

2 Two Key Studies

In this chapter we will consider two key studies to illustrate conversation analysis (CA) and discourse analysis (DA). The first is Sacks, Schegloff and Jefferson's (1974) study of the organisation of turn-taking in everyday interaction, and the second is Gilbert and Mulkey's (1984) study of scientists' discourse about a dispute in biochemistry.

These two studies are not the only studies of their kind, nor were they the first of their kind to be published. Sacks' lectures on the organisation of conversation date back to 1964, and although they were not published collectively until 1992, they were available in mimeographed form during the 1960s. Moreover, Sacks and his colleagues were publishing the results of their studies during the late 1960s and early 1970s prior to the publication of their research on turn-taking. Similarly, Mulkey and his colleagues were developing discourse analysis as an approach in the sociological study of scientific knowledge in numerous publications during the early 1980s. But there are good reasons for choosing these studies to illustrate CA and DA.

Both studies have attained a distinctive prominence in their respective fields. Each study is regularly cited in contemporary research papers. This means that the value and influence of the research has not diminished since their original publication. More important, each study addresses many of the issues which have subsequently developed into core concerns for CA and DA, or which are closely associated with these approaches. So, Sacks *et al.*'s study has been chosen because it illustrates key methodological features of conversation analysis, such as the analysis of mundane verbal interaction as a systematic and highly organised phenomenon, and close attention to the detail of naturally-occurring activities. It also allows us to indicate some of the kinds of substantive issues which have been at the centre of conversation analytic research since Sacks' groundbreaking studies. Similarly, Gilbert and Mulkey's study of scientists' discourse enables us to outline key features of the DA approach: for example, the focus on the functional orientation of language use, the acknowledgement of variability in accounts, and the examination of broad regularities in the ways in which accounts are constructed. In this sense, these studies stand as excellent exemplars of conversation and discourse analysis. But they also stimulated and gave shape to subsequent research in their

respective fields. This means that they allow us to draw more general observations about CA and DA.

Conversation analysis and the organisation of turn-taking

Turn-taking in ordinary conversation is a remarkable achievement. At the start of any period of interaction, neither party knows in advance how many turns they will take, what the topics will be or the order in which they will be addressed, how long each turn may be, whether or not someone else will join in, and if they do, how are turns to be allocated among the respective parties, and so on. Moreover, the length of a speaker's turn is not fixed at the start of the turn. Yet despite these and numerous other uncertainties, it is highly likely that turn transfer will be achieved in an orderly fashion: there will be very few periods where more than one party is talking, and these will be relatively short-lived, and successive turns will be built so as to minimise any gap or delay before the next speaker, indicating that there is an impressive degree of precision timing in the placement of turns in relation to each other. How is this degree of orderliness achieved?

Sacks, Schegloff and Jefferson described the kind of systematic procedures that participants were using to conduct turn transfer. The system they identified has turn construction components and a set of procedures for turn allocation.

Turn construction components

Turns at talk are built out of turn construction units (TCUs): these are syntactically bounded lexical, clausal, phrasal or sentential units. They are, loosely, the building blocks from which turns are constructed. In addition to grammatically complete sentences, turns can be built from single words, non-lexical utterances ('huh?'), single phrases and clauses. These latter three turn types are illustrated in the following three extracts. (Arrows indicate the relevant turn.)

(2.1) Single word turn (From Sacks *et al*, 1974: 702, n. 12)

- Fern: Well they're not comin'
 -> Lana: Who.
 Fern: Uh Pam, unless the c'n find somebody.

(2.2) Single phrase turn (From Sacks *et al*, 1974: 702, n. 12)

- Anna: Was last night the first time you met Missiz Kelly?
 (1.0)
 Bea: Met whom?
 -> Anna: Missiz Kelly.
 Bea: Yes

(2.3) Single clause turns (From Sacks *et al*, 1974: 703, n. 12)

- A: Uh you been down here before -havencha.
 B: -yeh.
 -> A: Where the sidewalk is?
 B: Yeah,

These three extracts also illustrate a common feature of everyday interaction: the absence of any gaps between successive turns. With the exception of the one second gap in extract 2.2 (which arises because of a problem in the interaction, namely Bea's failure to recognise the person named in the prior turn), there seems to be a remarkable degree of precision timing in the way consecutive speakers initiate their turns.

How is this managed? How do next speakers know when it is appropriate to start their turn? A key factor in this achievement is our tacit, taken-for-granted knowledge about turn construction units. At the end of each turn construction unit there occurs a transition relevance place (TRP). A property of any turn construction unit is that, at its completion, another speaker may start: it is a place where turn-transfer may be initiated. We say that turn-transfer becomes relevant at the end of a turn construction unit to emphasise that it is not mandatory; rather, that if it is going to occur, this is where it is likely to happen. And as we shall see, speakers overwhelmingly try to initiate their turns at, or in close proximity to, transition relevance places. This demonstrates that we operate with a tacit understanding that initiating turn-transfer at these places is normatively appropriate. A second property of turn construction units is that once they are underway, we can anticipate when they will end. Being able to project a forthcoming transition relevance place means that next speakers are able to time their turn initiations with some precision. This can result in multiple simultaneous starts by possible next speakers; for example:

(2.4) (From Sacks *et al*, 1974: 707)

- Mike: I know who d' guy is =
 Vic = - He's ba::d,
 James: = - You know the gu:y?

Procedures for turn allocation

The turn allocation procedures for conversation are distributed into two groups: those in which the current speaker selects the next speaker, and those in which the next speaker is self-selected. So, at the initial transition relevance place of a turn, the following options are relevant.

Rule 1(a) If the current speaker has identified, or selected, a particular next speaker, then that speaker should take a turn at that place.

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(2.5) (From Sacks *et al*, 1974: 717)

- S: Oscar did you work for somebody before you worked for Zappa?
 O: Yeh, many many. (3.0) Canned Heat for a year.

In this case, S uses a person's name to identify the appropriate next speaker.

Rule 1(b) If no such selection has been made, then any next speaker may (but need not) self-select at that point. If self-selection occurs, then first speaker has the right to the turn.

(2.6) (From Sacks *et al*, 1974: 707)

- Lil: Bertha's lost on our scale, about fourteen pounds.
 D: Oh-::no::.
 Jean: -Twelve pounds I think wasn't it?

Here Lil's announcement is not directed to a specific recipient, and thus two people select themselves as next speakers at the transition relevance place at the end of 'pounds'.

Rule 1(c) If no next speaker has been selected, then alternatively the current speaker may, but need not, continue talking with another turn constructional unit, unless another speaker has self-selected, in which case that speaker gains the right to the turn.

(2.7) (From Sacks *et al*, 1974: 704)

- Ava: He, he 'n Jo were like on the outs, yih know?
 (0.7)
 Ava: - So uh,
 Bee: -They always are

Here, after Ava's observation, no next speaker has self-selected up to nearly a second into the onset of a transition relevance place. Then Ava attempts to continue her turn ('so' indicating that what follows is somehow connected to a prior turn), at the same time that Bee self-selects. Ava then abandons her turn.

Rule 2 Whichever option has operated, then rules 1(a)–(c) come into play again for the next transition relevance place.

The procedures for turn allocation are described in the original Sacks *et al.*'s paper as a series of *rules*. Before we go on, however, it is necessary to discuss what they meant by the word 'rule'. They are not claiming to have identified a set of determinate rules the application of which govern turn-taking. Rather, speaker transfer is taken to be an accomplishment, achieved as a consequence of mutually coordinated speaker sensitivity to those procedures or conventions for effecting such change. It is locally managed by the parties involved, that is, an interactional achievement coordinated 'on the spot' (Schegloff, 1992c).

There are some distinctive features about the system identified by Sacks *et al.* It can be said to be context independent because it does not rely on particulars of the circumstance to operate. People manage turn-taking in the street or at work as well as in their homes; it occurs between lovers and friends as well as between colleagues and strangers; and it works in periods of economic boom as well as during recessions. However, this system is also context sensitive, in that any actual instantiation of these options will be managed on a turn-by-turn basis. This is because these turn-taking options become relevant at the completion of each and every turn construction unit (unless the current speaker has indicated that she is engaged in an activity which requires the temporary suspension of turn-taking, for example, telling a story or a joke).

How does this system account for the features of mundane conversation we discussed earlier? For example, it was noted that it is routinely the case that one party speaks at a time; furthermore, that although there are gaps in the conversation during occasions of speaker transfer, these are very rare; and finally, that although there are instances of more than one party speaking at the same time, these spates of overlapping talk are very brief.

We observed that one way to achieve turn-transfer is for the current speaker to select the next speaker. Consequently, co-participants have at a least one motivating reason for not speaking while someone else is speaking, and that is to monitor the turn in progress to see if they will be selected by the current speaker as the next speaker. In those cases in which the turn in progress has not selected a next speaker, then turn-transfer may commence at the first available transition relevance place. Potential next speakers must therefore monitor the turn in progress to locate the end of the turn construction unit. Thus there are two respects in which close monitoring of the on-going turn is built into the system. Close monitoring is impeded if possible next speakers are engaged in simultaneous verbal activities. Thus the system provides an account for the observation that only one party tends to speak at any time.

There are several ways in which the system ensures that gaps between turns are minimised. We have already noted that the completion of turn construction units can be anticipated. Possible next speakers can thus anticipate with some accuracy the impending arrival of transition relevance places, and thus initiate their turns accordingly. But there are other features of the system's organisation which ensures minimal between turn gaps. For example, if the next speaker is not selected in the turn in production, then potential next speakers may

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self-select at the first transition place. If there is more than one possible next speaker, there is a premium in starting to talk as early as possible to ensure possession of the floor. So, the system provides a motivation for potential next speakers to begin talking as close as possible to the completion of the first turn construction unit. Similarly, it is possible that the current speaker may self-select and continue beyond the transition place. So, again, to ensure possession of the floor, any co-participant who wishes to take a turn needs to start talking as early as possible at the next available turn transition place.

If a current speaker selects next, the person so selected not only has the rights to start talking, but is obliged to do so, insofar as she has been allocated a turn in which to speak. Gaps after turns in which the next speaker has been selected will be heard by co-participants as the absence of a specific person's talk. In such instances, the absence of talk is a normatively accountable matter, in that negative inferences may be drawn about the speaker because they are not taking a turn allocated to them. Thus the system encourages allocated next speakers to start their turn at the earliest point.

This system also furnishes similar explanations for occasions in which more than one party is speaking, and also the briefness of such spates of overlapping talk. Because participants can project the onset of places where turn-transfer may be attempted, they are able to start up their talk just prior to the end of the current TCU. The following extract, from Pomerantz's study of responses to assessments, illustrates this.

(2.8) (From Pomerantz, 1984: 59)

- A: Adeline's such a swell -gal
 P: -Oh God, whadda gal

Overlaps can also arise when there is a 'collision' of a next speaker starting at a transfer relevance place and the current speaker adding further turn components which do not significantly continue the turn. These non-continuing components can be tag questions (such as 'isn't it', 'didn't we', and so on), word repetitions, and politeness items. To illustrate, consider the next three extracts, which come from a corpus of calls to the British Airways flight information service.

(2.9) (From Wooffitt *et al*, 1997: 107. 'A' is the British Airways flight information agent, and 'C' is the caller.)

- 14 A: yes we've got the bee ay zero five six
 15 C: bee ay zero five six
 16 A: to arrive at oh seven hundred in the morning
 17 C: oh seven hundred and which uh
 18 which te -rminial -is it
 19 A: -hh -terminal four

The caller begins to ask a question concerning the terminal at which a particular flight will arrive. Before this turn is complete, the agent is able to predict that the next TRP will come at the end of the word 'terminal'. Evidence for this comes from the agent's in-breath after the initial sound of the word 'terminal', indicating she is gearing up to speak. She begins her next turn right at the anticipated end of the turn construction unit 'which terminal'. However, the caller's addition of a further component ('is it') at the TRP results in a short period of overlapping talk.

(2.10) (From Wooffitt *et al.*, 1997: 115)

- 127 A: does he know you,
 128 C: yes he does -he does
 129 A: -right

Here, the overlap arises because the Agent initiates her turn at the transition relevance place following the turn construction unit 'yes he does', at the same time that the Caller repeats her last two words.

(2.11) (From Wooffitt *et al.*, 1997: 109)

- 10 A: yes the four three one from amsterdam
 11 came in at thirteen oh five madam
 12 (1)
 13 C: thirteen oh five l-ovely thank you very
 14 A: -that's right
 15 C: much indeed for your help

Here in line 13 the caller repeats the information the agent has provided. Pretty much at the anticipated end of the turn construction unit in which the repeat is done, the agent confirms the information, and thus overlaps with the caller who has now initiated another turn construction unit to thank the Agent.

Jefferson has conducted extensive analyses of the organisation of overlapping talk (Jefferson, 1983, 1986). The clear finding from her studies is that instances of overlap are either the result of next speakers starting in anticipation of the forthcoming transfer relevant place, or the consequence of speakers orienting to the relevance of different aspects of the rule set identified by Sacks *et al.* Routinely, then, instances of overlapping talk transpire to be an orderly consequence of that system, not a deviation from it.

The turn-by-turn development of interaction is not simply a series of utterances coming one after another from different participants. There are connections between turns which yield describable and consistent properties. To illustrate this we need to go back to Rule 1(a) of the model outlined by Sacks *et al.* and consider one powerful method by which a current speaker can select a next speaker.

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In extract 2.5, S asks the question, 'Oscar did you work for somebody before you worked for Zappa?' and thereby issues the first part of a question–answer *paired action sequence*.

Intuitively, it seems that some kinds of conversational actions belong with each other. Greetings, such as 'hi'–'hi' seem to form a 'natural' pair. It also seems natural that questions will be followed by answers, and that offers will be followed by acceptances (or refusals), and so on. Right from the start of his studies of interaction Sacks was interested in these kinds of paired units. To provide a formal account of their generic properties, Sacks proposed the concept of the *adjacency pair* (more formally outlined in Schegloff and Sacks, 1973). Heritage (1984a) provides the following formulation. An adjacency pair is a sequence of two utterances which are adjacent, produced by different speakers, ordered as a first part and second part and typed, so that a first part requires a particular second, or range of second parts (Heritage, 1984a: 246). An invitation, then, would be the first part of an invitation–response pair, a question the first part of a question–answer pair, and a greeting the first part of a greeting–greeting pair.

There is a normative relationship between the turns that constitute paired sequences. A speaker's production of the first part of a pair generates the expectation that an allocated next speaker *should* produce the appropriate second part. The second part of a pair is said to be conditionally relevant after the production of a first part (Schegloff, 1972a). So, if a next speaker is selected via the first part of a pair, not only are they obliged to speak, but they will be expected to provide the appropriate second pair part, or an account for its absence.

Heritage (1984a: 247–3) discusses various kinds of evidence that participants in interaction are sensitive to these expectations. We will discuss just one: what happens when a first part of a pair has been produced, but the appropriate next part is not forthcoming. In extract 2.12, a child has asked her mother a question. After a gap of over a second, the mother has not answered, and the child speaks again.

(2.12) (From Atkinson and Drew, 1979: 52; discussed in Heritage, 1984a: 248–9)

- Child: Have to cut the:se Mummy
(1.3)
Child: Won't we Mummy
(1.5)
Child: Won't we
Mother: Yes

Had the child interpreted the mother's silence as indicating that she hadn't heard the question, it is likely that it would have been repeated, perhaps louder. Instead, the child provides increasingly truncated versions of the initial question.

This indicates that she is proceeding on the assumption that Mother has heard but has not answered. The normative expectation that the appropriate second part should be produced is still in force. The child's next two utterances thus constitute prompts to her mother to produce the now conditionally relevant appropriate second part. This illustrates a common phenomenon: first speakers will pursue the absent second part, thus displaying their tacit understanding that its absence is noticeable because it breaches a norm of paired action sequences.

This extract also illustrates a broader feature of the way interaction develops on a turn-by-turn basis. The child's subsequent turns exhibit her understanding of the current state-of-play at that precise moment in the interaction with her mother. That is, the design of her turn displays her interpretation of her mother's (non)response. This is an intrinsic feature of interaction: the way we design our turns unavoidably displays the kind of inferences we are making. Heritage makes this point by reference to the following extract:

(2.13) (From Heritage, 1984a: 254–5.)

- B: Why don't you come and see me some -times
 A: -I would like to

As Heritage notes, B's turn 'Why don't you come and see me sometimes' could be interpreted in a number of ways: as an invitation, or as a genuine question, or as a complaint, and so on. But A's response displays her understanding of the activity performed by the prior turn. She produces an acceptance; this strongly suggests that she was interpreting B's prior turn as an invitation. In this sense, our on-going interpretations of interaction are publicly visible, as each turn successively exhibits its producers' interpretation of the prior turn (or, less commonly, a turn other than the immediately prior turn).

This is a valuable resource in establishing mutual intelligibility. Next positioning of utterances allows participants in interaction to monitor each others' understanding on a turn-by-turn basis. Through successive turns, participants can establish and revise their understanding of the interaction. It also provides the basis upon which misunderstandings can be identified and addressed. Moreover, next positioning is a significant methodological resource for the analyst: analytic claims about the organisation of participants' sense-making activities can be derived from inspection of, and warranted by reference to, the observable activities of the participants themselves. This in turn means that the analyst is liberated from having to make interpretative claims on behalf of the participants whose interaction is being studied (Sacks *et al.*, 1974: 728–9).

Other approaches to the study of oral communication

One of the objectives of this book is to assess different ways of studying how people talk to each other in everyday and more formal settings. So, as we

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progress through the book we will consider a range of approaches to the study of language use in interaction. However, the study of language use is a wider and more diverse field than can be accommodated within this book. For example, in a review of methodologies for studying discourse, Schiffrin (1994) identifies:

- speech act theory: the study of the activities performed by utterances and the investigation of the pre-conditions necessary for an utterance to be interpreted as a particular kind of act;
- interactional sociolinguistics: the analysis of the ways in which common grammatical knowledge may be mobilised by different social or ethnic groups, leading to misalignment in understanding, or the ways in which particular linguistic features are produced for particular settings and contexts;
- the ethnography of communication: a broadly anthropologically oriented approach which investigates communicative competencies specific to different cultures;
- pragmatics: the branch of linguistics which studies language use, as opposed to the structure of language;
- conversation analysis: the analysis of the sequential organisation of interaction; and
- variation analysis: the formal investigation of the ways in which language use varies and changes between groups and across time.

This list reflects the range of methodological and substantive perspectives common to communication researchers in North America. But even this excludes approaches to language use conducted in experimental psychology. Furthermore, to this list we could add those approaches more associated with European communication research, such as that kind of discourse analysis which draws from linguistics (a brief discussion of which comes later in this chapter), the discourse analysis associated with Gilbert and Mulkay, Edwards, Potter and Wetherell, critical discourse analysis and Foucauldian discourse analysis (all of which receive extended treatments in this book).

There are, then, a range of approaches to the study of language use, communication and interaction. This book, though, has a specific focus on the relationship between CA and DA, and we will not have time to cover other approaches. But it is important for readers to be aware that there are methodologies and perspectives other than those being discussed in this book. To get a sense of the range and style of communication research being undertaken in addition to conversation analysis and discourse analysis, readers are advised to consult journals such as *Discourse and Society*, *Discourse Process*, *Discourse Studies*, *Human Communication Research*, the *Journal of Language and Social Psychology*, the *Journal of Sociolinguistics*, *Language in Society*, *Language Variation and Change*, the *Journal of Pragmatics*, *Semiotica*, *Text*, the *Western Journal of Communication*, and the *Quarterly Journal of Speech*.

Summary

- Sacks *et al.*'s study of turn-taking focused on the structure of turn design, and showed that speakers orient to particular locations in talk as places where turn-transfer may be initiated.
- Their study illustrated some of the normative conventions which underpin turn-transfer.
- Paired action sequences are fundamental units of interaction.
- CA examines how speakers' conduct displays a sensitivity to the normative expectations associated with sequential organisations, such as paired actions sequences.
- There is a focus on people's own interpretation of on-going interaction as revealed in turn-by-turn unfolding of conversation.

Discourse analysis and interpretative repertoires in scientists' discourse

Gilbert and Mulkey's discourse analysis was based on the recognition of the variability in, and the context dependence of, participants' discourse. Their analytic goal was to discover the systematic features of scientists' discourse by which accounts of beliefs and actions were organised in 'contextually appropriate ways' (1984: 14). They were concerned with two kinds of contexts in which scientific discourse was produced: formal contexts, such as research papers published in academic journals; and informal contexts, such as interviews. They argued that for the purpose of analysis, no form of discourse could be considered to be superior to any other. The analyst was obliged, therefore, to consider all forms of discourse, thus having to address a wider range of data than was common in conventional sociological research.

Gilbert and Mulkey found that scientists' discourse in formal academic journals was systematically different from the discourse generated in informal interviews. It is important to keep in mind, though, that they were not claiming that the context should be viewed as somehow 'standing apart' from the discourse which occurs within it; nor that the context of discourse determines the features of accounts. Rather, they were indicating that these distinctive patterns of description construct and constitute the context, be that 'informal interaction' or 'formal research literature'.

Scientists constructed the formal and informal contexts through the use of two 'interpretative repertoires'. These are 'recurrently used systems of terms used for characterizing and evaluating actions, events and other phenomena' (Potter and Wetherell, 1987: 149). Repertoires may be characterised by a distinctive vocabulary, particular grammatical and stylistic features, and the occurrence of specific figures of speech, idiomatic expressions and metaphors. Formal contexts were constituted through the use of an *empiricist repertoire*, which derives from and

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endorses a 'common sense' or conventional view of scientific work: that the scientist is impartial as to the results of scientific work, and whose feelings, attitudes, personality, and so on, are irrelevant to the outcome of research. It also promotes the significance of experimental procedures as a reliable method by which to discover objective facts about the physical universe. It is also characterised by formal language which obscures the active role of individual scientists. For example, consider the following opening from a research paper on the chemical processes involved in the production of adenosine triphosphate (ATP).

(2.14) (From Gilbert and Mulkay, 1984: 41)

A long held assumption concerning oxidative phosphorylation has been that the energy available from oxidation-reduction reactions is used to drive the formation of the terminal covalent anhydride bond in ATP. Contrary to this view, recent results from several laboratories suggest that energy is used primarily to promote the binding of ADP and phosphate in a catalytically competent mode and ... to facilitate the release of bound ATP.

Note that the 'long held assumption' is unattributed: it seems to be free standing, unconnected to the work or activities of particular scientists. This is a routine feature of formal scientific research papers: the use of phrases such as 'it was discovered that ...', 'the results showed...' or 'the experiments confirmed ...' portrays experimental findings as nuggets of knowledge which popped into existence without any assistance from the scientists and technicians conducting the experiment. Research papers do not state that 'Dr Evans believes that ...' or 'Janet's results indicated ...'. Note also that evidence which challenges this assumption is reported as coming from 'laboratories': again, individual scientists are not named. The style of the quotation thus illustrates a powerful convention in scientific writing: the agency or personal commitments of the author are excluded. In this sense, the empiricist repertoire has the function of depicting the 'out-there-ness' of scientific phenomena (Woolgar, 1980: 256), in that it leads us to view scientific claims as representing objective features of the natural world, independent of the desires, motivation and personality of the people who individually or collectively conducted the research.

Informal contexts were characterised by the use of the *contingent repertoire*. In this, biographical or personal features of the scientist are implicitly or explicitly invoked to account for scientific activities or claims; for example, the interpretation of experimental results, or why particular theories may be endorsed or rejected. Moreover, the laboratory and experimental procedures are characterised in terms of social factors: commitments or friendships between scientists, interpersonal rivalries, tacit knowledge about the ways in which experiments should be conducted, and so on. Consider the following extract, which comes from an informal interview conducted by Gilbert and Mulkay with a scientist involved in the dispute about oxidative phosphorylation.

(2.15) (From Gilbert and Mulkay, 1984: 65)

But Waters didn't believe any of it. None of it. He'd been brought up with the chemical theory. He'd made several contributions to that. He'd interpreted all his work on [a particular reagent] in terms of it, in a complicated way. He was a great friend of Watson's. He knew Gowan. It was American anyway. The chemiosmotic theory, as far as he was concerned, was a little bit of a joke.

In this passage, the speaker accounts for the position of a senior scientist in the dispute by reference to a range of contingent or non-scientific factors: personality (a dogmatic refusal to consider alternative theories); biography (a history of personal commitment to a particular theory); career (a life of research informed by that theory); social commitments (friendships with leading scientists associated with the theory), and even geography (the alternative theory is promoted by a scientist in a different county).

In short, the empiricist repertoire sees the scientist as detached, working in accord with universally accepted experimental procedure, and humble before the facts, wherever they may lead. In the contingent repertoire, the scientist is portrayed as a social being, whose scientific work and beliefs are not easily divorced from wider nexus of desires, hopes and affiliations which characterise everyday human action.

Gilbert and Mulkay explored the ways in which these two repertoires provided scientists with discursive resources by which they could address a sensitive issue. Each scientist they interviewed took it that their own scientific beliefs were correct. They were warranted through the use of the empiricist repertoire: results from properly conducted experiments forced them to acknowledge the factual status of particular claims. But how, then, to account for the errors of other scientists who espoused different interpretations of experimental results and proposed alternative theories? If scientific method allows scientists to uncover objective facts about the universe, how come some scientists get it wrong? The contingent repertoire was invoked to deal with this: personal or social issues were distorting other scientists' research. Consider the following extract, which comes from interviews in which scientists were describing theories that differed from their own.

(2.16) (From Gilbert and Mulkay, 1984: 65)

People like Gowan and Fennel especially and Milner, certainly had many publications ... and they had a lot invested in that field and I think they were psychologically a little bit reluctant to follow the lead of ... somebody else completely.

Factors which are not supposed to intrude upon scientific procedure (psychological traits, personal investment and individual friendships) are used to

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account for other scientists' error. (Similar kinds of accounting practices are illustrated in extract 2.15.)

There was, then, asymmetry in the ways in which scientists characterised and accounted for correct and incorrect beliefs. However, we should not treat these accounts at face value, as if they revealed that some scientists in fact were allowing their view to be distorted by social or psychological factors while others simply developed their theories on the basis of objective experimental results. Gilbert and Mulkay noted that almost everyone they had interviewed had their work explained away by reference to the contingent repertoire by someone else. As Potter and Wetherell note 'this seems a very good reason for not taking ... discourse as a model of what is the case' (Potter and Wetherell, 1987: 152).

While formal contexts such as published research papers were invariably constructed through the empiricist repertoire, both repertoires could be invoked during informal interviews. The availability of the empiricist and contingent repertoire presented some sharp interpretative problems for scientists during the interviews. Scientists account for others' beliefs in terms of distorting psychological or social influences. But given that science is meant to proceed according to the principles of objectivity and experimental method, does this constitute a more general threat to the value of scientific activity? That is,

If scientists regularly draw upon and move between two quite different repertoires, how is it that potential contradictions between these repertoires do not require constant attention? (Gilbert and Mulkay, 1984: 90)

Gilbert and Mulkay identified a descriptive practice which allowed scientists to reconcile the contradictions inherent in these two repertoires. They called this the Truth Will Out Device, or TWOD. Examples of Truth Will Out-type formulations are 'in the fullness of time', 'with more experimental evidence', 'the facts will become clear', and so on. They are used to anticipate the (invariably unspecified) future date at which sufficient evidence will have been accumulated to settle any current debates. The device allows the scientist to draw upon the contingent repertoire to account for other scientists' erroneous beliefs, while at the same time implicitly supporting the broader principle that the scientific method does indeed provide a unique access to objective physical phenomena, and will ultimately reveal Nature's secrets. It also suggests that any on-going disagreements and conflicts are not an intrinsic part of scientific work but arise because the scientific method has not yet prevailed: 'Gradually, it is implied, the realities of the physical world will be recognised; and idiosyncratic, social, distorting influences will consequently be seen as such' (Gilbert and Mulkay, 1984: 94).

To illustrate, look at the following extract; this comes near the end of a scientist's description of the oxidative phosphorylation dispute in biochemistry.

(2.17) (From Gilbert and Mulkey, 1984: 93; original italics)

I think *ultimately* that science is so structured that none of those things are important and that what is important is scientific facts themselves, what comes out at the end.

The Truth Will Out Device has an elastic temporal dimension, in that confidence that any particular dispute *will* eventually be settled does not rely on having to specify *when* that closure will occur. This has the further interpretative advantage of allowing scientists to acknowledge that scientific controversies may be deep-rooted and long-lasting without also jeopardising the idea that the scientific method is infallible.

Discourse analysis, discourse analysis and discourse analysis

Gilbert and Mulkey adopted the term 'discourse analysis' to describe the kind of empirical work they were advocating. However, with hindsight, this was perhaps not a wise choice, as at the time there were two other forms of analysis which were known by this title. There was the work that drew from linguistic and sociolinguistics which tried to analyse the relationship between components of spoken discourse in much the same way that components of written language could be analysed. So, mirroring the analysis of grammatical rules which ordered the combination of clauses, verbs, nouns and so on, attempts were made to discover if episodes of verbal interaction displayed quasi-syntactical rules. In this way, analysts tried to identify the formal architecture of real-life speech situations and the formal rules which governed the production of speech acts. Introductions to and illustrations of this approach can be found in Brown and Yule (1983), Coulthard, (1977) and Coulthard and Montgomery (1981). However, there have been a number of critical assessments of the assumptions which guide empirical analysis in this form of discourse analysis. Perhaps the most compelling critique has been offered by Levinson (1983: 286–94). He argues that the attempt to understand everyday talk in the same way that we can analyse the formal relationship between components of language is ill advised, as it does not take account of the socially organised, sequential organisation of verbal interaction. He goes on to conclude that CA's explicit focus on the way that utterances are designed to contribute to on-going sequences of actions offers greater insight to verbal communication in everyday and institutional settings.

The second kind of work known as discourse analysis was associated with the French social theorist and philosopher Michel Foucault (although he never consistently used the term to refer to his investigations). This form of discourse analysis tries to show how conventional ways of talking and writing within a culture serve political or ideological functions, in that they constrain or circumscribe how people think and act as social beings (for example, Foucault, 1970). Foucault's emphasis on the analysis of discourses, and its influence in critical social psychology, will be discussed in later chapters.

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Gilbert and Mulkey argued that their version of discourse analysis occupied a middle ground between the formal linguistic method and the more socio-cultural studies influenced by Foucault. But adopting the term discourse analysis when it was already associated with established and markedly different empirical enterprises invited confusion. And the situation would become even more confusing with the subsequent emergence of critical discourse analysis (for example, Fairclough, 1995), and the fact that the term 'discourse analysis' came to be used in some quarters as a generic term to refer to all forms of language analysis, including sociolinguistics, conversation analysis, speech act theory, and so on (for example, Schiffrin, 1994; van Dijk, 1991). For the purposes of this book, we will use 'discourse analysis' to refer to the work associated with Gilbert and Mulkey, and Edwards, Potter and Wetherell. But it is important to recognise that very different styles of empirical work are also known by this term.

Summary

- Gilbert and Mulkey adopted and developed the concept of the linguistic repertoire as a tool by which to show how accounts are constructed in contextually appropriate ways.
- The empiricist repertoire endorses a 'common sense' view of scientific work: that the scientist is impartial as to the results of scientific research. Scientists' feelings, attitudes, personality, and so on, are irrelevant to the outcome of research.
- The contingent repertoire focuses on scientists' biography or personality to account for scientific action. Laboratory and experimental procedures are characterised in terms of social factors, such as commitments or friendships, interpersonal rivalries, and tacit knowledge about the ways in which experiments should be conducted.
- Discourse analysis entails radical implications for social sciences which continue to rely on a representational view of language.

The broader perspectives of CA and DA

Conversation analysis

Sacks *et al.*'s study of turn-taking highlights a number of key features of conversation analytic research.

Methodology Sacks *et al.*, developed their account of turn-taking practices from analysis of recordings taken from a variety of kinds of everyday interaction. Use of naturally occurring data has come to be a distinctive feature of CA's approach. The emphasis upon the study of real-life interaction stemmed

from Sacks' broader objectives. What he was trying to do was develop a new method of sociology in which analytic observations were grounded in detailed analysis of actual instances of human behaviour. Thus he rejected artificially produced data, such as might be generated from an experimental setting (an approach associated with psychological studies of communication), or intuition, in which the analyst draws on his or her own experience and knowledge to examine how the social world is organised (associated by research informed by Austin's Speech Act Theory). Audio recordings of naturally occurring, 'real-life' interactions were relatively easy to obtain, and allowed the analyst to transcribe to whatever level of detail was needed, and permitted repeated listening and analysis.

On first viewing, the transcripts used by Sacks *et al.*, are not easy on the eye. However, to study turn-taking properly, it was necessary to have a representation of speech practices usually overlooked in transcripts which focus only on the spoken word. For example, the use of brackets cutting across lines of transcript to indicate periods of overlapping talk allows the analyst to show precisely when a potential next speaker initiates a turn. Using this transcription symbol allowed Sacks *et al.*, to establish that next turns are overwhelmingly built to occur at, or in close proximity to, the end of turn construction units.

As transcripts have come to provide detailed characterisations of the complexity of verbal interaction, so the rejection of intuition as an analytic guide has proved well founded. Introspection simply does not equip us to imagine, for example, how false starts to words, minor gaps between words and turns, and even the simple act of drawing breath can have real consequences for the way in which interaction unfolds. And as we saw earlier, the kind of work an utterance might be doing is crucially dependent on its location in a series of utterances. Even, say, a sophisticated appreciation of the formal syntactical and grammatical rules which govern the relationship between words would not equip the analyst to anticipate how those words might work in any particular setting.

Conversation analytic research proceeds by examination of collections of cases. Initially, analytic observations may be generated from the detailed examination of a particular case, for example, a sequence of turns which seems to display some interesting properties. Although the intensive analysis of single cases can yield important findings (for example, Schegloff, 1984; Whalen *et al.*, 1988), the majority of conversation analytic research aims to provide an account of an interactional practice generated from a consideration of number of instances. So having found something that seems analytically interesting, it is necessary to return to the corpus from which the initial instance was taken (or additionally, to consult other corpora if they are available and relevant) to see if there are more sequences with similar properties. The next step is to develop a more formal and detailed account of the organisation of the target exchange. This involves examining the sequential context of the phenomenon: for example, if the focus of interest is a particular two turn exchange, what kinds of turns precede and follow that exchange? If patterns can be identified,

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then there is the basis for a systematic analytic description. Finally, the analyst can return to the data to determine if other instances of the phenomenon can be described in terms of this account. In this way substantial collection of instances can be established, from the analysis of which a refined and formal account of the phenomena can be developed.

Research focus Although Sacks *et al.*'s paper deals with the precise topic of turn-taking, its more general approach illustrates concerns which continue to inform research in conversation analysis. First, is the investigation of ordinary talk as the vehicle for interpersonal social actions: utterances are examined as activities people do to each other. Second, CA examines the highly patterned nature of these verbal activities in interaction. It seeks to identify and analyse the properties of recurrent sequences of interaction. Finally, it seeks to identify the normative expectations which underpin action sequences. In their analysis of turn-taking, Sacks *et al.*, discussed some of the properties of paired actions sequences, such as question–answer sequences or invitation–response sequences. Paired action sequences illustrate these three points. They consist of clearly identifiable actions performed by the respective turns. They exhibit recurrent properties, for example, in the ordering of turns: answers tend to be produced after questions, not the other way round; invitations are met with acceptance or refusals, not greetings, and so on. Finally, they are informed by normative expectations, such that the producer of a first pair part might try to pursue an absent second part; while the allocated producer of the second part might try to account for its absence.

Discourse analysis

Gilbert and Mulkey's study of scientists' accounting practices illustrates a number of key features of discourse analytic research.

Methodology There will be a detailed discussion of methodology of discourse analysis in a later chapter. In this section, then, I will just raise a few of the main broad features.

First, discourse analysts examine a variety of kinds of data. Gilbert and Mulkey studied spoken accounts generated during informal interviews, research papers published in formal academic journals, and letters between scientists. Later discourse analytic research would go on to examine an even wider range of verbal and textual materials: television current affairs programmes, the official record of speeches in the House of Commons and newspaper reports, for example. However, perhaps the most used source of data in discourse analysis are accounts drawn from recordings of informal interviews between researchers and respondents.

As can be seen from the examples taken from Gilbert and Mulkey's book, the transcripts of verbal data are not as detailed as those found in conversation

analysis. This still tends to be the case today, although more contemporary discourse analytic research papers do make more use of the range of symbols conventionally used in CA. Simpler transcripts means that readers (especially those who may be unfamiliar with sociological studies of language) do not become distracted by strange and confusing transcription symbols. However, there is the worry that important details in the way the accounts are produced might be lost in the process of editing and 'tidying up' required to produce an uncluttered transcript.

Gilbert and Mulkay used the concept of the interpretative repertoire to characterise regular descriptive features in their data. As we shall see, the idea that there are varying kinds of repertoires from which we can choose to fashion our descriptions of actions and events is still powerful in some forms of discourse analysis. Repertoires are identified by the use of particular clusters of words and phrases. As such their presence can be diffuse through long stretches of talk. However, Gilbert and Mulkay also provided more fine-grained analysis when they discussed the Truth Will Out Device. This was identified by a much narrower set of phrases. Again this focus on descriptive devices has endured in subsequent discourse analytic work (although this may be due more to the increasing influence of conversation analysis, in which regular patterns in interaction may be described as 'devices'). However, the conceptual terms used in discourse analysis are considerably less formal than those found in conversation analytic research, where a technical vocabulary is routinely employed to describe the properties of talk-in-interaction.

Despite introducing discourse analysis to a wider sociological audience, Gilbert and Mulkay's book did not discuss in any depth the methodology involved in empirical research. It was not until Potter and Wetherell developed discourse analysis as a critical approach in social psychology that a formal account of the method was offered. They describe ten stages in discourse analytic research, but emphasise that these are a guide for research, not a definitive list of procedures which must be followed (Potter and Wetherell, 1987: 160–75). Of these ten stages, only two actually deal with analysis and the validation of analytic findings; the rest concern more practical steps in discourse research such as identifying research questions, sample selection, collecting data, transcription, coding, report writing and the application of discourse analytic findings.

But how is analysis actually done? This is a difficult question: even discourse analysts acknowledge that it is hard to capture in a formal guide what is essentially a series of interpretative engagements with data from which emerges a sense that the functional orientation of a section of discourse has been captured. Potter and Wetherell liken the process of analysis to the performance of a craft skill which relies on the development of largely tacit expertise.

Research focus There are two broad goals of Gilbert and Mulkay's work which still inform discourse analysis. First, they wanted to 'document some of the methods by means of which scientists construct and reconstruct their

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actions and beliefs in diverse ways' (Gilbert and Mulkay, 1984: 188). The recognition of the intrinsic variability of accounts forced them to abandon their original aim of producing a single, coherent sociological narrative and instead examine how these variable accounting practices fashion versions of the world. Second, they wanted to explore the functions achieved by different accounting practices: what have descriptions been constructed to do? Although this was not a major focus of Gilbert and Mulkay's study, it has become a key feature of many subsequent discourse analytic projects.

In conversation analysis the functional orientation of language is explored in the design of utterances and their placement within the turn-by-turn development of interaction. In discourse analysis the functional character of discourse may be located at a broader level. This does not mean that discourse analysts are uninterested in specific conversational activities or their sequential contexts; rather, their interest is not restricted to that level of action. This does allow a little more interpretative flexibility. However, analytic claims in conversation analysis can be grounded in the analysis of participants' own interpretations as they are displayed in subsequent turns; this resource is unavailable in the analysis of textual materials, and the kinds of lengthy monologic accounts which can occur in informal interviews (Heritage and Atkinson, 1984).

Further readings

Discourse analysis

While we have discussed some key features of Gilbert and Mulkay's analysis, their (1984) monograph merits close attention because it deals with a wider range of issues, including analysis of the use of humour in scientists' discourse, and the management of consensus in scientific debates. Many of the themes explored in the 1984 monograph (and other issues) are also explored in separate journal publications. For example: Mulkay and Gilbert (1982a, 1982b, 1983). The following two articles are early discussions of the broader methodological issues concerning the identification and analysis of interpretative repertoires: Potter and Mulkay (1985); and Wetherell and Potter (1988). More contemporary discussions can be found in Horton-Salway (2001), Potter (2004), Potter and Wetherell (1995) and Wood and Kroger (2000). Lawes (1999) and Widdicombe (1993) provide illustrative analyses.

Conversation analysis

There is a substantial number of studies in conversation analysis. Useful bibliographies can be found on Paul ten Have's excellent website:
<http://www2.fmg.uva.nl/emca/>

The following is a very small selection of papers which illustrate the spirit and approach of CA: Jefferson (1990) on list construction; Pomerantz (1984) on agreements and disagreement with assessments; Schegloff, Jefferson and Sacks (1977) on repair and the preference for self-correction; Schegloff (1992b) on further issues in the organisation of repair; and Schegloff and Sacks (1973) on the organisation of terminal sequences in telephone calls.

Excellent CA studies can be found in the following edited collections: Atkinson and Heritage (1984); Button, Drew and Heritage (1986); Button and Lee (1987); and Psathas (1990). However, the first port of call for anyone interested in developing their knowledge of conversation analysis should be the lectures of Harvey Sacks (Sacks, 1992). Schegloff's (1992a) introduction to the first volume of Sacks' Lectures on Conversation is a sophisticated account of the emergence of Sacks' work and its context. Silverman (1998) offers an accessible introduction to Sacks' work and his legacy for sociology, particularly his work on membership categorisation. Wilson, Wiemann and Zimmerman (1984) situate the CA analysis of turn-taking organisation in relation to other models of turn transfer.