the major works on the internal relationships of the Oceanic languages, and I have adopted a subgrouping scheme to be used for the purposes of determining the conceptual sources of locatives. It is worth reiterating that the relationships I have just sketched out should not be seen as claims about the history of the Oceanic language communities. They should be seen simply as claims about how the relationships among Oceanic languages should best be represented for the purposes of determining the history of their locative systems. The details of the methodology employed for this task is the subject of the next chapter.

CHAPTER 4

METHODOLOGY

4.1 INTRODUCTION

Until this point I have probably given the impression that locative expressions invariably have concrete conceptual sources. Works such as Heine (1989) and Lehmann (1985) certainly suggest that this is true, but it would be beneficial to examine some of the issues involved a little more closely, before making such a claim. A number of problems need to be dealt with before we can say with conviction that a locative really has derived from a certain concrete noun.

Firstly, when a given word is purely locative in reference, we would like clear evidence that it actually does derive from some concrete source. Secondly, when a word is heterosemously defined in a synchronic description, having both locative and concrete meanings, we need a means of ascertaining whether the locative derives from the noun or vice versa. And when a range of possible meanings exist for a proto-lexeme, we need a way of deciding between the competing hypotheses. These problems are all discussed in this chapter.

Before addressing the question of locative origins it should be noted that whether we decide a noun was the source of a locative or that the opposite was the case, certain domains of lexical items are inextricably linked in the minds of speakers with locatives. There is a form of heterosemy which is very widespread throughout Oceania, as Heine (1989) showed it was in Africa: certain nouns and locatives are historically one and the same form. One example from Oceania (Fijian *mata* 'FRONT, face, eye') was discussed briefly in Chapter 3. Whether or not it is possible to resolve finally, in each case, which came first, the locative or the noun, it is clear that the two classes of words are inextricably entangled in the minds of speakers of human languages.

4.2 HETEROSEMY AND HISTORICAL CHANGE

Brugman (1983a) was a pioneering work in the description of highly polysemous words. She provided a detailed description of the many senses of the English word 'over'. She did this by showing that new senses were motivated as extensions of old ones, and sketched out a map of these interlinking motivations: what might have once been considered a disorderly and unmanageable subject to study was actually open to a reasonably explicit analysis. Non-central senses of the word 'over' were not arbitrary. Although not predictable from any central sense they were nevertheless motivated by a central sense, either directly, or indirectly through less central intervening ones. The type of motivation displayed was very often metaphorical in nature.

Brugman's work provided a number of original insights into polysemy and other related issues. However, the map of interrelated meanings she has drawn still remains an abstraction of the linguist. No direct evidence was presented that the kinds of connections she hypothesised were ever actually made in the minds of anyone speaking English. One way of gaining direct evidence of what connections are made, and in what manner, is by looking at the historical development of words and ascertaining in what order new meanings have actually developed. It has been pointed out by a number of linguists that diachrony is in many ways just a special case of synchrony, (e.g. Du Bois 1986). I hope to provide direct evidence from the history of Oceanic languages showing that the kinds of theories of polysemy that Brugman and others have been developing are not only theoretically elegant, but psychologically plausible.

4.3 SELECTION OF DATA

Before I go on to deal with questions of methodology for ascertaining the origin and development of locatives in more depth, some mention must be made of which languages I have examined in this study, and why these languages were selected at the expense of other ones. The corpus of data analysed here has been collected from a sample of 104 Oceanic languages, out of a total number of languages which has been estimated at around 400 (Pawley 1972).

I have attempted to draw data from as 'representative' a sample of languages as possible, in order to obtain a picture of what has happened in the Oceanic group of languages as a whole. My aim has been to get information about a fairly even spread of languages from throughout all of the various subgroups of the Oceanic family. Some of the subgroups, however, remain under-represented, since good data have not always been available.

I hope to obtain data from languages which are spoken, or were until recently spoken in a range of different geographic environments. It would be interesting to test whether or not the environment that speakers of a language live in has any effect on the way those people conceptualise spatial relationships. Ideally, someone undertaking a study like the current one would collect information from languages spoken in both coastal and inland areas of high islands as well as from atolls.

The languages from atolls are readily identifiable, but many of the traditional languages of inland areas are now spoken in coastal regions. The arrival of missionaries and European traders saw widespread migration from inland areas to the coast. Some of the so-called 'bush languages' are still readily identifiable: the present speakers of them are well aware that their ancestors came from inland regions. These languages often display linguistic evidence of their inland origins: many have borrowed extensively in the semantic domains which relate to maritime activities, for example, fishing terms, boat parts etc. Much of the descriptive material I have relied on as a data source provides no clear indication of whether or not the language under discussion originated from a bush or coastal region. The earliest descriptions are almost invariably of coastal languages since these were the most accessible to European scholars. More recent descriptions are also usually of languages whose community of speakers now live on the coast; unfortunately we are not often told whether or not this was the traditional situation.

Given the situation I have just outlined, it has been impossible to make the systematic comparisons between languages of different environments that I would have liked to have

been able to make. There are, however, times when the incomplete information I have does suggest that there may be some fundamental differences in the ways people from different environments encode locational concepts. I have, therefore, attempted to maintain some sort of control over the numbers of languages from different environments.

4.3.1 QUALITY OF SOURCE DATA

For a number of reasons it has not been possible to obtain data as complete or representative as I would have ideally liked. We are still lacking descriptive information of any kind for quite a few Oceanic languages, and the quality and detail of the descriptions we do have varies considerably. Generally, the languages of the eastern regions of Oceania have been most comprehensively described, while in the extreme west, for example Irian Jaya, descriptions of any kind are largely unavailable. Some regions, for example, Polynesia and Micronesia, now have a wealth of descriptive material, most of it of good quality.

Other descriptions, however, lack comprehensive information of the sort I have been seeking to use as a basis for this study. Material which was written in the latter part of the nineteenth century and the earlier part of this century often suffers on a number of counts: much of it was written by grammarians who based their grammars on a corpus of data which was restricted to fragments of Bible translations. The quality of the resulting grammars, therefore, is constrained by the quality of the original translations. The nineteenth century linguists were also confined by the theoretical limitations of the linguistic framework within which they were working: grammatical terms taken from the study of European languages are often inappropriate when applied to Oceanic languages. While it is usually relatively easy to ascertain which words can be used to translate locative concepts it can be difficult to work out how words variously labelled 'prepositions', 'nominal prepositions', 'compound prepositions', 'adverbs', etc. are employed grammatically. Guidance can sometimes be found by looking at the examples of different constructions often appended to the grammatical descriptions.

The descriptions of this period also vary tremendously in the depth of coverage they give to locative expressions: some are very comprehensive, but others give only one or two lexemes. When faced with such a short list it is often difficult to say whether the shortage is due to a lack of 'closed-category' locatives in the language itself or just in its description. This problem is most severe in the case of the words for SEA and LAND. Early grammarians can probably be excused for not realising the centrality of these locatives in Oceanic languages. If Bible translations were the source of data used, the translations of stories which were set in the Middle East probably had little use for the terms anyway. Early word lists and 'dictionaries' are invariably short: little detailed information about usage is included.

There is another problem which arises when using early descriptive material and this involves the different usages of nineteenth century English and modern English. Sometimes, for instance, it can be very difficult to tell whether an expression translated by the English words 'before' or 'after' refers exclusively to a physical location, a temporal location or both.

Later descriptions often suffer from a different set of problems. Many grammars written in the transformational-generative framework provide little data about the variety of forms used in a language, often giving just one example from a category, followed by a lengthy description of which transformations can be applied to it, and other unspecified members of

its grammatical class. Being concerned with the strictly formal aspects of language, any indication of a lexeme's semantic role is invariably vague and often non-existent. Dictionaries from this period can often be more enlightening.

As is often the case with research of any kind, the current study has been hampered to some extent by the availability of data. This problem has had an important influence on the sample of languages which has emerged and will also have to be borne in mind later, when the results of the study are discussed.

4.3.2 LANGUAGE SELECTION

There were three major determinants for which languages finally found their way into the corpus for the study. The first was the wish to include languages representative of as many subgroups as possible. Secondly, I wanted to select at least some languages from both inland and coastal areas of high islands as well as from atolls. The third determinant, which was often decisive in making a final choice between languages of each type, was the quality of data available.

A complete listing of all the languages in the sample can be found in the appendix. They are listed along with information on the sources and dates of the information consulted as well as subgrouping and geographical information.

Clearly, the languages chosen do not constitute a 'representative sample' in the way that statisticians would understand the term. In spite of this fact, I believe that the results here will be able to show how linguistic concepts of spatial relationships have been derived historically in a fairly wide range of Oceanic languages. The overall picture would probably not change a great deal if the languages had constituted a truly representative sample, since roughly similar processes have occurred in widely separate subgroups. Indeed, most of these processes correlate quite closely with those discussed by Heine (1989) in his study of African languages.

4.4 RECONSTRUCTING CONCEPTUAL SOURCES

Attempting to provide a detailed justification in print for every reconstruction done in the course of the study would take up far more space than is warranted here. My aim is not to provide an account of what any proto-language looked like, but to show how meaning expressed at what Talmy (1983) called the 'fine structural level' is a product of meaning as it is expressed at his 'broad macroscopic level', and as a product of how meaning is conceptualised.

Notwithstanding the above, I am under an obligation to explain the methods I have used to determine the conceptual sources of locatives. To do this I will outline in some detail the methods I have used to ascertain some of the conceptual sources which were adopted for the locative FRONT. The principles illustrated here have also been adopted for determining the other conceptual sources.

We do not need to look too far to see that the kind of reconstruction being attempted here needs to be tackled with a fair degree of subtlety. An inspection of some of the available published sources reveals the following putative Proto Oceanic forms for FRONT:

(1)	**ndaŋma*	top part, anterior fontanelle, forehead, head, tree top, above, **front**, projection (from Grace 1969 after Milke 1968)
	**muqa*	**front**, to precede, tip, bow of canoe (from Grace 1969 after Milke 1968)
	**nako(n)*	face, to lead, **front** (from Grace 1969 after Milke 1968)
	**qadop*	**front**, to face (from Blust 1972)

The glosses provided above are those which were given in the sources cited. Grace (1969) is a finderlist which he compiled from a mixture of earlier sources and a collection of his own work over the years. Unfortunately, many of his additions are undocumented, and in some of the examples above the reasons for some of the glosses are obscure, since Milke's original reconstructions give no evidence that, for instance **ndaŋma* meant FRONT in any language. My own research has failed to turn up any such reflexes either. This section should help to clear up some doubts about which glosses should be provided for the various proto-forms.

If the above glosses were taken at face value, we would be left with the impression that Proto Oceanic had at least four different forms which meant FRONT. Given the fact that I have found no more than three morphologically unrelated forms for FRONT in any contemporary daughter language, and when even in these languages at least one of the forms has a primary meaning other than the locational FRONT, it would seem unlikely that each of these reconstructed forms was a locative per se.

In addition to the forms cited above, the data used in this study also yields the forms in (2), which would, after applying the comparative method simplistically, be proposed as Proto Oceanic locatives meaning FRONT.[8] In each of the languages cited here,[9] the forms listed have as at least part of their meaning the locative concept FRONT, as well as the concrete body-part terms 'eye/face' for **mata*, and 'breast' for **susu*.

(2)	**mata*	FIJ *mata*, KIR *mat-n*, LEW *mara*, NAM *na-mata-na*, SAA *mara*, TLI *mata-na*, YAB *ŋa-mata*
	**susu*	BUR *sösövi-i*, HOA *susua-na*, MAR *sua-ŋu*

It would seem that following a too simplistic methodology will lead us to posit a rather overabundant set of locatives for Proto Oceanic. The best explanation for the cognates shown above would seem to be that the forms did exist in Proto Oceanic, but that for at least some of them the specific meaning and usage of FRONT has emerged as an independent development, after the breakup of Proto Oceanic. The problem now is to find a methodology which will allow us to decide whether or not we are dealing with independent innovations.

As a first step in this direction it will be useful to examine the cognates a little more closely. An expanded listing is provided in (3).

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[8]The data given here, and in the reconstructions which follow is not a complete listing of all the cognates which would be found if records of all the languages in my sample were to be examined exhaustively: such a listing would take up far too much space. I have simply aimed to provide enough data, taken from a reasonably representative sample of languages to show the logic of the methodology.

[9]See appendix for the abbreviations of language names.

(3)

**ndaŋma*	MTU *rama* 'anterior fontanelle, head', GED *damo-* 'top part, forehead', MAN *sema* 'head', *sama* 'projection', KAI *same* 'forehead', Wedau *damo/na* 'treetop', Vitu *dama* 'FRONT'
**muqa*	DUK *muka* 'FRONT', YAB *muŋ* 'to precede', GED *mug* 'to precede', MAN *mua* 'to go first, to precede', FIJ *mua* 'tip, point, front of a thing', HAW *mua* 'FRONT', MER *amoa* 'FRONT', RAG *amua* 'FRONT', ROT *mua* 'FRONT', TON *muʔa* 'FRONT, penis', SAM *mua* 'the first', MAO *mua* 'in front of', WOL *mmwa* 'FRONT'
**nako(n)*	ARE *nao* 'in front of', BAU *nago* 'in front of, face', KWI *naʔo* 'in front of', KWR *naʔo* 'in front of', Lau *nao* 'face, in front of, before', PAA *en nao* 'in front of, face' RAG *nao* 'face', GED *nao* 'face', NGE *nago* 'face', ARO *naʔo* 'face, in front of', MTA *nago-i* 'face', SEF *nako* 'face'
**qadop*	Futuna-Aniwa *alo* 'FRONT', *alof-i* 'front side of hand, palm', Proto Polynesian **ʔaro* 'front', SAM *s-aro* 'to face, turn one side', Toba Bartak *adop* 'front', Javanese *arep* 'front', Malay *adap/hadap* 'position facing, in front', HAW *alo* 'front, palm of hand', MAN *aro* 'FRONT', MAO *aroaro* 'FRONT, desire, mind, bowels, suet', TAL *aro-na* 'FRONT'
**mata*	BAL *mata* 'eye', BWA 'eye, FRONT, recompense', FIJ *mata* 'face, FRONT', HAW *maka* 'eye, face', KAI *maka* 'eye', Kilivila *mata* 'eye', KIR *mat-n* 'FRONT', LEW *mara* 'face, FRONT', LGU *mata* 'eye', MAO *mata* 'eye, face', MAR *maaj* 'face', Mokilese *maj* 'face', MTA *mata* 'eye, NAM *na-mata-na* 'face, FRONT', RAR *mata* 'eye, face' SAA *mara* 'face, FRONT', TLI *mata-na* 'FRONT', WOL *mat(a)* 'eye, face', YAB *ŋa-mata* 'FRONT'
**susu*	BAM *susu-ŋgu* 'breast', BUR *na-sus* 'breast', HOA *susua-na* 'FRONT, breast', Lau *susu* 'the breast, to suck the breast', LGU *susu* 'breast', MRV *sua-ŋu* 'breast, to suck the breast', MEK *uu* 'breast'

Interestingly, in most of the examples above we find that the number of languages which have concrete referents for the cognates is usually greater than the number which have only locative referents or the number which have both sorts. It would seem at first glance that the most economical theory to account for these facts would be to presume that, in general, the locative sense is a secondary development of a primary concrete sense.

If we look a little more closely at the data, the logic of this approach becomes more apparent. Here, I sketch out what I think is a plausible account for two of these proto-forms: **mata* (where the data looks, at first sight, fairly messy) and **ndaŋma*.

When looking at a collection of cognates we would usually expect to see a certain kind of pattern: innovations would be expected to have emerged only once or twice, and then to be largely reflected throughout whichever subgroups they had first occurred in. An examination of the cognates of **mata* reveals something quite different. These daughter language forms generally mean either 'face/eye', 'FRONT', or both; but 'face/eye' predominates. Putting

together information from the languages that constitute lower level subgroups we find much the same pattern within each subgroup as was the case for the Oceanic group as a whole.

(4)		
	CP	FIJ *mata* 'face, FRONT', MAO *mata* 'eye, face', RAR *mata* 'eye, face', HAW *maka* 'eye, face'
	NM	KIR *mat-n* 'FRONT', MAR *maaj* 'face', Mokilese *maj* 'eye', WOL *mat(a)* 'eye, face'
	NCV	MTA *mata* 'eye', LEW *mara* 'face, FRONT', NAM *na-mata-na* 'face, FRONT'
	SES	KWI *maa-na* 'eye, face', LGU *maʔa* 'eye', SAA *maa-na* 'face, FRONT'
	NNG	KAI *maka* 'eye', YAB *ŋa-mata* 'FRONT'
	PT	BAL *mata* 'eye', BWA *mata* 'eye, FRONT, recompense', Kilivila *mata* 'eye'
	MM	TLI *mata-na* 'FRONT', BAM *mate-ŋgu* 'eye, face', HOA *mata-na* 'eye, face', NDI *mata-na* 'eye, face', TAL *maka-na* 'eye, face'

Each of the subgroups has at least one member where the contemporary cognate of **mata* means FRONT, but there are never any more forms meaning FRONT than mean 'face/eye'. The only hypothesis that adequately accounts for this is the one which proposes that **mata* meant 'face/eye' in Proto Oceanic and that various daughter languages somehow extended the use of the word to talk not only about a body part which is inherently at the front of a human body, but also to talk about other things that were at the front, or in front of something else. The case of **mata* then, provides a clear example of the development of a locative from a body-part term.

The problem of sorting out conceptual sources is not usually as messy as this however. One of the forms given by Milke (1968), **ndaŋma*, provides a convenient example. Although this form was also cited by Grace, I have found no locative reflexes in my data base for the word. The fact that Milke has only one in Vitu should make it clear that this word was not a locative expression in Proto Oceanic, but was used to refer to the top of the head or the forehead. In many of the cases I have followed in the course of this study, the problem of determining the conceptual source for particular locatives was no more difficult than determining the source of *dama* in Vitu. Following the methodology adopted to ascertain the original meaning of **mata* has helped to solve some of the more problematic cases. Applying this methodology to the Proto Oceanic forms listed above gives the following Proto Oceanic meanings:

(5)		
	**ndaŋma*	'top of head, forehead'
	**muqa*	'to precede'
	**nako(n)*	'face'
	**qadop*	'FRONT'[10]
	**mata*	'eye, face'
	**susu*	'breast'

[10]This appears to be one of the few cases (apart from euphemism) where a body-part term has derived from what was once a locative. The Polynesian languages often reflect **qadop* as 'front of palm', 'belly', but this usage seems to be confined to Polynesia.

The methods of reconstructing conceptual sources outlined above can be applied in much the same manner, whether or not the particular form in question can be reconstructed as far back as the Proto Oceanic level. A similar exercise can be carried out whenever comparable data can be found within the lower-level subgroups. Likewise, much the same process can be followed when ascertaining the source of any word which might be susceptible to independent innovation.

4.4.1 Dealing with insufficient data

When dealing with historical material of any kind, the surviving records are rarely complete in all the relevant respects. Gaps often occur in the available data, and sometimes the only honest answer the researcher can provide is 'I don't know'. Thomason (1989) provides a detailed discussion of this problem. Ideally, I would have given results for this study which quantified how many times a given source had been adopted as a locative expression, rather than how many times a given source was reflected as a locative in individual languages. Theoretically, a source could have been adopted once in late POC and be reflected today in all 104 languages of the sample. Nothing as drastic as this has occurred in reality: there is plenty of variation in the forms and sources of words examined in this study.

Unfortunately, there have not been enough data available to have been able to chart the course of all the changes which have occurred at every intermediate proto-language stage that could theoretically be reconstructible between POC and its contemporary daughter languages. Wherever practical, however, I have reconstructed words at the lowest proto-stage possible. In the case of the Sie language, for example, I first looked for cognates in other Erromangan languages. Although none of Sie's immediate sister languages is included in the sample, Lynch, (1983) provided some useful information which I could use for this purpose. After checking for cognates on Erromanga, I then looked elsewhere within southern Vanuatu. Finally, if no useful leads had arisen by this stage, I looked anywhere else I could in Oceania, and occasionally, beyond Oceania, into the wider realms of the Austronesian family.

4.5 Conclusion

A number of cautions have been given in this chapter: in some respects, the data I have had available have not been as extensive or reliable as I would have wished. The methodology for determining source concepts has been designed to take consideration of these problems. I think I can be confident that even though the totals of source concepts to be presented in the next chapter represent 'total occurrences' rather than 'number of times adopted', the biases inherent in such a count have been diminished to an acceptable degree by doing reconstruction at the lowest level possible. The wide geographic and phylogenetic sample should also have helped to alleviate the problem. By trying to examine a larger number of cognates than are usually examined in making reconstructions I believe I can likewise be much more confident about exactly what it was that a word used to mean at a particular stage in its history. The path is now clear to examine the data.

CHAPTER 5

RESULTS

5.1 INTRODUCTION

In this chapter I am concerned with the conceptual transfers which have taken place in the development of the Oceanic locative systems. Grammaticalisation is a process involving both semantic and formal change: the subject of this chapter is semantic change, or more specifically the first step in a chain of semantic changes that a concrete lexeme can undergo when it has been adopted to communicate notions of locative relation. The discussion here is cross-linguistic in flavour, since I am trying to draw parallels between what has occurred in a number of different languages, rather than looking in depth at one or two languages. My ultimate aim is to see what patterns of conceptual source adoption, if any, hold throughout the Oceanic language area. The patterns shown here are later compared with patterns exemplified by studies of other language areas: I hope to ascertain whether or not there exist any general trends of source concept adoption for locatives. This chapter simply constitutes a discussion of the results themselves. Chapter 6 takes up the question of general trends.

5.2 SOURCE CONCEPTS

Table 3 shows a complete listing of all the locatives examined with an indication of which of the source domains identified by Heine (1989) for African languages were adopted for each of the locatives in Oceanic languages. The tables which follow show the breakdowns of source concept within each of the domain categories: Table 4 shows the body-part sources, Table 5 the landmark sources and Table 6 represents verbal sources. Most of the adpositions I have been interested in have nominal sources rather than verbal ones, since AN-type adpositions generally derive from nouns rather than verbs. The verbal sources which are listed here have all resulted in adpositions of the AN-type as far as I can tell. Table 7 shows the locatives which derive from proto-forms which were themselves locatives as far back in their history as comparative reconstruction would allow me to ascertain. What is most interesting about the data presented here is probably the fact that some present-day adpositions derive from words which once described a different locative relation from the one being described by the current form, for example OUT comes from ON in the Polynesian languages. The final table, Table 8 is a listing of concepts which did not fit easily into any of the other classifications.

A brief discussion of each locative and its sources follows. In this section I begin to make use of a useful distinction between geographical (LAND and SEA), and non-geographical locatives. It will be seen that these two types of locatives can be clearly distinguished on the basis of the domains from which source concepts can be adopted. In the next chapter I suggest that this is because the notions expressed by them are perceived quite differently.

The details of conceptual sources are interspersed with comments on and explanations for some of the peculiarities of the data as well as a few other relevant issues as they emerge. More detailed comments and generalisations about the data are made in Chapter 6.

TABLE 3: SOURCE DOMAINS FOR OCEANIC LOCATIVES
(figures in brackets are the totals expressed as a percentage of all reconstructions)

Target / Source	ON	UNDER	FRONT	BACK	IN	OUT	SEA	LAND	TOTAL
body parts	41 (46%)	18 (22%)	68 (66%)	60 (63%)	45 (36%)	1 (1%)	2 (5%)		235 (38%)
landmarks	17 (19%)	27 (32%)	2 (2%)		7 (6%)	20 (30%)	33 (90%)	18 (90%)	124 (20%)
landmark/ body part		7 (8%)							7 (1%)
locative	17 (19%)	22 (26%)	5 (5%)	29 (30%)	69 (56%)	26 (39%)			168 (27%)
verbal source	14 (16%)	10 (12%)	27 (26%)	7 (7%)	1 (1%)	15 (22%)	2 (5%)	2 (10%)	78 (13%)
others			1 (1%)		1 (1%)	5 (8%)			7 (1%)
no etymology	62	13	20	26	43	22	45	28	259
Total	151	97	123	122	166	89	82	48	878

TABLE 4: BODY-PART SOURCES FOR OCEANIC LOCATIVES

Target / Source	ON	UNDER	FRONT	BACK	IN	OUT	SEA	LAND	TOTAL
back				57			2		59
face	6		49						55
head	25								25
belly, stomach			5		8				13
tooth					12				12
feet, legs		10							10
breast			8						8
heart					6				6
shoulder	4			1					5
liver					5				5
bowels					5				5
waist		2		1	1				4
forehead	3		2						5
tongue				1	2				3
thigh		3							3
hair	3								3
mouth					2				2
forearm			2						2
umbilical cord					1	1			2
throat					2				2
vulva		1							1
body trunk					1				1
foreleg			1						1
buttocks		1							1
right hand		1							1
lip, tooth			1						1
Total	41	18	68	60	45	1	2	0	235

TABLE 5: LANDMARK SOURCES FOR OCEANIC LOCATIVES

Target / Source	ON	UNDER	FRONT	BACK	IN	OUT	SEA	LAND	TOTAL
land, earth	2	24						14	40
sea, ocean							25		25
village area			1			17			18
sky	9								9
shore							8		8
ridgepole	5								5
place					5				5
shadow		3							3
thorn needle						2			2
lagoon, lake								2	2
sand, beach								1	1
house					1				1
hole					1				1
hill								1	1
foam, froth	1								1
fence						1			1
window/ opening			1						1
lake, lagoon								1	1
Total	17	27	2	0	7	20	33	18	124

TABLE 6: VERBAL SOURCES FOR OCEANIC LOCATIVES

Target / Source	ON	UNDER	FRONT	BACK	IN	OUT	SEA	LAND	TOTAL
precede			22						22
be more than	4		5						9
follow		1		7					8
ascend	3					2		1	6
fly	4								4
uproot, pull out						3			3
bend, stoop		3							3
clip, cut						3			3
cry						2			2
descend, go down		2							2
ooze, drip						1			1
laugh						1			1
hiss, twitter						1			1
travel							1		1
do out of sight						1			1
surface							1		1
let down		1							1
sit, stay, dwell					1				1
shine, emit rays						1			1
go, step	1								1
hang		1							1
be capsized								1	1
prop up		1							1
dig		1							1
overtake	1								1
appear (of sun)	1								1
Total	14	10	27	7	1	15	2	2	78

TABLE 7: LOCATIVE SOURCES FOR OCEANIC LOCATIVES

Target / Source	ON	UNDER	FRONT	BACK	IN	OUT	SEA	LAND	TOTAL
IN					69				69
BACK				29		12			41
ON	17					10			27
UNDER		22				2			24
FRONT			5			2			7
Total	17	22	5	29	69	26	0	0	168

TABLE 8: MISCELLANEOUS SOURCES FOR OCEANIC LOCATIVES

Target / Source	ON	UNDER	FRONT	BACK	IN	OUT	SEA	LAND	TOTAL
first			1						1
outer wrapping						5			5
close, near					1				1
Total	0	0	1	0	1	5	0	0	7

5.2.1 ON

Table 3 shows that almost half of the reconstructed sources for ON were body parts and nearly one fifth were landmarks. Present-day forms deriving from Proto Oceanic locatives also make up nearly a fifth of the sample. Verbal sources were found for 16% of reconstructed words.

Table 4 shows that the most prominent body-part sources for ON are 'head', figuring 25 times (our of a total of 41 cases where body parts have provided the source), and 'face' which has six occurrences. Also appearing are 'shoulder' (four times), forehead (three times) and hair (also three times).

There are 17 examples where ON derives from a landmark source (Table 5), and in about half of these (nine words) the source is 'sky'. The other notable source is 'ridgepole', which has five locative reflexes. Interestingly, in many languages, 'ridgepole' itself derives from the body part 'spine' or 'back', for example, Maori *taahuhu* means both 'ridgepole' and 'spine'. None of the languages in the corpus for this study which have words for ON deriving from 'ridgepole' did originally adopt 'ridgepole' from 'spine'. It is conceivable, however, that such a chain of adoptions may have occurred elsewhere in the Pacific, and that ON may ultimately have derived from 'spine' in some of the Oceanic languages which have not been looked at during the course of this study.

Three verbal sources (Table 6) occur more than once. These are 'to be more than' and 'to fly' which both occur four times, and 'to ascend', which appears three times.

One puzzling source is that of 'land, earth' which figures twice and hardly seems a very likely cognitive source for ON, especially as it occurs so often for UNDER. I think this probably derives from the polysemy of the English word 'on' and a lack of clarity in the source material I have used. In these cases (Kwamera *karauta* and Tolomako *motu*) 'on' could perhaps be less ambiguously translated as 'at'. The problem of this type of polysemy is discussed further in the next chapter.

5.2.2 UNDER

In comparison with ON, the most notable feature about UNDER seen in Table 3 is that it has considerably more landmark sources and considerably less body-part ones. Of the nominal sources about three-fifths are landmarks and two-fifths body parts. Verbal sources only account for 12% of the reconstructions, while proto-locatives provide 26% of them.

The table also shows seven instances listed as 'landmark/body part'. These arise from similar locative words found in a range of languages, which are fairly widely dispersed throughout the Oceanic subgroup. In each case much the same problem arose in interpreting the data. Lonwolwol provides an illustrative example with the word *fan*. Ray (1926:342) calls *fan* an adverb, but provides no further help for someone attempting to ascertain the source of the word. There are two possibilities, each of which is a plausible reconstruction for the word: either the form derives from the POC **paqa* 'thigh', to which the third person possessive suffix *-n* has become fused and the glottal stop has been lost[11] or it derives from POC **panua* 'land, earth' from which the final vowels have been lost. Since there are a number of forms which have unambiguous sources as both 'thigh' and 'earth' it would seem that either of these hypotheses are plausible. The other examples represented as 'landmark/body part' in Table 3 could equally have derived from either POC **paqa-n* or POC **panua*.

By far the most important landmark source seen in Table 5 is 'land, earth', which accounts for 24 out of 27 occurrences. In the remaining three cases the source is 'shadow'. One body-part source from Table 4 stands out from the others: 'feet, legs' (one lexeme is usually used for both 'feet' and 'legs' in Oceanic languages), which occurs ten times (out of 18). 'Thigh', having three instances, and 'waist' appearing twice, are also notable. One other example, 'vulva', although only appearing once, is of some interest. There are many examples of locatives sharing the same etyma with words used to describe either male or female genitals, but in all other cases the locative has been adopted as a euphemistic source for the genitals (e.g. Tongan *lalo* UNDER 'testicles' and *mu?a* FRONT 'penis'). The Maskelynes word *pipi-te*, however derives ultimately from Proto Oceanic **pipi* 'lip', which was adopted as a euphemism for 'vulva' in a number of Central Vanuatu languages. Only in Maskelynes has its meaning shifted again, from 'vulva' to UNDER.

Only two verbal sources appear more than once: 'to bend, stoop' three times, and 'to descend' twice.

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[11]In many Oceanic languages it is impossible to use a noun without an attached possessive suffix. The citation forms adopted by many Oceanists when compiling dictionaries or writing grammars correspond to the forms naturally cited by native speakers of the language: usually the third person singular. The POC glottal stop (usually written as 'q') is lost in Lonwolwol (Tryon 1976:16).

5.2.3 FRONT

Body-part sources are the predominant ones for FRONT, with about two-thirds of reconstructed sources coming from this domain (Table 3). Only two words derive from landmark sources: Tolai *lua,* the 'open area outside the front of the house', and Namakura *na-katam,* 'window, or opening'. There are 27 words with verbal sources (26% of reconstructions), and five (5%) which come from POC FRONT.

Table 4 shows that 'face, eye' (like 'feet, legs', usually only one lexeme in Oceanic languages), occurring 49 times, was by far the most productive body-part source. There were eight instances of FRONT deriving from 'breast' and five from 'belly'. FRONT was the only locative which had forms deriving from what were unequivocally animal body-part terms: one each from 'lip, tooth, beak' (Sie *noŋu*), and 'animal's forelegs' (Samoan *luma*). There was little variation amongst the verbal sources listed in Table 6 where 22 adpositions derived from 'to precede' and five came from 'to be more than'.

One interesting point to take note of is that there were a number of languages which adopted the same proto-forms for FRONT as others had adopted for ON. The source 'face, eye' was a minor body-part source for ON, and very common for FRONT. The source 'to be more than', likewise, crops up in both lists. Lakoff and Johnson (1980:15) suggested that English has an orientational metaphor whereby MORE IS UP. This was much like a number of other metaphors which give a physical orientation to qualities such as 'moreness', 'happiness', etc. The data here would suggest that in Oceanic the relationship between orientation and some qualities at least could work in both directions: UP IS (also) MORE and FORWARDS IS (also) MORE.

5.2.4 BACK

As Table 3 shows, BACK never derives from a landmark source. It does, however, derive from a verb seven times, each time the verb 'to follow' (Table 6). It also derives from a POC locative 29 times (Table 7 shows that each time the proto-locative was also BACK). The most productive source domain, though, was that of body parts, from which BACK derives 60 times in all.

Amongst the body-part sources shown in Table 4, an overwhelmingly clear preference is shown for 'back' which occurs in all but three examples. The others, each with one example, are Hoava *hari-na,* from 'shoulder-blade', Merlav *ma-n-ma-n,* from 'tongue' and Hawaiian *hope,* 'loins, waist, lower back'.

5.2.5 IN

A first glance at Table 3 would suggest that IN is the most stable of all the locatives, that is, that once a concept has been adopted to serve as IN, it is far less likely to be replaced than the other locatives are. IN has been traced back to a locative source more times than have all of the other source domains combined. However, such a conclusion should not be arrived at too quickly: there are other potential explanations.

The English preposition 'in' has a much greater range of possible meanings than do the common English translations of the other locatives under discussion here. One of the senses of 'in' is the one I have attempted to isolate for the Oceanic data, that of 'within, inside'.

However, as well as having many metaphoric uses (see Lakoff and Johnson 1980), 'in' is also used as a preposition of general location in English. Two possibilities present themselves as alternative explanations for the preponderance of locative sources amongst the Oceanic languages for IN.

It could be that what I have taken to mean IN from some language descriptions may actually express a more general locative relation, perhaps something like 'at'. In other words, it may be that the lexemes I have included as meaning IN may not really be able to be used to translate ideas such as 'inside' or 'within' from English, and might only be able to be used to translate the general locative notion seen in sentences such as 'I live *in* Auckland'.

It could also be that there is a strong tendency cross-linguistically to adopt IN for much the same purpose, and that what we are seeing in the data shown in Table 7 is a reflection of the fact that many languages have retained the form that once meant 'inside' or 'within', but that it has been semantically bleached to the extent that it can be used to convey meanings such as that expressed in 'I live *in* Auckland'. This problem is discussed further in the next chapter.

Amongst nominal sources seen in Table 3, body parts are far more important than landmarks (36% of all sources and 6% respectively). Verbal sources are notable for their scarcity: there is only one example, 'to sit, stay, dwell' for Grand Couli *nipoo,* and it would seem to me that this source is probably more apt for a word of general location rather than for one meaning 'inside, within'. If *nipoo* really is a general locative we would be left with no verbal sources at all for sense of IN implying strict containment. The only other source which appears for IN, 'close, near' is probably also used as an indication of general proximity rather than containment.

The same kind of problem applies to the most prominent of the landmark sources 'place, location' which appears five times (Table 5). 'House' (Nissan *ium*) and 'hole' (Roro *poto*) are the other words with landmark sources. Again, 'house' could be another example of IN really meaning something like 'at'.

A number of body parts figure several times as sources, and they are shown in Table 4. There are 12 languages where the word derives from 'tooth', but this source should be treated with some scepticism as a universally cognitively significant source for IN. The problem of multiple versus shared innovation was discussed in Chapter 4, and the adoption of 'tooth' 12 times seems to be a case of single, widely-shared innovation. All 12 languages which have adopted this source are in the Central Vanuatu subgroup and they have all adopted it from the same proto-form for IN. The cognitive source would seem to have been adopted only once, at the level of Proto Central Vanuatu; the locative seems to have been preserved in all the languages of the subgroup.[12] Although 'tooth' itself may be more prominent than perhaps it should be, it does appear as if interior parts of the mouth have generally played a minor, but still significant role in providing sources for the concept IN. The word for 'mouth' itself, as well as those for 'tongue' and 'throat', have been adopted as source concepts twice. Other common sources are a wide variety of internal organs: 'belly' seven times, 'heart' six times, 'bowels' and 'liver' five times each. To the monolingual speaker of English these last two may seem like odd sources for IN, but in many Oceanic cultures the bowels or the liver are seen as the seat of the emotions. Viewed in this light, the adoption of these words is perhaps not so surprising. This fact does, however, suggest that

[12]Perhaps this fact could be seen as evidence for the hypothesis that IN is an inherently stable locative, unlikely to be replaced very easily. There are no other locatives from within the subgroup which all derive from the same Proto Central Vanuatu form.

some of the generally accepted views on metaphorical transfer as it relates to emotional states may have oversimplified what is likely to occur in human languages.

Lakoff and Johnson (1980), amongst others, suggest that the kind of semantic extension which relates emotions to locations almost invariably works by defining emotion in terms of physical location. The language data seen here would tend to suggest that the relationship can be a more symbiotic one, sometimes working in both directions. Lakoff and Johnson provide quite an extensive list of orientational metaphors from English such as 'HAPPY IS UP; SAD IS DOWN', 'CONSCIOUS IS UP; UNCONSCIOUS IS DOWN', etc. Although we do not find IN deriving from 'HAPPY' or 'CONSCIOUS', or any other emotion directly, we do find 'IN IS THE PLACE WHERE HAPPINESS, CONSCIOUSNESS ETC. ARE FELT'. The role of metaphorical transfer is discussed further in Chapter 6.

5.2.6 OUT

The locative OUT differs from the others looked at in this study in a number of respects. The most notable difference is the fact that very few body-part sources appear in Table 3. There are relatively high proportions of locative sources (about 39% of the reconstructed forms) and of verbal sources (about 23%). Twenty daughter language forms (just under a third) derive from landmark sources. Also of interest is the fact that in many languages it was hard to uncover any word at all for OUT: whether this was because the languages did not all have forms that meant OUT or simply because whatever forms that existed were unrecorded we cannot be sure. Whichever reason for its non-occurrence, though, it would seem that OUT is somehow less salient than the other locatives. It is worth mentioning that Heine did not examine OUT at all in his 1989 study of African languages.

It is also worth remarking that the notion OUT can probably be encoded without recourse to a form that specifically means OUT. Although Maori does have a form *waho* which means OUT, Biggs (1973:42) provides the following examples of 'common idioms containing locatives' which clearly suggest how this could be achieved:

ki roto	into
i roto	out of

Biggs (1973:54) glosses *ki* as a preposition meaning 'motion towards, to', and *i* as a preposition meaning 'past position, at'. *Roto* is a member of this class of 'locatives', (called 'L-class nouns' by R. Clark 1976), and means IN.

There is only one body-part source shown in Table 4: umbilical cord, from Sa?a *poo*. Interestingly, umbilical cord is the only source concept other than 'land, earth' I have found which has been adopted by two different languages for locatives which are antonyms. The other is Raga IN *butongi* 'navel' or 'umbilical cord'. These two English words are very often translated by the same word in Oceanic languages. Presumably, the umbilical cord can be seen as either inside the mother or outside the baby.

Given the fact that body-part sources are so rare for OUT, on its own, the fact that there are slightly higher proportions of other sources than on average does not seem particularly remarkable. What is really quite remarkable about the other sources that have been discovered is the degree of variability within each domain.

An examination of Table 7, in particular, reveals something very interesting. The locative concepts ON, UNDER, FRONT, BACK and IN all derive, on occasion, from Proto Oceanic

forms which also meant ON, UNDER, FRONT, BACK and IN respectively. I was unable to find a Proto Oceanic form for OUT. However, OUT does, on quite a few occasions, derive from Proto Oceanic locatives: most often from BACK (12 times) and ON (ten times), but also from UNDER and FRONT (twice each). I discuss a possible explanation for this in Chapter 6.

The verbal sources again show a wide range of meanings. Most common are 'to clip, cut' and 'to uproot, pull out' with three occurrences each. Two sources have two daughter language reflexes. The first, 'to ascend', is clearly somehow related to those examples where OUT has derived from ON. The second, 'to cry', at first seems puzzling. Indeed, when I first came across these examples, (Trukese *nukun* and Tolomako *majahara*) my initial reaction was to consider 'to cry' and OUT as being homonyms. However, a number of other possible sources, united by a fuzzy notion of expulsion, or ejection also began to appear on my list. Table 6 lists all of the verbal sources, which include meanings such as 'to ooze, drip', 'to laugh', 'to hiss, peep, twitter' and 'to shine, emit rays'. A complete analysis of verbal origins is outside the scope of this study, but some potential reasons for the variability of source concepts adopted for OUT are examined in Chapter 6.

5.2.7 SEA

As with its opposite, LAND, what shows up most strongly in an examination of Table 3 is that SEA is derived almost exclusively from landmarks: 33 from 37 reconstructed sources. There are two locatives which come from verbs and two which have their ultimate source as a body part.

Of those locatives with landmark sources, Table 5 shows that 25 derive from 'sea' or 'ocean' and eight come from 'shore'. The verbal sources seen in Table 6 are Simbo *hebala* 'to travel' and Baki *uro* 'to surface (above water), to surf'. The languages with body-part sources in Table 4 are both Polynesian: Pukapukan and Rarotongan, *tua* from 'back'. This is the only time when the data from the corpus has suggested any significant difference between the ways in which languages in different geographic environments might conceive spatial relationships. Pukapukan is spoken on an atoll, and although Rarotongan is closely related to Pukapukan, its term *tua* can only be used to mean SEA on the atolls of the Cook Islands. On high islands, the word for SEA is *tai* from 'sea'. I have more to say about this noted difference in the section on deictic centres in Chapter 6.

5.2.8 LAND

The sources utilised for LAND in the Oceanic corpus can be seen in Table 3 to fit roughly the same pattern as those used for SEA, except that no body-part sources were found at all. Neither was a Proto Oceanic locative for LAND identified. Seventeen of the 19 reconstructed forms derive from landmarks. Table 6 shows that two forms came from verbs. These were Sa?a *ta?e* 'to ascend' and Arosi *siri* 'to capsize, drift at sea'.

The landmark sources listed in Table 5, like the landmark sources for SEA, show very little variation. Fourteen words out of 17 come from 'land, earth'. The remainder are Arosi *toro* 'hill', Tolomako *one* 'sand, beach' and Pukapukan (spoken, as I have already pointed out on an atoll), *loto* 'lagoon'.

CHAPTER 6

FROM NOUN TO ADPOSITION

6.1 INTRODUCTION

It is now time to make some sense of the data which has been presented in Chapter 5. In the first part of this chapter I try to ascertain what motivations might lie behind the adoption of particular source concepts to serve as markers of location. Before looking again at the sources themselves, however, I discuss how humans conceptualise spatial relationships; people's perception of spatial relationships will be seen to play an important role in which source concepts are selected. In the final part of this first section, I look briefly at some theories of metaphor, to see whether or not the Oceanic data are compatible with them.

In the second part of the chapter, I look at the historical processes which follow after the initial metaphoric transfer has been effected. Grammaticalisation is a process which involves both semantic and formal change operating in tandem, and both kinds of change need to be examined. Svorou (1986) and Heine (1989) have proposed 'grammaticalisation channels' through which adpositions develop from nominal sources. Since the data which have been available to me have been deficient in many respects, I am unable to discuss all of the intricacies of these grammaticalisation channels, but I attempt to show that a very similar type of grammaticalisation channel has been in effect for the Oceanic languages. Although the data presented in Chapter 5 included a number of locative conceptual sources which were not nouns, I do not have very much to say about them. Nouns are the most prevalent of sources for AN-adpositions, and as such, provide a clearer base from which to make meaningful generalisations. Imposing such a limitation also makes the task more manageable.

6.2 THE NATURE OF SPATIAL RELATIONSHIPS: P-SPACE

This section constitutes a brief analysis of what it means to be able to locate an object in space, whether for the purposes of doing physics, or for being able to simply talk about where things are in an ordinary, everyday way. The discussion here draws heavily on the work of Herbert Clark (1973). Clark first distinguishes two different kinds of space: P-space (or perceptual space) and L-space (or the semantic structure of spatial relationships, expressed linguistically). In this section I am concerned exclusively with P-space.

In talking about spatial relationships, different people have different needs. In Chapter 1 I mentioned that I was interested in relative spatial relationships, but in so saying, I was, in fact, using a redundancy. No object really ever has any absolute location: all space is relative. In order to specify the location of an object, we must specify its location relative to something else whose position is already determined for us.

The study of formal spatial relationships is the study of physics and geometry. To the geometrician or physicist, the first thing that must be done in order to locate an object in three-dimensional space is to decide what it is going to be located in relation to. To do this, the geometrician first takes an arbitrary reference point. Cutting through this point, the geometrician next sets up three perpendicular axes, which are labelled the X-axis, the Y-axis and the Z-axis. Location is defined by ascribing a value, either negative or positive, for the distance away from the reference point along each axis at which the object is located. Figure 13 shows an object located at (3,-2,1) on such a set of axes.

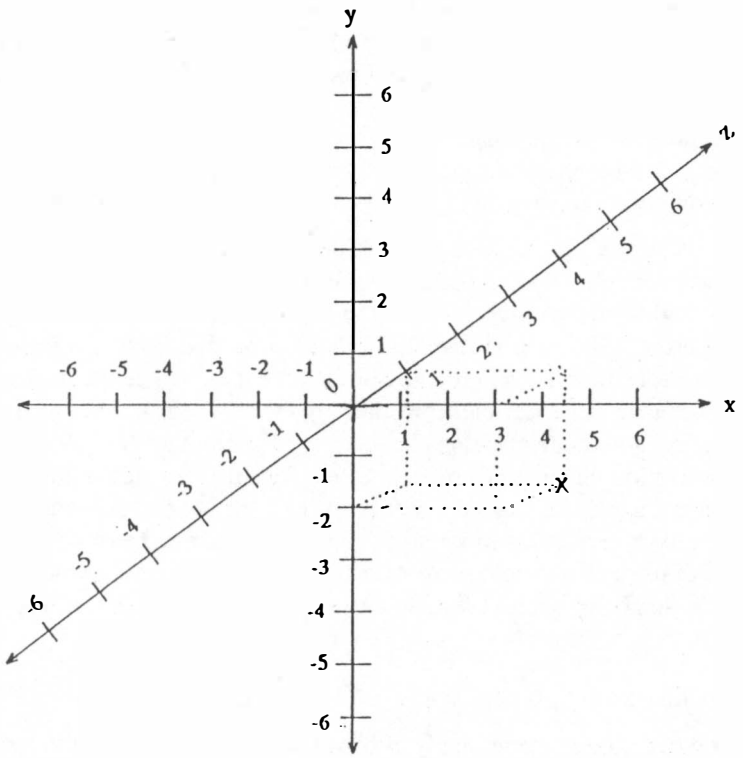

FIGURE 13: CARTESIAN CO-ORDINATES GRID

The geometrician's reference point is arbitrary, and so are the directions of the three axes which radiate from the reference point. However, once this point, and its three intersecting axes have been specified, the location of any object may be pinpointed precisely in relation to them.

Although the geometrician's reference point, and its intersecting axes are determined arbitrarily, there are other scientists for whom at least some analogous devices for specifying location are not completely arbitrary. Clark discusses how the concerns of geologists and biologists would suggest that the asymmetries of our bodies and environments enable us first to set up a reference point where our bodies are located. Secondly, they suggest some obvious reference planes: at ground level, down a line through the centre of our bodies separating one side from the other, and down another line through our bodies, separating our

fronts (where eyes, ears, nose, mouth and hands are located) and our backs (in which direction we usually perceive little).

Biology provides us with three ready-made planes of reference. These are shown in Figure 14. The first plane is symmetrical, and runs down the centre of the body (plane X in Figure 14). Its corresponding perpendicular axis is shown as axis x. The second plane (plane Y) is asymmetrical and runs across the centre of the body: its corresponding axis is labelled y. Finally, the third plane, plane Z, is also asymmetrical and runs along the base of the feet: its matching axis is shown as axis z.

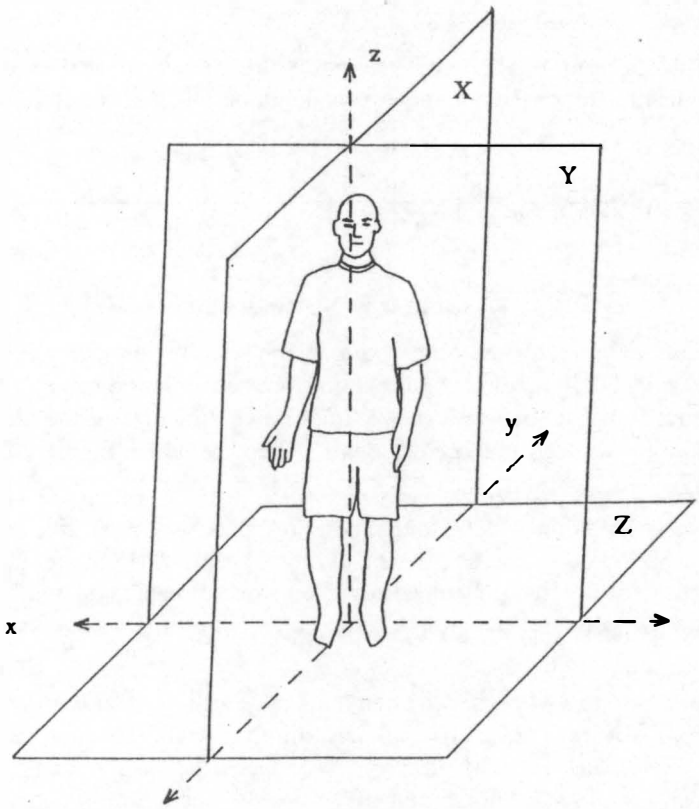

FIGURE 14: REFERENCE PLANES IN RELATION TO CANONICAL HUMAN BODY

Notice that plane Z need not necessarily coincide with ground level. If a person is sitting, kneeling, crouching or lying down, the plane will take whatever orientation is provided by the position the person has taken. However, in what Herbert Clark (1973:34) calls "the human canonical position" (i.e. upright), plane Z does coincide with ground level. Since canonical position is the position humans generally find themselves in when they interact with each other, and since in this position the ground coincides with one of the orientational planes provided by the human body, ground level is doubly useful to human beings as a reference plane in P-space.

6.2.1 PERCEIVING SPACE IN LESS THAN THREE DIMENSIONS

Herbert Clark's discussion of the nature of P-space, as conceived by geometricians and geologists, biologists and physicists, has been useful in enabling us to see the importance of a reference point from which location must be specified. There is one important aspect of the normal human experience which Clark does not take up, however, which I take up now.

Although the geometrician, when trying to pinpoint the location of some concrete object in the real world, must specify its position in three dimensions, other mathematicians make use of systems in which fewer than three dimensions are employed. We will see that language, too, can be used to talk about space in less than three dimensions. For the moment, we examine how a mathematician might make use of a conceptualisation of space in less than three dimensions.

When one first learns mathematics, numbers are treated as if they exist in only one dimension: Figure 15 shows the one-dimensional numberline that children are familiar with.

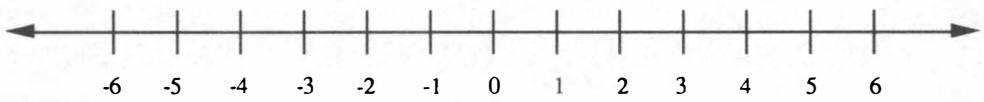

FIGURE 15: NUMBER LINE

Here, the mathematician's reference point is the point where zero lies, and location is specified as either a positive number (direction from zero to the right) or a negative number (direction from zero to the left). When working in two dimensions, the mathematician uses the notation familiar to more advanced students, as represented in Figure 16.

In this diagram, the mathematician's reference point is the point (0,0) on the grid. Location can be specified in relation to that point by specifying a positive or a negative value for both the X and Y axes. In mathematics, children are first taught the numerical concepts that enable them to deal with numbers arranged on a one-dimensional number line. For most adults even, these skills will be enough to serve their arithmetical needs throughout their lives.

Although practitioners of higher mathematics may want to deal with numbers in four or more dimensions, for most human beings wishing to talk about spatial relationships, three will suffice. There is an important difference between the mathematician's conception of these relationships and most human beings' everyday conception of space, however. That concerns the nature of the reference points.

The New Collins Concise English Dictionary (1982) defines the geometrical 'point' as "a geometric element having *no* dimensions whose position is located by means of its coordinates" (my emphasis). Human reference points, when used in natural languages, do not go without dimensions, however. When the frame[13] of the utterance suggests one dimension, the reference point is conceived of as having one dimension, when the frame suggests two dimensions, likewise, the reference point is conceived of as having two

[13]I use the term 'frame' in the sense of Fillmore's (1982) frame semantics. The meaning of a linguistic element can only be understood in relation to an idealised model of the 'frame' into which it fits. A journey from point A to point B will typically be seen as occurring in a one-dimensional frame formed by the line between points A and B while a journey across, say, the sea, is seen as occurring on a two-dimensional surface.

dimensions, and with a three-dimensional frame, again, the reference point is three dimensional.

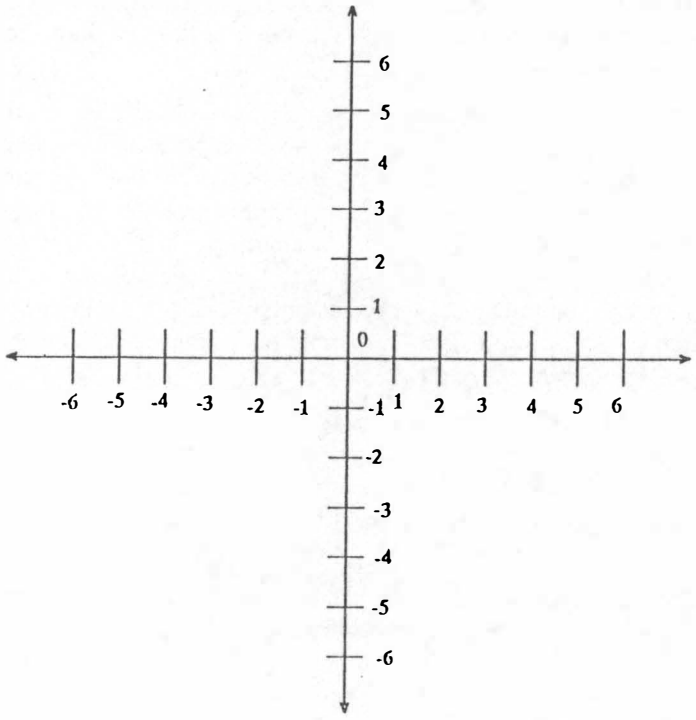

FIGURE 16: TWO-DIMENSIONAL NUMBER GRID

6.3 THE NATURE OF SPATIAL RELATIONSHIPS: L-SPACE

In English, it is possible to set up a paradigm of prepositions which refer to location at different kinds of perceived reference points. The paradigm is as shown in Table 9.

TABLE 9: PROTOTYPICALLY CONCEIVED DIMENSIONS FOR ENGLISH PREPOSITIONS OF LOCATION

Number of dimensions	Location
1	at
2	on
3	in

All of the English prepositions listed in Table 9 express general location. However, in their prototypical uses, they refer to location at different kinds of reference point. For instance, if people catch a train to London, they can then say: 'We arrived from Manchester *at* Euston Station, and stood *on* the platform. It was marvellous to be *in* London again.' The

station is perceived as the end of a journey taken along one dimension of railway line from Manchester to Euston Station, the platform is perceived as a two-dimensional surface which people can stand on, and London is a big place, which may be conceived as an enclosing, three-dimensional entity. It is true, that people can sometimes be 'at' even a large city such as London, but notice that this preposition can probably only be used in the context of a 'jet-setting' lifestyle, where the person involved is seen as bigger than the city... 'So it's Tuesday today – we must be at London'.

The exact details of the semantics of prepositions can never be carried over from one language to another. The semantic concept IN, however, in whatever language it occurs, entails the notion that an object to which it refers is located within a three-dimensional reference point. Prototypically, complete containment is probably a necessary prerequisite for its use. No doubt, the notion of complete containment can, over time, become bleached, so that the expression can be transferred elsewhere. An expression such as 'in the house' does imply absolute containment. An expression such as 'in London', however, where absolute containment is not implied, can probably only be used when a certain amount of semantic bleaching has already taken place.

Although Clark's discussion of the properties of space was written with English in mind, the facts concerning the nature of P-space are readily transferable to a discussion of the semantics of other languages. For Clark's geometrician, any reference point, and any three perpendicular planes running through it, would suffice to specify the exact location of an object.

The human body is the most likely candidate to serve as a reference point in languages. I would like to inspect one more example which helps to show that language is indeed structured in this way, and that the geologist's and the biologist's planes and axes are indeed the ones in terms of which humans organise their conception of space. If the human body in canonical position is still to serve as our basic reference point, there is no *a priori* reason to assume that the planes and axes of reference must necessarily run in the directions shown in Figure 14. For the geometrician, there would be no real disadvantage to be found in taking first, say, the reference plane defined by the bill of a baseball cap, when worn at an angle as shown in Figure 17.

Planes and axes perpendicular to those formed by the plane of the bill, and the axis running through its centre could just as easily be taken to be the relevant surfaces and lines around which spatial relationships were to be organised. The zero point, where all these planes and axes intersect could be somewhere on the corpus callosum. If this were the organising principle upon which the semantics of space were to be based, we could get a range of new locatives, including things such as BEGINNING OF BILL, and END OF BILL, which would serve the geometrician's purposes equally well. An anthropologist might object to this scenario on the grounds that the baseball cap is too far removed from its normal cultural milieu to be used naturally in an Oceanic context. There are, however, some objects closely associated with human beings that would not be too *culturally* artificial for speakers of Oceanic languages, although they may be *cognitively* far-fetched. The penis gourd, traditionally worn by the male members of many Oceanic societies, could equally serve as a handy instrument from which to construct intersecting planes and axes.

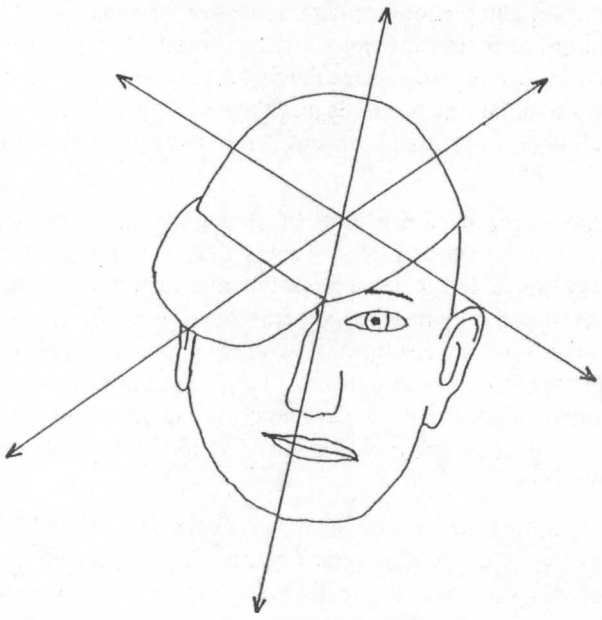

FIGURE 17: POTENTIAL REFERENCE AXES WITH BASEBALL CAP

There has been an assumption up to this point, that each language is going to have a word for concepts such as FRONT, BACK, ON and UNDER, when theoretically at least, there is no reason why languages should have to organise spatial relationships in this way at all. The planes provided by the baseball cap or the penis gourd would serve the geometrician just as well to locate an object in space. The fact is that it makes no sense for a human being to locate objects in such a way. The assumption that all languages will have lexemes that can be used to translate concepts such as FRONT, BACK, ON and UNDER is a perfectly natural one, but it is natural only because these concepts are defined in terms of key entities which are universal to all human beings such as basic landmarks like the earth and the sky as well as the way different parts of their bodies are oriented.

The very existence, in the vast majority of languages,[14] of these terms is a result of the fact that the human being, in canonical position, is used to serve as a reference point for talking about spatial relationships. Seen in this light, the surprising thing about the source concepts which have been adopted in Oceanic languages (and in the African languages of Heine's study) is probably not the predominance of basic landmarks and human body parts which have been adopted, but the fact that anything else at all has been chosen as a source for locatives.

[14]Guugu-Yimidhirr (Haviland 1979) is one language in which location must be specified in terms of cardinal points: north, south, east and west, and in which no terms for FRONT and BACK exist. There are also other Australian languages, e.g. Kayardild (Evans, forthcoming) in which there are terms for FRONT and BACK, but in which it is far more normal to use cardinal points to specify location.

6.3.1 LANDMARKS AND LOCATIVES

Heine attempted to explain the relative occurrences of landmark and locative-source nouns in terms of a continuum of increasing deictivity as presented in Figure 1. To recap briefly, he suggested that languages tend to encode the most weakly deictic of the locatives (UNDER, ON, IN in his sample) with landmark nouns and the most strongly deictic (FRONT and BACK in his sample) with body-part terms. I present here what I feel are some problems with this analysis.

The first problem concerns the notion of strong versus weak deictivity. It seems reasonable to me to pick out ON and IN as weakly deictic terms: I have already mentioned some of the problems I have had in sorting out whether or not the terms for ON and IN were being used in a sense which only denoted general location rather than specific location ('on top of' or 'inside') vis-a-vis another object. Locatives which only point to vague generalised locations are reasonably seen as weakly deictic. However, I am not sure that the same can be said to apply to words which are used to denote the concept UNDER. This is something which refers to a very specific orientation relative to something else, and is certainly more deictic than either ON or IN.

The second problem for Heine's analysis is that the locative IN, which must be at least as lacking in deictivity as ON, does not come from landmark sources very much more than either of the supposedly very deictic locatives FRONT or BACK in either Heine's African languages or the Oceanic languages being discussed here. Amongst the African languages, there was only one representative from the landmark class which occurred as a source for IN: the same number as occurred for the words used to denote FRONT. Although there were more occurrences of landmark sources for IN appearing amongst the Oceanic languages (nine in total), it must be remembered that some of these Oceanic forms most likely really meant something more like 'at' rather than 'inside' or 'within'. Whether it is reasonable to disregard some of the landmark sources of IN or not, the fact remains that, in a corpus that includes a total of 127 words meaning IN from African languages and 167 words in Oceanic languages, IN does not derive very often from landmark sources in either language area, and if deictivity was really the deciding factor, it would seem to me that IN should be much more highly represented.

The final problem is one that shows up in the Oceanic data, where the locatives SEA and LAND have been included. As I have said, in many languages these locatives are treated syntactically as members of the same class as all of the other locatives under discussion in this study. SEA and LAND are both highly deictic terms, having very specific orientations, yet both of them derive almost exclusively from landmark sources: the only exceptions to this were Pukapukan and Rarotongan, where SEA, when used on an atoll, seems to have derived ultimately from 'back'. I believe these two examples can be explained in terms of a metaphor which is restricted to atoll environments, and which relates to the way 'deictic centres' are constructed. In the next section, I discuss the construction of 'deictic centres'.

6.3.2 DEICTIC CENTRES

In the discussion of P-space, I pointed out that talking about spatial relationships first requires taking a reference point in relation to which the speaker can specify location. Given the need for a reference point, the most natural one for a speaker to adopt is the speaker himself/herself. Furthermore, it was suggested that human perception of space is based on

the orientation of the human body in canonical position. The very axes and planes through which locations are specified are common to most human languages, and they are constrained by and defined in relation to the human body in canonical position, that is standing upright and facing forwards. Indeed, the human body is taken as the salient reference point in the vast majority of cases. We will also see, however, that in some languages, for some locatives, different reference points may be used. Before discussing the use of non-human reference points, I first examine the majority of cases which confirm our expectation that the body should be the most important deictic centre. Discussion of the origins of the peculiarly Oceanic locatives SEA and LAND is left until the end of the discussion of conceptual sources.

6.3.2.1 THE BODY AS DEICTIC CENTRE

To begin with, I confine my discussion to the locatives which relate to the locational planes discussed in the section on P-space: ON, UNDER, FRONT and BACK, as well as the locatives which indicate location within a reference point (IN), and outside it (OUT).

Heine suggests that ON and UNDER both derive more often from landmark sources than the other locatives because they share weak deictivity. I would like to suggest that ON and UNDER both have a much greater number of landmark sources simply because our geographic environment is perceived as having an inherent top and bottom on account of gravity, and human bipedalism. FRONT and BACK hardly ever derive from landmark sources, since geography gives no inherent fronts and backs to landmarks, unless the landmarks themselves have been given human attributes through a metaphorical mapping.[15]

ON, therefore, is the location relative to the canonical human form where the sky and the top parts of the human body (e.g. heads, foreheads, hair, etc.) are located. Whether a word such as 'head' or a word such as 'sky' is adopted really makes no difference in terms of human perception: the position of either of these concrete entities serves equally well to denote location in a vertical direction from the human reference point. The specific meaning of each will differ, however, since the head is the top part of the human reference point while the sky is above it. I believe that any differences in deictivity that may have been noticed by Heine probably developed as a consequence of the sources from which they are derived rather than there being anything inherently less deictic about these locatives. If a body part, say 'head', is adopted to specify vertical location, the head is in a partitive relationship with the reference point. While a landmark such as 'sky' is in the same relative vertical position, it is at a much greater distance and its position cannot be pinpointed precisely: it certainly cannot be touched in the way that a head can. Persistence of the earlier meaning would naturally result in an emergent adposition which is less deictic. These semantic differences also seem to have consequences for the grammaticalisation channels which locatives with different sources go through: these are discussed in more detail in the second half of this chapter.

In much the same way that positive vertical direction is naturally described in terms of both body parts and landmarks which are inherently 'at the top', a negative vertical

[15]Many African languages do ascribe fronts and backs to entities from the landmark class. See Heine (1989:86-87) for information concerning the inherent fronts and backs of mountains and trees in Swahili and Chamus. Although entities such as mountains and trees can be conceived of as having inherent fronts and backs in some languages, it is my contention that this conception probably derives from a kind of metaphor whereby landmarks are given human characteristics.

displacement from the reference point is also naturally described in terms of both body parts and landmarks which are inherently 'at the bottom'. UNDER, therefore, is the location relative to the same human being, where the ground and the bottom parts of the human body (e.g. feet, legs, genitals) are located. Since human beings are the most salient things (to human beings) having inherent fronts and backs, and since the very notion of 'frontness' is dependent on the form of human beings, FRONT becomes the area in which the face, breasts, chest, etc. are found, and BACK is the area where the spine is located.

If direction away from a reference point is generally marked by the use of words which refer to entities that inherently lie in that direction vis-a-vis the human body, it makes good sense that location within a reference point should be marked by the use of words referring to locations within the human body. And this is what actually has happened in over 80% of the cases where IN derives from a nominal source: bowels, liver, heart, belly and tooth are the predominant source concepts.

As was noted in Chapter 5, OUT seems to behave very differently from other locatives. To begin with, OUT only ever derives from a body part once in all of the Oceanic languages I have looked at. To find an explanation for this, we examine what might be prototypical about the meanings and usages of the different adpositions. Like OUT in relation to IN, BACK and UNDER are also partially defined in terms of their opposition to FRONT and ON respectively. However, it seems that while BACK and UNDER are primarily related to the inherent backs and bottoms of people, OUT is defined primarily in terms of its opposition to IN. We have already noted that while FRONT, BACK, ON and UNDER determine direction from a reference point, IN determines location within a three-dimensional reference point. Location away from a three-dimensional reference point can be specified by talking about displacement in any direction. It is noteworthy that OUT derives more often from one of the locatives FRONT, BACK, ON or UNDER than from any other source, and any of these locations can be defined negatively in relation to IN. The next most prevalent source domain for OUT is the landmark domain, and this is discussed further in the next section.

6.3.2.2 NON-HUMAN DEICTIC CENTRES

So far, we have seen that the locative systems in Oceanic languages are primarily organised with reference to the human body as deictic centre. This was also the case in the African languages studied by Heine, although for some African peoples, location is at least partially organised with reference to four-legged animals (the animal body-part model). Animal body parts have played an insignificant role in the development of the spatial adpositions of Oceanic languages, but there is at least one other significant reference point which has been used. That is the house.

Table 10 presents a reclassification of source domains for the Oceanic locatives with nominal sources, organised according to which deictic centres have been adopted. I have not included the adpositions SEA or LAND in this table because it makes no sense to see these locations as being organised with respect to reference points which have their analogues in the cartesian co-ordinates of geometry. I discuss them in section 6.3.2.3.

TABLE 10: DEICTIC CENTRES FOR NOMINAL SOURCE CONCEPTS							
Locative Deictic centre	ON	UNDER	FRONT	BACK	IN	OUT	TOTAL
human centre	50	52	66	60	44		272
house as centre	5		2		1	18	26
other	1		2		1	6	10
Total	56	52	70	60	46	24	308

As can be seen from Table 10, for five of the six concepts, the human body serves as by far the most important reference point from which location is specified. It can also be seen that the house serves as a secondary reference point more often than any other. Of the locational concepts included in Table 10, OUT is the one unaffected by the predominance of the human body as deictic centre. When deriving from a nominal source, it is most often associated with the next most important deictic centre, the house. Before examining the role of the house as a deictic centre, however, I look briefly at the sources which involve neither people nor houses as reference points.

IN is the locative which most often derives from 'other sources'. I think this can probably be explained as a result of the polysemy of the English prepositions 'in' and the possible polysemy of its translation equivalents in Oceanic languages, a subject I touched upon in Chapter 5, and looked at again when presenting Table 9.

The puzzling sources, when the adpositions are viewed from the perspective of their relationship to a deictic centre, are not detailed in Table 10. The most puzzling of these, however, is the adoption of 'place, earth' five times for IN, something that seems to have occurred independently in widely separated languages. I think the reason for this adoption can be found by considering the information presented in Table 9. In English, 'in' can be used simply to express location at a reference point that is conceived as three dimensional. The problem of deciding whether IN referred to what I called general or specific location in Chapter 5 can perhaps now be expressed in a different way. It has sometimes been difficult, when using the Oceanic sources, to be sure whether or not the equivalents of IN referred to implied strict containment within another object or simply implied location at a three-dimensional reference point. As I mentioned in Chapter 5, this problem is compounded by the fact that heterosemous interpretations can probably be given to both the Oceanic words and their English equivalent. Perhaps the best English equivalent for the words which adopted 'place' as a source, would really be 'at', in which case 'place' could be seen as simply indicating that its governed noun is to serve as a reference point: whether the reference point is conceived as having three or fewer dimensions would be irrelevant. If location at a three-dimensional reference point is indeed implied by the use of the Oceanic words, it would not be unreasonable to postulate that what might have occurred is that an adposition which originally denoted location at a one- or two-dimensional reference point has begun to be used to denote location conceived as three-dimensional.

I have no evidence which bears directly on the reasons for the lack of reference to the human body for OUT, but there are a variety of factors which have all probably had some influence. One of these is the use to which the adposition OUT is put in discourse. As I have

already said, OUT has often been expressed by using one of the terms which specifies a particular direction away from a reference point. In discourse, when location outside an object is being expressed, the tendency has probably been to also specify the direction of displacement. After a long period of use as indicators of displacement, the forms for other locative concepts could have been bleached of their directionality to provide words for OUT. It seems likely that many Oceanic languages do without a word for OUT at all (I managed to find considerably less words for OUT than for any of the other locatives which I am suggesting relate to the human body as reference point). Where FRONT (and the other adpositions which also denote location away from a reference point) is prototypically defined in relation to the human body, anything or anyone apart from the ego can be seen as outside ego. In that sense, any noun which refers to anything other than ego (as well as 'closed-category' items such as pronouns other than in the first person) can be conceived in some part as being outside ego. The much wider variety of source concepts for OUT than for any other of the locatives which we have seen in Tables 3 to 8 suggests that this might be true.

OUT is defined in terms of the house as reference point far more than any of the other words. This, again, is probably because of the purpose to which the word is put in discourse. Where the other locatives are prototypically related to human beings, OUT is a concept which is probably typically used in discourse to refer to location outside of some other object. In Oceania, the house is clearly seen as the most salient object other than the human form in relation to which location should be specified in general. It is also possibly the most important object with reference to which one might want to say whether or not something or someone is inside or outside of. In traditional Oceanic societies, the innumerable kinds of containers and packaging which people from industrialised societies are familiar with, and might want to express containment or exclusion from just did not exist. The concept OUT was probably not as important in traditional Oceanic societies as it is to members of industrialised cultural groups. IN was probably more important, at least partly because the real world situations it refers to extend far beyond strict containment.

It is not just OUT, however, which has been derived using the house as a deictic centre. ON, FRONT and IN have all been derived from conceptual sources which make use of the house in that way. These adoptions can be seen as springing from a kind of extended metaphor, the nature of which I take up when I deal with metaphor later in this chapter. At this stage I will just make one further comment on the nature of source concept adoption for the core locatives. The most striking feature of the derivations found for adpositions in both the Oceanic languages analysed in this study and the African languages analysed in Heine's study, is the very strong universal preference for location to be organised linguistically with reference to the human body. The vast majority of cases (apart from the already discussed adpositions denoting OUT) reflect this pattern. It would seem that there is probably some kind of universal cognitive preference for such a system. The existence of Heine's 'animal body part' model for African languages, and the use of the house as a deictic centre in some Oceanic locative systems also suggest, however, that although there might be some very strong principles of cognitive salience which lead to the predominance of the human body as a reference point, languages do leave room for culturally determined principles of selection to work alongside them. Where quadruped animals are probably the most important non-human entities for the pastoralists of East Africa to draw their models from, traditionally, pigs and dogs were the only relatively large quadrupeds that Oceanic people were familiar with. The agriculturalists of the Pacific found their most important secondary model at

home. As far as the Oceanic people for whom culture has determined a deictic centre are concerned, home is where the heart is.

6.3.2.3 SEA AND LAND

Before going on to take up the question of metaphor, I would like to say a few words about the locatives whose very existence seems to have been culturally and geographically determined: SEA and LAND. While all the other locatives have, to some degree at least, been dependent on a conception of the human body as a reference point, this is not generally the case for the locatives SEA and LAND. We have already noted that in order to be able to express location at all, location must be specified in relation to something else. With SEA, that something else is the land, and with LAND, the something else is the sea. There is no real mystery about the prevalent source concepts for either of these terms: for SEA the relevant source concept is 'sea', or 'shore' in 32 of the 35 cases for which reconstructions were made, and for LAND the relevant source is 'land', 'beach' or 'hill' for 16 of the 23 reconstructed forms.

In the cases where SEA has derived from 'back' – Rarotongan and Pukapukan – it seems that the whole island serves as a reference point, and the island is conceived metaphorically as a person. On Pukapuka, one section of the atoll is also called 'the back'. As far as direction on the atolls is concerned, there is also another point worth mentioning. On Pukapukan and the Cook Island atolls, we have the forms *loto* and *roto* respectively for LAND. These are also the forms for IN, and 'lake' or 'lagoon'. I have given the reconstruction for LAND as 'lagoon' in these cases, since this is clearly the direction speakers have in mind when using the term. However, I have given no reconstruction for IN for any of the Polynesian languages, which all share the cognate term. It is at least conceivable, however, that IN could also derive from 'lagoon' or 'lake', if, again, the island is taken as a deictic centre. Since it is generally accepted that the Proto Polynesians inhabited a high island (see Pawley & Green 1971), and since there is only evidence pointing towards the use of this particular metaphor on atolls, I have left the question open.

What is most interesting about the grammaticalised forms for SEA and LAND generally, is the simple fact of their existence. The previously discussed locative concepts are ones that are found universally in human languages. They are the concepts which nearly always have corresponding grammaticalised forms. The existence of grammaticalised forms for SEA and LAND in Oceania, when such forms are not usually found in other languages, shows that not all of the important conceptual aspects of locative systems are universal. Any language whose speakers inhabit coastal regions will undoubtedly have means available to express the concepts SEA and LAND. It would seem, however, that the concepts will only be likely to be expressed with lexemes syntactically analogous to those for FRONT, BACK, etc. by people for whom the concepts are crucially important in their day-to-day lives.

In Oceania, SEA and LAND are the most striking examples of non-universal locative adpositions, but in other geographic or cultural environments there are other locatives which can also serve crucially important functions. One of the best known examples is the use of grammaticalised forms for 'up-river', 'up-valley', and 'down-river', 'down-valley' in some languages. Such adpositions are usually found in the languages of people who live in the valleys of interior regions, such as the languages of many people who inhabit the highlands of Papua New Guinea. Bulmer and Pawley (n.d.), in their dictionary of Kalam, a New

Guinea highlands language, include the forms *neŋ* 'up-river' and *ym* 'down-river' which belong to a small class of locative words, alongside such universal concepts as ON and UNDER. Although a core set of locative concepts is destined for grammaticalisation in all languages, particular languages can leave slots for other grammaticalised markers of location, as long as those locations are particularly important to their speakers.

6.3.3 METAPHOR

This section starts from the premise that whenever concepts are adopted from the realm of nouns to serve as indicators of spatial relationships that process is based on metaphor. In this section I discuss how the processes which were involved in these adoptions relate to what has been written about metaphor. I suggest that different kinds of metaphors have been involved in these processes.

Metaphor is increasingly being seen as one of the central issues to be studied in linguistics. More and more, it is viewed as a cognitive and experiential phenomenon rather than as just a slightly messy fringe linguistic problem, difficult for semantics to handle. Lakoff and Johnson (1980) was one of the first works written from a linguistic perspective which ascribed to metaphor a more central role within a linguistics that was, perhaps, more cognitively based. Metaphor is seen as not just a matter of stylistics but as a central part of the human cognitive system, and a means for talking about new experiences in terms of already familiar ones. Elsewhere, Lakoff says:

> ...a metaphoric mapping involves a source domain and a target domain. The source domain is assumed to be structured by a propositional or image-schematic model. The mapping is typically partial; it maps the structure of the ICM [idealised cognitive model, J.B.] in the source domain onto a corresponding structure in the target domain. (Lakoff 1987:288)

Through a system of metaphor thus conceived, humans build conceptual categories which are idealised cognitive models of familiar experiences. New or unfamiliar experiences are viewed from the perspective of idealised cognitive models that relate to familiar experiences; models that already exist. Idealised cognitive models help us to categorise new experiences, and metaphor provides the link between the old and the new.

It has been suggested that metaphor, like grammaticalisation, is unidirectional; in other words, given two domains, one of which is to serve as source and the other of which is to serve as target, it will be completely predictable which will be the source and which will be the target. Some experiences are more basic than others; the former are more likely to have ready-made idealised cognitive models than the latter and so can be taken as models to be transferred into less basic domains. Lakoff and Johnson (1980) argued, as others have done before, that metaphors are invariably used to map models from more concrete domains onto less concrete ones. Metaphors such as LOVE IS A JOURNEY, THE MIND IS A MACHINE, ANGER IS A DANGEROUS ANIMAL, etc. all take concepts relating to an idealised cognitive model from a concrete domain; JOURNEYS, MACHINES, DANGEROUS ANIMALS, and map them onto more abstract domains; LOVE, THE MIND and ANGER.

Claudi and Heine (1986) examined a large number of metaphorical mappings which have taken place in Ewe, a Niger-Congo language. They proposed a model to account for the kinds of metaphorical mappings they saw. They suggested that the process whereby

concepts from one semantic domain could be metaphorically mapped onto another domain could only work in fixed sequences, as pictured on the scale in Figure 18.

They say (1986:301) that "what is suggested by this arrangement of concepts is an implication that holds from the right to the left, i.e. a concept on the right can be used as a metaphorical vehicle to express a concept on the left". The items to the left of the scale involve not only increasing degrees of abstraction compared with those on the right, but their usual means of expression in language come from different grammatical categories. Claudi and Heine suggest, for instance, that items from the categories PERSON and OBJECT are typically expressed with nouns, and items from the category SPACE with locative adverbs and adverbial phrases. These facts suggest that grammaticalisation should be viewed as a process driven by metaphor.

QUALITY ← PROCESS ← SPACE ← OBJECT ← PERSON

FIGURE 18: IMPLICATIONAL SCALE FOR METAPHORICAL MAPPING
(after Claudi & Heine 1986)

It is the transfers which take place between the categories for PERSON, OBJECT and SPACE which will concern us here, since it is in these domains that the topics of this study are located. The metaphor AN OBJECT IS A PERSON is exemplified by the following Ewe expression (Claudi & Heine 1986:303), where the heart is seen as something that speaks:

(6) *Nye dzi tsi mya ná m.*
my heart speak word give me
My conscience smote me.

The metaphor A SPACE IS AN OBJECT is exemplified in the next example (Claude & Heine 1986:305), in which the body part 'face' signifies FRONT:

(7) *É-le ŋkú nye-me.*
she/he-be at face-my
She/He is in front of me.

Metaphors may, but need not, involve concepts that are adjacent on Claudi and Heine's scale. Sometimes the link between non-adjacent categories may be provided by a chain of metaphor, for example, 'back' (OBJECT) becomes 'behind' (SPACE) and then becomes 'after' (time or PROCESS). On other occasions the mapping may occur directly between two non-adjacent domains, as in the following example (Claudi & Heine 1986:303), where a person is used to express a quality:

(8) *É-w ŋútsu.*
he-make man
He is virile, brave.

The situation outlined by Claudi and Heine is equally applicable to the data presented from Oceanic languages in this study. All of the source concept adoptions whereby nouns are used to mark location are examples of the metaphor A SPACE IS AN OBJECT. Trying to reconcile the notion of an idealised cognitive model which is transferred from a source domain to a target domain with the categorical metaphor A SPACE IS AN OBJECT, however, presents a problem with interesting consequences for idealised cognitive models.

We have seen that human perception of spatial relationships is usually structured in relation to the human body. Part of our conception of the body is that it has various parts

which stand in some sort of spatial arrangement with each other, for example, face, eyes, chest, breast, and so on, all in the same general area of the body, the area we conceptualise as the front. In Lakoff's terms we could say that our idealised cognitive model for the human body has as a component an understanding that bodies have fronts and backs, tops and bottoms, insides and outsides. Likewise, part of the idealised cognitive model for 'face' is an understanding that it is situated at the front of the body. This, on its own, poses no real problem in connection with the idea of categorical metaphor. The notion of 'frontness' which is part of the idealised cognitive model for face gets mapped from the OBJECT source domain onto the SPACE target domain.

The problem occurs when a concept from what could be conceived as a sub-domain of the OBJECT domain such as that of the HOUSE PART serves as the source for the categorical metaphor A SPACE IS AN OBJECT. If 'frontness', for instance, is defined in terms of the human body, where then, does the notion 'front of the house' come from? The obvious answer would be that the house, too, must be conceived of as if it were a human being. In fact, it has been pointed out that there is a pervasive metaphor in at least some Oceanic cultures whereby the house is visualised as if it were a human being. The window of a Maori house, for instance, is called the *matapihi* (*mata* = 'eye', *pihi* = 'spring up, grow'), while the ridgepole is called the *taahuhu* or 'spine' (see Phillips 1952:207-208 for further details).

However, there are a number of examples where the conception of the human being as a metaphorical source for the house has no part to play in the terms adopted from the HOUSE PART sub-domain to serve as the metaphorical source for the SPACE domain. A good example comes from Tolai where *lua* means FRONT and also refers to the open space of ground at the front of a house. Clearly, the reference point is the house, since if the human body was being used as deictic centre, the ground would be underneath the body rather than in front of it. The ground here, is in front of the house, so it is the house which has served as a reference point.

The role of metaphor, as I have said, is now seen by many as being more than purely linguistic. Metaphor can be seen as one of the most important processes used not just to organise language, but to organise our conception of the world. And the evidence for that can also sometimes be found in language. Although the metaphor A HOUSE IS A PERSON might not be in operation when Tolai speakers use *lua* for FRONT, part of the idealised cognitive model for house is the metaphorically mapped notion that a house has a front. Metaphor is not just a matter of mapping one linguistic domain onto another, although we can see plenty of evidence of such metaphorical mappings in the languages of the world. Metaphor is also a process whereby one cognitive domain gets mapped onto another. The development of adpositions is a linguistic process which depends crucially on these two different aspects of metaphor.

6.4 FROM NOUN TO ADPOSITION

Svorou (1986:516) was the first person I am aware of to have proposed a 'grammaticalisation channel' to account for the manner in which locative expressions which originally derive from nouns evolve. According to Svorou's schema, pictured in Figure 19:

> ...lexical material in the form of a noun becomes grammatical in the form of a bound affix after first passing through a stage where it is frequently used in genitive constructions as the 'possessed' noun, followed by a stage where it behaves as an adverb, and then by a stage where it is an adposition. (Svorou 1986:516)

LEXICAL GRAMMATICAL

noun > genitive construction > adverb > adposition > affix

FIGURE 19: MORPHOLOGICAL EVOLUTION OF LOCATIVES – NOMINAL SOURCES
(after Svorou 1986)

Heine (1989) proposed some modifications to Svorou's schema. In all the languages known to him, the development from noun to adverb occurred directly, with no intervening genitive stage, and, although there were instances of adpositions deriving from adverbs, this channel was not an obligatory one: it did not hold true for the majority of languages in the African sample. According to Heine, the grammaticalisation channel shown in Figure 20 existed for the African languages he studied. When this grammaticalisation channel first comes into action, the word which is to be adopted is purely a noun. The first step is for the noun to become either the head of a genitive construction or an adverb. It is only after this stage that the word can become a fully-fledged adposition. Beyond the adpositional stage, a further development may take place whereby the adposition becomes an affix. As I have already pointed out, the data available to me have not been comprehensive enough to allow detailed reconstruction of such channels in the Oceanic corpus. However, there are enough clues to suggest that channels which are at least very similar to Heine's have been in existence in Oceanic languages. Furthermore, these clues, to be presented now, would suggest that even if the path taken by a particular noun cannot be predicted in each case there are strong tendencies which can be discerned.

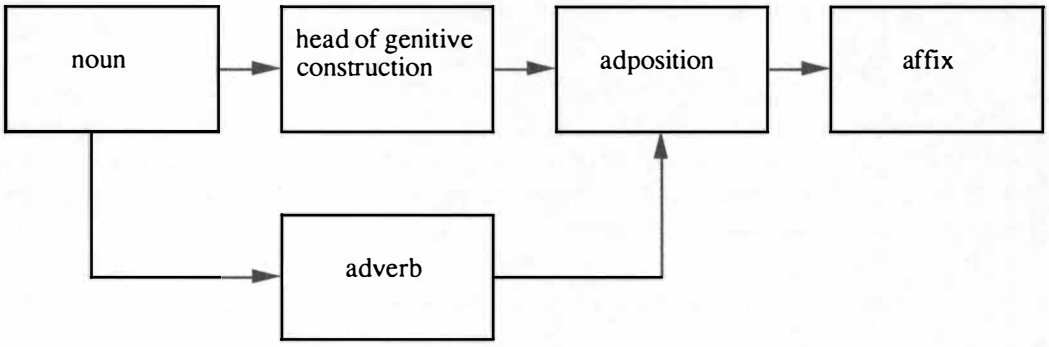

FIGURE 20: GRAMMATICALISATION CHANNEL
(after Heine 1989)

In the next section I survey some of the Oceanic languages which exhibit locative constructions that are representative of the different stages of Heine's grammaticalisation channel. In the following section I look at data from Zabana and Namakura which suggest that locatives from different types of sources have at least a tendency to follow different paths down the grammaticalisation channel.

6.4.1 STAGES OF GRAMMATICALISATION

Before I go on to discuss the use of different kinds of locative constructions in different languages, it should first be pointed out that if a language uses a particular morphological means to express location with one lexeme, there is no necessity for that morphological construction to be used in all locative expressions. Languages can, and often do, employ a variety of means to express location. We only need to look at those dialects of English where the meaning of FRONT communicated by 'in front of' is expressed through the noun 'front' while the meaning of BACK in the word 'behind' is expressed with a preposition. However, there may be a tendency for words that have similar functions to group into the same category, as in the English dialects where BACK is usually expressed in an analogous way to FRONT by saying 'in back of'.

The first stage of Heine's channel, is one where the incipient locative is a concrete noun. There are many examples of words which are prototypically concrete nouns that can, by being used in innovative metaphors, express locative relationships. On at least one occasion, a noun used in an innovative metaphor was taken by a grammarian to be a member of the formal class of 'noun-prepositions'. Ray (1926:225) in his brief grammatical description of Namakura calls *na-mata-na* (*mata* is 'face', the prefix *na-* is an article and the suffix *-na* is the third person possessive marker) a noun-preposition, although a more recent student of the language (Wolfgang Sperlich pers.comm.) assures me that this is not the case. It is simply a noun meaning 'face', which could be used in an innovative expression to mean 'in front of'. The 'nominal preposition' FRONT is *na-katam*. Clearly, however, if enough speakers of Namakura were to start using the innovative expression taken by Ray to be a 'noun-preposition', it would have the potential to become grammaticalised.

Tolai is a good example of a language which often uses genitive constructions to express spatial relationships. Mosel (1984) discusses the possessive spatial construction in Tolai, saying that many spatial relationships are expressed by using body-part terms with a connective particle and the possessor noun phrase. The lexemes involved in Tolai locative expressions have retained their concrete meanings in many circumstances. Mosel shows how this can lead to ambiguity, as in the following example:

(9) *A ul a davai.*
the top connective particle tree

The above sentence can mean either 'the top of the tree' or 'the crown of the tree' (***ul*** = 'head' or 'crown of tree'). But, if the crown of the tree has been cut off, the tree will still have a top and the noun phrase still makes sense. Furthermore, objects which do not have a head-like part can also have a top, as in:[16]

(10) *Dir kiki ta ra ul-a-vat.*
they sit on ART top-connective particle-stone
They sit on the top of the stone.

In Oceanic languages a distinction is maintained between alienable and inalienable possession (see Lichtenberk 1985 for a detailed discussion of Oceanic possessive constructions), with body parts normally possessed inalienably. In Tolai, as in most Oceanic

[16]Abbreviations used in the glosses are as follows: ART – article, ASP – aspect, DEM – demonstrative, NEG – negative, PL – plural, POSS – possessive, PREP – preposition, SG – singular, 2SG – second person singular, 3SG - third person singular.

languages, when body-part terms are used to express spatial relationships they remain inalienably possessed.

While, in the examples above, the concrete sources of the locatives used in a genitive construction co-exist synchronically with the locatives themselves, this need not be the case. Lichtenberk (1983:587) gives the following example, involving *muri* BACK (or 'space behind') from Manam. It, too, must appear in the inalienable construction.

(11) *Ási* *ne-ŋ* *muri-ŋ* *i-eno.*
bushknife POSS-2SG space.behind-2SG 3SG-be.located
Your bushknife is behind you.

Using locative nouns in genitive constructions is probably the most prevalent strategy employed for expressing location in Oceanic languages. It would seem, however, that these words have the potential to proceed further along the grammaticalisation channel, remaining nouns in many respects, but losing the ability to be used in possessive constructions. The Polynesian languages exemplify this pattern. Buse (1963:408) describes the situation in Rarotongan thus:

> Locative nominals have specific countries, towns, villages, mountains, or buildings as their referents. The class also includes the following, all of which have place or time referents: *runga* 'top, east, windward', *raro* 'bottom, west, leeward'; *roto* 'inside, lagoonward' (on atolls, not on high islands), *vaʔo* 'outside';...

Although still described as nouns, none of the members of this sub-category can be possessed. The same situation applies to the locatives from all of the other Polynesian languages I have looked at. In some descriptions the words in question are not called nouns; for example, Biggs (1973) simply labels the Maori category 'locatives'. However, Biggs also states that Maori locative bases "are distinguished grammatically by the fact that they never take a definite or an indefinite article" (1973:41), so clearly he feels that they share other important characteristics with nouns or presumably he would not have felt the need to make the point.

Heine's grammaticalisation channel does not just allow nouns to express spatial relationships with genitive constructions, however. Some will take a path which first sees them used as adverbials. It is not very common for Oceanic languages to use nominally derived adverbs to express location. When locative adverbs do exist, they more often derive from verbs. Namakura is one language, however, which exhibits both nominal and verbal derivations for members of its category of locative adverbs. Included are the following (Wolfgang Sperlich pers.comm.):

(12)

	state	motion
ON	*-hil*	*-hak*
UNDER	*etan*	

UNDER, *-etan* derives from POC **tano* 'earth, soil', and I have no derivation for ON *-hil*. The motion adverb, *-hak*, not unexpectedly, derives from a verbal source, POC **sake* 'to ascend'. These forms can occur as independent adverbs, or as verbal suffixes, but they cannot be used as adpositions.

This would suggest that it is not necessary for adverbial locatives to go through a stage as adpositions before being able to be used as affixes. In the Oceanic corpus, there are not

many locatives which can be described formally as simple adpositions. As I have said before, there have been difficulties in finding enough detailed descriptions which could be relied upon to give answers to the kinds of questions I have been posing, so a lack of examples of a particular construction type should not be taken to mean that the construction cannot exist. One locative adposition that is found in several languages derives from IN, and can often express general location as well as containment. Charpentier (1979) gives an example of the Port Sandwich preposition *lö*, which always precedes a complement of time or place:

(13) *Lö niö, na-xux ngail tö-sba-ramramwe.*
à soleil le-crabe PL ils-NEG-jouer
Pendant la journée (ou au soleil), les crabes ne se promènent pas.
During the day (or in the sun), the crabs don't roam around.

The last stage in Heine's channel, again is not widely attested in the Oceanic languages. Gedaged is an example of one language where some locatives have been through the whole process. Dempwolff (n.d.:70) provides the following example:

(14) *ab-lon*
house-in
in the house

where *-lon* comes from the POC *lo* IN, which seems to have the POC third person singular possessive suffix *-n* fused to it. Interestingly, when the noun to which a locative relation is to be marked is modified the Gedaged enclitics are attached to the modifier rather than the noun, suggesting that the enclitic has remained in the slot following the putative noun phrase which would have been the most likely position for an adposition to fill:

(15) *Mas ujan-lon itui.*
sea deep-in he.dived
He dived into the deep sea.

It is also notable that in Gedaged, although some locatives have reached the stage of being affixes, others remain in the nominal class. Dempwolff (n.d.:24) states that, amongst other words, the Gedaged form *muzi* BACK belongs to the same category as body-part nouns (although the Gedaged for 'back' is *mesapen*). Not only can languages use different kinds of morphology to mark different locations, they can also use morphological schemes from opposite ends of the grammaticalisation channel.

The data from the Oceanic languages do, with one qualification, seem to be consistent with Heine's grammaticalisation channel. Further research, however, will be needed to confirm the necessity for an adpositional stage intervening before a locative can take the form of an affix.

6.4.2 WHICH PATH IS TO BE FOLLOWED ?

Tolai provided some examples whereby nouns were adopted for use in genitive constructions which expressed spatial relationships, and Namakura gave an example of an adverbial construction being used for the same purpose. The final question I would like to address in this chapter concerns the routes taken through the grammaticalisation channel by locatives. My first intuition, which serves as the starting point for this discussion, is that nouns such as body parts, which are in a partitive relationship with the human reference

point, would be expected to first get used in genitive constructions, while nouns which are not in a partitive relationship with their presumed deictic centres, for example, 'sky' or 'earth', would be expected to first become adverbs.

As on many other occasions in the course of doing this study, I found that the available sources did not have very much information that was useful in my attempts at solving this problem. However, I have been able to get detailed information on two languages that have both landmark and body-part derived locatives. The languages are Namakura, for which Wolfgang Sperlich (pers.comm.) provided data, and Zabana, data on which was supplied by Matthew Fitzsimons (pers.comm.). Namakura has an adverbial locative class which includes nominally derived words as well as words with verbal origins. Zabana, on the other hand, has no class of locative adverbials. The data I have been able to compile concerning these two languages, though, does suggest the existence of some motivational tendencies worth exploring further.

A list of all but one of the Namakura locatives for which I have determined sources is shown in Table 11. The remaining locative will be discussed at the end of this section.

The prefixes appearing attached to the locatives in the table are the definite article *na-*, and the locative adverbial marker *e-*. The working hypothesis would appear to be confirmed, so far at least. Nouns which were originally in a partitive relationship with the presumed deictic centre fall neatly into the class of locative nouns which are obligatorily possessed in Namakura. Humans have bowels as parts of them, and although they may not have shadows as strict parts of them, it is easy to see how something which is usually attached to the human form like a shadow could be conceived of as a part. In the case of 'window', it is the house that is the deictic centre. When 'land' is adopted as the source for UNDER, it is the human being which is the presumed deictic centre, and clearly, the land is not in a partitive relationship with human beings. It would seem likely, that since Namakura has an available locative class into which *tan* can fit without having to be used in a genitive construction, that the adverbial class would be the most likely one into which it would go.

TABLE 11: SOME NAMAKURA LOCATIVES

Locative	Form	Nominal meaning	Syntactic type
IN	*na-pʸalau*	bowel	genitive
FRONT	*na-katam*	window, gate, opening	genitive
UNDER	*na-mel*	shadow	genitive
UNDER	*e-tan*	land, earth	adverb

Zabana also has a word from the landmark class which can sometimes be used to express location: ON *kolaŋa,* which means 'sky'. However, in Zabana, there are no locative state adverbials. Example (16) shows *kolaŋa* being used as a locative.

(16) *Ira nekaha ta la au ari ka kolaŋa-na*
PL child ASP go stay DEM PREP sky-POSS

fate ka heke-na.
ON PREP tree-ART
The child went high up in the tree.

This time, the nominal used as locative has a possessive suffix attached to it, in spite of the fact that none of the putative deictic centres can have the sky attached to them. But it seems that the impossibility of the sky being attached to anything on the ground provides some resistance to indiscriminate use of a possessive morphology; it is not the tree (in relation to which location is being expressed) that 'possesses' the sky in the sentence above. Rather, it is the locative *fate* which 'possesses' the sky. The tree just has a top.

The small amount of data I have been able to analyse does not allow me to formulate any universals, but it is suggestive of two things that would be worthy of further investigation. It would seem to lend support for Meillet's theory of analogy presented in Chapter 2. When words are adopted for uses other than those for which their word class is usually used, it seems there is a tendency for them to behave syntactically like words of the categories which usually encode those functions. There seems to be another tendency, however, which is in conflict with the first, and that is what Hopper calls 'persistence' (also discussed in Chapter 2). Whenever a word is adopted to serve a new function, that word is likely to display idiosyncratic quirks which are a result of the persistence of its earlier meaning or formal properties. In Zabana's use of *kolaŋa* both tendencies are displayed.

On the other hand, concomitant with a word's passage along the grammaticalisation channel, it may be that enough semantic bleaching has occurred that virtually no traces of the word's original concrete meaning remain. The word may eventually arrive at a stage where much of its original semantic force has been eradicated. The further locative from Namakura for which I have ascertained a source, the adverb for BACK *e-tak,* which has as its source 'back', provides an illustration of this. At first, it would seem incongruous that Namakura should exhibit an adverbial form deriving from a body part, but no possessed form. There is, however, an explanation. First of all, it should be pointed out that the meaning of *e-tak* is now far removed from 'back'. Heine (1989) showed how there was a semantic progression through four stages (which were shown in Figure 2), from body part of X and ultimately to space adjacent to X, and he exemplified these stages with data from Swahili. In Namakura, the meaning of *e-tak* includes a further abstraction of Heine's final stage: prototypically, it means 'last'.

Ray (1926) provides evidence from Namakura's close sister language North Efate, suggesting that Namakura did once have a genitive construction involving *tak.* In North Efate there are both the adverbial form *edaku* and the 'noun preposition' *nadaku.* In neither Namakura nor North Efate does *daku* or *tak* mean 'back', although 'back' is the ultimate source of the cognates. I would suggest that in the proto-language ancestral to Namakura and North Efate 'back' was a 'noun-preposition' which meant BACK. From this was derived an adverb, probably analogous to a pre-existing formal category of adverbs (in North Efate, today, there is an extensive class of adverbials, all prefixed by *e-*). This adverb also meant BACK. At some stage, in both languages, the form deriving from POC **taku* for 'back' was replaced. Later, but only in Namakura, the *tak* genitive construction for BACK was also replaced. The emergence of the adverbial form could probably only have occurred, however, because the original meaning, 'back' had by then been lost.

Du Bois (1986) has argued that syntactic patterns are the emergent formal solutions to competing discourse motivations. What emerges in the syntax of a language is not predictable on the basis of functional discourse needs, but functional forces can be seen in

operation behind them. What is shown in this study is that semantic motivations and motivations provided by pre-existing formal syntactic solutions can also be in competition. Again, the particular solutions settled upon in individual languages are not predictable, but again, factors limiting the possible solutions are at work.

CHAPTER 7

CONCLUSIONS

In the first chapter I pointed out that many linguists, operating from a wide variety of theoretical perspectives, have shown that an understanding of the semantics of spatial relationships is a necessary foundation for an understanding of semantics in general; much of what we talk about in human languages is structured in terms of spatial relationships. A great deal of work in linguistics has concentrated on how the semantics of other domains has been structured in terms of the semantics of spatial relationships. In this study I have looked in the other direction, and examined some of what lies behind the semantics of spatial relationships. The languages of Oceania have been the focus of the study, in which I have adopted a panchronic and cognitive perspective.

In taking a panchronic perspective, I have assumed that one of the most important factors influencing the shape and content of semantic and syntactic structures of languages is where those structures have arisen from historically. The study of the processes lying behind this is the study of grammaticalisation. In Chapter 2 I reviewed some of the literature on grammaticalisation processes in order to locate this study within its intellectual framework. Delving into the history of semantic and syntactic change in Oceanic languages necessitated an understanding of the relationships between the languages, and those relationships were the subject of discussion in Chapter 3. The working assumption was that, to some degree at least, universal cognitive forces would shape the emergent semantic and syntactic systems. As a consequence, there would be a fairly high chance of independent parallel innovations occurring, in even widely separated subgroups. A methodology was required which would allow reasonably accurate reconstruction in spite of this fact. A methodology which would handle the problem of independent parallel innovation was proposed in Chapter 4.

The cognitive perspective I have taken is evidenced by the search for the *conceptual* sources of locative expressions. In Chapter 5 I presented a breakdown of source concept adoptions and in Chapter 6 I explored some explanations which help to account both for which sources were first adopted, and for which grammaticalisation channels were followed by the lexemes after their initial adoption.

It was shown that perception of spatial relationships is usually based on an understanding of the orientation of the human body when a person is in 'canonical position'. Perceptually, the human body is taken as the major reference point, and location is marked by the orientation of the body: FRONT is where the front of the body is located, BACK is where the back is located, ON is where the top of the body and the sky are located, and UNDER is where the bottom of the body and the earth are located.

The very existence, in all the languages sampled, of terms meaning FRONT, BACK, ON and UNDER provides linguistic evidence of the cognitive significance of the human body in canonical position. Given the near-universal nature of these concepts, it is not surprising that

most of the sources for their forms in the Oceanic corpus, as well as in the languages studied by Heine (1989), Brugman (1983b), Brugman and Macauley (1986), and Rubba (1990), amongst others, are found in the realm of body parts and basic landmarks such as 'earth' and 'sky'.

These sources are ones which seem to be of cognitive salience to speakers of all the Oceanic languages, but culturally motivated sources are sometimes found as well. In Oceania, the house provides an important subsidiary reference point in terms of which location can be organised; in some of the African languages studied by Heine, quadruped animals were important culturally determined deictic centres.

Culture does not just provide us with a means of organising the universally significant locatives, however. Culture, together with geography, also plays a part in the selection of which locatives are possible candidates for grammaticalisation. In Oceania, terms for SEA and LAND are often members of the same 'closed categories' as terms for the universal locative concepts. In some other languages, the existence of grammaticalised terms for UP-RIVER and DOWN-RIVER points to this same ability for culture and geography to determine what can be linguistically significant.

No really significant differences were found in the way people from different geographical environments adopted source concepts for locatives, although there remains the possibility that inhabitants of atolls may be able to 'personify' the whole island, thereby providing human body-part names for the locatives SEA and LAND.

The mechanisms by which concrete nouns are adopted to serve as adpositions cannot be predicted with any absolute precision, but some tendencies can be seen. Heine (1989) posited a grammaticalisation channel through which nouns pass on the way to becoming prepositions and adverbs. This channel had two alternative routes through which lexemes could travel. Although Heine made no predictions about which route a particular morpheme could travel, some motivational forces operating behind the grammaticalisation channel can be discerned. There is a tendency for words to be used in syntactic constructions, the semantic properties of which correspond naturally to the semantics of the words themselves. However, this tendency is sometimes constrained by the non-existence of congruent formal categories within a particular language.

In order to fully understand the nature of grammar we need to take a perspective that looks not just at what a language is like, but also at how a language got to be the way it is. Semantics has a role in shaping syntax, but sometimes what seems like the most sensible strategy to adopt in satisfying the needs of discourse is impossible because of the nature of the formal syntax which already exists. A panchronic perspective, rather than a simply diachronic or synchronic one, is required to fully understand the interaction of these forces.

APPENDIX

LANGUAGES INCLUDED IN STUDY

This appendix gives an alphabetical listing of the languages on which data were consulted. The first entry is the usual name for the language. Alternative names which have been used in the literature appear in brackets after the usual name. Sometimes language names are a source of confusion, since different names for the same language have often been adopted by different authors.

In order to minimise any possible confusion on this part, wherever possible, I have adopted the 'standard names' for languages. This does not represent any claim that these names should be preferred for any other reason than that they are the most widely recognised by Oceanists: there may sometimes be reasons (e.g. what the speakers of a language call the language themselves) for preferring some other name. The 'standard' I have adopted is that provided by the major surveys of large groups of languages: Ross (1988) for the languages of Papua New Guinea, Tryon and Hackmann (1983) for the languages of the Solomon Islands, and Tryon (1976) for the languages of Vanuatu. Other language names are those used by the authors' of the languages' descriptions. Underneath the language name is the three letter abbreviation I have adopted for it.

The first line of the second column is organised as follows: 'Type of geographical environment: geographical location; subgroup', and under this line is a list of the sources I have consulted. The abbreviations for subgroup names are explained in the key below.

KEY TO SUBGROUP ABBREVIATIONS	
Abbreviation	Subgroup
AD	Admiralties
CP	Central Pacific
MM	Meso-Melanesian
NCV	North and Central Vanuatu
NM	Nuclear Micronesian
NNG	North New Guinea
PT	Papuan Tip
SES	South-East Solomonic
SO	Southern Oceanic
SV	South Vanuatu

Akei (Tasiriki)
AKE
Coastal: Espiritu Santo, Vanuatu; NCV
Ray (1926)

Aneityum (Anejom, Anatom)
ANE
Coastal: Aneityum Island, Vanuatu; SV
Hewitt (1966), Lynch (1982a)

Are (Mukawa, Mukara)
ARE
Coastal: Milne Bay, Papua New Guinea; PT
Paisawa, Pagotto and Kale (1975)

Arosi (Wango)
ARO
Coastal: San Cristobal, Solomon Islands; SES
Codrington (1885), Capell (1971)

Atchin
ATC
Coastal: Atchin Island, Malekula, Vanuatu; NCV
Capell and Layard (1980)

Aulua
AUL
Coastal: Malekula, Vanuatu; NCV
Ray (1926), Charpentier (1982)

Axamb (Akhamb)
AXA
Coastal: Malekula, Vanuatu; NCV
Charpentier (1982)

Baki
BAK
Coastal: Epi, Vanuatu; NCV
Ray (1926)

Balawaia (Sinagoro)
BAL
Coastal: Central District, Papua New Guinea; PT
Koloa and Collier (1973), Kolia (1975)

Bambatana
BAM
Coastal: Choiseul, Solomon Islands; MM
Ray (1926), Money (1950)

Bauro (Fagani)
BAU
Coastal: San Cristobal, Solomon Islands; SES
Codrington (1885), Pawley (1973)

Bughotu (Mahaga)
BUG
Coastal: Santa Isabel, Solomon Islands; SES
Ray (1926), Ivens (1933a) and (1940)

Burmbar (Banam Bay)
BUR
Coastal: Malekula, Vanuatu; NCV
Charpentier (1982)

Bwaidogan
BWA
Coastal: Goodenough Island, Papua New Guinea; PT
Jenness and Ballantyne (1928)

Dehu (Lifu, Drehu)
DEH
Coastal: Lifu, Loyalty Islands; SO
Ray (1926), Tryon (1967)

Duke of York (Malu)
DUK
Coastal: Duke of York Island, Papua New Guinea; MM
Codrington (1885)

Fijian
FIJ
Coastal: Fiji; CP
Capell (1973), Geraghty (1983)

Gedaged (Graged)
GED
Coastal: Madang District, Papua New Guinea; NNG
Dempwolff (n.d.)

Grand Couli (Ciri, Tîrî)
TIR
Coastal: La Foa, New Caledonia; SO
Grace (1976b)

Hawaiian
HAW
Coastal: Hawaii; CP
Pukui and Elbert (1965), Elbert and Pukui (1979)

Hoava
HOA
Bush: New Georgia, Solomon Islands; MM
Karen Davis (pers.comm.)

Houailou (Ajië)
HOU
Coastal: Houailou, New Caledonia; SO
La Fontinelle (1976), Lichtenberk (1978)

Hula (Keapara)
HUL
Coastal: Central Papua, Papua New Guinea; PT
Short (1935)

Iai
IAI
Coastal: Ouvea, Loyalty Islands; SO
Ray (1926)

Iduna (Vivigani)
IDU
Coastal: Goodenough Island, Papua New Guinea; PT
Huckett (1974)

Kairiru
KAI
Coastal: East Sepik, Papua New Guinea; NNG
Wivell (1981a) and (1981b)

Kaliai-Kove (Kaliai)
KAL
Coastal: New Britain, Papua New Guinea; NNG
Counts (1969)

Kiribati (Gilbertese)
KIR
Atoll: Kiribati, Micronesia; NM
Groves, Groves and Jacobs (1985)

Kusaiean
KUS
Coastal: Caroline Islands, Micronesia; NM
Lee (1975)

Kwaio
KWI
Bush: Central Malaita, Solomon Islands; SES
Keesing (1975) and (1985)

Kwamera
KWM
Coastal: Tanna, Vanuatu; SV
Ray (1926)

Kwara'ae (Fiu)
KWR
Coastal: Malaita, Solomon Islands; SES
Ray (1926), Ivens (1932), Deck (1934)

Labo (Meaun)
LAB
Coastal: Malekula, Vanuatu; SV
Ray (1926)

Lala (Nara)
LAL
Coastal: Central Province, Papua New Guinea; PT
Clunn and Kolia (1977)

Lehali (Ureparapara, Norbarbar)
LEH
Coastal: Banks Islands, Vanuatu; NCV
Codrington (1885)

Lenakel
LEN
Coastal: Tanna, Vanuatu; SV
Lynch (1978b)

Letemboi (Natangan)
LET
Bush: Malekula, Vanuatu; NCV
Charpentier (1982)

Lewo (Tasiko, Epi)
LEW
Coastal: Epi, Vanuatu; NCV
Ray (1926)

Longgu
LGU
Coastal: Guadalcanal, Solomon Islands; SES
Ivens (1933b)

Loniu
LNU
Coastal: Manus Island, Papua New Guinea; AD
Hamel (1985)

Lonwolwol (Ambrim)
LWL
Coastal: Ambrym, Vanuatu; NCV
Ray (1926), Paton (1973)

Maeng (Orford, Mengen)
MEN
Coastal: New Britain, Papua New Guinea; NNG
Muller (1907)

Manam
MAN
Coastal: Manam Island, Papua New Guinea; NNG
Lichtenberk (1983) and (1986)

Maori
MAO
Coastal: New Zealand; CP
Biggs (1973), Williams (1971)

Marino (Lotora, Lotoro, Maewo)
MRN
Coastal: Maewo, Vanuatu; NCV
Codrington (1885), Ivens (1942b)

Marovo
MRV
Coastal: New Georgia, Solomon Islands; MM
Karen Davis and Matthew Fitzsimons (pers.comm.)

Marshallese
MAR
Atoll: Marshall Islands, Micronesia; NM
Bender (1969)

Maskelynes (Kuliviu, Avokh, Uliveo)
MAS
Coastal: Malekula, Vanuatu; NCV
Ray (1926), Charpentier (1982)

Mekeo
MEK
Bush: Central District, Papua New Guinea; PT
Strong (1914)

Merlav (Mera Lava)
MER
Coastal: Banks Islands; NCV
Codrington (1885)

Mono-Alu
MON
Coastal: Mono and Alu Islands, Solomon Islands; MM
Fagan (1986)

Mota
MTA
Coastal: Banks Islands, Vanuatu; NCV
Codrington (1885)

Motlav (Volow)
MTV
Coastal: Banks Islands; NCV
Codrington (1885)

Motu
MTU
Coastal: South Coast, Papua New Guinea; PT
Lister-Turner and Clark (n.d.)

Nakanai
NAK
Coastal: New Britain, Papua New Guinea; MM
Johnston (1980)

Namakura (Makura, Namakir)
NAM
Coastal: Makura Island, Vanuatu; NCV
Ray (1926), Wolfgang Sperlich (pers.comm.)

Nasarian
NAS
Bush: Malekula, Vanuatu; NCV
Charpentier (1982)

Ndi (Vaturanga)
NDI
Coastal: Guadalcanal, Solomon Islands; SES
Codrington (1885), Ivens (1934)

Nduindui (Lobaha)
NDU
Coastal: Omba Island, Vanuatu; NCV
Codrington (1885)

Nemi
NEM
Coastal: Hienghene, New Caledonia; SO
Ozanne-Rivierre (1979)

Nenemas (Nigoumak)
NEN
Coastal: Koumac, New Caledonia; SO
Haudricourt (1963)

Nggao
NGA
Coastal: Santa Isabel, Solomon Islands; MM
Codrington (1885), Ray (1926)

Nggela
NGE
Coastal: Florida, Solomon Islands; SES
Fox (1950) and (1955)

Nissan (Nehan, Nisan)
NIS
Atoll: North Solomons, Papua New Guinea; MM
Todd (1978)

Nokuku (Nogugu)
NOK
Coastal: Espiritu Santo, Vanuatu; NCV
Ray (1926)

North-east Aoban (Opa, Lobaha)
NEA
Coastal: Aoba Island, Vanuatu; NCV
Ray (1926), Ivens (1942a)

North Efate (Sesake, Nguna)
NEF
Coastal: Montagu and Efate, Vanuatu; NCV
Codrington (1885), Ray (1926), Schütz (1969)

Nume (Tarasog, Gog)
NUM
Coastal: Banks Islands, Vanuatu; NCV
Codrington (1885)

Paama (Paamese)
PAA
Coastal: Paama, Vanuatu; NCV
Crowley, Terry (1982)

Ponapean
PON
Coastal: Ascension Island, Caroline Islands; NM
Rehg (1981)

Port Sandwich
PTS
Coastal: Malekula, Vanuatu; NCV
Charpentier (1979) and (1982)

Pukapukan
PUK
Atoll: Cook Islands; CP
Mary Salisbury (pers.comm.)

Puluwat
PUL
Atoll: Puluwat, Micronesia; NM
Elbert (1974)

Raga (Raxa, Qatvenua, Lamalanga)
RAG
Coastal: Aoba Island, Vanuatu; NCV
Codrington (1885), Ivens (1938), Walsh (1966)

Rapanui (Easter Island, Pascuense)
RAP
Coastal: Easter Island; CP
Fuentes (1960)

Rarotongan
RAR
Coastal: Cook Islands; CP
Buse (1960) and (1963a, b and c)

Rerep (Panggumu-Tisman)
RER
Coastal: Malekula, Vanuatu; NCV
Charpentier (1982)

Roro
ROR
Coastal: Central District, Papua New Guinea; PT
Strong (1914)

Rotuman
ROT
Coastal: Rotuma; CP
Codrington (1885), Churchward, C.M. (1940)

Roviana
ROV
Coastal: New Georgia, Solomon Islands; MM
Ray (1926)

Sa (Ponorwol, Ponorwal)
SA
Coastal: Aoba Island, Vanuatu; NCV
Elliot (1976)

Sa?a (Ulawa)
SAA
Coastal: Malaita, Solomon Islands; SES
Codrington (1885), Ivens (1918) and (1929)

Samoan
SAM
Coastal: Samoa; CP
Churchward, S. (1951), Marsack (1962)

Sie (Sorung, Erromango)
SIE
Coastal: Erromango Island, Vanuatu; SV
Capell and Lynch (1983), Lynch and Capell (1983)

Simbo (Eddystone, Madequsu)
SIM
Coastal: New Georgia, Solomon Islands; MM
Lanyon-Orgill (1969)

Sonsorol-Tobi
SON
Atoll: Sonsorol Island, Micronesia; NM
Capell (1969)

South-East Ambrym
SEA
Coastal: Ambrym, Vanuatu; NCV
Parker (1970)

South Efate (Fate, Efate)
SEF
Coastal: Efate Island, Vanuatu; NCV
Codrington (1885)

South-West Bay (Sinesip, Nahava)
SWB
Coastal: Malekula, Vanuatu, NCV
Ray (1926), Charpentier (1982)

Talise (Inakona, Koo, Tolo)
TAL
Coastal: Guadalcanal, Solomon Islands: SES
Capell (1930), Crowley, Susan Smith (1986)

Tangoa
TAN
Coastal: Espiritu Santo, Vanuatu; NCV
Ray (1926)

Tigak
TIG
Coastal: New Britain, Papua New Guinea; MM
Beaumont (1979)

To?aba?ita (Malu)
TOA
Coastal: Malaita, Solomon Islands; SES
Ray (1926), Lichtenberk (1984)

Tolai (Kuanua)
TLI
Coastal: New Britain, Papua New Guinea; MM
Mannering and Mannering (n.d.), Franklin, Kerr and Beaumont (1974), Mosel (1984)

Tolomako (Bay of S.S. Phillip and James)
TLM
Coastal: Espiritu Santo, Vanuatu; NCV
Ray (1926)

Tongan
TON
Coastal: Tonga; CP
Churchward, C.M. (1953), Schneider (1977), Sosefo Havea (pers.comm.)

Touho (Wagap)
TOU
Coastal: Touho, New Caledonia; SO
Colomb (1890), Rivierre (1980)

Trukese
TRU
Atoll: Truk, Caroline Islands; NM
Elbert (1947)

Tubetube
TUB
Coastal: Milne Bay District, Papua New Guinea; PT
Seligman (1913)

Uripiv
URI
Coastal: Malekula, Vanuatu; NCV
Ray (1926)

Vanuatuo
Vanuatu
Coastal: Vanikolo, Solomon Islands; SC
Ray (1926)

Woleaian
WOL
Atoll: Caroline Islands, Micronesia; NM
Sohn (1975)

Yabem (Jabem)
YAB
Coastal: Morobe Province, Papua New Guinea; PT
Dempwolff (1939), Zahn (1940)

Zabana (Kia)
ZAB
Coastal: Santa Isabel, Solomon Islands; MM
Ray (1926), Matthew Fitzsimons (1989) and (pers.comm.)

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