5 Deixis

STEPHEN R. ANDERSON and EDWARD L. KEENAN

0 Introduction

Following standard usage, we consider as *deictic expressions* (or *deictics* for short) those linguistic elements whose interpretation in simple sentences makes essential reference to properties of the extralinguistic context of the utterance in which they occur. Given the sentence *John loves me*, for example, we cannot tell who is being loved unless we know who is uttering the sentence. *Me* is thus a deictic – its referent is understood of necessity to be the person who utters or asserts the sentence in which it appears.

The principal kinds of information which are expressed by deictics in language are: (i) Person, (ii) Spatial location, and (iii) Time reference. (Grammatical) person deictics are expressions which make essential reference to the speaker (*Sp*) or the addressee (*Adr*) of the utterance; spatial deictics are items which specify the spatial location of an object relative to the location of the *Sp* or the *Adr*; and temporal deictics are expressions which identify the time of an event or state relative to the time at which the utterance occurs. Thus, in the utterance *Did you write this yesterday?* the pronoun *you* is a person deictic, since it refers to the *Adr*; the demonstrative *this* is a spatial deictic, since it refers to something whose location is described by reference to the spatial location of the *Sp*; and the adverb *yesterday* is a temporal deictic, since it refers to a time one day prior to the day on which the sentence is uttered. The past tense form *did* is also a temporal deictic, since it specifies the time of writing as prior to that at which the utterance occurs.

In this chapter, we are primarily concerned with specifying in more detail the variety of linguistic forms which deictic expressions may take, and the variety of kinds of person, spatial, and temporal information which may be systematically structured by such forms. Our interest is less in the formal mechanisms by which deictic elements are expressed than in the types of system which are found in natural languages. For some discussion of the former issue, see chapters III:3 and I:1.

We also limit our attention primarily to items which are deictic when used in (what we naively determine to be) simple sentences. We can note, however, that many items which are deictic in simple sentences cease to be interpreted deictically when they appear in various types of complex structure. For example, the past tense in *He was sick* is deictic, since it refers to an event or state which obtained prior to time of the utterance. When the same tense marking occurs in *John will say that he was sick* (said for example as an attempt to anticipate John's excuse for not having attended some meeting in the future), however, we interpret the state as past merely with regard to the time of John's speaking, not with regard to that of the utterance. We refer to this phenomenon as *relative* (or *relativized*) deixis, and will return to it in the final section of this chapter.

1.0 Person deixis

The basic person deictics are expressions which necessarily refer to the speaker(s) or addressee(s) of the utterance in which they occur. Person deictics may encode information of several different sorts concerning the identification of *Sp* and *Adr*, including: the sex of the referent; the number of individuals represented by the referent; the social status of the referent; the social and personal relations obtaining between the referents (specifically, between the *Sp* and the *Adr* – less commonly, between the *Sp* and third parties referred to by the *Sp*).

Among linguistic items which express this information, we would of course wish to include first and second person pronouns. This is true regardless of their grammatical function (subject, direct object, etc.), including possessive and vocative forms. The deictic function of first and second person elements is also independent of whether the 'pronominal' form is an independent word, a clitic, or simply an inflectional affix: thus, there is no reason not to treat inflectional marking on verbs or on nouns marked for their possessors (in languages like Finnish) as deictic.

While the deictic function of first and second person forms is self-evident, it is worth noting that in many languages these also acquire a non-deictic role. In a sentence such as *When you're hot, you're hot* the second person pronouns are impersonal: non-deictic in that their interpretation does not depend directly on any feature of the non-linguistic context of the utterance. They are thus analogous in function to elements such as French *on* or German *man*. In other languages, this impersonal function (while kept distinct) is also clearly integrated into the pronoun system. In Breton, for example, impersonal forms are given a distinct verbal inflection (IMPRS):

(1) Ne c'heller ket beva gant dour sklear hag ear an
NEG can(IMPRS) NEG live by water clear and air [of] the
amzer
weather
'You can't live on the plain water and the free air'

There is no pronominal form corresponding to this impersonal in Breton, but as a verbal inflection it is entirely parallel to (while distinct from) the three 'standard' persons and two numbers. Such a special category for impersonal forms is unusual; this function is generally filled either by a special form which is grammatically third person singular (like French *on*), or by a second person form. In a language like English, however, second person sentences with this non-deictic function do not generally differ formally from those in which the same forms refer essentially to the *Adr*.

Not only first and second person pronouns may be deictic, but also other terms of address. These are titles which may be understood as specifying information concerning the social status of the addressee relative to the speaker, or other mutual social relationships. In fact, the choice of language register is usually deictic in our sense. It may depend on the topic being discussed, but it also depends on social relations obtaining between *Sp* and *Adr*. This is a global property, not usually localizable in some particular, discrete part of speech and will have consequences at all levels of structure, including syntax, phonology, and vocabulary.

We have confined our attention thus far to first and second person deictic elements, but traditional grammatical descriptions generally do not distinguish between these and 'third person' forms. From the point of view adopted here, however, the existence of third person deictics is conceptually more complicated. On the one hand, demonstrative pronouns (such as English *this*, *that*, *these*, and *those*) as well as full NPs which are specified by demonstrative adjectives (with or without additional locative deictic specification, as for example *this card*, or *those men over there*) are clearly enough deictics, and will be treated below under the category of spatial deixis. The personal third person pronouns (e.g. English *he*, *she*, *it*, *they* and their related forms), however, as well as full NPs specified by the definite article *the* may also be used deictically, as when we say (pointing to a linguist slumped over his typewriter) *He's exhausted* or *The poor guy's exhausted*.

He or the definite article, however, are often anaphoric rather than deictic, with the referent of *he* or the definite NP established earlier in the discourse. For that reason, we will characterize third person

personal pronouns and NPs involving definite articles as 'weak' deictics. In several languages (e.g. Japanese, Hindi, Malagasy) the third person pronouns are closely related in form to the more clearly demonstrative pronouns, especially when they have inanimate referents.

As noted above in chapter III:3, some languages have one more than the traditional three categories of 'person'. Occasionally, such grammatical 'fourth person' categories have little to do with deictic systems: in Eskimo, for example, this inflectional category is used in subordinate structures to indicate a third person participant coreferential with the subject of a matrix clause. Although this category is otherwise integrated into the system that can be used for deictic expression of person in the language, it has no independent deictic force. Elsewhere, however, 'fourth person' forms may represent a distinct deictic category. In the Algonquian languages, for example (cf. Hockett 1966 for a clear description of the person/number marking system of Algonquian), non-first-or-second person participants within a local section of a discourse must belong to distinct deictic categories (unless they are conjoined). Thus, in 'I went for a walk and saw a bear chasing an elk', *bear* and *elk* cannot both be third person. In order to satisfy this condition, the language distinguishes 'obviative' or fourth person forms from 'proximate' or third person ones. In some instances, indeed (e.g. Potawatomi), the language recognizes yet another, 'further-obviative' or 'fifth person' form. The differences among these depend on the *Sp*'s and *Adr*'s attitudes, which then shape the discourse: whatever referent is most central to the focus of interest at a given point will generally be treated in third person, with others relegated to fourth person (or 'obviated'). As the focus of a story changes, the grammatical form by which a given referent is designated may change as well.

Designation of a referent as 'further from the focus of interest' clearly depends on factors of the extralinguistic context of utterance. Under some specified circumstances, the choice of obviative or proximate form is grammatically fixed, however. In a noun phrase containing a possessive construction, for example, the possessor is treated as proximate and the possessed as obviative (regardless of discourse factors which might operate in the opposite direction). The contrast between *John's father*, where obviation is grammatically determined, and *John saw Bill*, where it is free subject to attitudes shaping the discourse, demonstrates the difference between deictic and non-deictic uses of the same grammatical category.

Another language in which such a grammatical 'fourth person' is to be found is Navajo (as well as other Athabaskan languages; for a discussion of Navajo, cf. Akmajian and Anderson 1970). This language uses the

fourth person forms (which must always, unlike third person forms, refer to human participants) for a variety of purposes: sometimes as impersonals, sometimes to refer to entities not identified internal to the sentence in which they appear, and sometimes for disambiguation (since third and fourth person participants must be distinct in reference). Again, there are some complex conditions under which the grammar determines the choice of fourth versus third person, but under many other circumstances extralinguistic factors determine this choice as they do the obviation category described above for Algonquian.

We turn now to some representative examples of the expression of gender, person and number, social status, and social and personal relations in person-deixis systems.

1.1 *Person and number*

Apparently, all languages make a morphemic distinction between a first person singular pronoun ('I') and at least one first person plural form ('we'). The greatest range of number distinctions we know of in the lexicon of a language is four, illustrated from Fijian in Table 5.1.

Table 5.1 *Fijian subject pronouns:*

	Person		
Number	First	Second	Third
Singular	au	iko	koya
Dual (inclusive)	kedaru	kemudrau	rau
(exclusive)	keiru		
Trial (inclusive)	kedatou	kemudou	iratou (eratou)
(exclusive)	keitou		
Plural (inclusive)	keda	kemuni	ira (era)
(exclusive)	keimami		

Alternate forms (most of which have not been noted here) exist in several cases. The dual and trial endings seem clearly related to the words *rua* 'two' and *tolu* 'three'. We note that Pawley and Sayaba (1971) reconstruct the same range of person and number distinctions for both Proto-Eastern and Proto-Western Polynesian, except that no distinct second person trial form is reconstructed.

A specifically trial or paucal form distinct from both duals and other plurals is also attested in New Guinea (in e.g. Gadsup; cf. Frantz 1973) and Australia (in e.g. the languages of the Djeragan family; cf. Wurm 1972). As noted by Greenberg (1966), the existence of a trial form implies the existence of duals, though of course the converse is not true:

many languages, such as Classical Arabic and Proto-Indo-European, attest duals and plurals but not trials.

It is possibly somewhat more common for a language to fail to distinguish number in second person pronouns than in first. Thus in the most basic pronominal form in the standard dialect, English does not distinguish between singular and plural forms for *you*, though in some forms with less wide distribution it does: compare, for example, *yourself* and *yourselves*. We can note that in other forms traditionally called pronominal (e.g. relative, reflexive, and interrogative pronouns), person distinctions that are made in the basic forms (those used for independent subject forms) may be neutralized. In fact, it is apparently universally true that no language marks person in interrogative pronouns. If it did, indeed, a question such as *Who* [first person] *left early?* would be self-answering. For other forms, the point is somewhat more interesting. In the case of reflexives, for example, languages may mark person in the reflexive pronouns as well as the basic forms (e.g. English, Russian, Hebrew); but it may also be the case that a single, constant, reflexive form serves for all persons (e.g. in Hindi, Kannada, Malagasy).

Note further that person inflection on verbs ('agreement') may carry deictic information which is not independently present in the sentence. Thus, in (2) from Spanish, the apparent subject is third plural, whereas the person marking on the verb is first plural:

(2) Las mujeres protesta*mos* pero los hombres ...
the women complain(1PL) but the men ...
'We women complain, but the men ...'

And from Warlpiri (Australia), we have:

(3) Ngarrka ka-rna purla-mi
man(ABS) PRES-1SG shout-NONPAST
'I (a man) am shouting'

In first person plural forms, it is not uncommon to find morphemic distinctions that depend on whether or not the referent of *we* includes or explicitly excludes the *Adr*. Such *inclusive/exclusive* distinctions commonly extend also to clitics, personal affixes, and possessive forms as well. Note the translation differences in the Malagasy examples below, where EXCL = exclusive, INCL = inclusive:

(4) a. (i) H-andeha izahay
FUT-go we (EXCL)
'We (but not you) will go'

(ii) ny trano-nay
the house-ours (EXCL)
'our house (but not yours)'

b. (i) H-andeha isika
FUT-go we (INCL)
'We (including you) will go'

(ii) ny tranon-tsika
the house-ours (INCL)
'our house (including yours)'

Combinations of pronominal forms, especially first and second person ones, are not uncommonly subject to rather unpredictable, idiosyncratic constraints of a language-particular nature. For example, in French both direct and indirect object pronouns are usually presented in the form of clitic pronouns in preverbal position:

(5) a. Il nous a vus
he us has seen
'He has seen us'

b. Il vous a parlé
he you has spoken
'He has spoken to you'

c. Il les a mangés
he them has eaten
'He has eaten them'

However, two or more such clitics are acceptable only if, at most, one of them is first or second person:

(6) a. *Il nous vous presentera
he us you introduce(FUT)
'He'll introduce us to you'

b. Il vous les presentera
he you them introduce(FUT)
'He'll introduce them to you'

The difference between (6a) and (6b) is usually described by saying that in the structure of the French verb, there is only one positional 'slot' for the object clitics *me*, *te*, *se*, *nous*, and *vous*. Once this is filled by, for example, *nous*, there is no longer any position in which *vous* can appear. In (6b), on the other hand, *vous* and *les* occupy different positions, and thus can co-occur.

We should distinguish this language-particular morphological restriction from what appears to be a universal constraint against using ordinary pronouns and noun phrases for referring to the same individual twice within a single clause. Thus, in a sentence such as *John saw him*, the referent of *him* cannot be John, though it is otherwise free. By the same principle, **I saw me* is impossible, as is **I saw us*. Similarly, while English *we* can be either exclusive or inclusive under ordinary

conditions, in *We saw you*, *we* can only be interpreted exclusively (i.e. as excluding the *Adr* from the class of those who did the seeing). Thus, even intersecting reference, as well as absolute identity, is precluded between two ordinary referring expressions in the same clause.

Of course, when both reference and person/number are identical, languages generally provide a special set of reflexive (and possibly also reciprocal) forms which are restricted to this situation. In English, *I saw myself* thus fills the gap created by the impossibility of **I saw me*. Since the reference is only overlapping, and not identical, however, **I saw ourselves* is just as bad as **I saw us*: there is really no simple way to express this meaning in English. In many languages, only some of the reflexive forms are distinct from ordinary anaphoric pronouns; thus, while French has reflexive *se* (as in *Il s'est vu* 'He saw himself') as opposed to non-reflexive *le/la/les* (as in *Il l'a vu* 'He saw him'), the first and second person forms are not distinct. The form *me* can thus be either reflexive (as in *Je me suis vu* 'I saw myself') or non-reflexive (as in *Il m'a vu* 'He saw me'). A sentence such as *Nous nous avons vus* is thus not an exception to the constraint mentioned above (in connection with the sentences in (6)), since the first *nous* is a subject form, and only the second, reflexive *nous* is assigned to the object clitic position.

Occasionally at least, sequences of pronouns referring to different persons and numbers may 'collapse' into a single *portmanteau* form. For instance, in Kapampangan (Philippines; cf. Mirikitani 1972) three persons and two numbers (singular and plural) are distinguished, with inclusive and exclusive first plural forms. We might expect, therefore, that subject and object would be represented separately in sentences with transitive verbs, like those in (7) below:

(7) a. Binasa mya namam?
read you+it too
'Did you read it too?'

b. Saupan da kang maglinis bale
help I you clean house
'I'll help you clean the house'

c. O sige, bayaran ku ne
all right pay I already+it (= na 'already'+ya 'it')
'All right, I'll pay it already'

In (7a) the two distinct pronouns 'you+it' are represented by a single form. Not all combinations of pronouns in Kapampangan are represented by portmanteau forms, however, as shown by (7b). In this case, there is good reason to believe that the portmanteau forms result from

straightforward (if fossilized) phonological coalescence: (7c) shows that a pronominal element may also coalesce with another sentence element in some cases. Such portmanteau forms are much commoner in the domain of bound verbal morphology. A great many languages in which verbs agree with their objects as well as their subjects display such a pattern, as illustrated in the following (partial) paradigm from Mohawk (cf. Bonvillain 1973):

(8)

a.	wa?-*ko*-hlo:li?	'*I* told (it to) *you*'
b.	wa-*hi*-hlo:li?	'I told him'
c.	wa-*hsek*-hlo:li?	'You told me'
d.	wa-*hts*-hlo:li?	'You told him'
e.	wa-*hak*-hlo:li?	'He told me'
f.	wa-*hya*-hlo:li?	'He told you'

Conjunctions of pronouns may also be subject to unexpected constraints (sometimes of a prescriptive or normative, as opposed to strictly grammatical, sort). Thus, *John and I* sounds better to our ears than *I and John* (perhaps at least partly due to the efforts of our former English teachers). More interestingly (though still a relatively minor phenomenon), what is semantically a first singular conjunct may in some languages be treated formally as a first plural one. In Malagasy, for instance, where we would expect (9a) we may hear, at least in some dialects, (9b) instead:

(9) a. Rakoto sy aho . . .
Rakoto and I
'Rakoto and I . . .'

b. Rakoto sy ahay
Rakoto and we (exclusive)
'Rakoto and I . . .'

The expression of person may not be independent of the expression of tense. In terms of bound morphology, this is a familiar enough situation: in French, for example, the first person singular ending on first conjugation verbs in the present tense (indicative mood) is *-e*; in the future it is *-(er)ai*; in the incomplete past ('imparfait') it is *-ais*; in the 'passé simple' it is *-a*; etc. (endings are given here in their orthographic forms in order to avoid controversy concerning their phonological characterization; it is their distinctness, rather than their identity, which interests us here). Somewhat more surprisingly, perhaps, what holds for bound morphology in such cases may hold for apparently independent pronominal forms elsewhere. Thus, in Iai (Melanesian; cf. Tryon 1968) we have:

(10) a. Ogeme mokut
I(PRES) sleep
'I am sleeping'

b. Ogema mokut
I(FUT) sleep
'I will sleep'

c. Oge mokut
I(PAST) sleep
'I slept'

Superficially at least, it appears that pronouns in this language carry tense marking.

Like other elements of language, of course, the form used to convey a particular person/number category in a given case may not be specifically limited to this use, but may cover a range of persons and numbers which are (elsewhere) distinguished in the language. A simple but familiar case is that of German [zi:], which may be (a) a second person polite form (written *Sie*); (b) a third person plural; or (c) a third person singular feminine form (both of the latter written *sie*). In this case, it is probably appropriate to think of uses (b) and (c) as merely accidentally homophonous, while (a) and (b) perhaps represent a genuine syncretism. More extensive and complex cases are not hard to find, however. In Vietnamese (cf. Cooke 1968), *mình* may be a first person form (used chiefly by females to intimates of either sex); a second person term (used chiefly with spouse or intimates of the opposite sex); an impersonal term (as in questions like *What (is one) to do?*); and finally as an inclusive first plural form (used when speaking to equals or slightly inferior intimates). Cooke (1968) also cites several 'pronominal' forms in Thai which may be used for either second or third person (usually with differences in meaning or conditions of use).

As a rather different sort of example we cite also the so-called '*poly-focal*' forms in New Guinea languages. The basic pronominal series may distinguish three persons and three numbers (singular, dual and plural). Various agreement markers, however, divide the person/number space differently. For example, in Bena-Bena (cf. Young 1971) verbs in subordinate clauses (called 'medial verbs' in the literature on New Guinea languages) take a tense suffix and a final suffix indicating whether the subject of that verb is the same as the subject of the verb in the next clause, or whether it is different. We note that the basic pronominal system of Bena-Bena distinguishes three persons and three numbers (singular, dual and plural). On the other hand, simple past tense medial verbs whose subjects are the same as that of the next

Table 5.2 *Past medial verb forms: Bena-Bena 'pierce'*

	Number		
Person	Singular	Dual	Plural
First	fi-'ohu-to	fi-'ohu-to	fi-'ohu-to
Second	fi-'ohu-to	fi-'ehi-te	fi-'ehi-te
Third	fi-'ohu-to	fi-'ehi-te	fi-'ehi-te

clause have one of only two forms. One of these forms is used if the subject of the medial verb is either second or third person, dual or plural. The other is used if the subject of the medial verb is either first person (any number) or singular (any person). This is illustrated in Table 5.2. Note that both the past tense suffix and the same-subject suffix exhibit this two-way distinction. The two forms (*fi-'ohu-to* and *fi-'ehi-te*) may both be glossed as 'pierce-past-same subject'.

1.2 *Gender*

Person deictics may code information concerning the sex (semantic gender) or arbitrary class (grammatical gender) of their referents. While this is most common for third person terms, where commonly two or three (masculine, feminine, neuter) genders may be distinguished, it is also reasonably well attested for first and second person forms. The second person subject pronouns of Modern Hebrew exemplify this situation:

(11)

	Singular	*Plural*
Masculine	atah	atem
Feminine	at	aten

Gender distinctions are probably less common in first person pronouns than in the second person. It seems to be true that gender marking in first person is only possible if gender is also marked in second person; and that second person forms only distinguish gender if third person forms do as well. Even where the pronoun forms do not distinguish gender themselves, however, such distinctions are clearly attested in inflectional person marking. Thus, while both Hebrew and French have only one first person singular pronoun, gender 'agreement' in the predicate may force a masculine or feminine reading, as in the examples from Hebrew in (12):

(12) a. Ani medaber
I speak(MASC SG)
'I (male) speak'

b. Ani medaberet
I speak(FEM SG)
'I (female) speak'

or from French in (13):

(13) a. Je suis vieux
I am old(MASC SG)
'I (male) am old'

b. Je suis vieille
I am old(FEM SG)
'I (female) am old'

Further examples can be found among the mind-boggling proliferation of first person pronouns cited by Cooke (1968) for Thai, which includes several that discriminate male from female first person. To take but one example, *kramɔ̀m'* (lit. 'crown of the head') is used by males addressing lesser royalty, while *kramɔ̀m' chàn'* or *mɔ̀m' chán'* is used by women in the same circumstances. A final observation on number is due to Greenberg (1966), who noted that languages commonly make fewer distinctions in the plural numbers than in the singular. English *he/she/it* vs. *they* is representative here – this is an instance of the general principle (enunciated in a number of places by Roman Jakobson) that more marked categories tend to be less differentiated internally than less marked ones.

1.3 *Social rank and relationship of participants*

Person deictics commonly code information concerning the social status of the speaker, the addressee, or a third party referred to, as well as the social or personal relationship between them. More specifically, person deictics may reflect whether *Sp* and *Adr*, *Sp* and third party, or *Adr* and third party are of the same or different social rank, sex, or age group; kin related in designated ways; personally intimate, etc. Such information may be reflected in the choice of first, second or third person deictics; it may be reflected in the title of address or in the use (or non-use) of particles or affixes indicating respect or deference (*honorifics*); it may even be reflected in the choice of vocabulary used.

A systematic account of the kinds of social information coded deictically and the possible forms of encoding would border on a study of universal anthropology or sociology and go well beyond what could be presented here (even if we had the knowledge to provide such an account). We therefore content ourselves with a few examples from the more prominent systems known to us.

Perhaps the classic cases of deictic systems which encode social and related distinctions are those of East Asian languages. Extremely rich systems are indicated by Cooke (1968) for Thai, Burmese and Vietnamese, three languages related areally but not genetically. For Thai alone, Cooke lists 25 first person forms. A few of these are dialectal variants, some are borrowings (a remarkable fact in itself, since deictics are a part of the vocabulary of a language which is not generally thought to be subject to much influence of this sort), some are plural, but still most of those listed could be used, depending on context, as translations of the English first person singular pronoun. Without attempting to exhaust Cooke's (1968) list, we give a few of the translations provided for the correct use of the various first person singular forms: 'adult or adolescent male speaking to inferior or female intimate'; 'non-intimate deferential terms used by adult females speaking to superiors'; 'male commoner addressing royalty of any but the highest ranks'; 'highly deferential, male addressing high-ranking non-royalty'; 'child or young woman speaking to intimate'; 'polite term used by males speaking to equals or superiors'; 'Buddhist priest speaking to non-intimate layman or lower-ranking priest'; 'a strong non-restraint term, especially male speaking to intimate male' (where non-restraint indicates a term whose usage implies freedom from the restraints of more proper usage), etc.

Many of the 'pronominal' forms for all persons in these languages are either internally complex or else independently exist as kin terms (father, grandfather, respected uncle, etc.) or as simple common nouns (master, slave, body, self, etc.). Nonetheless, all items listed by Cooke (1968) would translate 'ordinary' pronominal usage in English. Some of the internally complex terms evidently render literally the concept of deference expressed by the term. For example, the higher ranking of the interlocutors seems to be represented as resting his foot on the head of the inferior. Adopting the other's point of view, the inferior might refer to himself when speaking to royalty then as 'crown of my head', and one of the terms used for addressing royalty translates literally as 'dust underneath sole of royal foot'.

On the other hand, a complex class or rank system is not necessary for the use of address and reference forms which codify relations of sex, familiarity and the like. In a Malagasy peasant village, where we find little social differentiation, there are still (in addition to neutral terms of address such as *ianao* 'you (sg.)' and *ianareo* 'you (pl.)') forms such as *ialahy* 'you (sg.)' which can only be used to address males, and *indriaku*

'you' which is only used to address females. Both are more familiar than the neutral terms. Yet another common term is *ise* 'you' which indicates 'quite intimate' relationship. This is most commonly used when speaking to a member of the opposite sex, but in fact it may occasionally be used between members of the same sex.

Malagasy also appears to make at least limited use of prefixes which might be translated as 'same sex as' and 'different sex from'. Thus the two ways to translate 'my brother' in (14) below vary with the sex of the referent of *my*: in (14a) the speaker is male, while in (14b) the speaker is female:

(14) a. ny raha+lahi-ko
the same sex+male-my
'my brother'

b. ny ana+dahi -ko
the different sex+male-my
'my brother'

Analogous forms exist for 'sister'.

Indicators of respect and deference are not limited in their occurrence to independent pronominal forms, but may occur as well as part of the bound morphology of a language. A rather limited case is illustrated by the verbal forms of a number of European languages, especially their imperatives. Many of these languages make a pronominal distinction between familiar and polite forms (e.g. French *tu* vs. *vous*, German *du* vs. *Sie*, Danish *du* 'you (sg.), familiar' vs. *I* 'you (pl.), familiar' vs. *De* 'you, polite'. This same distinction may be reflected in their verbal forms, as in the imperative: cf., for example, French *parle* (familiar) vs. *parlez* (polite).

A more complex system is that evidenced by modern Nahuatl (for details of which we refer the reader to Hill and Hill 1978). We indicate here some of the types of social relations between participants in a discourse which may be coded in the grammar and morphology of the language, and some of the means by which these relations are coded.

There are four different sorts of social relations between *Sp* and *Adr* that may be signaled (in a variety of ways) by the forms used by the *Sp*. These are: (1) intimacy; (2) neutral or somewhat formal relations; (3) honor (shown by *Sp* to *Adr*); and (4) 'compadrazgo' (obtaining between persons standing in a ritual relation of kinship by virtue of being parent/godparent or godparent/godparent of the same child). We will refer to these as level 1, level 2, etc.

These respect levels are marked in various ways, in (a) forms of direct address, such as second person pronouns and titles of address; (b) as

affixes on verbs, in which case the respect level may pertain either to the subject or to the object of the verb; (c) as affixes on imperative forms of the verb; (d) affixally in possessive constructions, in which case the degree of respect shown usually pertains to the possessor, but sometimes to the possessed; and (e) on inflected postpositions. We illustrate briefly the first case:

(15) 'you (SG)'
level 1: teh(huatl)
level 2: tehhuatzīn
level 3: māhuizotzin
level 4: īmāhuizotzin

We may note that third person pronouns distinguish the first three respect levels as well. As an example of the marking of respect levels on verbs, we can consider the various forms that can be taken by a sentence such as *You have it*, where the subject is the addressee:

(16) 'You(SG) have it'
level 1: ticpīa
level 2: ticompīa
level 3: ticonmopīalīa
level 4: quimopīalīa

The level 2 affix *-om-/-on-* may in other contexts indicate motion away from *Sp*. Level 3 appears to be formed from level 2 by the addition of the infix *-mo-*, which apparently has elsewhere a reflexive meaning, plus a non-final 'transitivizing' suffix. Level 4 is formally in the third person, rather than the second, and it is the use of such third person forms in direct discourse which signals this respect level.

In systems such as that from Nahuatl just discussed, the indicators of social relationship are primarily associated with terms referring in some way or another to the *Sp* or *Adr*, such as pronouns, or verbal affixes referring to first or second person participants. An unusual variation on this is the system of verbal affixes marking the so-called 'familiar voice' forms of verbs in Basque (cf. Lafitte 1962). These affixes mark the degree of respect shown by *Sp* to *Adr*: an unusual feature of the system is that they do *fail* to appear exactly when the subject of the verb is second person (i.e. exactly when *Adr* is already coded by a subject-marking affix on the verb). There are thus five different forms of a (non-second-person) verb in Basque: one representing respect (corresponding to French *vous*); a neutral form; two representing a substantial degree of familiarity (one for addressing males and one for females); and one representing an even greater degree of intimacy. These affixes

are not used to the same extent in all dialects of the language, and conditions for their use vary somewhat (as is quite typical with elements of this sort dependent on social structure). An example of the forms involved is given in (17).

(17) 'Familiar voice' forms of Basque *nago* 'I remain':

a. nagozu (polite)
b. nagok (familiar, used with male *Adr*)
c. nagon (familiar, used with female *Adr*)
d. nagochu (intimate)
e. nago (neutral form)

Similar forms exist for the other tense/aspect categories of the Basque verb.

The final type of 'social deictic' category we consider here is the character of systems based on a choice of vocabulary and syntactic constructions. In a number of languages, a division between two (or more) registers of speech has extensive consequences for the vocabulary employed on a given occasion, with the choice dependent on extra-linguistic factors of the situation. In Samoan, for example, there is a special oratorical style characterized not only by a considerable special vocabulary but also by a range of construction types somewhat different from normal conversational style. This phenomenon is probably characteristic of all languages, to some extent – wherever 'formal' situations arise, they tend to demand special locutionary effects. In situations such as that in Samoan, however, the distinction seems to be somewhat categorical (rather than a continuous gradation between more and less formal styles).

Another example of a difference between 'high' and 'low' linguistic style that seems to be categorical is furnished by Javanese (cf. Horne 1961). In this language, there are two clearly distinguished social levels: *Krama* (or *Keromo*), the 'formal' style; and *Ngoko*, the 'informal' or 'plain' style. *Krama* is used when speaking with someone higher in social or official status, including older members of one's own family, or to strangers or those not well-known to the *Sp*; *Ngoko* is used only in speaking with someone clearly lower in status than the *Sp*, including younger members of the *Sp*'s own family. The difference between the two styles is quite extensive (though not total; there are a large number of shared lexical items, and most of the syntax is the same for both styles), affecting a substantial part of the lexicon and some of the bound morphology as well. Sentences (18a,b) below illustrate the sorts of differences in question; they correspond completely, except for the difference in language-level.

(18) a. *Krama*: Kulo saweg maos buku Djawi
I be(PROG) read book Javanese
'I'm reading a Javanese book'

b. *Ngoko*: Aku lagi motjo buku Djowo
I be(PROG) read book Javanese
'I'm reading a Javanese book'

Undoubtedly the best-known system of linguistic elements deictically marking social relationship is found in Japanese, where the relevant distinctions pervade the grammar. We do not attempt to describe this here, since the distinctions made and the sorts of formal realization they receive primarily involve types instantiated by the languages discussed above and below. There are also elaborate possibilities, however, for showing respect to people spoken about, and for indicating respect levels *between* people spoken about. There are also affixes that can appear on various parts of speech in polite conversation: thus, *cha* 'tea', but *o-cha* with a use that is parodied by English gloss 'honourable tea' which might be put into the mouth of a stereotyped Japanese character in a film. For thorough discussion of respect level marking in Japanese, and the contextual determinants of its use, we refer the reader to Harada (1976) and Inoue (1979).

A particularly dramatic sort of categorical style distinction reflected in the vocabulary is characteristic of a number of languages of Australia, and has been discussed in the literature under the name of 'mother-in-law' languages. We cite here briefly the situation that obtains in the language Guugu Yimidhirr.

In this language there are large-scale differences in the linguistic forms that are used for communication when *Sp* and *Adr* stand in certain kin relations. If *Adr* is a family relation of a male *Sp*'s wife, such as a father-in-law or brother-in-law, then many of the ordinary forms of speech are replaced by others, whose use with that meaning is specific to communication between in-laws. Everyday language and joking style is appropriate not only with a male *Sp*'s wife, but with any *potential* wife as well, such as the wife's younger sisters or other women of the appropriate kin relation. By contrast, *Sp* could use the special language as a sign of respect with a potential brother-in-law or father-in-law. Women are less constrained to use the special language with their in-laws, possibly because they become members of their husband's moiety after marriage. As Haviland points out, traditionally one was not supposed to speak to one's mother-in-law at all, so for Guugu Yimidhirr, 'brother-in-law' language would actually be a more appropriate designation than 'mother-in-law' language. The reader is referred to Haviland (1979) for

a much more thorough description of the language and of the exact nature of the kin relationships involved.

In narrow linguistic terms the brother-in-law language differs from the ordinary language in the following ways: first, while some forms such as *badhurr* '(type of) fruit' are used in both ordinary and brother-in-law language without difference in meaning, there are many nouns and verbs which are specific to the brother-in-law language. Thus, *balin-ga* 'echidna (a porcupine-like animal)' in the brother-in-law language becomes *nhalngarr*. On the other hand, some words in the ordinary language, especially those in the semantic domain of sexual activity such as *gulun* 'penis' have no equivalent at all in the brother-in-law language. In general, the brother-in-law language has a basic vocabulary which is much reduced compared with that of the ordinary language. Thus, the brother-in-law language may have a special word which 'translates' several words from the ordinary language. For example, the ordinary language names about ten different kinds of kangaroo, but has no generic term covering all sorts of kangaroo. The brother-in-law language has such a generic term, and uses it for any of the ten different types distinguished in the ordinary language. Similarly the brother-in-law language has a generic word for the verb 'go' and uses it in various combinations with other words to translate the specific items of the ordinary language meaning 'go', 'float, sail', 'limp', 'paddle', 'wade', etc. A case of more specific interest to the study of deictics is the brother-in-law term of direct address. The ordinary language distinguishes second person singular, dual and plural forms; in the brother-in-law language the second person plural form is used in all cases, reminiscent of the use of the plural forms in European languages in polite or formal discourse to address a single individual.

In addition to these linguistic differences in a narrow sense, speech between brothers-in-law is also associated with a variety of extralinguistic factors: for example, they may speak to each other through third parties; when speaking to one another they do not face each other directly, but rather sit crosswise; or they may speak in subdued tones. We again refer the reader to Haviland's (1979) work for more extensive and detailed discussion of these points; treatment of similar systems in other Australian languages will be found in Dixon (1972) and (for an 'initiation language') Hale (1971).

As a final note, since this is a chapter on deixis, we cannot resist pointing out the meaning of the language name Guugu Yimidhirr itself. First, *-dhirr* is a kind of comitative suffix (meaning 'with, having') which transforms nominal elements into more adjectival ones. *Yimi* itself is a demonstrative form, 'this', so Yimidhirr means roughly '*yimi*-having'. *Guugu*, in turn, means 'word, language'. We might thus translate Guugu Yimidhirr as 'language with *yimi* for *this*'. It is thus one of the few languages in the world which is actually named after a deictic element.

2.0 Spatial deixis

The elements most commonly cited as 'deictics' are those designating spatial location relative to that of the speech event. All languages identify locations by reference to that of the *Sp*. It is also possible to determine locations by reference to that of the *Adr*, and many (but not all) languages utilize this possibility as well.

As a particularly clear instance of the anchoring of deictic notions by reference to the speaker, we may consider the system of verbal deictic prefixes of Abaza (cf. Allen 1956:164ff, on which the discussion below is based; for comparative notes dealing with the other languages of the Northwest Caucasian family, cf. Dumézil 1975). Verbs in this language can take one of two prefixes (placed immediately after the verb-initial pronoun position marking agreement with the absolutive noun phrase of the clause, and before the other preverbal prefixes): either *ʕa* or *na*. The former of these can be glossed roughly 'hither', and the latter 'thither'. They appear in contrasts such as those in (19):

(19)	a.	(i) ʕágra	'to bring'
		(ii) nágra	'to take'
		(iii) gará	'to carry'
	b.	(i) ʕáyra	'to come here'
		(ii) náyra	'to come there'

These two prefixes are clearly inflectional in character: they can be added to essentially any verb with which their meaning is appropriate without any change in meaning to the verb stem.

In general, *ʕa* indicates that the motion described by the verb proceeds toward the speaker (and the somewhat less common *na* that it proceeds away from the speaker). It appears that just in situations where the *Sp* is not involved, the reference point can be the *Adr* instead. This means that *ʕa* is used commonly when the subject of the sentence is second or third person, and the object is first person; or when the subject is third person and the action is directed toward the second person. Sentences (20a,b,c) illustrate this.

(20)	a.	yʕasáytd	'He gave it to me'
	b.	yʕasát	'Give it to me!'
	c.	yʕawáltb	'She will give it to you'

The interesting bit of complexity (from an English-centered point of view) in this system comes when we consider examples such as those in (21):

(21)	a.	yʕawzásʕʷd	'I wrote to you'
	b.	yʕawə́stxb	'I will give it back to you'
	c.	yʕawáshʷd	'I told it to you'

All of these examples have a first person subject, but a second person object; how is it then possible that the prefix *ʕa* is appropriate in these cases? Allen (1956) shows, however, that these examples can in fact be understood in the same terms as earlier ones, once we recognize that they are only appropriate when describing situations in which, *at the time of the action*, the *Sp* was not located where he is at the time of speaking, but rather elsewhere, and the *Adr* (again, at the time of the action) was located at (or nearer to) the present location of *Sp* and *Adr*. Thus, (21a) is appropriate when describing the fact that, for example, *Sp* sent a letter home (where he is now) when he was away on a trip; (23b) could be used to promise that *when you come here* I will give it back to you; and (23c) to describe a situation in which I, who was then elsewhere, told something to you, who were then here. Thus, the reference of the notion of 'hither' remains firmly anchored by the *present* location of the *Sp*, regardless of whether he occupies the same location at the time of the action related. The failure of this element to undergo relativization of deixis (cf. section 4 below) is rather striking, and makes the 'speaker orientation' of the notion involved particularly sharp.

It is important to note that spatial references serve as the basis, in most languages, for a variety of metaphorical extensions into other domains. For example, if the meaning of English *this* is taken to be primarily 'near to the speaker', expressions such as *at this time*, *in this way*, etc. capitalize on extensions of 'nearness' to domains other than literal spatial location. Furthermore, notions such as 'near to the speaker' may be interpreted not only in the literal, physical sense, but also by extension to 'psychological proximity', i.e., vividness to the mind of the speaker, and often to 'temporally close', i.e., in the immediate past or future of the speaker.

Yet another complication in this domain is the fact that in some languages, some deictic terms are anchored by reference to the (presumed) location of the subject or actor, rather than of the *Sp*. This extension falls midway between the central basis of deictic notions and the special problem of 'relativized deixis' described below in section 4. Craig (1979) shows how the same deictic elements make reference to the

Sp in intransitive verbs of motion such as 'climb here', 'climb there', 'come up', 'go up', etc.; and make reference to the actor/subject in transitive verbs of motion such as 'push', 'pull', 'put in', 'take out', etc.

Spatial deictic notions are expressed in a variety of parts of speech. Perhaps most central (and probably universal) are locative adverbs (e.g. *here*, *there*). From these, we may consider it a short step to demonstrative adjectives (e.g. '*this* pencil') and demonstrative pronouns (e.g. 'I don't like *that*'). Less commonly, a number of languages exhibit elements we can call *presentatives*, which are used to indicate an item's location or to signal its appearance in (or relative to) the observational field of the *Sp*. Examples of such items are French *voici/voilà* 'here is . . .'/'there are . . .', Latin *ecce* 'behold . . .', etc. In addition, a language may have bound verbal morphology indicating whether the action described in a sentence proceeds into or away from the 'space' of the *Sp/Adr* (as in the case of the Abaza prefixes considered above). Verbal roots themselves can also have deictic meaning, as in English *come*, *go*, *bring*, *take*, etc.

A variety of interesting problems arise in describing spatial reference implicit in particular lexical items in individual languages. Consider, for example, the verbs *come* and *go* in English. The most basic sense of *come* is apparently 'motion toward the *Sp*', and of *go*, 'motion away from the *Sp*' (though the range of usage of these items, especially in embedded contexts where the notion of 'relativized deixis' comes into play, is exceedingly difficult to describe: cf. Fillmore 1966 for discussion). They thus correspond roughly to the two basic demonstrative categories of the language, 'here' vs. 'there', 'this' vs. 'that'. One might expect that in languages with more complex deictic systems for the expression of spatial reference, additional categories of these systems might be reflected in the lexicon. This is in fact the case in some instances. Palauan (cf. Josephs 1975), for example, has three basic verbs of motion: *me* 'come', *eko* 'go', and *mo* 'go'. The difference between these latter two is that *eko* indicates motion toward the *Adr*, while *mo* is used to describe motion away from both *Sp* and *Adr*. These three lexical items thus form a system parallel to that of the Palauan demonstrative adjectives, which has *tia* 'this (near *Sp*)' vs. *tilęcha* 'that (near *Adr*)' vs. *se* 'that (far from *Sp* and *Adr*)' for singular non-animates, with other forms for plurals and animates. The corresponding place adverbs are *ęr tia* 'here (near *Sp*)', *ęr tilęcha* 'there (near *Adr*)', and *ęr se* 'there (distant)'.

The variety of forms with such spatial deictic references is quite considerable. As far as we can determine, however, the deictic notions involved are not different in *type* from those that can be studied in the

limited, relatively closed systems of demonstrative elements: a grammatical class which is generally distinguishable from the rest of the lexicon of a language. We therefore confine ourselves here to such systems. The examples below are organized by reference to the principal dimension of location relative to *Sp*: first in terms of the number (and character) of distinctions recognized along a primary dimension of distance from *Sp*, and then in terms of additional, cross-classifying dimensions which can be added to this basic one.

2.1 *Minimal systems of spatial deictics*

2.1.1 *One-term systems*

In principle, a language might have only a single item which could function as a demonstrative pronoun or adjective and which would simply indicate something like 'present to *Sp*' or 'present in the extralinguistic context of the utterance', without commitment to its distance from the speaker, visibility to the speaker, etc. While we know of no unequivocal one-term demonstrative systems in this sense, Czech seems to come quite close. The commonly used *ten* may function either as a demonstrative adjective or as a demonstrative pronoun, and may be used for items which are either close to or far from the speaker. It is thus non-committal as to relative distance from the speaker, and a candidate for the status of a 'one-term' deictic system. In more formal discourse, however, it appears that there is a near/far distinction between *tento* and *onen*, although a statistical study conducted by Meyerstein (1972), to which we owe our discussion of this system, showed that *onen* is rather infrequently used. Similarly, in quite colloquial speech Meyerstein lists four near forms and two far forms, but again the only one commonly attested in her corpora is *tenhle* 'near'.

Another possible example of a 'one-term' deictic system is French *ce* (*/cette/cet*), which does not encode any sort of distance distinction. However, the use of *ce* is commonly supplemented by suffixal *-ci* 'here' and *-là* 'there'. Thus, while *cette maison* 'DEM house' is neutral with respect to distance from the speaker, *cette maison-ci* indicates one reasonably close to the speaker, while *cette maison-là* indicates one rather farther away or less immediately identifiable to the speaker.

Actually, a 'one-term' deictic system would be little different from a definite article. In fact, we find the definite article used in some circumstances in English with vaguely deictic force: we may say, for example, looking at a car accident, *The Ford didn't stop at the light.* Here the Ford in question is understood to be present to the speaker and the addressee, but no commitment is made concerning how far it may be from either.

Table 5.3 *Modern Hebrew near-to-speaker forms*

	Singular	Plural
Masculine	ha-yeled ha-zeh the-child the-this	ha-yeladim ha-ele the-children the-these
Feminine	ha-yalda ha-zot the-child the-this	ha-yeladot ha-ele the-children the-these

2.1.2 *Two-term systems*

All languages known to us exemplify at least two distinct categories along the basic spatial deictic dimension. Standard English *this* vs. *that* (and the corresponding plural forms), *here* vs. *there* thus constitute a minimal (but not at all unusual) system. Another example, displaying a bit more internal structure, is furnished by Modern Hebrew.

As expected, the fundamental distinction made in the Hebrew deictic system is between forms indicating 'near to speaker' and those indicating 'far from speaker'. The two sets are not morphologically related, and the far-from-speaker forms seem to be used much less frequently. We give the near-to-speaker forms in Table 5.3.

Note that the gender distinction present in the singular forms of the demonstrative adjective/pronoun is neutralized in the plural. This is another instance of the principle referred to at the end of section 1.2. Note also that the definite article *ha-* is clearly distinct from the demonstrative adjectives. The demonstrative adjectives, like other adjectives in Hebrew, agree in definiteness with the head of the phrase in which they appear, in the sense that both the head and the adjective carry separate markers of definiteness (cf. *ha-yeled ha-gdol* 'the big boy, lit. the-boy the-big').

The far-from-speaker forms are constructed from the independent personal pronouns and the definite article as given in Table 5.4.

Table 5.4 *Modern Hebrew far-from-speaker forms*

	Singular	Plural
Masculine	ha-yeled ha-hu the-child the-he	ha-yeladim ha-hem the-children the-them(MASC)
Feminine	ha-yalda ha-hi the-child the-she	ha-yeladot ha-hen the-children the-them(FEM)

As mentioned, these distal forms are much less commonly used than, for example, the corresponding distal demonstrative *that/those* in

English; moreover, the feminine plural forms in particular seem quite unusual.

2.1.3 *Three-term systems*

Many languages (e.g. Latin, Japanese, Southern Sotho, Turkish, and Spanish) present three basic demonstrative adjectives/pronouns. In these systems the first term represents something which is close to the *Sp* (as noted above, either in literal, spatial terms, or temporally, or perhaps mentally: vivid to his mind). The third term represents something which is remote relative to the space occupied by *Sp* and *Adr*. The systems differ in the interpretation given to their middle terms, often in ways which are not clearly described in the literature. Excluding cases where the middle term's interpretation cannot be determined from existing descriptions, we may distinguish two major types of system: (a) those in which the middle term marks objects as being in some sense close to or identifiable by the *Adr*; and (b) those in which the middle term indicates an object which is simply farther from the *Sp* than would be indicated by the first term of the system, but closer than would be indicated by the third. We refer to these two types as *person oriented* and *distance oriented* systems, respectively.

In the examples which follow we may classify Spanish and Southern Sotho as distance oriented systems; Japanese and Palauan, on the other hand, display person oriented systems. Both Latin and Turkish have also been classed (cf. Lyons 1977) as person oriented systems, though Frei (1944) disputes this for Latin, and Bastuji (1976) disputes this for Turkish. Frei also cites Old Church Slavonic *sy*, *ty*, and *ony* as a person oriented deictic system.

2.1.3.1 *Distance oriented three-term systems.* Spanish distinguishes three demonstrative adjectives/pronouns as follows (masculine singular forms): *este*, *ese*, *aquel*. The basic semantic distinctions among them seem basically to be ones of relative distance from the *Sp*, with *este* referring to items which are close, *ese* to items farther away, and *aquel* to items which are rather remote, clearly less present to *Sp* and *Adr* than items marked with *ese*.

Southern Sotho (cf. Doke and Mofokeng 1967) exhibits a more elaborate system, but one which employs the same basic three-way contrast as Spanish. Again, there are three basic demonstrative categories in any given circumstance. The first indicates something close to the speaker, the second something rather farther away (but not noted by the authors as specifically close to *Adr*), and the third something quite far from both, but generally still visible nonetheless. It is perhaps notable

that the second form is also used to refer to things previously mentioned, and also as the anaphoric element in relative clauses (e.g. *motho eo ke-mo-tsebang* 'The person I know, lit. person that I-him-know').

Southern Sotho nouns come in 13 classes distinguished by the form of a noun class prefix. The first 12 classes can be arranged into six singular/plural pairs; the thirteenth class is that of abstract nouns, with no corresponding plural class. For each prefix there is a demonstrative base or root: three different demonstrative adjectives or pronouns in each case are formed by adding a suffix to the appropriate root. There are thus actually $3 \times 13 = 39$ actual demonstrative forms. In fact, each demonstrative also has a regularly constructed emphatic form, yielding a total of 78 different demonstrative adjectives/pronouns. Without indicating the morphological segmentation, we give the forms for classes 7 and 8 (where 8 is the plural class corresponding to 7) in Table 5.5.

Table 5.5 *Southern Sotho demonstrative adjectives/pronouns classes 7 and 8*

	Class 7 (singular)	Class 8 (plural)
near speaker		
unemphatic	seē	tseē
emphatic	sena	tsena
farther		
unemphatic	seō	tseō
emphatic	seno	tseno
quite far		
unemphatic	sanē	tsanē
emphatic	sela	tsela

We note that the demonstrative bases (e.g. *se-* and *tse-* above) are identical to the relativization concord element on verbs (i.e. to the 'relative pronoun').

That it is not proximity to the addressee which is relevant in contrasting the second and third terms of this system is suggested by the fact that when contrasting two objects, any series may be contrasted with any other in terms of their *relative* distance from the *Sp*, without necessary consistency in the real-world locations of the objects involved. Also, as noted above, the unemphatic second-series forms are commonly used as previous reference markers, again without dependence on real-world location.

The three-way distinction in the demonstrative adjectives/pronouns is paralleled by a three-way distinction in locative particles/adverbs:

(22)

near speaker	
unemphatic	*emphatic*
moõ	mona
farther	
unemphatic	*emphatic*
moõ	monõ
quite far	
unemphatic	*emphatic*
manẽ	mola

Finally, we may note that Southern Sotho also admits of a two-way distinction in manner adverbs: *jõana* 'thus, in this manner' vs. *jõalo* 'thus, in that manner'.

In fact, it is not necessary to go beyond English to attest a three-term distance oriented system. In Scottish dialects, as in earlier stages of the standard language, the form *yon* and its derivatives are distinguished from *this* and *that* in what seems to be a straightforward distance oriented system. The demonstrative differences are of course paralleled by similar ones in the locative adverbs: *yonder* vs. *here* and *there*.

2.1.3.2 *Person oriented three-term systems.* In clear contrast to the distance orientation of the systems we have just considered, we can recall the Palauan demonstrative system cited above, whose 'middle term' refers explicitly to proximity to the *Adr*. The deictic demonstratives of Japanese also show an orientation to the category of person. The three demonstrative adjectives of Japanese are (a) *kono*, which indicates 'near *Sp*'; (b) *ano*, which indicates 'far from both *Sp* and *Adr*'; and (c) *sono*, used for objects near to the *Adr* (or at least easily identifiable by the *Adr*). We note that – as adjectives – these demonstratives are unlike other adjectives in Japanese in that they do not distinguish past and non-past tenses.

Corresponding to the three-way distinction in the demonstrative adjectives (or specifiers) we find a morphologically related series of three demonstrative pronouns: (a) *kore* 'this (near *Sp*)'; (b) *are* 'that (distant from both *Sp* and *Adr*)'; and (c) *sore* 'that (near to *Adr*)'. The locative adverb series also shows the same three-way distinction, although the morphological pattern is not quite so neat: (a) *koko* 'here (near *Sp*)'; (b) *asoko* 'there (distant)'; and (c) *soko* 'there (near *Adr*)'. Consistently then, the 'middle-distance' or *so-* forms indicate a location near to the *Adr*, rather than simply an intermediate distance between the *ko-* and the *a(so)-* forms. The only exception to this general

principle is that in discourse, when referring to previously mentioned things anaphorically, the *sono* series is used.

2.1.3.3 *Other three-term systems.* Virtually all of the demonstrative systems known to us that employ three terms disperse them along a single dimension in the ways just illustrated. In some cases, it is difficult to assign a particular system to one or the other of 'person oriented' and 'distance oriented' systems, however. Turkish, for instance, makes a three-way distinction among *bu*, *şu*, and *o*. These may function as demonstrative pronouns or adjectives, with *o* serving in addition as the ordinary third person pronoun. Each may be suffixed by *-ra* to yield one of the corresponding demonstrative adverbs: *bura*, *şura*, and *ora*. Of these three, *bu* (and its derivatives) clearly pertains to the (physical or mental) space of the *Sp*. *O* equally clearly refers to things which are remote from both *Sp* and *Adr*, and is the form used for marking something which has been previously mentioned in the discourse.

The use of *şu* and its derivatives, however, is somewhat more problematic. Lyons (1977) identifies this with 'close to *Adr*'. It appears that historically Turkish had a basic two-term system (*bu* and *ol*), each member of which had a more emphatic form built with a prefix *ş* (i.e., *şu* and *şol*). The form *şol* has since died out.

Bastuji (1976) argues that currently the form *şu* is still in fact an expressive variant of *bu*, but that it does express some addressee-orientation in direct address such as imperatives:

(23) Bakın şu avuç-lar-ım-a!
look at these hand-PL-my
'Look at my hands!'

Arguably the speaker's hands are closer to the *Sp* than to the *Adr*, and the effect of *şu* here would be in some way to reinforce the attention drawn to the *Adr*. It appears, then, that *şu* is not purely and simply a demonstrative meaning 'near *Adr*' (as opposed to 'near *Sp*'): in certain contexts it does pertain to things in the (physical or psychological) space of both *Adr* and *Sp*, and there serves in some way to emphasize reference to the *Adr*.

In at least one case, a system employing three terms does so as a variant of a basically two-term system. In Nama Hottentot the demonstrative system basically opposes *nee* 'this' and *//nāá* 'that', with the former used for persons or things actually near the *Sp*, and the latter for items that are not. The term *//nāá*, however, can only be used in

relatively neutral deictic settings, and in particular, it cannot be used to make an overt contrast with *nee*. When it is desired to say, for example, this one *and that one*, the distal demonstrative used is the form *náú*. This latter form is only used for contrastive purposes, and in fact can be used to contrast *either* with *nee* or with *//nāá*:

(24) a. nee kxòep tsíí náú kxòep
this man and that man
'this man and that one'

b. //nāá kxòep tsíí náú kxòep
that man and that (other) man
'that man and that other one'

This use of a specifically contrastive category in the Nama Hottentot deictic system is reminiscent of the proximate/obviative or 'fourth person' systems of Algonquian and Navajo cited above in section 1.0.

2.1.4 *Systems with more than three terms*

Under the category of person above (section 1.0) we have already discussed one system with more than three terms, the Algonquian obviation system. It is not clear, however, that this is a genuine instance in which the basic dimension of spatial deixis (proximity to *Sp*) is extended to a fourth value parallel to the first three. It has sometimes been noted, however, that there are languages that utilize more than three points along this dimension. Frei (1944) cites Tlingit, Welsh, and Breton as examples of systems with four terms.

In the case of Tlingit, Story and Naish (1973) make it clear that the system of demonstrative adjectives/pronouns makes a four-way distinction of the type we have characterized as distance oriented above. Thus, *yáa* 'this (one) right here' is clearly 'close to *Sp*'; *héi* 'this (one) nearby' is characterized by moderate distance from *Sp* without reference to the *Adr*; *wée* 'that (one) over there' is again not identified by the location of the *Adr*; and *yóo* 'that (one) far off (in space or time)', the fourth term, is simply remote from the speech situation. Tlingit also displays a fourth person inflectional form in its verbal system, but this seems primarily to be used impersonally (similar, as one might expect, to one important use of fourth person forms in the Athabaskan languages), and has no apparent connection with the four terms of the deictic system.

Contrary to what is suggested by Frei (1944), we can find no significant evidence for a four-term deictic system in Welsh or Breton. Breton, for example, distinguishes three degrees of proximity in a distance oriented system by demonstrative suffixes:

(25) a. e-r plas-mañ
in-ART place-this
'in this place'

b. e-n dez-se
on-ART day-that
'on that day'

c. e-r coat-hont
in-ART woods-yon
'in yonder wood'

It is interesting to note, from a formal perspective, that these demonstrative elements are final in their noun phrase, while the articles appear in noun-phrase initial position; this situation is quite uncommon, since articles and demonstratives generally have a great deal in common formally. In any event, each of the three demonstrative categories has a corresponding pronoun (*hemañ*, *hennezh*, and *henhont*, for the masculine singular forms) and a locative adverb. The fourth term given for this system by Frei, *eno*, does not appear to exist in any of the modern dialects as a distinct deictic category. In Welsh as well, the supposed fourth term of the system seems to be represented simply by a variant form with deictic properties similar to one of the others; Welsh (and Breton) can be said to have inherited a complex set of deictic elements based on multiple roots with various etymologies, but apparently the wealth of available forms have not been synthesized into a single system with more than three members along the same dimension.

A language that does exemplify a four-term system, however, is Sre (a Montagnard language spoken in Vietnam; cf. Manley (1972) for a description). This system appears to contrast with the Tlingit one in that it is person, rather than distance oriented. The four demonstrative pronouns are: (a) *dɔ* 'near *Sp*'; (b) *dɛn/gɛn* 'near hearer'; (c) *nɛ* '*Sp* and *Adr* are together; object is not close to them'; and (d) *hə?* 'remote, out of sight (either spatially or temporally)'. In addition to these terms, there is another element *da?*, used solely as the second (farther) element of a contrast. When contrasted with *da?*, *dɔ* simply designates the relatively closer of the objects contrasted, without commitment as to spatial location relative to the participants in the speech situation. This element *da?*, used only for contrast, is thus similar to the 'third term' of the Nama Hottentot system discussed above.

We can also note that, unlike the case in most systems, where the intermediate term of the deictic series is often a general anaphoric element, in Sre it is the most distant demonstrative, *hə?*, which often

functions as a definite article (or rather, as a previous reference marker: 'the one we have been talking about').

Both Tlingit and Sre augment the basic three-term system by a fourth term indicating increased remoteness from the speech situation. This case is actually quite similar to that of languages which simply recognize an additional dimension, that of visibility: such languages will be discussed below, and Tlingit and Sre could perhaps be regarded as cases in which this additional dimension is limited in relevance to a single term. Other four-term systems, however, do not seem to be similarly reducible. In Quileute (cf. Andrade 1933), for example, the set of demonstratives referring to visible locations is as follows:

(26) a. χo´ʔo 'near speaker'
b. so´ʔo 'near addressee'
c. sa´ʔa 'at a comparatively short distance from both'
d. á:ča?a 'at a long distance'

Apparently these four terms make use of the dimension of distance from *Sp* and *Adr* in a somewhat different way from the Tlingit and Sre systems, since the 'extra' term of the set denotes something which is (roughly) equidistant from both, rather than something remote or invisible from the speech situation.

For completeness' sake, we note that in addition to these elements, Quileute also has a set of three demonstratives used for invisible objects – one for an object nearby and indefinite in extension; one for objects whose location is known; and one for objects whose location is unknown. This set of elements is apparently quite orthogonal to those the language deploys along the basic deictic dimension of distance from *Sp* and *Adr*, and falls properly among the systems considered below in section 2.2.

Another language which has been said to have a four-way contrast of the sort illustrated by Quileute is CiBemba. Actually, however, Welmers (1973:286f) observes that this language has a *five*-way contrast along the basic deictic dimension:

(27) a. ú-nó 'this (immediately adjacent to or on the *Sp*)'
b. ù-yú 'this (nearer the *Sp* than the *Adr*)'
c. ù-yóò 'this (equally near or relevant to both)'
d. ù-yó 'that (immediately adjacent to or on the *Adr*)'
e. ù-lyà 'that (away from both)'

Systems with more than five terms along the basic deictic dimension are exceedingly rare. We will note one such system below, that of Malagasy, the only one with which we are familiar.

2.2 *Systems with more than one dimension of contrast*

The systems we have considered up to this point have all made deictic contrasts along a single dimension, that of distance from *Sp*. This is of course both the most familiar and the most common state of affairs in deictic systems, but in some parts of the world additional dimensions of contrast are integrated into the same system, leading to substantially richer inventories of categories.

One additional dimension, employed by a few languages, is that of new information vs. previously mentioned items. Hausa, for example (cf. Welmers 1973:287) distinguishes only two degrees of distance along the primary dimension of distance from *Sp*, similar to Modern English. Within each of these categories, however (in addition to a possible gender contrast), the item referred to is marked for whether or not it has been previously mentioned:

(28) a. wánnàn 'this (new)'
b. wáncàn 'that (new)'
c. wànnán 'the one previously mentioned'
d. wàncán 'that other (mentioned) one'

The forms given here are masculine ones; as noted, parallel ones exist for referring to feminine nouns.

We have seen above, in connection with systems such as that of Nama Hottentot, that it is possible to introduce additional terms into a deictic system which are distinctively used for contrastive purposes. In Woleaian (cf. Sohn 1975), this parameter is apparently used as an additional dimension superimposed on the basic spatial one. In this language, the basic terms of the demonstrative system are (a) *ye* 'this (near *Sp*)', (b) *mwu* 'that (near *Adr*)', (c) *la* 'that (nearer *Adr* or away from both)', and (d) *we* 'that (unseen but in minds of *Sp* and *Adr*)'. An additional suffix, *-iy*, marks items which the *Sp* is inside of at the time of the utterance. Both *mwu* and *la* in this system have the meaning of 'near *Adr*'. However, each of these demonstratives can be suffixed with *-l*, in which case they are taken as specifying contrastive location (in comparison to some other possible referent, as when pointing out one member of a group). In the set of these contrastive demonstratives, *mwuul* has only the sense of 'near *Adr*', while *laal* has only the sense of 'away from both *Sp* and *Adr*'.

The added dimensions we have just considered have not been directly related to physical location or position relative to the speech situation, but rather to other discourse factors (previous mention and contrast). Another additional dimension, common in a number of languages in

diverse parts of the world, is a contrast in terms of whether or not the object in question is visible to the *Sp*. A language in which this contrast plays a significant role is Kwakwa'la (cf. Boas 1947). In this language every noun phrase is overtly marked for its deictic status in a rather complex way: the marking appears both in the form of a preceding determiner element (generally postclitic on whatever comes before in the sentence) and in the form of a following suffix (postclitic on the first full word of the noun phrase). Not all categories of the system have distinct prenominal determiners in all environments, nor do they all have distinct postnominal suffixes in all cases, but the combination of prefix and suffix gives a unique interpretation to the deictic status of virtually all noun phrases in the language.

Since our interest here is with the set of categories the language recognizes, rather than with the formal mechanics by which these categories are marked, we will not illustrate the marking of full noun phrases in Kwakwa'la. The same categories are also reflected in the set of demonstrative pronouns used as anaphoric substitutes for full noun phrases, which appear as clitics on the preceding sentence element. These pronouns encode not only deictic status (obligatorily; there is no neutral third person form unmarked for deixis) but also grammatical category in a system distinguishing subject forms from 'object' and 'instrumental' forms.

The basis of the system is a three-term contrast along the primary dimension of distance from *Sp*, of the type we have called 'person oriented'. Superimposed on this distinction is the additional one of visibility to the *Sp*, resulting in a set of six terms. We give these pronominal demonstratives below (in a transcription slightly different from Boas'):

(29)

Demonstrative of	Subject	Object	Instrumental
1st person, visible	-k	-qək-	-sək
1st person, invisible	-gaʔ	-xgaʔ	-sgaʔ
2nd person, visible	-uxw	-qw	-suxw
2nd person, invisible	-uʔ	-quʔ	-suʔ
3rd person, visible	-iq	-q	-s
3rd person, invisible	-iʔ	-qi(ʔ)	-si(ʔ)

As will be evident from this chart, the category of invisibility is generally marked by a suffixed [ʔ], confirming its status as a dimension orthogonal to the primary one of distance from *Sp*. In addition to these six categories, Boas (1947) reports that the Bella Bella (or Heiltsukw) dialect adds a seventh: that of 'something that was in view but is no longer in view'.

The category of visibility is not by any means the only additional physical dimension that can be superimposed on a deictic system, however. A number of languages of New Guinea, as well as some in Australia, make use of a dimension of height relative to the *Sp*. In Daga (cf. Murane 1974), for example, there is a series of fourteen basic demonstrative elements:

(30)

oea	'overhead'	ea	'underneath'	ata	'same level'
ao	'up, high'	ae	'down, low'	ase	'same level, far'
uta	'higher (near)'	ita	'lower (near)'	ma	'near *Sp*, this'
utu	'higher (far)'	isi	'lower (far)'	ame	'near *Adr*, that'
use	'higher (remote)'	ise	'lower (remote)'		

There are a number of ways we might organize this system in terms of deictic dimensions, but clearly the first two columns of (30), together with the first two elements in the third column, contrast on a dimension 'above *Sp*' vs. 'below *Sp*' vs. 'same level as *Sp*'. The elements *uta/utu/use* and *ita/ita/isi/ise* contrast on a distance oriented three-term basic dimension, while *ma* vs. *ame* appears to represent a person oriented contrast in terms unmarked for relative height.

In addition to the basic contrasts represented in (30), Daga also indicates several other deictic dimensions: (a) the suffix *-p(a)/-pe* can be added to any of the terms in (30) to mark non-visibility; (b) the suffix *-t/-m* can be added to any term except *ame* to mark visibility explicitly; (c) the suffix *-na* can be added to any term in (30) to mark vague or approximate location; (d) the suffix *-i(si)ra* can be added to some of these terms to indicate direction toward; and (e) the suffix *-me(pe)* can be added to one of the terms in (30) to mark previous mention of an object, creating a deictically specified anaphoric demonstrative pronoun.

Orientation by height with respect to the *Sp* is attested in several languages, not all of them in New Guinea. Abkhaz, for example (cf. Dumézil 1975), is a language close related to Abaza. One difference between them, however, is that Abkhaz supplements the Abaza verbal particles for 'hither' vs. 'thither' (considered above in section 2) with two others for 'upward' vs. 'downward'. Height is not the only possible dimension of this sort, however. Some languages also instantiate a deictic contrast based on geographical or environmental features. In Dyirbal (cf. Dixon 1972), we find a complex system of deictic markers which appear suffixed to noun markers (or determiners). One set of these marks a contrast of height relative to the speaker (as in Daga):

(31) gali 'down (vertically)'
gala 'up (vertically)'
galu 'straight in front (with reference to the way *Sp* faces)'

Another set of markers, however, indicates a rather different sort of contrast:

(32)

baydi	'short distance downhill'	dayi	'short distance uphill'
bayda	'medium distance downhill'	daya	'medium distance uphill'
baydu	'long distance downhill'	dayu	'long distance uphill'
balbala	'medium distance downriver'	dawala	'medium distance upriver'
balbulu	'long distance downriver'	dawulu	'long distance upriver'

guya 'across the river'
bawal 'long way (in any direction)'

In this system there is a contrast of 'river' vs. 'hill'. According to Dixon, the former refers to water-features in general, and the latter to 'cliff', 'tree', etc. Within each series (in both (31) and (32)) we can distinguish three formal categories, marked by *-i/-a/-u*. It appears that the function of this distinction in (31) is rather different from its function in (32). We can regard this contrast as, in general, 'short distance' vs. 'middle distance' vs. 'long distance' (with expression for 'down' corresponding to 'short distance', 'up' to 'middle distance', and 'straight ahead' to 'long distance'). As Dixon (1972:263) points out, 'we can only see a short distance down (to the ground); a fair distance up; and a longer distance straight ahead'. He supports this suggestion with forms in a related language, possibly cognate with those in (31) but signaling simply a 'here'/'there'/'yonder' contrast.

We now provide a summary of the deictic system of Malagasy, which is a particularly rich one. We consider first the system of locative adverbs, as they display the greatest amount of structure among the language's spatial deictics. There is a series of seven deictics distinguished along the primary spatial dimension of distance from the *Sp*:

(33) Close to speaker ⟵ Increasingly far from speaker ⟶

ety eto (eo) etsy eny eroa ery

The element *eo* is included in parentheses since it has taken on a specialized meaning of 'inside of'.

These deictics not only function as locative adverbs, as in (34a), but also obligatorily accompany full noun phrases used to specify a location, as in (34b). They may also be used as predicates, as in (34c):

(34) a. Mipetraka eto Rakoto
sit (=live) here Rakoto
'Rakoto lives here (or is sitting here)'

b. Mipetraka eto Antsirabe Rakoto
live here Antsirabe Rakoto
'Rakoto lives (here) in Antsirabe'

c. Mbola tsy eto Rakoto
still not here Rakoto
'Rakoto is still not here'

In addition to marking seven degrees of relative distance from the *Sp*, the Malagasy locatives may also be inflected for 'non-visible' and for tense. To form the non-visible series, the initial *e-* in the series above is replaced by *a-*. Thus, note the difference in meaning between (35a) and (35b):

(35) a. Mipetraka eny Antsirabe Rakoto
live there Antsirabe Rakoto
'Rakoto lives (there) in Antsirabe'
(*Sp* can see Antsirabe, which is not far away)

b. Mipetraka any Antsirabe Rakoto
live there Antsirabe Rakoto
'Rakoto lives (there) in Antsirabe'
(*Sp* does not see Antsirabe; it is not too far away)

Each of the visible or invisible deictics above may also take an initial *t-* indicating that the object referred to was at the distance indicated in the past; the forms we have given thus far have been present tense forms. Future tense is formed by the use of a prefix *ho-*. Consider the following contrasts:

(36) a. N-andeha t-any Antsirabe Rakoto
PAST-go PAST-there Antsirabe Rakoto
'Rakoto went to Antsirabe'

b. M-andeha any Antsirabe Rakoto
PRES-go there Antsirabe Rakoto
'Rakoto is going to Antsirabe'

(37) a. N-ipetraka t-any Antsirabe Rakoto
PAST-live PAST-there Antsirabe Rakoto
'Rakoto lived in Antsirabe'

b. M-ipetraka any Antsirabe Rakoto
PRES-live there Antsirabe Rakoto
'Rakoto lives in Antsirabe'

c. H-ipetraka ho-any Antsirabe Rakoto
FUT-live FUT-there Antsirabe Rakoto
'Rakoto will live in Antsirabe'

The demonstrative adjective/pronoun system also marks six (but not seven) degrees of distance from the *Sp*, as follows:

(38) Near *Sp* — Increasingly far from *Sp*

ity io itsy iny iroa iry

These forms do not, however, inflect for the distinction between visible and invisible, or for tense. They do, however, incorporate a number distinction. Thus, to form the plural correspondents of (38), the infix *-re-* is inserted after the initial *i-* of the demonstrative. Interestingly, this plural marker is the same one that distinguishes singular *ianao* 'you' from plural *ianareo* 'you'; and other than the number difference in the first person pronoun *izahay* 'we (exclusive)' and *itsika* 'we (inclusive)', number is not marked morphologically anywhere else in the language.

Formally, it is worth noting that the demonstrative adjectives are normally constructed so as to frame the nouns they modify:

(39) a. ity trano fotsy ity
this house white this
'this white house'

b. iny tranon-dRakoto iny
that house-(of)Rakoto that
'that house of Rakoto's'

While the demonstrative adjectives do not productively inflect for the distinction between visible and non-visible shown in the locative adverbs, many of the forms do take a *-za-* infix in the same position as the plural *-re-* infix. This yields forms like *izao*, *izany*, etc., which are most naturally used for objects which are not in fact visible at the moment of speaking. They are also commonly used as pronominal forms referring to events or states, as the demonstrative pronoun *that* in *Mary's sick – That's too bad.*

Finally, we may note that despite the extensive system of spatial deictics, Malagasy possesses a definite article *ny*. This element is comparable in function to English *the*, though it is also used actively to form nominalizations of verb phrases, adjective phrases, and even adverbs such as the locative ones. Thus, *ny mbola tsy tonga* 'the still not come' would be used naturally to mean 'the one(s) who had not yet arrived', and *ny eto* 'the here' would be used to mean 'the one(s) who is/are here'. Moreover, in addition to the definite article *ny*, Malagasy also possesses a previous reference marker *ilay*, whose initial *i-* suggests some relation with the demonstratives, but which is in fact normally used to refer to some object whose existence has been previously established in the discourse or to an object previously acknowledged by the *Sp* or *Adr* in the extralinguistic context of the discourse. If this element is construed as a demonstrative, then, it is neutral with respect to most of the dimensions of the Malagasy deictic system.

We close this section with a brief sketch of the spatial demonstrative system of Eskimo, reputedly the world's most exuberant development of this aspect of linguistic structure. An initial dimension organizing this system is described in various references as 'extended' (indicating either large expanses of land or water, or objects that are lengthy or moving), vs. 'restricted' (indicating objects that are stationary, or moving within a confined area, and fairly small in extent, relatively near, and visible), vs. 'obscured' (indicating objects that are farther away and not clearly in sight). Based on this primary opposition, we give in Table 5.6 the set of demonstratives described by Reed *et al.* (1977), for the Alaskan Yup'ik dialect.

Table 5.6 *Alaskan Yup'ik Eskimo demonstrative pronouns*

Extended	Restricted	Obscured	
man'a	una		'this (near speaker)'
tamana	tauna		'that (near listener)'
		imna	'the aforementioned one'
ukna			'the one approaching speaker'
aŭgna	ingna	amna	'the one going away from speaker'
agna	ikna	akemna	'the one across there'
qaŭgna	kiŭgna	qamna	'the one inland, inside, upriver'
qagna	keggna	qakemna	'the one outside'
un'a	kan'a	camna	'the one below, toward river'
unegna	ugna	cakemna	'the one downriver, by the exit'
paŭgna	pingna	pamna	'the one up there, away from river'
pagna	pikna	pakemna	'the one up above'

Some of these elements have other specialized meanings; some other specialized meanings that have been reported for other dialects (e.g. 'the one to the right (or left) of *Sp*', 'the one to the north (south, east, west) of *Sp*') are not cited for Alaskan Yup'ik, but are apparently quite consistent with a system of this sort. There are, in addition, a number of suffixes which can be added to the deictic elements in Table 5.6, yielding even more specific and precise locational information.

3.0 Temporal deixis

While the representation of spatially deictic notions in language often forms a highly structured, complex system at the heart of the grammar, deictic notions of time do not generally have the same degree of

centrality. We therefore provide only a very brief sketch below of some of the ways in which temporal reference is structured. We begin by noting the nature of the linguistic representation of temporal concepts, and proceed to mention the areas of grammar in which they are realized.

3.1 *The character of temporal units and relations*

The following discussion is based rather directly on Fillmore (1975), to which we refer the interested reader for much more detailed treatment of the relevant notions.

Time is generally thought of as a unidirectional stream, such that any two events can be uniquely and necessarily related by their ordering along a single dimension. One event is either *earlier*, *simultaneous with*, or *later* than another, and of course many references to temporal relations are explicitly in these terms. In other instances, however, the dimension of time is conceptualized as analogous to a spatial one, and we may say that an event is *ahead of* or *behind* another in time.

Basically, there are two distinct ways of representing the passage of time (and therewith the relations between events differing in time): one may either think of 'the world' as constant, and of time as flowing past it from the future into the past; or one may think of time itself as constant, and of 'the world' as passing through it from the past into the future. In the terms of the first metaphor, we may speak of 'the coming' week, as opposed to the weeks 'gone by'; in the terms of the 'moving world' metaphor, on the other hand, we may speak of 'the week ahead'. In obvious ways, we may speak of one time as 'near' to another, or of events as 'far apart' in time as well as in space. These spatial metaphors are quite frequently the basis, in rather direct ways, of temporal references in natural languages.

Among expressions referring to temporal elements, we can distinguish between those that concern time points (like 'twelve o'clock') and time periods (like 'this afternoon'). The latter, of course, can be uniquely specified in terms of their beginning and ending points. Furthermore, time periods can be divided into those that designate simply a fixed length of time, and those that are fixed by reference to some recurring cycle of fixed points. 'December', for example, is such a calendric unit, while 'a fortnight' seems to have only a non-calendric use.

Of course, in addition to reference to points or intervals of time, seen from 'outside' the temporal dimension itself, we also must recognize what is perhaps the most important and pervasive distinction in temporal reference: that separating the present, the past, and the future. It is this distinction that is essentially deictic, and the deictic character of other temporal terms derives from their reference to it.

3.2 *The formal representation of temporal deixis*

Temporal reference appears in grammar in three distinct ways, though only two of these are generally developed. The first, and least common realization of time distinctions, is in terms of a demonstrative system similar to that found in most languages for spatial deixis. Secondly, languages generally make deictic time distinctions in the verbal category of tense; and thirdly, of course, all languages have (varying numbers of) lexical items that are to some extent deictic in their temporal character.

3.2.1 *Temporal demonstratives*

Similar to such locational adverbs as 'here' and 'there', languages quite generally have such temporal adverbs as 'now' and 'then': the former referring to 'proximal' time, and the latter to 'distal' time. In English, this can be either in the past or in the future: the question of whether there are languages with a three-term system of temporal adverbs, distinguishing 'now' from 'then-past' and 'then-future' is difficult to resolve without a clearer conception of the difference between purely lexical distinctions (in which these contrasts are of course quite common) and grammaticized ones.

Most languages, however, do not have a system of temporal demonstrative adjectives parallel to (but distinct from) the spatial demonstratives ('this', 'that', etc.). Quite typically, the spatial expressions are imported directly into the temporal domain by means of the metaphorical representation of time as a spatial dimension referred to above: this is the case when we say 'This week, I'm not working' or 'I didn't go home that evening'. Sometimes, the reference involved can be clearly understood by means either of the 'moving time' or the 'moving world' metaphors. For instance, in Woleaian (cf. Sohn 1975), the demonstratives *tog* 'hither, to the *Sp*' and *lag* 'thither, away from the *Sp*' are employed in temporal expressions. A form such as *rag ye tog* 'next year' is thus literally 'the year (coming) hence', and *rag ye lag* 'last year' is literally 'the year (going) away': a clear use of the 'moving time' metaphor.

In the great majority of cases, the system of spatial demonstratives is imported into the temporal domain without any particular modification. An especially direct example is furnished by the deictic demonstratives of Wik-Munkan (cf. Sayers and Kerr 1964). Here, a set of elements is constructed along three orthogonal dimensions. The first of these is a basic three-term, distance oriented system of the sort we have seen in a

number of cases above. Superimposed on this is a further dimension, distinguishing points from intervals at each of the three degrees of distance from *Sp*. Finally, to a base composed of elements marking each of the first two dimensions, one adds a suffix indicating either (a) direction (*-pal*); (b) location in a time-dependent fashion: that is, location at some fixed point in time (*-ngul*); or (c) time-independent location (*-man*). The distinction between these two latter categories is not entirely clear from the available description, but is not central to our point here.

The important feature of this system is that it is applicable equally to point/interval locations in space and in time, relative to the location of the *Sp*. Compare the examples in Table 5.7.

Table 5.7 *Wik-Munkan demonstratives*

Form	Spatial sense	Temporal sense
inman	right here	right now, today
inpal	from here	from now
anpal	from there (distant)	from then (on)
anman	around there	around now
nanpal	from there (near)	from then (recent)
nanman	there (close), that place	now (general), any near time

Some of these terms have apparently acquired special meanings so that the spatial and temporal senses are not always mutually predictable, but by and large the isomorphism between deictic notions in the two domains is maintained.

In these (and indeed in most) systems, the spatial basis of the temporal deictic forms is quite apparent. It is much less common for a language to employ demonstratives with specialized temporal senses that are not (in any obvious way) based on the metaphor of time as space. The only systems we are aware of with specialized temporal demonstratives are found in languages of the Micronesian family, and even here it is usually a set of spatial demonstratives which are employed. In Mokilese (cf. Harrison 1976) for example, we find a three-term, person oriented system of spatial demonstratives (with some additional dimensions, which need not concern us here). From this system, the basic element *-e* 'this; near *Sp*' is employed with time words exclusively to mark future time (e.g. *wihkke lakapw* 'next week (lit. week-future tomorrow)'); the element *-oawe* 'that; near *Adr*' exclusively to mark the present (e.g. *wihkkoawe* 'this week'); and the element *-o* 'that; distant' to mark the past (e.g. *wihkko aio* 'last week (lit. week-past yesterday)').

There is no particularly direct basis for the notion that the future is

near to the *Sp*, the present near to the *Adr*, and the past near to neither (at least as far as the standard spatial metaphor for time is concerned), and it appears that these elements (a relatively small subset of the entire demonstrative system; the others have no temporal uses) have become specialized as a set of time deictics. It is also important to distinguish this state of affairs from that seen above in section 2.2 for Malagasy. In that language, spatial deictics agree with the time of the action, and thus include a temporal parameter; but this usage is primarily a matter of an *agreement* category (in the sense of chapter III:3) marked on a basically spatial element, rather than an *inherent* category of temporal deixis. Mokilese, by contrast, marks time as the primary content of a (sub)set of its demonstratives, rather than by agreement with the tense of the main verb or the like.

Other Micronesian languages have slightly different systems of the same basic sort. In Kusaiean (cf. Lee 1975), there is a basic system of four demonstratives: *uh* 'this (near *Sp*)'; *an* 'that (near *Adr*)'; *oh* 'that (distant)'; and *ah* 'that (previously mentioned, regardless of location)'. Of these, it is *ah* ('previously mentioned') that is specialized with time words to indicate the past; *an* ('near *Adr*') that indicates the future; and *uh* ('near *Sp*') either the present or the future (i.e., non-past). The element *oh* ('distant') has no temporal use. If this system is based on a spatial metaphor, it is clearly a different one from that functioning in Mokilese.

Finally, in Trukese (representing yet another distinct subgroup from Mokilese and Kusaiean within the Micronesian family) we find yet another system, involving some elements which are apparently used only with temporal sense. According to the description given by Dyen (1965), Trukese has a basic four-term spatial demonstrative system: *jeej* 'this (near *Sp*)'; *na* 'that (near *Adr* or previously mentioned)'; *naan* 'that (distant)'; and *joob* 'that (out of sight, but known to exist)'. In addition to these, however, there are two further elements: *jewe* 'that (past)', and *jeen* 'that (future; something which is to be seen, taken, etc.)'. These latter elements are not limited in their use to time words proper, but rather indicate that the referent of their associated noun phrase (whatever it is) has its existence (or at least its discourse-interest) primarily in the past or the future, rather than in the immediate present context of the speech event.

These are the only instances of which we are aware in which deictic elements indicate inherent categories of temporal reference, other than by the extension of a transparently spatial metaphor. We pass on now to areas of the grammar in which temporal reference is rather more common.

3.2.2 *The category of tense*

Of course, most languages represent an inherent category of temporal reference whose interpretation is necessarily deictic, in the notion of tense. The most basic indication of this sort is by reference to the time of the speech event: the distinction of present, past, and future (or some combination of these categories, as in languages with a 'non-past' tense, like Japanese, or a 'non-future', like Lardil and a number of other Australian languages). Within this categorization, languages may make a number of further distinctions between relatively proximate and relatively distant times. It is rather less common to find inflectional categories referring to particular (rather than relative) times, but it is not unknown: the Australian language Tiwi (cf. Osborne 1974), for example, inflects verbs for whether the action referred to took (or will take, or is taking) place in the morning or in the evening. For more extended remarks on the category of tense, however, cf. chapter III:4 immediately preceding.

3.2.3 *Temporal deixis in the lexicon*

Most languages have at least a few words, such as English *home*, *come* and *go*, *foreign*, *local*, *indigenous*, etc., that incorporate spatial references that can only be interpreted (in general) by reference to extralinguistic features of the situation of an utterance. Less 'lexicalized' (and thus more 'grammaticized') elements such as *this* and *that*, *here* and *there*, however, probably carry the bulk of the burden of indicating deictic location. By contrast, as we have seen, most languages have little or no specialized grammatical apparatus (beyond a limited number of tense distinctions) for indicating deictic time, and thus the bulk of such reference is due to the properties of particular lexical items. Besides *now* and *then*, we have *today*, *yesterday*, and *tomorrow*; days of the week (as in *I'm going there Tuesday*) and other names for calendric units, and a host of others. Many languages display systems with richer sets of deictically anchored day names; Hausa, for instance, has distinct lexical items for naming not only one day in either direction from the present, but three in either direction; Chinantec is said (Fillmore 1975) to go four days in each direction. Some languages, on the other hand, make fewer (or different) distinctions than English: according to Welmers (1973) the major dialects of Igbo use a single form (*écí*) to indicate either 'tomorrow' or 'yesterday' (i.e. a time one day from the present in either direction). A full study of such possibilities for temporal deictic reference in lexical items, like the corresponding study for spatial deixis, would go well beyond the scope of this chapter. The basis for such a study (some of which is outlined by Fillmore 1975) is the classification of time references suggested above in section 3.0: we do not pursue it further here.

4.0 Relativized deixis

The essential characteristic of deictic expressions is that their semantic values depend on the real-world context in which they are uttered. But this may not be so when the sentence in which the deictic appears is itself embedded in more complex utterances. Recall our earlier example, repeated in (40):

(40) a. He was sick
b. Dan will say he was sick

The past tense in (40a) is (absolutely) deictic, in that it specifies a period of time prior to the time of the utterance. In (40b), however, this same sentence does not specify a time prior to the utterance, but rather one prior to the event 'Dan will say'. Since that event is itself future relative to the time of uttering (40b), the past tense element in the embedded clause may or may not be referring to a time prior to the utterance of the entire sentence. The time of 'He was sick' has been *relativized* to that of 'Dan will say'.

For a spatial example, consider (41) below:

(41) a. Dan is coming to the office now
b. Dan says he will come to the office tomorrow

In (41a), the usual interpretation of the verb *come* requires that Dan be on his way to the office, and that the *Sp* be there at the time of utterance. In (41b), however, while it is still required that Dan proceed to the office, the *Sp* need not be there himself when (41b) is uttered: rather, the most natural interpretation is that he *will* be there tomorrow when Dan arrives. As Fillmore (1966, 1975) has shown, the interpretation of *come* and *go* in English is actually extremely complicated, but one aspect of this complexity is the fact that the deictic locations implicit in these lexical items may be interpreted relative to the location of the *Sp* and *Adr* under some circumstances other than those of the utterance of the sentence itself.

The nature of this process of relativization, and the syntactic and discourse contexts which condition it, are highly complex and poorly understood even for a language as well studied as English: the literature in this area is generally a part of philosophy rather than of linguistics. *A fortiori*, we are not able to characterize the full range of possibilities

which may occur across languages here, and will have to content ourselves with merely illustrating a few of the types of relativized interpretation which languages exhibit and with respect to which languages may vary.

4.1 *Relativization of deixis in indirect discourse*

One of the most likely contexts across languages in which the interpretation of deictics may be relativized to that of other sentence elements is that of reported speech (and, by extension, in utterances reporting thoughts, beliefs, etc.). Compare, for example, the direct quote in (42a) with its report in (42b):

(42) a. 'I will go' Dan said
b. Dan said that he would go

The embedded sentence in (42b), *(that) he would go*, expresses the content of Dan's speech: that is, it expresses the information contained (explicitly) in the direct quote in (42a). To describe certain differences among languages in the interpretation of relativized deictics, it will be convenient to describe (in the terms of Jakobson 1957) the 'shift' from the use of the deictic elements in (42a) in comparison with their reported speech counterparts in the embedded sentence in (42b). For instance, in reported speech (in English), the first person singular pronoun shifts to a third person singular pronoun; and the future tense form *will* shifts to *would*. Note that, while *would* has many uses in English, one of the principal ones is to serve as a future relative to a past. In isolation, in fact, *He would go* is not a grammatical sentence. English thus has certain 'tense' forms which are distinctive to such relativized uses. The shifted form of *I* in (42b), namely *he*, is by contrast not a distinctively relativized form of the first person singular pronoun, since *he* occurs independently in simple sentences with a third person singular meaning (just the meaning it has in (42b) as well). Other languages, however, may differ from English in both of these respects.

In a number of West African languages, for example (e.g. Yoruba, a Kwa language; Kera, a Chadic language; and Aghem, a Grassfields Bantu language), the first person singular pronouns may shift to distinctive relativized forms, referred to in the literature as *logophoric* pronouns. Consider the following examples from Aghem (taken from Hyman 1979):

(43) a. Wìzín mɔ̀ dzɛ̀ ñí'á ò mɔ̀ bvù nò
woman PAST say that 3SG PAST fall
'The woman said that he/she(≠ the woman) fell'

b. Wìzín mɔ̀ dzɛ̀ ñí'á é mɔ̀ bvù nò
woman PAST say that she PAST fall
'The woman said that she(= the woman) fell'

The pronoun *é* in (43b) does not exist as a single main clause pronoun in the language synchronically (though historically it represents a third person singular object pronoun which was later displaced by the demonstrative pronoun *wín*). Its function in embedded clauses is to indicate essential coreference with a noun phrase in a higher clause. In distinction to English, then, the shifted form of first person singular pronouns in Aghem is a distinctively relativized form.

On the other hand, again in contrast with English, languages may *not* have distinctive shifted tense forms. Thus, compare (42) above with their translations into modern Hebrew:

(44) a. 'Ani elex' Dan amar
I go(FUT) Dan said
'"I will go" Dan said'
b. Dan amar she-hu yelex
Dan said that-he go(FUT)
'Dan said that he would go'

Clearly, the first person singular pronoun *ani* has shifted to a third person singular form *hu*, as in English, but otherwise the same future tense found in the direct quote is also used (subject to phonologically conditioned variation) in the reported speech of (44b). There is thus no distinctive form for the future relative to the past in Hebrew. Hebrew has only three tenses (present, past, and future), and in general we observe much less tense shifting than in English. For example, in simple 'if–then' sentences in English (and French, among others), if the 'then' clause is future, the 'if' clause is neutralized to present: cf. *if he comes I'll leave*. In Hebrew, by contrast, such sentences translate literally as 'if he will come I will leave'.

Our impression is that English shifts a great deal with regard to person and time deixis, whereas not uncommonly in other languages we find that the form of deictics used in direct quotes is carried over into reported speech (as was the case with future tense in the Hebrew example just considered). This is the case, for example, in Aghem (cf. Hyman 1979):

(45) Wìzín 'vú ndzɛ̀ à wín ñí'á é ŋgé 'lìghá wò
woman that say to him that she much like you
'The woman said to him that she liked him a lot'

Note that the use of the logophoric pronoun *é* would seem to force an indirect discourse interpretation; nonetheless the direct quote deictic form *wò* 'you' is used with intended coreference to *wín* 'him' in the main clause.

Similar facts can be attested from a number of unrelated languages, including Persian (cf. Rastorgueva 1964):

(46) Be šoma xäbär dad-ø ke be koja xab-äm räft
to you know gave-3SG that to where will-1SG go
'He informed you where he would go'

Kannada (cf. Bhat 1978):

(47) Nanage bahuma:na bandideyendu ra:ju tilisidda:ne
me to prize come has thus Raju informed has
'Raju has informed (me) that I have won a prize'
or 'Raju has informed (me) that he (= Raju) has won a prize'

and Navajo (cf. Akmajian and Anderson 1970):

(48) a. Jáan be?esdzą́ą́ ?áyói-yó?ní ńtéé? Bill hatsi?
John wife(3SG) 3SG-loves but Bill daughter(4SG)
?ayói-?ájó?ní **hałní**
4SG-loves said
'John loves his wife, but Bill told (someone else) that he (John) loves his (John's) daughter'

b. Jáan be?esdzą́ą́ ?áyói-yó?ní ńtéé? Bill ?éí nitsi?
John wife(3SG) 3SG-loves but Bill 4SG daughter(2SG)
?ayói-?íní? hałní
2SG-love said
'John loves his wife, but Bill told him (John) that he (John) loves his (John's) daughter'

In sentence (48a) above, the first clause is in the third person, but the coreferential deictics in the second clause are in the 'fourth' person by virtue of the Navajo obviation system (noted above in section 1.0), to keep them distinct from the third person forms referring to the main subject (Bill). Obviation thus serves as a systematic person shift, yielding unique forms similar in function to the Aghem logophoric pronouns (although this is not their only use, as we have already noted). In (48b), on the other hand, since the subject of the embedded clause in the second conjunct (as well as the coreferential possessive marker) is the same as the indirect object of the verb of saying, these forms are shifted into second person forms, rather than fourth (obviative). This

takes place despite the fact that the indirect object pronoun itself (*?éí*), with which they are coreferential, is a fourth person form.

These remarks have primarily been concerned with the systematic shifts in person marking elements that occur in embedded (particularly indirect discourse) contexts. We have also pointed to the fact that languages often have systematic principles shifting tense as well, however. Indeed, traditional grammars quite generally give rules for (at least some such) shifts of tense, under the heading of 'sequence of tense' rules. It is beyond the scope of the present chapter to survey such phenomena; for some further remarks on this topic see chapter III:4.

In general, then, it appears that person and time deictics in indirect discourse contexts may either shift or not, depending on the language, and if they do shift it may be either to independently existing forms of the same category or to special forms employed by the language particularly for relativized deixis. It must, of course, be emphasized that a serious and systematic survey of the range of possible deictic shifts and the contexts that govern them remains to be done.

4.2 *Relativization of spatial and time deictics*

Spatial deictics seem to behave rather differently from the person deictic elements considered in the previous section. In extended discourse (but not specifically in reported speech), the distal (= not close to *Sp*) spatial deictics may function to corefer with something already mentioned in the discourse, as in the following English examples:

(49) a. John just went to Chicago
b. (i) What's he going to do there (*here)?
(ii) That (*this) is an awfully windy city

Note that, as a response to (49a), the forms in (49b) with proximal demonstratives are only possible if the speaker is in fact presently in Chicago, so that the deictic can be interpreted absolutely. Only the distal demonstrative is possible if the interpretation is to be derived from the discourse, despite the discourse 'proximity' of the mention of 'Chicago'.

It is quite general that distal spatial deictics can be used in this anaphoric fashion, taking their reference relative to something specified in the discourse rather than absolutely from the circumstances of the speech act. Languages with more than one distal form may differ, however, in which is used most typically in this role. Some languages, furthermore, have distinct forms for such discourse-anaphoric deictics. An example is Woleaian (cf. Sohn 1975): in this language, in addition to

the basic three-term deictic system (with additional dimensions as well: cf. section 2.2 above), there are two additional elements *we* (singular) and *kawe* (plural) used for referring to previously mentioned elements or old information, without regard to actual location.

In contrast with person and temporal deictics, the relativization of spatial deictics is not general in English in reported speech.

(50) *Some student said that nobody liked that student

(50) cannot be interpreted with both instances of *student* referring to the same person, since it is not possible to use *that* in such a relativized deictic way. We can also recall the system of deictic verbal prefixes in Abaza cited above in section 2.0, where the impossibility of interpreting the 'hither' prefix with respect to the location of the action, as opposed to the present, absolute location of the *Sp*, was quite clear.

English spatial deictics, in fact, despite certain appearances to the contrary, do not appear to have shifted forms of any sort in reported speech. For example, (51b) cannot be used to report (51a):

(51) a. 'I'll put the book here/in this drawer', John said
b. John said that he would put the book there/in that drawer

In (51b), the reference of *there* or *in that drawer* must be understood either in terms of a location or a drawer present in the speech context of (51b) (that is, as absolutely deictic, similar to the only possible interpretation of (49b) with proximal demonstratives above). Otherwise, the reference of those terms is understood as anaphoric to some location or drawer presented in the previous discourse. If it were possible for *there* to serve as a shifted form of *here*, then (51b) would also have the meaning of 'John said he would put the book in the place he was indicating when he said "I'll put the book here" ' – a meaning the sentence does not in fact have.

The possibility of shifting or relativizing the reference of temporal deictic lexical elements is quite complex, and little studied. For some speakers, a sentence like (52b) cannot be used to report (52a):

(52) a. 'I'll do it tomorrow', John said
b. John said that he would do it the day after

For such speakers, it is not possible to interpret *the day after* (or *the next day*) in (52b) as meaning the day after John made the quoted utterance

in (52a). Other speakers, however, allow such relativization of temporal expressions. Some lexical items, such as French *le lendemain*, uniquely specify such a relative interpretation. Further, temporal expressions involving reference to positional terms generally allow or even require relative interpretation:

(53) a. 'I'm going to finish this paper on Friday', John said
b. John said that he would finish the paper on Friday
c. 'I'm going to finish the paper this Friday', John said
d. John said he would finish the paper this Friday
e. John said he would finish the paper that Friday

Sentence (53b) may be taken as a report of (53a), referring to a Friday determined by reference to the time of John's utterance (typically, the immediately following one). For some speakers, however, (53b) can also be used to report John's intention to finish the paper by a Friday determined with reference to the time of the speech act: quite possibly, a very different Friday. (53d), in contrast, has only this absolute interpretation, as we would expect since it contains a proximal demonstrative. It thus cannot be used to report (53c) unless the two speech acts occur within the same week. In (53e), finally, it is only the relativized interpretation that is available.

Clearly, the approach to these problems even in well-studied languages like English has only begun, and attempts to formulate valid cross-linguistic descriptions would be quite premature. If field workers are aware of the general distinction between absolute and relative interpretation of deictic elements, however, considerably more information may become available on this topic in the future.

5 Conclusion

We have surveyed above the principal systematic areas of grammar in which the extralinguistic context of the utterance determines the interpretation of linguistic elements: the categories of person, social relations, spatial demonstratives, and temporal reference. We have seen that a relatively small inventory of possible contrasts (though a larger one than is obvious from the study of English and other European languages alone) is exploited across languages. In some cases, such grammaticized deictic systems are quite central to the nature of the language: the system of spatial demonstrativeness in Kwakw'ala, for

example, was taken by Boas to be a pervasive feature of utterances in this language of major typological significance. Other languages employ the same notions to a considerably smaller extent (except in their lexicons), although a minimal person/number system and at least a two-term spatial demonstrative system seem to be universal.

6 Causative verb formation and other verb-deriving morphology*

BERNARD COMRIE

0 Introduction

In this chapter, we are concerned with that part of derivational morphology dealing with the formation of new verbs, whether from existing verbs (sections 1–3) or from other parts of speech (section 4). Special attention has been given to causative verbs (section 2); causatives are a source of great interest at present, not only because of the important role they play in the derivational morphology of many languages, but also because of the way their analysis requires a complex approach combining syntax, semantics, and morphology. Many of the general problems in dealing with derivational morphology can be illustrated in a particularly clear way with examples of causatives, and this we have tried to do in section 2. Section 4 (verbs derived from other parts of speech) and, to a lesser extent, section 3 (verbs derived from verbs without valency change), are intended primarily to illustrate some of the kinds of semantic relations that hold between derived verbs and the forms they are derived from, rather than to provide a complete and systematic classification of such relations: such an account seems impossible, at least for the present.

General problems that will occur throughout this chapter, as indeed throughout this volume, include the dividing-line between derivational morphology and syntax and inflectional morphology on the one hand, between derivational morphology and the lexicon as a structured list on the other. A second set of problems is concerned with the direction of derivation. In many instances, the direction of derivation is clear from the forms: one form has an affix that is lacking in the other, from which it can be considered to be derived. Often, however, one finds that each form has a different affix, or that there is no segmentable morpheme difference (the difference being shown, for instance, by vowel alternation); in such cases it is often difficult to decide whether one form should be derived from the other, or whether a reciprocal derivation should be established, or whether perhaps both forms should be derived