

The nature of reference in text and in discourse

In the last chapter we were largely concerned with considering the structure of small formal chunks of language, particularly nominal expressions, and exploring the ways in which particular forms in English have come to be associated with a particular information status. These formal structures constitute cues for the hearer / reader as to how the speaker / writer intends the discourse to be interpreted.

We begin this chapter by considering how large chunks of language come to be interpreted as texts. We examine the formal expressions, some of which were discussed in Chapter 5, which are available to the speaker / writer as cues to signal explicitly how parts of the discourse are to be interpreted, particularly anaphoric expressions. We then go on to consider the central question of what it means to refer in discourse.

6.1 What is 'text'?

We have proceeded in this book with the rather simple account of what constitutes a text which we gave, with accompanying caveats, in Chapter 1. Text, we said, is the verbal record of a communicative event. A number of authors have been concerned to provide a tighter, more formal account of how speakers of English come to identify a text as forming a text (cf. for example van Dijk, 1972; Gutwinski, 1976; de Beaugrande, 1980; de Beaugrande & Dressler, 1981; Halliday & Hasan, 1976.) These authors are concerned with the principles of connectivity which bind a text together and force co-interpretation. In this section we shall give a brief outline of the account provided by Halliday & Hasan (1976) since this is by far the most comprehensive treatment of the subject and has become the standard text in this area.

6.1.1 'Cohesion'

Halliday & Hasan take the view that the primary determinant of whether a set of sentences do or do not constitute a text depends on cohesive relationships within and between the sentences, which create texture: 'A text has texture and this is what distinguishes it from something that is not a text. . . . The texture is provided by the cohesive RELATION' (1976: 2). Cohesive relationships within a text are set up 'where the INTERPRETATION of some element in the discourse is dependent on that of another. The one PRESUPPOSES the other in the sense that it cannot be effectively decoded except by recourse to it' (1976: 4). A paradigm example of such a cohesive relationship is given (1976: 2):

- (1) Wash and core six cooking apples. Put them into a fireproof dish.

Of this text they say: 'It is clear that *them* in the second sentence refers back to (is ANAPHORIC to) the *six cooking apples* in the first sentence. This ANAPHORIC function of *them* gives cohesion to the two sentences, so that we interpret them as a whole; the two sentences together constitute a text' (1976: 2).

Halliday & Hasan outline a taxonomy of types of cohesive relationships which can be formally established within a text, providing cohesive 'ties' which bind a text together. We shall only briefly outline these here.

A familiar type of explicitly marked cohesive relationship in texts is indicated by formal markers which relate what is about to be said to what has been said before – markers like *and*, *but*, *so* and *then*. Halliday & Hasan provide an extended, often illuminating, discussion of the relationships indicated by such markers, together with an extended taxonomy. The taxonomy of types of explicit markers of conjunctive relations is exemplified in (2).

- (2)
- | | |
|-----------------|---|
| a. additive: | and, or, furthermore, similarly, in addition |
| b. adversative: | but, however, on the other hand, nevertheless |
| c. causal: | so, consequently, for this reason, it follows from this |
| d. temporal: | then, after that, an hour later, finally, at last |


It is, of course, not the case that any one of these formal markers stands in a simple one-to-one relationship with a particular cohesive relation: *and*, for example, can occur between sentences which exhibit any one of the four relationships mentioned in (2). Neither is it the case that the posited relationships cannot be held to exist in the absence of formal markers. Consider the following extract from a letter:

- (3) We ended up going for a drink and then a meal in a Bernie's Inn. Returned chez Jane for coffee and talk. Bed about midnight.

Although the sequential nature of the events is only explicitly pointed to by the *then* between *going for a drink* and *a meal in a Bernie's Inn*, it is clearly implied, though not stated, in the subsequent sequence of events. Halliday & Hasan recognise that 'it is the underlying semantic relation . . . that actually has the cohesive power' (1976: 229), rather than the particular cohesive marker. Nonetheless, they insist that it is the presence of the cohesive markers which constitutes 'textness'.

The cohesive relationship which particularly interests them is that which they discuss under the headings *reference*, *substitution*, *ellipsis* and *lexical relationships*. Since their use of the term *reference* is particular to them, we shall immediately substitute for it the term *co-reference* (reference in a more orthodox interpretation will be discussed in 6.2). Co-referential forms are forms which 'instead of being interpreted semantically in their own right . . . make reference to something else for their interpretation' (1976: 31). These forms direct the hearer / reader to look elsewhere for their interpretation. Where their interpretation lies outside the text, in the context of situation, the relationship is said to be an **exophoric** relationship which plays no part in textual cohesion (1976: 18). Where their interpretation lies within a text, they are called **endophoric** relations and do form cohesive ties within the text. Endophoric relations are of two kinds: those which look back in the text for their interpretation, which Halliday & Hasan call **anaphoric** relations, and those which look forward in the text for their interpretation, which are called **cataphoric** relations. These relationships are exemplified in (4):

(4) Types of co-reference relation

- a. *exophora*: Look at that. (*that* = )
- b. *endophora*:
- (i) anaphoric - Look at the sun. It's going down quickly. (*It* refers back to *the sun*.)
 - (ii) cataphoric - It's going down quickly, the sun. (*It* refers forwards to *the sun*.)

In the last two examples, the relationship of co-reference was illustrated as holding between a full lexical expression *the sun* and a pronominal expression *it*. The same relationship can also be posited to hold between other forms as exemplified in (5). (In each case the co-reference relationship exemplified here is anaphoric, hence endophoric.)

- (5)
- a. Repeated form: *The Prime Minister* recorded her thanks to the Foreign Secretary. *The Prime Minister* was most eloquent.
 - b. Partially repeated form: *Dr E. C. R. Reeve* chaired the meeting. *Dr Reeve* invited Mr Phillips to report on the state of the gardens.
 - c. Lexical replacement: *Ro's daughter* is ill again. *The child* is hardly ever well.
 - d. Pronominal form: *Ro* said *she* would have to take Sophie to the doctor.
 - e. Substituted form: Jules has a *birthday* next month. Elspeth has *one* too.
 - f. Ellided form: Jules has a *birthday* next month. Elspeth has *too*.

In the last two cases the structure itself, 'the fundamental relation between parts of a text', (1976: 143) forces the reader, when he encounters substitution or ellipsis, back into the text to look for a previous expression to substitute, in the case of substitution, or to provide, in the case of ellipsis. (It should be stressed that ellipsis is a formal notion which does not simply apply to anything which happens to be left unsaid, see Halliday & Hasan, 1976: 142ff., and a particularly helpful discussion in Matthews, 1982: 38ff.) Halliday & Hasan see these two types as involving 'relatedness of form' whereas the other examples involve 'relatedness of reference' (1976: 304), which provides 'continuity of lexical meaning' within a text (1976: 320).

Cohesion within a text can of course be provided by relationships other than those involving co-reference, which are the ones we have chosen to illustrate. Cohesion may be derived from lexical relationships like hyponymy (*daffodil* is a hyponym of *flower*), part-whole (*arm* is part of *a man*), collocability (*Monday* relates to *Tuesday*), by further structural relationships like clausal substitution (Sarah is very fond of Rachel. *So am I*), comparison (*My thumb* is stronger than *that hammer*), by syntactic repetition (*We came in. They came in*), by consistency of tense, by stylistic choice (*The gentleman encountered an acquaintance* vs *The guy met up with this bloke he knows*) and so on. Some aspects of cohesion are exemplified in (6).

- (6) Lord Melbourne, who was Prime Minister when Victoria became Queen in 1837, did not like birdsong and could not distinguish a woodlark from a nightingale. He preferred the singing of blackbirds anyway; best of all he liked the cawing of rooks and could watch them for hours as they circled at sunset. Victoria was surprised by this: she disliked their grating and insistent calling.

(Marina Warner, *Queen Victoria's Sketchbook*, Macmillan, 1979, p. 77)

We can observe a number of co-referential chains:

- (7) a. Lord Melbourne – Prime Minister – Ø – He – he – Ø
 b. Victoria – Queen – Victoria – she
 c. rooks – them – they – their

We can also observe chains of lexical collocation:

- (8) a. birdsong – woodlark – nightingale – blackbirds – rooks
 b. birdsong – singing – cawing – calling

There is an instance of an adversative marker (*anyway*), comparison (*preferred, best of all*), a pronominal expression referring back to the content of the previous clause (Victoria was surprised by *this*), consistent tense, and repeated negative structure (*did not, could not*). We might add the effect of the special punctuation marks (;) and (:) which indicate a relationship between what has been said and what is about to be said, just as verbal markers of conjunctive relations do.

Most texts will reveal some cohesive structuring of this kind. Two main questions need to be asked. First, is such cohesion necessary to the identification of a text? Secondly, is such cohesion

sufficient to guarantee identification as a text? A subsidiary question which follows on from the second question is: if a text is identified by these criteria, will they guarantee textual coherence?

Is it necessary for a text to reveal at least some of the features of cohesion which we have been discussing in order for it to be identified as a text? Halliday & Hasan appear to suggest that it is. They acknowledge that the notion of cohesion needs to be 'supplemented' by a notion of 'register' (appropriateness to a particular context of situation) but, they say:

the concept of cohesion accounts for the essential semantic relations whereby any passage of speech or writing is enabled to function as a text. We can systematize this concept by classifying it into a small number of distinct categories . . . Each of these categories is represented in the text by particular features . . . which have in common the property of signalling that the interpretation of the passage in question depends on something else. If that 'something else' is verbally explicit, then there is cohesion. There are, of course, other types of semantic relation associated with a text which are not embodied in this concept; but the one that it does embody is in some ways the most important, since it is common to text of every kind and is, in fact, what makes a text a text. (1976: 13)

An important distinction needs to be drawn, which many students adopting Halliday & Hasan's approach have failed to draw, and which Halliday & Hasan themselves are somewhat ambivalent about, as this quotation reveals. This is the distinction between the 'meaning relations' which hold between items in a text and the explicit expression of those 'meaning relations' within a text. This is a distinction which we have already mentioned in our discussion of conjunctive relations: 'it is the underlying semantic relation . . . which actually has the cohesive power'. Few would dispute that it is necessary that such relations be postulated within a discourse which is capable of being interpreted coherently. What is questionable, however, is whether the explicit *realisation* of these relations is required to identify a text as a text. Halliday & Hasan appear to insist that such explicit realisation is necessary when they make statements like 'A text has texture, and this is what distinguishes it from something which is not a text' (1976: 2), and 'cohesive ties between sentences stand out more clearly because they are the ONLY source of texture' (1976: 9). In such statements they seem to be talking of verbal elements which appear in the verbal record, not of underlying semantic relations.

It is, of course, easy to find texts, in the sense of contiguous sentences which we readily co-interpret, which display few, if any, explicit markers of cohesive relations. Apart from the much-quoted constructed example:

- (9) A: There's the doorbell.
B: I'm in the bath.

we shall quote several more:

- (10) a. Thank you for your comments about voicing. I will eventually get back to that lesson.
(beginning of letter)
b. Just to test the water I made one telephone call yesterday, to a leading British Publisher with offices in New York. There was immediate interest in *Clear Speech*.
(letter from a literary agent)
c. Once again I lie awake in the small hours tormented by my social conscience. Sometimes it is the single mothers, sometimes the lower classes or disadvantaged Highland sheep farmers, but today it is the homeless.
(entry from Auberon Waugh's *Diary*)

In each case, we suggest, there is no explicit marking of relationships between the first and second sentences. Nonetheless, a normal reader will naturally assume that these sequences of sentences constitute a text (since we are presenting them as if they were) and will interpret the second sentence in the light of the first sentence. He will assume that there are 'semantic relations' between the sentences, in the absence of any explicit assertion that there is such a relationship (see discussion of 'missing links' in 7.8). It seems to be the case then that 'texture', in the sense of explicit realisation of semantic relations, is not criterial to the identification and co-interpretation of texts.

We turn now to the second question we posed: is formal cohesion sufficient to guarantee identification as a text? An obvious test here would be to take any narrative text and, leaving the first sentence (to play fair, and identify the participants), scramble the next few sentences. Does what follows constitute a text? Do readers find it easy to interpret the newly constituted collection of sentences? All the formal expressions of cohesive relationships will still remain intact. Consider the following passage.

- (11) [1] A man in white clothes, who could only be the surviving half-breed, was running as one does run when Death is the pace-maker. [2] The white figure lay motionless in the middle of the great plain. [3] Behind him, only a few yards in his rear, bounded the high ebony figure of Zambo, our devoted negro. [4] An instant afterwards Zambo rose, looked at the prostrate man, and then, waving his hand joyously to us, came running in our direction. [5] They rolled on the ground together. [6] Even as we looked, he sprang upon the back of the fugitive and flung his arms round his neck.
(reorganised in the order 1, 3, 6, 5, 4, 2, this passage is taken from Sir Arthur Conan Doyle's *The Lost World*, 1912)

Clearly, formal cohesion will not guarantee identification as a text nor, to answer our subsidiary question, will it guarantee textual coherence.

In order to reconstitute this 'text' (11) without the original sentence-order arrangement given above, the reader may indeed use some of the formal expressions of cohesive relationships present in the sentences, but he is more likely to try to build a coherent picture of the series of events being described and fit *the events* together, rather than work with the verbal connections alone.

A convincing example of the inadequacy of cohesive ties across sentences as a basis for guaranteeing 'textness' has been provided by Enkvist (1978: 110) and is quoted here as (12).

- (12) I bought a Ford. A car in which President Wilson rode down the Champs Elysées was black. Black English has been widely discussed. The discussions between the presidents ended last week. A week has seven days. Every day I feed my cat. Cats have four legs. The cat is on the mat. Mat has three letters.

Enkvist points out that there is the 'semblance' of cohesion because of the *Ford-car, black-Black, my cat - cats* types of connections, but that we would prefer not to call this concatenation of sentences a coherent text. (We might note in passing that extract (12) provides a good exemplification of why the structural formula $S + (S)^n$, is of little use in the characterisation of text (cf. Östman, 1978).)

The reader may, in fact, have found that, on reading through (12), he did try to make connections across the first few sentences and was more than willing to believe that the next sentence would provide the element(s) which would allow a coherent interpretation of the whole set. This expectation that contiguous sentences, with

some cohesive ties, will form a coherent text can be exploited by authors to achieve a particular effect. Consider the following set of sentences from the beginning of a novel.

- (13) Through the fence, between the curling flower spaces, I could see them hitting. They were coming toward where the flag was and I went along the fence. Luster was hunting in the grass by the flower tree. They took the flag out, and they were hitting. Then they put the flag back and they went to the table, and he hit and the other hit. They went on, and I went along the fence. Luster came away from the flower tree and we went along the fence and they stopped and we stopped and I looked through the fence while Luster was hunting in the grass.

When we encounter this first paragraph in William Faulkner's *The Sound and the Fury*, we treat it as a text and, if required, could point to a number of cohesive ties existing across sentence boundaries. But, to return to the question posed earlier, do these cohesive ties lead us to a coherent interpretation of what we have read? They do not, for the simple reason that the author has, in fact, withheld some crucial information (facts about the world described) which we need in order to arrive at that interpretation. It may also be worth noting that some of the cohesive ties which exist in this text (e.g. between *hitting*, *the flag* and *the table*) can only be identified as such once the reader has been informed that a game of golf is being described. That is, the source of the formal cohesion is, in a sense, outside the text and should not be sought in the words-on-the-page.

It is critically important to distinguish between the 'underlying semantic relation' which we shall go on to discuss, in rather different terms, in the rest of this chapter and in Chapter 7 and those formal realisations which are available to, but not necessarily utilised by, the speaker / writer in constructing what he wants to say.

We shall assert that hearers and readers do not depend upon formal markers of cohesion in order to identify a text as a text. As Halliday & Hasan correctly remark: 'we insist on interpreting any passage as text if there is the remotest possibility of doing so' (1976: 23). Where language occurs contiguously in time and space, we attempt to co-interpret. However, we are constrained in these attempts very powerfully by the conventional presentation of the

text. We do not, for example, simply read across the horizontal line of a newspaper ignoring the vertical columns. It is possible to find highly cohesive 'texts' if you read across columns of advertisements or sports reports, for example:

- (14) Flat / house 3-5 bedrooms, nice sunny lounge, double bed condition unimportant, room with fitted wardrobes, willing to decorate. all carpets included.
Evening News (Edinburgh), 23 June 1982)

It would, however, seem contrary to attempt to co-interpret such a 'text'. We take account of columns, closeness of lineation, type of print (etc.) in processing written texts, and of voice quality, intonation and pausing in processing spoken language. Within chunks of language which are conventionally presented as texts, the hearer/reader will make every effort to impose a coherent interpretation, i.e. to *treat* the language thus presented as constituting 'text'. We do not see an advantage in trying to determine constitutive formal features which a text must possess to qualify as a 'text'. Texts are what hearers and readers treat as texts.

In the next sub-sections we shall return to several points in the treatment of coreference by Halliday & Hasan where, in this section, we have simply reported their position without comment.

6.1.2 Endophora

We want in this section to question the correctness of the exophora / endophora distinction drawn by Halliday & Hasan (at least as it applies to structures other than those involving formal substitution, e.g. *one*, *do*, *so*, etc.). You will remember that exophoric co-reference instructs the hearer to look outside the text to identify what is being referred to. Endophoric co-reference instructs the hearer / reader to look inside the text to find what is being referred to. If you look back at the analysis of (6) you will see that the first endophoric chain contains elliptical reference, pronominal reference, lexical substitution and eventually comes out at *Lord Melbourne*. This initial referring expression presumably enables the reader to refer to that 'Lord Melbourne' whom he knows about from general background knowledge. The implication is that, however far into the text the reader reads, subsequent reference to 'Lord Melbourne' must always be resolved by going back up through the chain of reference to the original expression which

alone has the power to allow the reader to escape from the text and relate what he is reading about to the real world. Halliday & Hasan write:

Note, finally, that it is characteristic of 3rd person forms that they may be cumulatively anaphoric. One occurrence of *John* at the beginning of a text may be followed by an indefinitely large number of occurrences of *he*, *him* or *his* all to be interpreted by reference to the original *John*. This phenomenon contributes very markedly to the internal cohesion of a text, since it creates a kind of network of lines of reference, each occurrence being linked to all its predecessors up to and including the initial reference.

(1976: 52)

The view expressed here appears very much the view of an analyst who has worked and reworked relatively small chunks of text which are all capable of being displayed on a single page. Consider for a moment what it would mean for the normal human processor. Consider first the position of a listener. You may meet a friend who will tell you how oddly a person he met in a pub behaved. He may tell you a long series of events, always referring to this individual subsequently as *he*. At the end of this rich imaginary account do you believe that you would still be able to recall the exact form of the original referring expression? If you are unable to recall the exact form, does it follow that you have not been able to interpret what you have been told? Any given individual introduced into a conversation may be identified by a very large number of referring expressions. It seems highly unlikely, in the scenario we suggest here, that hearers would retain in memory the original expression. Similarly if you are reading a novel and encounter a new character introduced on the bottom of one page, and you turn over the page and find this individual subsequently referred to as *he*, it is equally unlikely that it is necessary for you to travel back each time through the anaphoric chain to the original *expression* to be able to achieve a reference. As a processing model this must be implausible. As an occasional strategy for working out who did what in a series of events, or for checking back when one gets 'lost' in the course of reading something, it may be quite reasonable. But this procedure cannot be the norm.

We shall suggest that it seems more likely that the processor establishes a referent in his mental representation of the discourse and relates subsequent references to that referent back to his mental

representation, rather than to the original verbal expression in the text. If this view is correct, the distinction between endophoric and exophoric co-reference becomes much harder to draw. In both cases, we must suppose, the processor has a mental representation. In the one case he has a mental representation of what is in the world, in the other he has a mental representation of a world created by the discourse. In each case he must look into his mental representation to determine reference.

6.1.3 Substitution

Halliday & Hasan adopt a very straightforward model of co-reference. They assume a simple **substitution** view where an expression may simply be replaced by another in the text. (They are not alone in this view. There is a general approach to the analysis of text which is called 'substitutional text linguistics', see Harweg, 1978.) Consider their comment on text (1), reproduced here as (15):

- (15) Wash and core six cooking apples. Put them into a fireproof dish.

'It is clear that *them* in the second sentence refers back to (is ANAPHORIC to) the *six cooking apples* in the first sentence' (1976: 2). We commented on a similar example in the last section in discussing the endophoric chain relating to 'Lord Melbourne'. If we are interested in how readers proceed through such a text, and as discourse analysts we should be, we have to ask whether the expression *them* in the second sentence really simply refers to the *six cooking apples* in the first sentence. As Källgren remarks: 'The content of a text is not merely an enumeration of referents; an important part of the content is the relations that the text establishes between the referents' (1978: 150). Whereas it is indeed those same 'six cooking apples' which are at issue in the second sentence, it is relevant to note, and for the reader to understand, that they have undergone a change of state. Whereas in the first sentence they were pristine apples, straight from the supermarket, in the second they are 'washed and cored'. Their *description* has changed. In order for the reader to understand this, he is unlikely to base his interpretation, as Morgan (1979) points out, on the substitution principle. Consider a more violent, constructed example:

- (16) Kill an active, plump chicken. Prepare it for the oven, cut it into four pieces and roast it with thyme for 1 hour.

Presumably the *identity* of the chicken is preserved, at least until it is dismembered, but its description has certainly changed. A reader who simply went back up the endophoric chain and substituted the expression *an active plump chicken* for the *it* in the last clause would, in a significant sense, have failed to understand the text.

Since recipes involve particularly rapid and obvious changes of state, we shall re-examine here part of the recipe presented already in Chapter 5 as (22).

- (17) Slice the onion finely, brown in the butter and then place in a small dish. Put the ground spices into a breakfast cup of water, add to the fat in the pan and cook for 3 minutes, stirring the while. Now add the chicken, mix well, see that the meat is just covered by water and boil for 20 minutes with the lid on the pan.

When the liquid has almost evaporated, continue to cook, but stir the chicken till golden brown. Crush the browned onion with a spoon . . .

You will remember that the list of ingredients included an onion, butter, etc. We shall examine some of the points in the text, particularly where ellipsis occurs, which, following Halliday & Hasan, are taken as instructions to the reader to look for a previous expression to substitute within the text.

- (17a) brown \emptyset in the butter and then place \emptyset in a small dish

The object to be browned is, clearly, the 'sliced onion', the object to be placed in a small dish is 'the sliced, browned onion'. It has to be possible to associate changes of state with the referent and to carry them (or some of them) through the discourse. How else can we explain the appearance of the expression *the browned onion* in the last sentence which we quote here? (We are unable to explain why it is the predicate *browned* which surfaces rather than *sliced*, since we have not examined this phenomenon in detail.) However, the reappearance of identified entities with different descriptions attached to them does suggest that we need some model of processing which allows entities to accumulate properties or to change states as the discourse progresses. (It would be a poor reader of *David Copperfield* who failed to realise at the end that the

hero was no longer the infant whom he was introduced to at the beginning.) Consider another example of structural ellipsis which instructs the reader to look for an antecedent expression in the text:

- (17b) Now add the chicken \emptyset

'Add' is a verb which takes two arguments, add A to B, so we must supply whatever it is that 'the chicken' is added to. What is this to be? It seems that 'the chicken' needs to be added to 'the fat in the pan which has had onions cooked in it and removed from it (hence, tastes of onion), to which has been added ground spices mixed in a breakfast cup of water and cooked for three minutes while being stirred'. There is no simple textual antecedent. It would be folly for the reader to suppose he could add the chicken to the originally mentioned unmelted 'butter'. Now consider one lexical expression:

- (17c) When *the liquid* has almost evaporated

What 'liquid' is this? Clearly it is not simply the only previously mentioned liquid, which is 'the water'. This 'liquid' contains not only the elements which were mentioned under (17b), but also the juices which have been extracted from 20 minutes' worth of boiling the chicken in that mixture, the tastes which result from that process and, moreover, a concentration of the original taste since much of 'the water' has almost evaporated. In short, if the reader plans to invest in a computerised cook which will prepare meals from recipes, he should avoid the model which operates on a cohesion-type program.

We have attempted to exemplify some problems of the cohesion-view in one type of discourse (recipes) where the problems can be graphically illustrated. The points we have made, however, are not confined to recipes. The following two examples, one from a textbook, the other from a public notice, are presented to demonstrate that substitution cannot take place on a strict replacement of an anaphoric form by an antecedent. Such a replacement would have to take place under a constraint of syntactic identity, so the adjective *anecdotal* in (18) will not fit the slot occupied by the pro-form *one*.

- (18) The child may set the pace. Since the literature is mostly anecdotal, we don't mind offering *one* of our own . . .
(from de Villiers & de Villiers, 1978: 206)

In the following example, we must assume that 'it' is an 'act of vandalism' which should be reported:

- (19) STOP BUS VANDALS
by reporting *it* at once
to the driver or conductor
(sign displayed in Edinburgh buses)

Any adequate model of discourse description must be able to accommodate the various connections which do exist in texts (17), (18) and (19). The 'cohesion' model does not. It is, however, only fair to point out that Halliday & Hasan are not concerned to produce a description which accounts for how texts are understood. They are, rather, concerned to examine the linguistic resources available to the speaker / writer to mark cohesive relationships. Their examination of these linguistic resources is rich, interesting and insightful. It is important, however, that the discourse analyst should be clear just what it is that Halliday & Hasan are doing and should not assume that the account of textual relations produced as a *post hoc* analysis of the structure of a completed text should necessarily be revealing about how a processor working 'on-line' as the discourse unfolds experiences that discourse.

6.2 Discourse reference

The traditional semantic view of reference is one in which the relationship of reference is taken to hold between expressions in a text and entities in the world, and that of co-reference between expressions in different parts of a text. We shall present an alternative account of the co-reference relation, paying particular attention to pronouns, in section 6.3. In the traditional approach, the term 'reference' is used, together with 'sense', to discuss lexical meaning. The meaning of a lexical item, such as *chicken*, is partially determined by its sense, that is, the component properties of 'animate', 'feathered', etc., and also determined by its reference, that is, the set of objects in the world to which the expression can be correctly applied. Lyons (1977: ch. 7) provides a detailed account of the background and issues involved in this distinction and suggests that the term 'reference' is better replaced by the term 'denotation' in considerations of lexical meaning. We shall follow his practice and say that, in discussions of

lexical semantics, it may prove useful to claim that a lexical item (strictly speaking, a lexeme) has *sense* (component properties of meaning) and *denotation* (a set of objects to which it can correctly be applied). This distinction is also generally covered by the terms 'intension' and 'extension', more commonly found in formal semantics, though there are technical differences which we shall not discuss here (cf. Lyons, 1977: 207ff.). The term *reference* can then be taken out of discussions of lexical meaning and reserved for that function whereby speakers (writers) indicate, via the use of a linguistic expression, the entities they are talking (writing) about.

A further distinction made by Lyons (1977: 182) is worth noting. It is often considered important in formal semantics that the expression used to refer to an entity must, in its description, be true of the entity. That is, if an individual is referred to by the expression *the king of England*, then the description contained in this referring expression must be true of the individual in order for correct reference to take place. However, 'correct' reference in this sense is not normally the criterion by which language-users operate when they refer to individuals in discourse. If a speaker and hearer believe that the man who is married to the present queen of England is, indeed, *the king of England*, then the speaker can, on some occasion, successfully refer to the individual by using that expression. In fact, it need not even be the case that the speaker believes the description to be true, but rather that he believes that, by using this expression, he will enable his hearer to pick out the intended referent. Thus, the concept which interests the discourse analyst is not that of correct (true) reference, but *successful reference*. Successful reference depends on the hearer's identifying, for the purposes of understanding the current linguistic message, the speaker's intended referent, on the basis of the referring expression used.

This last point introduces the notion of 'identifying the speaker's intended referent' which is of crucial importance in any consideration of the interpretation of referring expressions in discourse. Despite the fact that, in some analyses, the idea is put forward that some linguistic expressions have unique and independent reference, we shall insist that, whatever the form of the referring expression, its referential function depends on the speaker's intention on the particular occasion of use. On what does the hearer base

his identification of the speaker's intended referent, and what forms do referring expressions take?

6.2.1 Reference and discourse representations

An idea which has surfaced at various points in the course of this book (see sections 3.7; 5.3; 6.1.2) is that of a 'discourse representation'. This idea has not been pursued at length for the practical reason that, at the moment, we have no way of describing discourse representations in any limited way. There is a sense in which this whole book is about what must be accommodated within a description of a discourse representation. Briefly, let us say that an analytic distinction can be made between what is in the world and what we might describe as the representation in the mind of a person of what is in the world. This latter concept we can treat as the individual's representation, or model, of the world. (In an individual's representation, there may be entities, such as 'Santa Claus' or 'the tooth fairy', whose existence in the world at large may not be easily attested.) More to the point, in paying attention to a particular piece of discourse, as a sample of experience of the world, the individual may build a specific representation of this particular experience of the world which, of course, will be integrated, to a degree, within his more general representation of the world. This specific representation, or model, arising from a particular discourse, we can characterise as the individual's *discourse representation*. (The alternative term, 'discourse model' is used by some analysts, for example Webber (1978, 1981), to capture a similar concept.)

Given this extremely simple version of what a discourse representation might be, we can go on to suggest that when a writer (speaker) produces a piece of discourse, it will be based on his individual representation of a particular state of affairs. The reader (hearer), as he receives the discourse, will normally try to build a representation (his model) of the state of affairs communicated by the speaker. This basic one-way version of discourse communication is quite obviously an abstraction away from the complex interaction which actually takes place between speakers' versions of hearers' versions of speakers' versions (and so on) of representations, in normal discourse situations. However, this basic version should allow us to see that there is likely to be an inherent mismatch

between what is in the speaker's representation and what is the hearer's representation. At best, the hearer is likely to arrive at a representation which is only partially similar to the speaker's and which, moreover, can only ever be a partial reflection of the so-called 'actual' state of affairs which existed in the world. A strong version of this view would be that 'humans understand what is said to them in terms of their own knowledge and beliefs about the world' (Schank, 1979: 400).

When a speaker, on the basis of his representation, uses an expression to pick out an individual entity, he will typically take into consideration those features of his hearer's developing discourse representation which he can depend on the hearer being able to use in identifying the intended referent. Many of those features have been outlined in the earlier chapters of this book. The assumption of a similar general experience of the world, socio-cultural conventions, awareness of context and communicative conventions are some of the relevant features. The hearer, for his part, will also generally assume that the speaker is operating with those assumptions (unless he indicates otherwise) and will base his identification of the intended referent on an interpretation of the linguistic expression (or sign) which is consistent with those features which are the basis of the world created by his developing discourse representation.

The use of the term 'identification' in this discussion should be treated with some caution. It is presumably rather a rare occurrence that a hearer's identification of an individual entity in his representation will be an exact replica of that which exists in the speaker's representation. Much of the time, the hearer's 'entity representation' may simply be of a form such as 'the entity X which the speaker referred to by means of the linguistic expression Y'. This can be illustrated with an example from an earlier extract, quoted here as (20).

(20) My uncle's coming home from Canada.

The 'identity' of the individual described as *my uncle* may have a large number of properties ('called Jack', 'bald', 'smokes cigars', etc.) in the speaker's representation, but, for the hearer, there may only be an identity in terms of 'the individual referred to as the speaker's uncle'. This 'identity' may, of course, accrue properties,

such as 'is coming home from Canada', in the course of the discourse, or even non-predictable properties deriving, by analogy, from the hearer's version of what type of entity an 'uncle' typically turns out to be.

Generally, then, the hearer will build a representation of the discourse which will contain representations of entities introduced by the speaker through the use of referring expressions. Clearly, in order for the hearer to do this, he must operate with (and believe that the speaker is also operating with) some regular notion of what types of expressions, under what conditions, are used to refer to entities.

6.2.2 Referring expressions

There is a vast literature in philosophy and linguistics on the nature and status of expressions which can, or cannot, be used to refer. Since much of the debate revolves around issues of truth, existence and uniqueness, and concerns itself with single system sentences, cited in isolation from any communicative context, the controversies may appear rather esoteric to the practical discourse analyst. After all, the discourse analyst is largely concerned, in his investigation, with data which is the product of the *actual* use of linguistic expressions in a definable context for a particular purpose, rather than the *potential* use of such expressions. In the course of this book, we have presented a large number of data extracts from which we may draw some examples of referring expressions.

There are some indefinite expressions such as *a man*, *a rainbow*, *a beautiful girl*, *a line*, which, as we pointed out in Chapter 5, are typically used to introduce entities into the discourse. In each of these examples, we can say that the speaker intends the hearer to recognise that there is an individual entity referred to by the expression used. It does not seem to be a necessary condition of this type of introductory reference that the hearer should be able to 'identify uniquely', in any strict sense, the individual referred to. There are, of course, recognisable circumstances in which an indefinite expression is unlikely to be taken as a referring expression. From an earlier extract, we can cite the following example.

(21) My father was a stonemason.

We would not wish to suggest that the speaker is referring to two distinct individuals by the expressions *my father* and *a stonemason* and asserting that these two individuals were, in fact, the same person. Rather, the indefinite noun phrase is being predicated of the subject noun phrase in much the same way as other descriptive expressions (e.g. *left-handed*) are. So, one of the circumstances in which indefinite noun phrases are *not* used as referring expressions is when they appear as the complement of the verb 'to be'.

The other generally recognised condition in which indefinite noun phrases may not be treated as referential is when they appear in linguistic contexts which are, according to Quine (1960), 'referentially opaque'. Referential opacity can occur after certain verbs, such as *look for* and *want*. The classic examples take the following form:

(22) Marion is looking for a rubber.

(23) Virginia wants a new job.

It may be that, in uttering these sentences on a particular occasion, a speaker does have a 'specific' referent in mind. That is, the analysis would be that there is a (particular) rubber which Marion is looking for. However, the indefinite expression, *a rubber*, could be used to mean 'any rubber', and in this 'non-specific' reading, it is not being used referentially. (See Lyons, 1977: 187ff. for a more extended discussion of the 'specific-non-specific' distinction.) It may be that the so-called 'ambiguity' of sentences like (22) and (23) arises because they are cited without contexts. We would suggest that, in the analysis of naturally occurring discourse, the analyst will have clear contextual or co-textual cues to guide his assignment of referential or non-referential use to these indefinite expressions. He may also be able to appeal to phonological or more general paralinguistic clues in deciding when other indefinite expressions, such as *someone*, *something*, are being used to refer to a particular individual or not. That is, in uttering the sentences in (24) and (25), the speaker can indicate, intonationally, for example, that it is his intention to refer to a specific individual.

(24) Someone (and I know who) won't like this proposal.

(25) Someone (and I don't know who) has stolen my bicycle.

The use of proper names as referring expressions is generally a less controversial issue. Examples from previous extracts are *Rosanna Spearman*, *Mr Bennett*, *Elizabeth*, *old man McArthur* and *Plato*. It is sometimes suggested that proper names are used to identify individuals uniquely. We would add the caveat that they may be so used only in specific contexts. It is easy to see why a name like *Elizabeth*, used to refer to an individual, must depend, for its referential assignment, on an identification of a particular individual in a particular context. There are, after all, a large number of Elizabeths in the world. Some proper names, however, are taken to have a unique referent, regardless of context, and *Plato* is probably a good example. This view is extremely misleading. We might say that there is an overwhelming tendency to treat the proper name *Plato* as being used to refer to the Greek philosopher, but that contextual considerations can override this tendency. In a rather trivial way, a person can obviously refer to her child, her dog or her boat as *Plato*, given the existing socio-cultural conventions for naming entities. In a more subtle way, following a suggestion by Nunberg (1978), we can note the use of the linguistic expression *Plato* to refer to an entity other than the Greek philosopher, as in (26).

(26) Plato is on the bottom shelf of the bookcase.

It is clearly not the individual, but rather some publication of his writings, which is being referred to. Note that this assignment of reference depends, for the reader, on the type of predicate attached to the referring expression. We shall discuss this point in greater detail in section 6.3.3. Since we can use proper names with this extended referential function, it would be unwise to maintain that they have any uniquely identifying function.

We should also point out that proper names can, as we noted with indefinite expressions, be used with a descriptive, and so non-referential, function. Such uses are generally signalled by the presence of either the definite or indefinite article, as in (27).

(27) Young Smith is the Plato of the fourth form.

A final observation on the use of proper names as referring expressions is to do with the 'role-related' aspect which we have already mentioned in Chapter 2. Individuals in the world do not

have single, unvarying names, or even titles, and so the use of a proper name to refer to an individual will typically pick out an individual in a particular 'role'. An individual can be referred to as *Professor Young*, *Mr John Young*, *John*, etc. on different occasions by different speakers. Successful reference, in context, may depend crucially on selecting the most appropriate 'name' with which to identify an individual for a particular hearer or audience.

The most generally discussed type of referring expression is the definite noun phrase. Examples from extracts elsewhere in this book are *the matron*, *the priest*, *the red triangle*, *the white figure*, *the browned onion*, *the trolley*, and *the man who took the photographs*. Such expressions are clearly discourse-specific in their referential function and, as we demonstrated in Chapter 5, have a distinct distribution in some types of discourse. The paradigm uses of definite noun phrases are in subsequent reference to an entity which has already been mentioned in an earlier part of the discourse or to salient objects in the physical context. A related use is in reference to entities which Prince (1981) describes as 'inferrables' (*a car - the driver*), a concept which we will discuss in greater detail in section 7.8 later. For an extended consideration of the sources of 'definiteness', the reader is referred to Christopherson (1939), Hawkins (1978), and the contributions in van der Auwera (1980).

We shall mention here only one or two of the interesting features of definite noun phrases, since many of the issues relating to definite reference have been covered, in connection with more general discourse processes, elsewhere in this book (see sections 2.3; 5.2.1; 7.8). One widely discussed point made by Donnellan (1966) is that some definite noun phrases, even as subjects of their sentences, may be used 'non-referentially'. The distinction Donnellan draws is between a situation in which one refers to a specific individual by using an expression such as *the killer* and an alternative situation in which one uses the expression *the killer*, not for a specific individual, but meaning 'whoever did the killing'. The first use Donnellan says is 'referential', the second he describes as 'attributive'. Thus, in Donnellan's 'attributive' use of a definite noun phrase, the intention of the speaker is not necessarily referential. Perhaps a good illustrative example of Donnellan's

point is the first sentence of a newspaper article, presented as (28), which appeared during a manhunt after a policeman had been shot.

- (28) The gun-crazy double killer being stalked in a forest may be forcing a hostage to feed and hide him.

(Daily Mirror, 28 June 1982)

Donnellan's argument is aimed at the prerequisite, in some philosophical approaches to the analysis of definite descriptions, that the expression used must pick out a single individual in the world in order for the reference to be correct (i.e. true). The lengthy description in (28) does not, strictly speaking, do this, since the individual so described may not be identifiable at all. No one knows if the definite noun phrase picks out an individual, called Jim Miller, for example. The individual, 'whoever he is', is only discussable in terms of the 'attributes' known about him. This distinction, though offering some insight into how some definite descriptions come to be formed (i.e. via 'attributes'), is actually of only limited interest in the analysis of discourse reference. The discourse analyst, like the hearer (and the reader), is continually having to accept that definite expressions used by a speaker (or writer) are intended to refer to an individual in the world. In listening to a story which begins as in (29), the hearer generally cannot assess whether the expression *the man* 'correctly' picks out an individual in the world, or not.

- (29) Last night a man and a girl came to the house collecting for charity. The man acted pretty drunk . . .

The working assumption, however, is that, for the purposes of the discourse at hand, the speaker intends to use the expression *the man* to refer to an individual and, moreover, as Searle (1969) points out, intends that the hearer recognise that intention. We could say exactly the same of the writer of (28). In the analysis of discourse, Donnellan's 'attributive' uses will generally be treated as intended references. Although they may not pick out an individual 'in the world', they will pick out (or even establish) an individual in the hearer's representation of the discourse.

The idea that hearers pick out speakers' intended referents, on a fairly loose interpretation of what 'attributes' are included in the definite descriptions, is certainly necessary to account for an interesting set of examples presented by Nunberg (1978, 1979).

Working from Quine's (1960, 1969) notion of 'deferred ostension', Nunberg claims that we frequently succeed in referring by using a definite noun phrase which contains a description that has a specific relation to the intended individual referent. The hearer's knowledge of this specific relation is assumed. Thus, a restaurant waiter going off duty might say (30) to his replacement.

- (30) The ham sandwich is sitting at table 20.

Clearly, no analysis which requires a direct relationship between the literal meaning of referring expressions and the properties of the referent will ever account for successful communication via sentences of this type. Even more interesting is Nunberg's suggestion that the same waiter could equally well point at a ham sandwich and say (31).

- (31) He is sitting at table 20.

We shall discuss this and other uses of pronominals in section 6.3. Nunberg's point is that such uses of definite noun phrases as referring expressions are not restricted to 'quasi-metaphorical' examples like (30). They are fairly normal in the sentences presented here in (32) and (33).

- (32) a. The chicken pecked the ground.
b. The chicken with bean sauce was delicious.
- (33) a. The newspaper weighs five pounds.
b. The newspaper fired John.

In (32a) we would normally understand *the chicken* to be a reference to the type of bird and in (32b) to the type of meat. In (33a) *the newspaper* is an edition or copy of the publication and in (33b) it is the company or even the publisher. Nunberg's argument is directed against a purely semantic account of reference and for a functional or pragmatic account. We have already indicated our support for such a view. An important point made by Nunberg is that our interpretation of expressions such as *the chicken* and *the newspaper*, when used referentially, is based on our pragmatic knowledge of *the range of reference* of such expressions, which is, on a particular occasion of use, strictly constrained and 'determined' by the nature of the predication, and by the conversational context' (1978: 31). We would say that these factors influence the hearer's

(reader's) representation of discourse entities, not only for definite descriptions and proper names, but, more crucially, when pronominals are encountered in discourse. Before going on to consider the referential function of pronouns in discourse, let us consider a particularly effective example of how an unusual set of definite noun phrases is used to refer, anaphorically, to a group of individuals.

(34) Turbaned ladies hobbled towards the cathedral, scuffing the dust with feet too splayed and calloused to admit the wearing of shoes. Their cottons were printed with leaves and lions and portraits of military dictators. They hauled themselves into the teak pews . . . [Six intervening paragraphs describe others arriving at the cathedral and the beginning of the service.]

At the Credo, the ladies sighed, heaved their thighs and got to their feet. Letters, lions, leaves and military dictators rustled and recomposed themselves.

(Bruce Chatwin, *The Viceroy of Ouidah*, Picador, 1982, pp. 14-15)

The 'range of reference' of the expressions *letters*, *lions*, *leaves* and *military dictators* is, isolated from this text, large, yet the effect of the predicate, *rustled and recomposed themselves*, and the co-text, yields an immediate (and entertaining) discourse representation for the reader of who these *ladies* are, with respect to the 'ladies' already described, and the motions they are going through.

6.3 Pronouns in discourse

From a formal point of view, pronouns are, as we demonstrated in Chapter 5, the paradigm examples of expressions used by speakers to refer to 'given' entities. Pronouns are typically uttered with low pitch in spoken discourse and, as such, are types of referring expressions which, in Chafe's terms (1976), are phonologically and lexically 'attenuated'. Because of their lack of 'content', they have become the crucial test-case items for any theory of reference. After all, to what does the expression *it* refer, in isolation? The fact that there is no reasonable answer to this question has led many linguists to suggest that a pronominal such as *it* is not actually a referring expression, but can only be used co-referentially, that is, within a text which also includes a full nominal expression. The relationship between the full nominal expression and the pronominal expression is then described as an

antecedent-anaphor relation, as we have noted already in section 6.1.1. The occasional use of pronouns in situations such as (35) is treated as an example of deixis and virtually dismissed as unrelated to the more serious business of determining how anaphoric pronominals receive their interpretation. (An exception to this general tendency is Lyons (1979) who argues, convincingly, that the anaphoric use is derived from the more basic deictic use of pro-forms in the language.)

(35) (A large dog approaches A and B. A says to B:)
I hope it's friendly.

In other treatments, the use of *it* in (35) is described as an example of 'pragmatically controlled anaphora' (cf. Hankamer & Sag, 1977; Partee, 1978; Yule, 1979). In this use of the term 'anaphora', the requirement of an antecedent expression in the text is not considered crucial. In this sense, 'anaphora' covers any expression which the speaker uses in referring on the basis of which the hearer will be able to pick out the intended referent given certain contextual and co-textual conditions. For obscure historical reasons, the term 'anaphora', as it is generally used, is restricted almost exclusively to 'pronominal referring expressions'. We will follow this practice throughout this section. One other aspect of the treatment of pronouns, or anaphors, should be noted, because it determines the nature of the discussion which follows. Both theoretical and experimental work on pronouns has concentrated almost exclusively on the interpretation, and not the production, of pronouns. This probably reflects the general fact that, as Tyler (1978: 227) observes, 'most of the linguistic literature is written from the hearer's point of view'. Thus, in our consideration of existing views and analyses of pronouns in discourse, we shall be primarily interested in determining what is required in an adequate account of the interpretation of pronouns in discourse.

6.3.1 Pronouns and antecedent nominals

It is initially quite a plausible notion that the interpretation of the pronoun in (36) is arrived at by a simple process of replacing *it* with *my hair*, as in (36a).

(36) I've just had my hair curled and *it* looks windblown all the time.

(36a) *My hair* looks windblown all the time.

Such a view has been described already in section 6.1.2, and is normally expressed in terms of the pronominal 'referring back' to its antecedent nominal (cf. Carpenter & Just, 1977a: 236), or in terms of the pronominal 'substituting for' the antecedent (cf. Tyler, 1978: 336). This general view has been characterised as the 'pronominal surrogate hypothesis' by McKay & Fulkerson (1979). They demonstrate, in an experimental situation, that it is not the case that 'the nature of the antecedent completely determines the interpretation of the pronoun' (1979: 661). We attempted to show with Halliday & Hasan's *six cooking apples - them* example, (15), that the substitution concept was misleading. We argued that if a 'change of state' predicate is attached to a nominal expression, then subsequent pronominals must be interpreted in terms of that predicate. The experimental work of Garvey et al. (1975) and Caramazza et al. (1977), using what they call 'verbs of implicit causality', lends support to this argument.

We might suggest, then, that a better analysis of *it* in extract (36) would involve not only the antecedent nominal expression, but also the accompanying predicate, as shown in (36b). (Throughout this discussion we indicate only the *salient* predicates required in interpretation. There are, of course, many other predicates which could be listed each time a pronoun is represented in this way.)

(36b) *My hair which I've just had curled* looks windblown all the time.

Notice that the nature of the entity to which *looks windblown* applies is different in (36b) from that in (36a).

In support of this view, there is Chastain's observation that, in some discourses, 'the descriptive content of the anaphorically connected singular terms accumulates over time' (1975: 232) (see also the full representations listed for discourse anaphors in Webber, 1978).

6.3.2 Pronouns and antecedent predicates

The representation proposed in (36b) for the pronoun in (36) may seem to make the information carried by a pronoun unnecessarily complex. There is evidence, however, that speakers' use of pronouns is indeed influenced by the predicates attached to

antecedent nominals. Extracts (37) and (38) are presented as two examples.

- (37) There's two different ladies go up to the whist and both have a wig and *they're* most natural.
- (38) Even an apprentice can make over twenty pound a week and *they* don't get much tax [taken] from that.

The correct interpretation of the reference of *they* in (37) depends on the hearer's understanding that there are two wigs and not one, as the nominal antecedent (*a wig*) by itself would suggest. In (38), there is a similar problem, with a singular nominal antecedent and a plural pronoun. By itself, the expression *an apprentice* might be interpreted as introducing a particular individual into the discourse. However, when interpreted in the context of the predicate *can make over twenty pound a week*, it has to be taken, not as a particular individual, but as *any* individual from a set of individuals to whom the lexical expression *apprentice* can be applied. The choice of subsequent pronoun (e.g. *he* or *they*) then simply reflects the speaker's perspective on whether he is considering a typical individual or a set of such individuals. The speaker of (38) chooses the latter. Examples (37) and (38) present a grammatical mismatch in terms of number agreement between antecedent nominal and subsequent pronoun. Extracts (39) and (40), both taken from descriptions of traffic accidents, seem to present a mismatch in terms of gender agreement.

- (39) There's a car going up the road and *he* comes to a crossroads.
- (40) The second car hasn't got time to avoid the person who swerved away to avoid the car that was pulling out and *he* hits *it*.

In example (39), the hearer is clearly required to infer that a car moving along a road must have a driver and that it is this inferred driver who the *he* is used to refer to. Example (40) presents a more complex problem. Despite the presence of both a human and a non-human antecedent for *he* and *it*, the most natural interpretation of what happened requires us to match the grammatically 'human' pronoun with the 'non-human' antecedent, and the 'non-human' pronoun with the 'human' antecedent. Such assignments appear to

be made on the basis of the roles of the two referents with regard to an antecedent predicate and a consequent predicate (i.e. X hasn't got time to avoid Y and X hits Y).

Whatever the proper explanation for the natural assignment in (40), it certainly does not seem to be on the basis of an antecedent nominal / anaphoric pronominal substitution relationship.

6.3.3 Pronouns and 'new' predicates

In considering the basis for determining referents from pronouns, we have concentrated so far on examples where some type of nominal antecedent does exist in the discourse prior to the occurrence of the pronoun. The inadequacy of the substitution approach is even more apparent in those situations where a pronoun occurs in a discourse with no antecedent nominal at all. It may be of interest to consider such examples in terms of their 'given/new' structure, as described in Chapter 5. That is, the speaker may structure his message in such a way that some 'new' information is attached to a 'given' element (i.e. a pronoun), intending to provide the hearer with a 'given / new' interpretive procedure. However, the hearer may have to reverse that procedure and use the 'new' information to decide what the 'given' referent must have been.

The use of the pronoun *she* near the end of extract (41) provides one example of this process.

- (41) (Talking about the First World War) I used to go about with a chap – I don't know whether he's still alive now or not – but – there was nine – ten – eleven in the family altogether – two girls – and nine boys – and *she* lost eight sons one after the other

In example (41) there is no linguistic expression which could be treated as the direct antecedent for *she*. Of course, we can propose that if the speaker is talking about a *family* and there is a female referent (*she*) who *lost eight sons*, then we can infer that it is 'the mother' the speaker is referring to. Notice that, if the hearer does follow this procedure, then he is using 'new' information to determine a 'given' referent.

Example (41) raises a serious problem for any analysis of pronouns as conveying 'given' information which depends on a referential assignment via information in the preceding discourse. Unfortunately, one of the most influential views of how we process pronouns in discourse, the 'given – new strategy' of Clark & Clark

(1977), is based on a dependency of this sort. In the following extracts from conversational discourse, the examples of pronouns used to realise 'given' information should 'serve as an address directing the listener to where "new" information should be stored' (Haviland & Clark, 1974: 520).

- (42) one of our main jobs in the Botanic is writing on the flora of Turkey + *they* . . .
- (43) I have a cousin who's very deaf + and she can't hear Jessie + because Jessie speaks too loudly + you see *she* . . .
- (44) Oh I was on the bus and + *he* . . .

We think it should be obvious that in none of these fragments, (42)–(44), is there a situation in which 'listeners can be confident that the given information conveys information they can identify uniquely' (Clark & Clark, 1977: 92). Rather, there is, on each occasion, more than one potential referent for the pronoun. The interpretation of the reference of these pronouns depends on what is predicated of them, and is not solely determined by information in the preceding discourse. The reader can, of course, make predictions about the referential assignment of these pronouns on the basis of extracts (42)–(44) alone. Those predictions can be confirmed (or not) by consideration of the subsequent predicates, as shown in (42a)–(44a).

- (42a) one of our main jobs in the Botanic is writing on the flora of Turkey + *they* don't have the scientists to do it.

In this example, it seems that the speaker has assumed that, if he is talking about a country, he can refer to a group of people in that country without having to assert explicitly that 'Turkey has people in it'. If that is a required inference on the hearer's part, then it can only take place after the hearer has heard the 'new' predicate attached to the pronoun *they*. We might also note that, if 'the people of Turkey' are part of the extended domain of reference of an expression such as *Turkey*, then yet another psycholinguistic processing claim regarding pronouns is undermined. Sanford & Garrod (1981) claim that 'pronouns can never be used to identify implied entities in the extended domain of reference'. Clearly, they can, as in extract (42a) and again in (44a).

Extract (43a) exhibits a resolution problem similar to the one described in example (4c) earlier, where it is not a case of a missing antecedent, but of a choice between competing antecedents.

- (43a) I have a cousin who's very deaf + and she can't hear Jessie + because Jessie speaks too loudly + you see *she* shouts at her

Given the 'new' predicate in (43a), the hearer can choose the most likely referent for the *she*, probably on the basis of the 'roles' filled by the two participants in the situation.

- (44a) oh I was on the bus and + *he* didn't stop at the right stop

Just as a car involved in a car crash is most likely to have a driver, as in (39), so too is a bus carrying passengers. It may be, of course, that there is only a limited set of such 'situations' in which pronouns can be used to refer to implied entities. If that is the case, then it is our job to characterise the limited set, rather than describe the processing of pronouns as if the set did not exist (e.g. Clark & Clark, 1977) or to claim that such processing *never* takes place (e.g. Sanford & Garrod, 1981).

Examples (42)–(44) have been presented as illustration of the fact that we need to take 'new' predicates into account when assigning an interpretation to some 'given' elements, such as pronouns in discourse. These examples may also provide support for a point made earlier in section 6.2.1, that speakers' and hearers' representations of a discourse are unlikely to be perfect matches. If a hearer has to construct, from what the speaker says, an interpretation of the most likely intended referent, then interpreting pronouns may present special problems. Speaker D, in the following conversational fragment, indicates (with his question) the problem he is having with determining one of speaker C's intended referents.

- (45) (both speakers are looking at a photograph in a book)
 C: it's quite an interesting book actually + *he* was a surgeon and photographer +
 D: a surgeon and photographer?
 C: the man who took the photographs
 D: oh I see I see

It may be, of course, that, unlike speaker D in extract (45), we do

not always indicate when we have failed to identify the speaker's intended referent. It is difficult, however, to imagine what type of evidence (other than an indication by one of the participants of confusion) we could reliably use to characterise such potential failures on other occasions, e.g. in examples (37)–(44).

6.3.4 Interpreting pronominal reference in discourse

On what does the hearer base his interpretation of the referent of a pronoun in discourse? We have suggested in this section that he may have to use his knowledge of (some of) the elements listed below.

- an antecedent nominal expression
- and / or an antecedent predicate expression
- and / or an implicit antecedent predicate
- and / or the 'roles' of antecedent nominal expressions
- and / or the 'new' predicates attached to the pronoun

We have also noted in section 5.2.1 that, in some types of discourse, pronouns are most typically used to refer to 'current' entities. It may be that hearers can use this type of regularity as a basis for their referential assignments. That is, in extract (46), the hearer can interpret the pronoun *it* as a reference to the 'current entity' (*the square*) and not to the 'displaced entity' (*the page*), even though the grammatical categories (number and gender) do not provide distinguishing clues.

- (46) in the middle of the page there's + a square + quite large + and near the bottom of *it* + there's a number five + in red

Alternatively, in other types of discourse, there may be an overwhelming tendency to reserve pronouns for reference to 'topic entities' in the discourse, as we noted in section 4.3.2. In extract (47), the hearer can interpret all uses of feminine gender pronouns as references to the main character (*the woman*) and not to the subsidiary character (*the old lady*).

- (47) when the woman arrives at the checkout counter + there's an old lady following *her* + and + *she* pays for all the goods except for + the bottle in *her* bag + I think + outside the supermarket the + the old lady catches *her* up + and produces the bag – the bottle and + I think *she* must have been charged with shoplifting +

These last two strategies of reference-resolution suggest that the proper direction of future research in this area should not be limited to further investigations of how people interpret pronouns in decontextualised sentence pairs, but rather should be based on more naturally occurring discourse of different types. We hope that our presentation of some of the complexities involved in the interpretation of pronominal reference will stimulate such research and discourage the reader from accepting any simplistic 'substitution' view of the function of pronouns in discourse.

7

Coherence in the interpretation of discourse

7.1 Coherence in discourse

One of the pervasive illusions which persists in the analysis of language is that we understand the meaning of a linguistic message solely on the basis of the words and structure of the sentence(s) used to convey that message. We certainly rely on the syntactic structure and lexical items used in a linguistic message to arrive at an interpretation, but it is a mistake to think that we operate only with this literal input to our understanding. ① We can recognise, for example, when a writer has produced a perfectly grammatical sentence from which we can derive a literal interpretation, but which we would not claim to have understood, simply because we need more information. Extract (1), the first sentence of a novel, may provide an illustration of this point.

- (1) Within five minutes, or ten minutes, no more than that, three of the others had called her on the telephone to ask her if she had heard that something had happened out there.
(Tom Wolfe, *The Right Stuff*, Bantam Books, 1981)

The novelist is, of course, leading his reader to read on and find out just what the first sentence, though literally complete, has only partially described.

At the opposite extreme, we can point to linguistic messages which are not presented in sentences and consequently can't be discussed in terms of syntactic well-formedness, but which are readily interpreted. Our lives are full of such 'fragments', as in extract (2) from an Edinburgh University notice board and extracts (3) and (4) from newspaper advertisements. ②

- (2) Epistemics Seminar: Thursday 3rd June, 2.00 p.m.
Steve Harlow (Department of Linguistics, University of York).
'Welsh and Generalised Phrase Structure Grammar'