INTERRUPTIONS:
SPEAKER-SWITCH NONFLUENCY
IN SPONTANEOUS CONVERSATION

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I declare that I have composed this thesis myself and that the work is my own.
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Contents

Declaration

Acknowledgements

Contents

Summary of Thesis

Chapter 1: Introduction

Chapter 2: Initial observations; method and procedure

Chapter 3: Results and discussion of the initial observations
  Section 1: Definitions of speaker-switch nonfluencies and frequencies of nonfluencies in the initial observations.
  Section 2: Speaker-switch nonfluencies and simultaneous speech.
  Section 3: Speaker-switch nonfluencies and interruptions in verbal continuity.

Chapter 4: The reception of speaker-switch nonfluencies
  Section 1: Reception of speaker-switch nonfluencies by non-participating listeners.
  Section 2: Reception of speaker-switch nonfluencies by dialogue participants.

Chapter 5: Speaker-switch nonfluencies under "No Vision" conditions
Chapter 6: Speaker-switch nonfluencies and indexical information

Section 1: Speaker-switch nonfluencies and dominance.

Section 2: Speaker-switch nonfluencies and latency of verbal response.

Chapter 7: Summary and conclusions

Appendix

Bibliography
SUMMARY OF THESIS

The thesis consists of an analysis of "speaker-switch nonfluencies", which include some periods of simultaneous speech and certain interruptions in verbal continuity. The data are drawn from a total of just over eleven hours of spontaneous, informal conversation.

Four types of nonfluency are distinguished on the basis of behavioural and linguistic differences. The linguistic differences are dealt with in some detail (Chapter 3). The nonfluencies are then examined in a number of other ways: their reception, rather than production, by both dialogue participants and non-participating listeners is assessed (Chapter 4); conversations where the speakers could not see one another are looked at in terms of alterations in nonfluent speaker-switching (Chapter 5); finally, speaker-switch nonfluencies are correlated with individual differences in dominance and latency of verbal response (Chapter 6).

On the basis of the various finds of this investigation, tentative descriptions of the four nonfluency types are put forward. In addition, some suggestions are made about possible future uses of speaker-switch nonfluency data (Chapter 7).
Summary of Introduction

A distinguishing feature of spontaneous speech is its lack of fluency. Most studies of speech errors deal with nonfluencies such as filled pauses, slips of the tongue and repetitions, which can occur in monologues as well as dialogues. Comparatively little attention has been paid to periods of simultaneous speech and interruptions—nonfluencies which involve two speakers. These phenomena have most often been examined in the context of psychotherapeutic or "psychological investigative" interviews, and they are usually interpreted in terms of interaction between speakers. There do not appear to be any thorough examinations of both the linguistic form and the interactional significance of two-person nonfluencies.

Periods of simultaneous speech and interruptions take place because humans use language as a means of communication. When examining dialogue nonfluencies, one may be obliged to take into account a feature of normal language use; interaction between individuals. The concepts of the speaker-listener relationship and communication as an interactive process are mentioned.

Most studies of speech errors, whether these errors involve one or two speakers, have dealt with either monologues or interviews. It
is suggested that, in an exploratory study of this nature, informal conversations may provide more suitable data. At the end of the chapter, some studies of interruptions and periods of simultaneous speech in conversations, as opposed to interviews, are briefly reviewed. Since conversation is an integrated process of communication, it may be important, at least initially, to employ methods of observation which do not disrupt that process.

**Introduction**

It is now a commonplace observation that one of the distinguishing features of spontaneous speech is its lack of fluency, as judged by standards of written language. This lack of fluency appears to be present, at least to some extent, in the speech of almost all native speakers of a language, regardless of factors such as intelligence, age, sex and social class. Normal nonfluent* features include filled and unfilled pauses, repetitions of words and syllables, false starts and slips of the tongue.

Considering how common nonfluencies are in spontaneous speech and how, in general, such speech is probably most frequently used during "ordinary" conversations, it is perhaps surprising how little attention has been paid to nonfluencies which involve two speakers.

* The term "nonfluency" will be used to refer to various phenomena which either interfere with the flow of speech, or are accompanied by a temporary cessation in the flow of speech. The prefix non-, rather than dys-, is used in order to minimise connotations of defectiveness.
Much of the speech error literature deals with so-called mistakes in linguistic performance, which can occur during spontaneous monologues as well as dialogues. For instance, all twelve papers in Fromkin's (1973) collection of papers are concerned with slips of the tongue. Such errors do not require two speakers for their production. MacKay and Osgood's (1959) four "hesitation phenomena"—filled and unfilled pauses, repeats and false starts—can be produced by one speaker in a monologue, and the same is true in the case of the pauses to which Goldman-Eisler (e.g., 1968) has devoted considerable attention.

Some hesitation phenomena have been dealt with, more or less directly, in terms of their interactional significance. For instance, MacKay and Osgood's (1959) suggestion, that repetitions and filled pauses act as means whereby a speaker can hold the conversational floor, has stimulated a continuing debate to which a number of workers, including Boomer (1965) and Lalljee and Cook (1969), have contributed. Jefferson (1974) has discussed error corrections involving the filler "uh" in more general terms of conversational interaction. In addition, some investigators, such as Mahl (1956), Dibner (1956) and Krause and Fisiuk (1961), have used various measures of speech disruption as indices of anxiety or other psychological individual differences. Such findings can be interpreted in terms of interaction between speakers. Nevertheless, none of the error types mentioned above occurs only during spontaneous dialogue; in all cases the errors can be produced by one person speaking in a monologue.

The main distinguishing feature of any dialogue, as opposed to monologue, is the "speaker-switch", a term employed by Jaffe and Feldstein (1970) to describe the phenomenon that occurs when one participant in a conversation finishes speaking and another begins.
In principle, only one speaker at a time "holds the floor". However, as a number of writers, including Clancy (1972) and Crystal and Davy (1969), have noted, this principle is often disregarded in practice, with periods of simultaneous speech and interruptions sometimes being frequent occurrences in spontaneous conversations. Such events may be regarded as the nonfluencies peculiar to dialogue, since if no change in speaker can or may take place the output is a monologue.

The term generally employed to describe these two-person nonfluencies is "interruptions" and, although definitions of "interruption" vary from study to study, they all appear to include nonfluent speaker-switches. Some investigators define interruptions as "all periods of simultaneous speech" (for instance, Meltzer et al, 1971; Wiens et al, 1966, and it seems probable that Argyle et al, 1966, and Kendon, 1963, also employ this definition) or "double actions" (for example, Chapple and Lindemann, 1942). Clancy (1972) distinguishes overlaps (simultaneous speech at the speaker-switch) from interruptions (simultaneous speech at the speaker-switch which involves a break in the continuity of one speaker's verbal output), while a number of investigators (e.g. Leighton et al, 1971) appear to provide no precise definition of interruption.

Examination of nonfluent speaker-switching has been based largely upon interviews, and the results have been interpreted mainly in clinical or normal personality terms. As examples of interview-based studies which include examination of nonfluent speaker-switching, one might mention the large body of research stimulated by Chapple's Standard Experimental Interview (see Chapple, 1940, and Matarazzo et al, 1956), in general, and the Interruption Period of this interview, in particular (see Chapple, 1953). This standardized interview is
structured in quite a precise manner. The interviewer interacts with the subject in various different ways, in a predetermined sequence. At one point the interviewer consistently interrupts the subject and Chappie (1953) states that the purpose of this Interruption Period is to determine the subject's persistence and his tendency to be either dominant or submissive. Natarazzo and Saslow (1961) have used Chappie's Interview in a number of investigations of the differences in interaction patterns between "normal" and "abnormal" subjects. Abnormals, in their study, included chronic schizophrenics, acute psychotics and neurotics.

Although studies employing Chappie's Standard Interview "induce" interrupting, in a rather unusual type of dialogue, they, and the studies on normal speech errors carried out by linguists, do highlight the possibility of looking at formal rather than content variables of language for both linguistic and psychological information. In a discussion of this distinction, Krasner and Ullmann (1965) note that Freudian writings on the interview stress content variables; that is, they emphasize what is said rather than how it is said. Similarly, the Freudian treatment of slips of the tongue (Freud, 1914) is in content rather than formal terms, since these speech errors are held to reveal repressed thoughts.

Nevertheless, even though the linguistic research and the interview-based studies mentioned above have both examined formal variables of language behaviour, one area of the investigation of normal nonfluency appears to have been overlooked because of these two separate approaches. Linguists have examined the precise linguistic form of the speech errors, with which they have been concerned, but they have rarely interpreted their findings in terms of social interaction.
Psychologists, psychiatrists and anthropologists who have studied two-person speech nonfluencies have used these "mistakes" almost exclusively as indicators of patterns of interaction between individuals. Unfortunately, there do not appear to be any thorough investigations of two-person nonfluencies in terms of both their linguistic form and their interactional significance. Moscovici (1972) has suggested that "linguists are not interested in the psychosociological aspect of language and psychosociologists are not concerned with the linguistic aspect of social behaviour" (p.v.). The lack of interest in speaker-switch nonfluency, as a process of communication by linguistic production, appears to be one outcome of these largely independent interests in linguistic phenomena on the one hand and psychosociological events on the other.

In the present study of speaker-switch nonfluency the "basic working material" of interruptions and periods of simultaneous speech, language, is examined in some detail. On the basis of this and some behavioural information, four types of speaker-switch nonfluency* are distinguished (the classificatory system specifically excludes interjectory remarks which involve simultaneous speech). Then the nonfluencies are considered in broader psychological terms. Typically, "interruptions" have been treated as a unitary phenomenon. They are frequently defined as "all periods of simultaneous speech" and any details of their behavioural and linguistic form are disregarded. This approach would appear to be at least questionable on the basis of the present findings.

* Definitions of the four nonfluency types will be found in Chapter 3 pp. 47-9, and on removable cards inside the back cover of the thesis.
Speaker-switch nonfluencies would not occur if humans did not employ language as a means of communication. However, if an examination of speaker-switch nonfluency is to be made, a feature of normal language use, which is often overlooked, may have to be taken into account. Jaffe and Feldstein (1970) found that their study of dialogue patterns made them "poignantly aware" that the largest unit dealt with in contemporary linguistics is, at most, the monologue and usually the isolated sentence. Yet, if monologues alone are examined, then a feature of normal verbal behaviour is ignored: interaction between individuals. Of course, speakers may not always interact; they may, at least upon occasions, produce isolated performances which may either alternate or occur simultaneously. Nevertheless, it is probably important to remember that speakers, and their utterances, may interact.

As Watzlawick et al (1968) have emphasized, psychology has traditionally taken a non-interactive approach to communication. This approach, which is also evident in some linguistic research, has led to an oversight of one of the more important pragmatic aspects of dialogue. Communication by speech demands that participants listen as well as speak. Although a great deal of research has been carried out on speaking, listening has been almost totally ignored. Yet, as Clevenger (1971) points out, listening plays an active role in both the nature and the outcome of any communicative encounter. One should remember that any speaker-switch may be simultaneously a "listener-switch", and that nonfluencies in speaker-switching may be equally informative about productive and receptive processes.

The speaker-listener relationship and the possibility of interaction may be important concepts in linguistic communication, and their
significance is highlighted in investigations of phenomena such as the speaker-switch. Interaction obviously cannot be completely ignored in a comprehensive consideration of these events, any more than language itself can be. To overlook the speaker-listener relationship may be to misunderstand the nature of conversations.

It was suggested above that "errors" in linguistic performance have been the subject of two, apparently independent types of academic enquiry: the linguistic and the anthropological/psychological. One of the outcomes of these separate kinds of investigation seems to have been the lack of any linguistic and social account of two-person nonfluencies. A tendency to concentrate upon two separate data sources, the monologue (or dialogue treated as if it were monologue) and the interview (psychiatric, psychotherapeutic or psychological investigative), may be another related result of the independence of the two approaches. This concentration upon the monologue and the interview seems to have produced a notable lack of the type of data which Soakin and John (1963) have referred to as "spontaneous talk". By "talk" they mean "the particular kinds of transitive acts by which the individual creates and manages his minute by minute and day to day associations with other people" (p. 228).

In a survey of "permissible variations" in speech, Nahl and Schulze (1969) include a section on nonfluencies which consists of 36 studies carried out between 1940 and 1962. It is of some interest to note that, of these 36, 26 studies draw their data from interviews of the sort described above. A further six entries are made up of studies whose data are in the form of spontaneous monologues in response to TAT cards.
Most of the remaining entries appear to be concerned with essentially monologue material, since reference to the original papers suggests that the verbal data were treated as if they were monologues, even if produced during dialogues.

Interviews of any kind are unlikely to be classified as "talk" by Soskin and John. Psychotherapeutic interviews are, as Mahl and Schulze point out, somewhat unusual dialogues in terms of roles, role relations, goals and needs of the participants, and most people do not create and manage their "minute by minute and day to day associations with other people" in this manner. Interviews in general tend to be structured in a way that casual conversations (which presumably do conform to Soskin and John's definition of "talk") are not. Crystal and Davy (1969), in a discussion of the language of conversation, emphasize the randomness of subject matter in such dialogues, and Jaffe and Feldstein (1970) have described ordinary or natural conversations as having minimal formal structure.

There are such considerable differences between the interview and the everyday, casual conversation* that some investigators feel obliged to draw a sharp distinction between them. The interview and the

* Throughout this thesis "conversation" is defined as "the total system of communication employed by participants in face-to-face interaction" (Laver and Hutcheson, 1972; p. 11), with the proviso that that interaction is of a casual, informal nature. In those circumstances where conversationalists cannot see one another, "the total system of communication" will obviously be based solely upon auditory information.
conversation can probably only be considered similar in the broadest terms. Data from Kendon's (1963) and Jaffe and Feldstein's (1970) investigations show that interaction in interviews and in conversations differs in a number of ways — including speaker-switching. From Kendon's data it appears that speaker-switches are effected more slowly during interviews, while Jaffe and Feldstein report that simultaneous speech occurs infrequently in interviews, but it is relatively common in "unstructured dialogue" or conversation.

Monologues may not be "talk" either, since few day to day associations with other people are created and managed, without at least the opportunity for give and take of signals, whether those signals are verbal or nonverbal. It has been suggested that monologue is a specialized linguistic category, which may have developed out of conversation (Abercrombie, 1965), and Jakobson (1964) claims that monologue "is a very complex superstructure, unfamiliar to many ethnic and social groups" (p. 162).

The basic data for the present study was drawn from informal and unstructured dialogues; the only instruction given to the participants was to chat to each other for half an hour. Interviews may seem to provide more "manageable" data since the interaction involved is specialized and constrained; both in terms of form and content, interviews are highly structured. However, there is some evidence to suggest that they may be somewhat unusual forms of linguistic interaction, and the data from such dialogues may therefore be of limited generality. Similarly, monologues may appear to provide comparatively simple data because, in this case, no interaction between speakers is involved, but they may in fact be examples of a highly complex, secondary behavioural system in man's repertoire of language performance.
It would seem that the most suitable source of linguistic data for the study of normal language use, at least in initial, exploratory studies, is the experimentally unstructured, "ordinary" conversation.

In all dialogues participants speak and listen, communicating by a process of mutual exchange of the speaker and listener roles. The concept of communication as a "process phenomenon" (Harves, 1973) may be as important as the idea of interaction mentioned above. "Process" implies a series of continuous actions which have no discrete beginnings and ends. One pictorial representation of communication, originally proposed by Dance (1967), takes the form of a helix and so attempts to symbolize the process since, while moving forward, communication is at the same time coming back upon itself and being affected by its past behaviour. In this way, particular points in a dialogue, such as speaker-switches, are all intimately connected in a total process of interaction.

However, recognition of communication as a process phenomenon has considerable methodological implications. Since episodes within a process will be closely interwoven, isolating single events, for the purposes of observation or experimentation, may be an invalid procedure. The attraction of studying monologues or solitary sentences is obvious.

In the context of the process of communication, a distinction drawn by Barker (1963) should perhaps be reviewed. Barker recognizes the difficulties in dividing the "stream of behaviour" (as he describes it) into units suitable for description and analysis, without destroying the essential nature of this stream, in which individual events are complexly interrelated. He distinguishes "behaviour units" from
"behaviour tesserae": the former, it is claimed, are inherent segments of the stream of behaviour, since their boundaries occur at points in the stream where changes take place "independently of the operations of the investigator"; behaviour tesserae, on the other hand, are segments of behaviour which are created by the investigator and produced by questionnaires, experiments, tests and interviews. Barker maintains that "behaviour units are discovered and behaviour tesserae are designed" (p. 16). One might suggest that the distinction is not so clear-cut in practice, since any discovery procedure requires at least some design so that it can be carried out in an organised fashion. Perhaps a more realistic interpretation is that one might be more likely to reveal natural behaviour units by employing non-interfering methods of observing the behaviour stream, at least initially and in a comparatively unexplored area of human performance.

Non-interfering methods of observation are one of the characteristics of ethological research. Hutt and Hutt (1970) have contrasted the ethological approach with the so-called ecological approach taken by Barker. They claim that the units of behaviour chosen by the ecologists are too large for satisfactory study of behavioural phenomena, and that Barker et al emphasize the goals of behaviour and make inferences about the attitudes, motives and intentions of their subjects. In the present investigation, behavioural units of a more delimited nature will be used and these units will not be defined in terms of their goals.

As mentioned above, non-interfering methods of observation were employed initially in this study. It was thought important to discover what there was to be modified before modifying it. Any research constraints were chosen so as not to interfere with the dialogues once they had been started. The behavioural unit of the speaker-switch has
not been "designed" insofar as changes in speaker occur naturally in everyday conversations without interference from social scientists of any sort. The various types of speaker-switch nonfluency were distinguished only after the tapes of the dialogues had been transcribed. Some 'ad hoc' descriptions of these nonfluencies, which the investigator supposed occurred in conversations, had to be discarded and other new categories had to be created.

However, this non-interfering method of investigation is time-consuming and, while the experimental approach may be inappropriate in early studies, the rigour and control which it can introduce may prove valuable once units have been "discovered". Barker's insistence upon observing behaviour may have some justification, but the natural stream of behaviour may also be susceptible to some sympathetic selection and control. Experimental design may benefit from an initial consideration of the behaviour to be tested within the natural, undisturbed stream of behaviour, particularly when that behaviour consists of complex and probably easily disrupted interaction between individuals. A combination of open-minded observation and sensitively designed experimentation may be a productive compromise between Barker's ideals and the views of those psychologists who regard the stream of behaviour as too complex and unstable to investigate without experimental restraints.

Previous examinations of nonfluent speaker-switching have been based mainly upon interviews. However, some investigators have used informal, unstructured face-to-face conversations as their data source and have noted, at least in passing (e.g. Crystal and Davy, 1969, and Bowman
Both Kendon (1963) and Jaffe and Feldstein (1970) have carried out studies on informal conversations as well as interviews. Kendon's subjects talked to strangers and to people they knew very well; with the former they were asked to get acquainted and with the latter they were invited to "sit and talk" for fifty minutes. In Jaffe and Feldstein's study subjects took part in both structured and unstructured dialogues; in the first they were given a topic to discuss, and in the second they could discuss anything they liked. Both these studies indicated that there is more interrupting or simultaneous speech in conversations than in interviews. Perhaps interviews discourage interruptions in normal, well-socialized subjects since they usually have a highly constrained question-and-answer structure, with correspondingly restricted role relations between interviewers and interviewees. Kendon found that strangers interrupt one another more than intimates do; intimates tend to give way to the other speaker's interruptions, while periods of simultaneous speech usually last longer when strangers are involved. It seems probable that a number of factors, including knowledge of individual interaction styles and maintenance of an already established equilibrium in a relationship, could account for the results obtained with intimates.

In neither of the studies above is there any attempt to analyze the form of interruptions in detail. For instance, no indication of differences among periods of simultaneous speech is given, although Kendon does mention briefly that short, interjectory remarks involving simultaneous speech may be more appropriately thought of as listening signals rather than interruptions. Jaffe and Feldstein treated all periods of simultaneous speech as a dyad parameter; that is, they did
not separate the contributions of individual speakers. It is suggested in this thesis that there are at least three different types of nonfluency during which simultaneous speech occurs (the fourth nonfluency type does not involve simultaneous speech). This count specifically excludes simultaneous interjections.

In one preliminary investigation of a conversation, by Clancy (1972), a distinction is drawn between two kinds of simultaneous speech. It is noted that speaker-switches frequently involve the new speaker beginning to talk before the last speaker has finished. This leads to broken-off, unfinished sentences (interruptions) and to situations in which the previous speaker completes his utterance while the new speaker is beginning (overlaps). Clancy remarks that the latter type of speaker-switch nonfluency seems to be unconscious, both from the hearer's and the speaker's point of view.

Sacks et al (1974) also appear to distinguish overlaps from those speaker-switches which involve one speaker stopping prematurely. Their data are based upon a wide variety of conversations, most of which seem to be of a spontaneous and informal nature. Both the general features of conversations and the rules which may govern turn-taking are considered. Although it is noted that "Overwhelmingly, one party talks at a time" (p. 700), the authors of this paper are also aware that simultaneous speech is a common occurrence in conversations. There is a discussion of the manner in which overlaps take place. In addition, the behaviour of speakers involved in errors and violations of turn-taking is commented upon.

Although Meltzer et al (1971) do not draw distinctions between interruptions, which they define as all periods of simultaneous speech,
their paper deals exclusively with these phenomena and it is rare in this respect. Their data are drawn from what appear to be loosely structured conversations which they describe as "problem-solving discussions". They suggest that the outcome of interruptions - that is, who wins the floor - is decided on the basis of a number of variables including increments in vocal amplitude and how much "interruption credit" a speaker has (speakers exhaust their credit if they interrupt too frequently or do not give way often enough to other speakers' interruptions).

Duncan and Niederehe (1974) also discuss the resolution of what they call "simultaneous turns". In their investigation the data are based on two, 19-minute samples of what seem to be one interview (between a therapist and a patient, who were strangers) and one conversation (between the therapist and another therapist, who were friends). Duncan and Niederehe suggest that the participant who succeeds in holding the floor, does so by displaying a number of auditory and visual signals, particularly head shifts and manual gesticulations. In an earlier paper (Duncan, 1972), based upon the same material, a distinction is drawn between two kinds of simultaneous speech; these might be described, in general terms, as interjectory, listener responses, on the one hand, and speaking turns, on the other. This difference will be discussed in the following chapter (p. 43).

A similar distinction is employed by Yngve (1970). Yngve bases his observations upon an hour-long, videotaped conversation, between a man and a woman who were strangers. He notes that mistakes in turn-taking can occur and that these may result in simultaneous speech. Although no definition of the term is given, it is suggested that certain visual and auditory signals may accompany "interruptions". In addition, it
is proposed that there may be a limited number of points in a conversation, where "polite" interruptions can be effected. Unfortunately, none of these observations and suggestions is discussed in detail.

Although many of the studies mentioned above deal, at least to some extent, with the interactional and social implications of nonfluent speaker-switches, there is little systematic examination of the form of these nonfluencies. In subsequent chapters, detailed consideration is given to the behavioural and linguistic features of various types of speaker-switch nonfluency. These features are taken into account whenever social and interactional variables are commented upon.

The following chapter consists of descriptions and discussions of the methods and procedure used in obtaining seven and a half hours of informal conversation. Much of the subsequent analysis and discussion of nonfluent speaker-switching is based upon this material.
Introduction

Method

(a) Subjects

(b) Physical setting

(c) Apparatus

Procedure

Method of Transcription

Introduction

The observations were designed as non-experimental investigations into the form and organization of speaker-switch nonfluencies in spontaneous conversation. A full description of the various nonfluency types will be found in the first section of the next chapter.

The data is drawn from conversations between two participants, since it appears that, in broad terms, these are the simplest kind of interactions. From the "small-group" literature it seems probable that there are a number of unique aspects of two-person groups. Bales and
Borgatta (1965), for instance, have noted that there is a particularly high rate for showing tension and a low rate for showing disagreement and antagonism in two-member groups. They suggest that since, in a group of two, one cannot have a majority without unanimity, social interaction in such a group is characterized by a "gentle, persuasive approach", which maintains the delicate balance between dominant and nondominant partners. Considerations of group size are obviously important in assessing the generality of the findings presented here.

The introductory chapter stresses the importance of observing spontaneous and experimentally unstructured linguistic interaction, at least during initial investigations. Some research has been based upon samples of spontaneous speech which have nevertheless been structured, although perhaps only loosely. For instance, Goldman-Eisler (1963) has examined cartoon descriptions and interpretations, Gottschalk et al (1957) have looked at T.A.T. stories and numerous investigators have used interview material, which is structured in a somewhat different manner. In all these cases, subjects are constrained in terms of what they talk about. Everyday conversation is characterized by a randomness of subject-matter and a lack of overall theme, characteristics which Crystal and Davy (1969) have also noted.

In this initial investigation, it seemed important to examine interaction and particular aspects of interaction in as natural a setting as possible. Therefore, the basic data of this study consists of material recorded during spontaneous, experimentally unstructured dialogues between friends. The conversations were spontaneous in the sense that subjects were not reading nor had they prepared what they said. They were unstructured since subjects were not told to discuss any particular topic.
In Joos' (1962) terms the style of these dialogues is "casual". The two defining features of this style, ellipsis and slang, are present. The findings of these investigations are obviously limited to conversations of this style, or in this "behaviour setting" as Barker and Wright (1955) have called it. However, the "casual" conversation is arguably one of the most common forms of linguistic interaction, much more common than, for instance, the "consultative" dialogue of psychiatric or psychotherapeutic interviews.

The unstructured, spontaneous nature of these conversations probably makes aspects of method and procedure (such as recording techniques, choice of subjects and the physical and social setting of the interaction) particularly influential in terms of their behavioural effect. Once begun, none of the conversations was interfered with in any way. This chapter consists of a detailed description and discussion of the methods and procedures employed. Throughout the chapter the basic points of design are underlined, to enable quick reference to the general outline of the methodology, with discussion of particular points immediately below the underlined portions.

Method

(a) Subjects

It seems probable that factors such as age and sex influence the production of speaker-switch nonfluencies. However, this study had limited objectives, and variables such as age and sex were held constant, as far as possible. This obviously, but intentionally, limits the generality of the findings.
All sixteen subjects used in these initial observations were female and their ages ranged from 20 to 22 years. Seven subjects were 20 years old, six were 21 and three were 22. Females were employed for several reasons: first, during preliminary enquiries to obtain subjects, this investigator found that, whereas females appeared to find the prospect of a half-hour conversation with a friend a pleasing one, males did not; secondly, if female recorded speech is played at a slower-than-normal speed to aid detailed transcription, it remains intelligible which is not the case with all, male, recorded speech; lastly, all the subjects were female, since there is some evidence (Pease, 1970) to suggest that females are most "comfortable" during conversations when they interact with same sex friends.

The conversations were organized in such a way that one, "main" subject participated in all fifteen recording sessions, talking to a different partner on each occasion. This was an attempt to introduce something approaching a constant factor into these unstructured, spontaneous dialogues. Meltzer (1972) has noted, in some preliminary investigations, that individuals adjust their behaviour when interacting with different people. However, he also notes that the more similar the situation is, the more consistent the behaviour is, over time. Moreover, there appears to be more self-consistency in conversations with friends than with strangers. Meltzer draws his conclusions from analyses of certain aspects of verbal behaviour, including mean length of vocalizations and silences, and the percentage of total time each individual vocalizes. Each of his subjects, and all subjects were female, took part in a number of different three-person conversations. In the present study, the participants were all friends of the main subject and the situation, both in the sense of "locale" and the general type of interaction that
took place, remained similar throughout the observations. According to Meltzer's results, these two factors should encourage some self-consistency in the main subject's behaviour and so validate comparison of speaker-switch nonfluencies drawn from the various conversations.

Jaffe and Feldstein's (1970) study also provides some relevant information. In their third experiment, dyads of females, with an average age of 20 years, had unstructured, half-hour conversations: an observational design very similar to the one employed here. Each participant talked to three other people. Unfortunately, Jaffe and Feldstein treat simultaneous speech as a dyad parameter and do not separate the performances of individual members of a dyad. However, speakers appear to influence the length of each other's pauses (joint silence within one speaker's utterance) and switching pauses (joint silence between utterances by different speakers), to a significant degree. Length of vocalizations (continuous sound by a speaker who has the floor) is not affected in this way. Therefore, there is a tendency for interacting speakers to match some aspects of the temporal patterning of each other's speech. In terms of the present study, the main subject's behaviour may have matched and been matched by her various co-subjects.* Hence, she is unlikely to have been behaviourally constant, in any precise sense of the phrase, but she probably limited the variability of her partners' behaviour to some extent.

By using one main subject with fifteen different conversational partners, it was hoped that a productive compromise, between variety and uniformity, would be obtained. One alternative arrangement is to choose two subjects and to record a number of conversations between them. While this ensures a considerable degree of homogeneity of one sort in the data, the very small number of subjects involved would

* See Appendix, p. 192b
seem to limit unduly any interpretation of the results. Another arrangement consists of collecting data from dialogues in which both the participants are always different. This ensures a wider sample of behaviour but it might make any comparison or combination of data from different dialogues open to question.

The main subject was 22 years old. Taking the rounded figures given above, the average age of her partners was 20 years 8 months. Therefore, the main subject was over a year older than the other participants. However, all these other subjects were friends of hers, and they were chosen by her because she knew them well and liked them. Furthermore, her fiancé is a year younger than she is and so it would appear that, generally speaking, she is not adverse to mixing with people somewhat younger than herself. At the end of these first fifteen conversations, the main subject was asked whether she felt "older", "younger" or "about the same age" as most of her friends with whom she had talked, during these recordings. She replied that she never thought about the age difference until it was explicitly discussed in conversation, and so she supposed she felt about the same age. It is possible that, by the time people reach their early twenties, an age difference of one or two years, given common interests and compatible personalities, is of little importance.

To recapitulate: subjects in the initial observations were female and of approximately the same age. In addition, all subjects knew the main subject well and she considered them to be friends of hers ("friend" was defined in terms of "know well and have feelings of affection for", and contrasted with both "stranger" and "know and don't have any feelings of affection for").
All the subjects spoke English as their first language. One subject was Canadian but, since both her parents had been brought up in England, and since she had received all of her secondary and most of her university education in Britain, she did not speak with a conspicuous North American accent or employ any non-British expressions during the recorded conversations. The main subject spoke with an educated accent, characteristic of the south-eastern region of England.

No subject had any abnormality in her speech which impeded the flow of sound.

No subject had any obvious mental disorder.

When asked to name the social class to which they thought they belonged, twelve subjects, including the main subject, said they were "middle class", two said "upper-middle class" and the remaining two said "lower-middle class" and "working class" respectively.

Only four of the sixteen subjects had ever participated in a psychological investigation. In all four cases the task had consisted of a personality or IQ test; such tests differ markedly from the kind of observational design employed here.

An attempt was made to obtain subjects from similar academic backgrounds. All subjects were in their third year at Edinburgh University and reading arts subjects. As the Scottish university system is based on an academically broad first year, three subjects had done one science course initially but had read only arts subjects in their second and third years.

Psycholinguistic investigators and experimenters often use students reading psychology or linguistics as subjects. Siegal and Hanson (1972) note that their results differed when they used students from speech or
speech pathology classes, and when they used volunteers obtained through an employment agency. It was thought important not to use students who had any academic connections with psychology and linguistics, in the observational period of this study. Subjects involved in these academic disciplines might, as Siegal and Hanson suggest, be unusually concerned about, or attentive to, their speech and so produce abnormal samples of spontaneous conversation.

Since this sample is a deliberately limited one, in terms of the subjects' academic specializations, it is of interest to make a very brief survey of some of the relevant literature about the homogeneity and distinctive characteristics of arts students, compared to science and social science specialists. Hudson's (1968) distinction between "divergent" and "convergent" cognitive bias is a familiar one. It is suggested that there are two somewhat dissimilar kinds of intelligence: these are exemplified by the "convergent" thinker, who typically excels in conventional tests, pursues technical and mechanical interests in his spare time, is emotionally inhibited and tends to specialize in the physical sciences or the classics and, on the other hand, by the "divergent thinker" who characteristically does best in open-ended tests, pursues interests which involve people in some way and often specializes in the arts or biology; in contrast to the "convergent" thinker he is usually emotionally uninhibited.

Hudson's convergent/divergent distinction has been criticized by a number of writers. Mackay and Cameron (1968) have suggested that arts/science specialization may encourage the divergent/convergent bias, rather than vice versa as Hudson maintains. Their sample is of particular interest in the context of this discussion since it consisted of undergraduates at a Scottish university. Academic
specialization is less marked in the Scottish, as opposed to the English, educational system, both before and at university. Given this less specialized sample, Mackay and Cameron did not find a relation between convergent cognitive bias and science specialization. However, the divergent bias/arts specialization association was still strong in their sample. Although much of the literature on cognitive bias and academic specialization is complicated by different methods of analysis, varying measures of attainment and dissimilar family backgrounds of the subjects, there does seem to be some support for the idea that people who read arts subjects differ, in a number of ways, from those who specialize in the sciences.

There is also some evidence to suggest that those who read arts subjects may differ from social science students. Singh (1965) applied a number of tests of values, interests and personality traits to second-year students of both sexes at English higher-education institutions. His sample included students reading science, social science (psychology, economics and geography) and humanities (English, history and philosophy). Nearly half of the last group were history students; over 60% of the subjects used here were reading history. Singh concludes that the humanities group is the group "most significantly differentiated" from all other subgroups. On the other hand, the social science group was the least distinctive sample.

Therefore, in obtaining a group of arts students as participants, one might secure a relatively distinctive and homogeneous sample in comparison with groups of social science or science students. Furthermore, there are some indications, according to Hudson and other workers, as to the distinguishing characteristics of arts specialists. For instance, the present sample is likely to include individuals who
pursue interests which involve people in some way, and who are emotionally uninhibited. These two characteristics might be construed as useful attributes when individuals are asked to chat to close friends, while being recorded by a stranger.

(b) Physical Setting

The conversations were recorded in a room which was convenient for, and familiar to, most of the subjects. A plan of the room on p. 29 shows size, furniture arrangement and so on.

Lighting was in the form of two fluorescent strips which were illuminated for recordings carried out after 4.00 p.m.

The room had some rudimentary sound-proofing, in the form of acoustic tiles over the right-hand part of the ceiling (the stippled area in the plan), and carpeting on the floor. The ceiling was 8' 2" high on the side covered by acoustic tiles and 7' 4" to the left of this.

The room looked out over a small area of waste ground to a fairly busy road which ran past the building approximately 40 yards away. Since the waste ground was surrounded by a stone wall, most of the traffic was visually obscured. The window was kept shut during recording. Some noises such as doors shutting, traffic and conversation could be heard intermittently and indistinctly from inside the room. However, the room was in a quiet part of a building; no lecture hall or seminar room was nearby. Adjacent rooms belonged to members of the university staff.

The main subject always sat in the chair nearest the window. The
Room arrangement during initial observations

- Floor-to-ceiling window: 8'2 1/2" x 4'1"
- Table: 3'4" x 2' x 2'3 1/2"
- Tape recorder: 2'1" x 1'7" x 6"
- Chair
- Door: 7'2 1/2" x 2'5 1/4"
chairs were placed 3' 5" apart. In Hall's (1966) terms, when people are between two and a half and four feet apart they are in the "far" phase of "personal distance" (the latter term was originally used by Hediger, 1941, to designate the distance constantly separating members of noncontact species). According to Hall, in this far phase subjects of personal interest and involvement may be discussed and the voice level is moderate. It would seem, therefore, that the participants in this study were at an appropriate distance from one another to carry on a friendly conversation.

Sommer (1967), drawing together evidence from a number of his studies, suggests that the upper limit for comfortable conversation is approximately 5' 6" between individuals (which corresponds to about 3' 6" between chairs). In addition, he notes that most of his subjects preferred sitting opposite one another and at some angle, rather than side by side. The "opposite but at some angle" arrangement has been adopted here.

(c) Apparatus

Conversations were recorded on long-playing tapes at a speed of 54" per second. A Pye "Cambridge" tape-recorder was used and this was placed underneath a table in the room used for recording (see plan on p. 29). The tape-recorder was then out of the subjects' sight.

The output of each speaker was recorded on a separate track, in order to facilitate later analysis of simultaneous and indistinct speech. From the few available published samples of spontaneous conversation (e.g. Clancy, 1972; Crystal and Davy, 1969; Soskin and John, 1963), it appears that recorded speech is often unintelligible during
nonfluent speaker-switches. Since nonfluent speaker-switches are the particular phenomena studied here, it seemed important to ensure that recorded speech was as distinct as possible at these points in the interaction.

**Each subject wore a lavalier microphone.** This was a Fye mono cardioid microphone with a loop of string attached to it in such a way that, when worn, it hung about 8" below the subject's mouth and rested on the chest. In a small pilot study subjects said that they found this arrangement comfortable and unobtrusive. Since looking and eye contact generally form important parts of normal conversation, a lavalier microphone is less noticeable to the wearer than one placed, on a table for instance, in front of each subject. Each speaker can, of course, see the other speaker's microphone. However, lavalier microphones appeared to be the most satisfactory arrangement since they are relatively unobtrusive, but provide good separation of each person's output.

**Each recording session lasted 30 minutes.**

From the description of the apparatus, it will be obvious that the recording was carried out overtly. This limits the spontaneity of the dialogues to some extent. The conversations which Crystal and Davy (1969) describe and analyze were surreptitiously recorded. As they themselves point out, covert recording requires some technical preparation which precludes its frequent use. However, they suggest that language which has been recorded overtly cannot be taken as a reliable sample of spontaneous, informal conversation as there seems to be a cyclic pattern of remembering and forgetting about the microphone,
with concomitant alterations in language use.

Speaker-switch nonfluencies are the particular phenomena described and analyzed in this study. Such nonfluencies generally involve simultaneous speech and the individual contributions of the two dialogue participants must be "separated out" in many instances. Any detailed analysis of these nonfluencies is hindered by unintelligible data. Since this is the case, a moderately high technical quality of recording is required. If the conversations were surreptitiously recorded, lavalier microphones would obviously be unsuitable and, since subjects could move about freely, their speech might be directed towards separate, concealed microphones during only part of the conversations. They might also alter furniture arrangements and so make any recording set-up effectively useless.

Since it was important in this study both that simultaneous speech could be "disentangled", and that the data was gathered from informal, unstructured and unplanned dialogues, an attempt was made to reach a compromise. Although the conversations were recorded overtly, a number of factors were introduced to encourage spontaneity and informality. For instance, subjects were told that they could talk about anything they liked (they were asked to have a "chat"), and that their conversations would be heard only by the investigator. A main subject, who participated in all fifteen conversations, was employed: she quickly became familiar with the situation and, as the recordings proceeded, it became apparent that she enjoyed having informal conversations of this nature. During one of the recordings confirmation of this latter view came spontaneously from the main subject herself. She explained why she wanted to become a teacher:

"... it enables you to talk and I couldn't, I couldn't bear
a job I've got to be quiet all day. Y'know, it would be terrible, it really would, I've got to gossip even if it's to kids."

Since, according to Meltzer (op. cit.), we adjust our manner to other people's behaviour, this main subject may have assisted in making the other subjects act with spontaneity.

In addition, the investigator was not present during any of the conversations, and she made a point of saying that she was leaving the area of the recording room during conversations. Soskin and John (1963), with a somewhat different setting for spontaneous dialogue, stress the importance of no observer being present and report that their subjects appeared to become unconscious of the apparatus very quickly, as they became "absorbed" in conversation.

A similar process of absorption was noted in these conversations. It seems that, if the observer is known not to be listening during a conversation, the participants sometimes forget that what they say will be heard in the future. Subjects often discussed the investigator and rather intimate personal details of their own lives, very occasionally following such discussions with remarks like, "Oh God! I forgot, we're being recorded, aren't we?" This phenomenon would seem to be due mainly to the subjects' absorption in their conversations. The lack of planning which characterizes this type of verbal interaction probably ensures that participants have to concentrate upon the interaction itself, and perhaps particularly when there are only two speakers.

Asking the main subject to talk to friends, rather than strangers, may have encouraged this absorption in the conversation, since the participants often had many common friends, interests and problems. Four of
the participants spontaneously expressed surprise, immediately after
the recording had finished, at how quickly the time had gone.

The one published paper, on the different effects of covert and overt
recording, which is known to this investigator, analyzes monologue
material. Sauer and Marcuse (1957) examined the differences in
response to T.A.T. cards by particularly high and particularly low
anxiety subjects, while they were being covertly and overtly recorded.
Their findings suggest that overt recording makes high anxiety subjects
talk at a faster rate, use a greater number of words and respond more
quickly; this is true, generally, but to a lesser degree, with the
low anxiety subjects. However, they refer to similar research, carried
out by West (unpublished thesis, 1953), on relatively well-adjusted
and non-anxious individuals which revealed no significant differences
in speech under overt and covert recording conditions. Moreover,
their overt recording seems to have been carried out particularly
conspicuously: both the microphone and the recording equipment were
close to and in full view of the subjects. In the present observations,
as mentioned above, an effort was made to ensure that recording was as
unobtrusive as possible. In addition, conversations may be differently
affected by overt recording. Nevertheless, Sauer and Marcuse's findings
must obviously be taken into account when extrapolating the results of
this study of speaker-switching to language and interaction in truly
spontaneous conversation.

No standardized measure of the relative anxiety of the subjects used
here was obtained. However, the main subject was asked to rank her
fifteen co-subjects in a number of different ways, including how
"nervous, tense and highly-strung" she thought they were and a Latency
of Verbal Response (LVR) task was given to all subjects (see chapter 6,
It was found that the main subject's anxiety rankings were negatively correlated (Spearman's rank correlation) with the LVR indices; that is, the main subject tended to rank those subjects with short LVRs as low in anxiety. The correlation coefficient obtained was significant beyond the .01 level of probability. This correlation is in the opposite direction to that obtained by Sauer and Marcuse. There is the possibility that a short LVR is not necessarily interpreted as a sign of anxiety when it is a feature of a conversational partner's speech.

One further study may be evidence of the effect of overt recording upon speech. Broen and Siegal (1972) examined the speech of 40 subjects under three, separate conditions. It seems that it was made clear to the subjects that their speech was being recorded in the first two conditions, while this was not the case with a final, informal conversation. Speech was most dysfluent during the conversation (dysfluencies were defined in terms of "any repetition or interjection of a sound, syllable, word or phrase").

Therefore, general increased tempo and decreased dysfluency of speech may be among the possible effects of overt recording. It should be remembered, however, that both Sauer and Marcuse and Broen and Siegal examined mainly monologues (in the latter case only 12 minutes long); half-hour conversations may differ from monologues in a number of ways.

Procedure

Altogether 15, half-hour conversations were recorded during these preliminary observations. In each case, the main subject came to the
room described above under "Physical Setting", in which all the conversations were recorded. She brought one friend each time, having been told that the people she brought must be female friends of hers, speak English as their first language, have no speech pathology, be reading an arts subject and in their third year at university. The number of subjects (excluding the main subject) is limited to fifteen, since this is the number of friends the main subject had, who fulfilled all the conditions mentioned above.

The main subject was paid 35p a session; other subjects were paid 25p a session. Subjects were informed of the payment beforehand and were paid after being recorded. The main subject was paid after each conversation she took part in. Since she had to come to a considerable number of recording sessions, twenty-four in all, it was felt necessary to offer some financial encouragement. As she was paid, other participants were also given money for participating, although rather less per session since their total contribution was less.

Subjects were told that they would be expected to talk to each other for half an hour. As Sacks et al. (1974) point out, in normal circumstances, the length of conversation is not specified in advance.

* The main subject chose the order in which she brought her fifteen friends. At a later date she was asked to rank her friends in terms of how much she liked them. If these ranks are correlated (Spearman's rank correlation) with the order in which these friends appeared in the fifteen conversations, a nonsignificant, positive correlation ($\rho = .3072$) is obtained. That is, the main subject showed a slight tendency to bring those people she liked most to the earlier conversations.
However, when conversations are to be observed, some obvious practical difficulties arise if subjects are not told how long the observational period will be.

It was hoped that thirty minutes would, on the one hand, be long enough for subjects to become relaxed, yet not bored with each other's company and, on the other hand, provide an adequate sample of dialogue and speaker-switching. Since subjects often discussed very personal topics and appeared to be absorbed in their conversations, sometimes expressing surprise at how quickly the time had gone, the first conditions seems to have been at least partly fulfilled. Altogether, in these preliminary observations, over 3,300 speaker-switches and nearly 1,500 speaker-switch nonfluencies were noted; it is hoped that this provides an adequate sample of the phenomena under investigation.

It was explained to all the subjects that they should feel free to talk about any topic whatsoever, since the investigator hoped that the conversations would be as similar as possible to a normal chat between friends. They were not to feel it was inappropriate to talk about friends, acquaintances or situations which the investigator did not know about. The investigator emphasized that only she would listen to the recorded conversations and, although parts of the conversation might be reproduced as written examples, whole conversations would not be made available, in any form, to other people. The main subject was asked to inform her friends of the confidentiality of their recorded speech, when she invited them to volunteer as subjects.

At the beginning of each session, the main subject introduced the investigator to her friend and vice versa. After having thanked her for coming, the investigator asked each new subject nine short questions.
in the following order:

1. Could you tell me your name so that, if necessary, I can get in contact with you again?
2. What age are you?
3. Do you speak English as your first language?
4. Do you have a stutter or stoppage or any other difficulty in speaking?
5. Could you tell me which social class you think you belong to? (If the subject had any difficulty in deciding, she was asked what her father's occupation was.)
6. Are you in your third year at university?
7. What are you reading at university? Have you ever done any science subjects?
8. Have you ever taken part in a psychological experiment?
9. Are you used to being recorded?

Once seated, the participants were shown how to put the lavalier microphones around their necks, although this was unnecessary for the main subject after the first conversation. As mentioned above, they were told that they could talk about anything they liked and that the conversations were confidential. The investigator then announced that she was going to switch on the tape-recorder, that she would be back in half an hour, and that she would leave the area of the recording room during the conversation, only returning to switch off the tape recorder. The recording then began, and the investigator left the room as quickly and quietly as possible.

The starting time and date of each conversation was noted. The fifteen dialogues were recorded over a period of seven weeks and one day. The
mean starting time was 1.19 p.m.; the earliest starting time was 11.00 a.m. and the latest 4.37 p.m. Most subjects were recorded between 12 noon and 2 o'clock in the afternoon.

After thirty minutes the investigator went into the room and immediately turned off the tape-recorder.

Subjects were not told what the purpose of the investigation was, and it was explained that no information could be given until all recording sessions and additional experiments had been completed.

Method of Transcription

When the conversations were transcribed from the tapes, all normal nonfluencies, such as filled pauses, repetitions and slips of the tongue, were noted and an attempt was made to reproduce what was said in as accurate a manner as possible. In nine of these first fifteen conversations, only passages which contained interruption-type speaker-switches were transcribed. The remaining six conversations were transcribed in full, so that there was a written and a spoken record of speaker-switch nonfluencies, set in the context of whole conversations.

All dialogues were listened to several times to check the accuracy of transcriptions. Any nonfluent speaker-switches were given additional, more detailed attention. When transcribing these nonfluencies tapes were played at half-speed, so that the beginning and end of simultaneous speech in each speaker's utterance could be precisely located. Each speaker's output was listened to on a separate track to ensure that all speech was heard and transcribed.
No automated systems of encoding simultaneous speech, such as those employed by Jaffe and Feldstein (1970) and Meltzer et al (1971), were used here. A human observer who records conversational behaviour while it is taking place probably does so inaccurately, since many aspects of such behaviour either take place so rapidly or are of a nature that they are overlooked. Clancy's (1972) and Boomer and Laver's (1968) remarks about the ease with which overlaps and slips of the tongue, respectively, escape conscious attention are corroboration for such a view. However, the observer who has a record of behaviour may operate at a considerably higher degree of accuracy, especially if the record enables him to perceive the behaviour at a slower-than-normal speed, and in manageable fragments which can be varied in size and, if necessary, can be heard or seen time and time again.

Jaffe and Feldstein compared the reliability of their automated Transaction Analyzer with that of a "highly trained" operator, basing their estimates upon successive one- and two-minute speech samples. Overall, the reliability of the system was consistently higher than that of the human operator. In particular, the latter's performance was seriously impaired when the recording contained a high incidence of simultaneous speech. However, their operator had to encode the output by "pressing the appropriate switch as each subject spoke" (Jaffe and Feldstein, 1970, p. 131; my underlining), a technique very similar to that used with the Interaction Chronograph (Chapple, 1940). "On the spot" detection of various aspects of simultaneous speech behaviour seems to overload human information processing capacities to a considerable degree. A record of the type described above alters this information load, not only by allowing multiple perceptions of any event, but also by enabling the operator to concentrate upon one variable at a time (in
Jaffe and Feldstein's second reliability study the operator had to monitor nine variables at once!

Nevertheless, the human observer may still be less accurate than an automated encoding system, even when equipped with such a record. However, this inaccuracy may be at least partly compensated for. Meltzer et al (op. cit.) used a computer to encode all periods of simultaneous speech in their data. They mention the possibility that their results may have been biased by the inclusion of brief utterances such as "yes" and "uhhuh". Although these are obviously not attempts to take the floor, if they involved simultaneous speech they were classified, by the computer, as interruptions. Meltzer et al maintain that these simultaneous interjections probably did not enter into their data in "any sizeable way". No indication is given of the relative proportions of simultaneous speech interruptions and simultaneous speech interjections in their data. When three hours of the data for the present study were examined, it was found that, on average, 68% of brief interjections, of the sort described by Meltzer et al, involved simultaneous speech*. In terms of raw scores the lowest number of simultaneous interjections in any of the six conversations in this sample was 135; they therefore appear to be more numerous than all the other types of simultaneous speech put together.

Meltzer et al's methods differ from the methods used here in a number of ways; for instance, their subjects are males, and they take part

* Yngve (1970) notes that, in his tape-recording of a conversation, remarks of an interjective nature "often" occurred simultaneously with the main message. However, no definition of the term "often" is given.
in a "problem-solving discussion", not an informal conversation on any topic. It is possible that simultaneous interjections are less frequent under those conditions. However, if Meltzer et al's highly accurate simultaneous speech detection system had been used to analyze the present conversations, some apparently valuable distinctions could not have been made. Therefore, while the human observer is not a perfect encoder, he may still have advantages over the automated system. These advantages may be particularly useful when investigations are of a preliminary or exploratory nature. Ideally, of course, a combination of human observer and automated encoder is probably most valuable.

A sample of one of the conversations will be used to illustrate a number of points related to the method of transcription.

In all examples, A refers to the main subject, who participated in every dialogue, and B refers to one of her partners. All simultaneous speech is underlined, and the underlining indicates the extent of simultaneous speech in each speaker's utterance. Speech enclosed in round brackets is produced by the person who is not currently holding the floor; it may or may not involve simultaneous speech.

A. Before she went to nursery school, I mean, you couldn't have met anybody more boisterous and um extrovert and er naughty and cheeky. But she's -

B. Is she an only child?

A. Yes. She's ha-, well Mrs Adamson's finding it difficult having children, (Yeah) and, um, the fertility drug that enabled her to have Jane, well, she's now been taken off that. They'd switched her onto another one which they perhaps shouldn't have done. They now realise it was a mistake 'coz she can't have any more at the moment.
The term "utterance" is used throughout this study to refer to "those chunks of talk that are marked off by a shift of speaker" (Fries, 1952; p. 23). A speaker-switch, or shift in speaker, takes place when one person in a conversation stops talking and another begins: the characteristic give and take of dialogue. A speaker-switch does not always involve a period of joint silence between constituent utterances; simultaneous speech may take place, that is both participants may talk at once. Brief interjectory remarks which are produced during another speaker's utterance, such as /um/*, /That's true/, /Exactly/, /Goodness/, /Oh, I see, yes/ and in the example above, /Yeah/ are not held to constitute utterances and therefore do not involve speaker-switching. These interjections correspond to Yngve's (1970) "back channel behaviours", Dittman and Llewellyn's (1967) "listener responses" and Kendon's (1967) "accompaniment signals". As mentioned above, they are enclosed in round brackets and written in the utterance with which they are associated; if necessary, simultaneous speech is noted.

The function of these interjectory remarks seems to be the very opposite of effecting a change in speaker, since they appear to ensure that the speaker who is holding the floor continues to do so. These interjections are usually stereotyped phrases of little or no semantic weight. In the conversations recorded here they seemed to be produced at a lower than normal vocal amplitude. Duncan and Niederehe (1974)

* In this thesis, pairs of oblique "slashes" (//) do not denote the phonemic representation of sounds, words and utterances which appear within them. Slashes have been used merely as a convenient way of avoiding both a proliferation of inverted commas and any confusion with other parenthesis symbols.
distinguish back channel behaviours from speaking turns (when the speaker "holds the floor") on the basis of a number of visual and verbal cues. Only verbal material was recorded in the present investigation, and it is possible that some interjections were classified incorrectly as utterances and vice versa, due to the lack of visual data. Incorrect classification is most likely to have occurred with some short phrases which seemed to possess interj ectional qualities. However, these were relatively infrequent, the vast majority of interjections being of the one or two word variety described above.

It should be noted that, while interjections are usually one or two words long, remarks of this length are not always interjections. For instance, /No/ and /Yes/ can constitute utterances when they are in reply to a question. In the example above, if A's second turn at speaking had consisted only of /Yes/, this would nevertheless have been an utterance since /Yes/ was in reply to B's question, /Is she an only child/, and, as such, this one word carries considerably greater semantic weight than B's interj ectory /Yeah/ during A's utterances; in addition, it was said with a vocal amplitude appropriate for utterances rather than interjections.

As will be obvious from the example above, no attempt was made to indicate tempo, stress or intonation in transcribing these dialogues. As Quirk (1955) and others such as Fries (1952) have emphasized, there is probably only a very limited correlation between the symbols of written language and the formal markers of such features as pauses and intonation curves. However, this study is of an exploratory nature; it was felt that an accurate representation of what was said should be given, and any portrayal of how this speech was produced should concentrate upon a few directly relevant variables, such as simultaneous speech and sudden cessations of speech accompanying incomplete utterances.
CHAPTER 3

RESULTS AND DISCUSSION
of the initial observations

Introduction

After all fifteen conversations had been transcribed, it became apparent that speaker-switching could be nonfluent in a number of different ways, and a uniform treatment of all periods of simultaneous speech, as carried out by, for instance, Heltzer et al (1971) and Jaffe and Feldstein (1970), seemed inappropriate. Differences between speaker-switch nonfluencies were initially formulated in gross behavioural terms, such as whether the initiator of simultaneous speech interrupts or becomes interrupted. As the study proceeded and various linguistic and psychological aspects of nonfluent speaker-switching were examined, these initial distinctions were vindicated.

In the first section of this chapter, the four nonfluencies will be defined, and their absolute and relative frequencies in the conversations will be examined. Then, since language is the main communicative medium in which these nonfluencies take place, the following two sections will deal with some aspects of their linguistic form. Examination of the nonfluencies from a linguistic viewpoint lends further support to the notion that they are a number of distinct phenomena. Where appropriate, aspects of the nonfluencies' linguistic form are interpreted in psychological and social interactive terms.
For convenient reference, definitions and examples of the four non-fluency types will be found on removable cards, inside the back cover of the thesis.

SECTION 1

Definitions of speaker-switch nonfluencies and frequency of nonfluencies in the initial observations

After the fifteen conversations were transcribed, definitions of four types of speaker-switch nonfluency were formulated, each in contrast to the notion of the perfect speaker-switch. A perfect speaker-switch takes place when a change in speaker is effected in such a way that:
(a) there is no simultaneous speech;
(b) the first speaker's utterance appears to be complete in every way: semantically; syntactically; phonologically, both segmentally and supra-segmentally.

Definitions of the terms speaker-switch, simultaneous speech and utterance will be found in the section entitled "Method of Transcription" (Chapter 2, p. 45).

Two transcribed samples of speech (both drawn from the same conversation) will be used to illustrate the four nonfluency types. As mentioned before, underlining indicates simultaneous speech, speech enclosed in brackets is produced by the person who is not currently holding the floor, and A and B refer to the main subject and her partner, respectively. I, CL, SI and BII refer to the various nonfluencies.
Sample 1

B. I know and what made me mad was that other people had gone \textit{(uhm)} to see their directors of studies \textit{later} than I \textit{(uhm)} and got in because they'd just, he'd, they \textit{had said} that the -

I  
\textit{Phon-... he'd 'phoned up at the time probably.}

OL  
B. \textit{Something like} that, you see. \textit{And Fowler} hadn't bothered.

In this first sample, there is an example of a speaker-switch nonfluency which involves an incomplete or interrupted utterance. This nonfluency will be referred to as a \textit{"simple interruption"} (abbreviated to \textit{"I"} in the transcripts), simple in the sense that it involves:

(a) simultaneous speech,

(b) a break in the continuity of the first speaker's utterance, and

(c) the initiator of simultaneous speech takes the floor.

The other nonfluencies may be seen as more complex variations on this theme.

All types of interrupted utterances are characterized by incomplete intonation patterns and unfinished syntactic and semantic structures. Occasionally, the interruption will take place in mid-word, so that the utterance is also phonologically incomplete. In most cases, interrupted utterances are marked by an abrupt cessation of speech; this is particularly noticeable when both speakers talk at once.

This sample also contains an \textit{"overlap"} (abbreviated \textit{"OL"}); simultaneous speech is present and the initiator of simultaneous speech takes the floor. However, in contrast to the simple interruption, there is no apparent break in continuity in the first speaker's (A's) output.

In the first utterance in this sample there is an interjection - /\textit{uhm}/ - which involves simultaneous speech. If interruptions are defined as all
periods of simultaneous speech, this would be treated as an interruption. However, as discussed in the "Method of Transcription" section (Chapter 2, pp. 43-44), interjections in general are treated as "back channel behaviours" (Yngve, 1970) in this study, and, therefore, simultaneous interjecting is not treated as a speaker-switch nonfluency.

Sample 2

B. ... and he was saying that he always has a scapegoat in every tutorial.

A. Oh yes, he had one in ours.

B. And it's usually a girl.

A. It wasn't in ours actually it was a bloke, (Yes) and um-

SI B. But anybody who's a bit lazy I suppose, is it, that he used to picks on?

OL A. A bit weak I'd say.

B. Weak? Really?

BII A. He dislikes anybody who's *you've got to put on the (E-)

(Yes, I see)

appearance of being quite a resilient, thick-skinned person

(* = nonlinguistic, vocal sound)

In the second sample of conversation the first speaker-switch is "perfect", since there is no break in continuity and simultaneous speech is not present. The next speaker-switch involves an overlap. At the fourth speaker-switch the first speaker's utterance is incomplete (finishing, /and um-/), but there is no simultaneous speech. This is a "silent interruption" (abbreviated SI) since, in contrast to the other nonfluencies, no simultaneous speech takes place.

Another overlap follows this silent interruption and, in the final utterance, there is an example of the fourth nonfluency type. This
involves an interruption or break in continuity in one speaker's output. In addition, simultaneous speech is present but here, in contrast to simple interruptions, the initiator of simultaneous speech does not take the floor. Instead, she breaks off before completing her utterance and produces only the sound /\%//. This nonfluency will be referred to as a "butting-in interruption" (marked BII in the transcript).

In about 13% of overlaps, 19% of butting-in interruptions and 22% of simple interruptions the initiator of simultaneous speech begins speaking during a pause in the other person's utterance. For instance, in an overlap:

B. ... I can remember what I got, sixty I think something like that - fifty-nine or something.
A. +/-, I, I was f-furious once ...

in a butting-in interruption:

B. ... I would like to go up, (Yes), up north or outside Edinburgh (I think, I don't -) (uhm) more than, in it perhaps - and yet as a city I think it's beautiful ... 

and finally in a simple interruption:

A. ... And I think tea-, in teaching -
B. You mean sort of - (uhm) singing or what?

In all these cases, the first syllable or two of the overlapping or interrupting utterance does not involve simultaneous speech. However, taking the first example, of an overlap, to illustrate the point, it seems obvious (from both the content and, in the original recording, the intonation) that /59 or something/ is a somewhat belated completion of an utterance, and not a new utterance coinciding with A's turn at speaking. "Tacking on" of delayed completions and minor clauses was a
marked feature of the language used in these conversations. To have treated these afterthoughts, retraced false starts and corrections as new utterances would have led to misleading classification of a considerable proportion of nonfluencies. They have therefore been dealt with in the manner illustrated above.

These four nonfluencies (simple interruptions (Is), overlaps (OLs), silent interruptions (SIs) and butting-in interruptions (BIs)) appear to be the main types of speaker-switch nonfluency in the present collection of data. However, speaker-switches can be other than perfect in at least two other ways. First, no break in continuity or simultaneous speech need be present, but the time between the two speakers' utterances can, in some sense, be too long, and can produce an "awkward silence". Unfortunately, it seemed to be extremely difficult to formulate a precise and stable definition of this overlong switching pause. Therefore, it does not appear in this classificatory system. However, it is hoped that it will be included in later studies. Secondly, a speaker-switch can be nonfluent because two utterances are exactly co-terminous; that is, they begin and finish together. Both overlong switching pauses (as judged intuitively) and exactly co-terminous utterances occurred infrequently in these conversations. Indeed, only one example of the latter was noted and, for this reason, no examination is made of co-terminous utterances. Finally, it is possible that when conversations with more than two participants are examined, additional speaker-switch nonfluency categories will have to be formulated.

Although there are considerable behavioural differences between the four types of nonfluency, they all appear to be normal, in the sense that every subject produced at least one example of each type. This
was true in additional recordings of two, independent male-female pairs in conversation. However, the four nonfluencies were not equally common, either in the fifteen conversations as a whole, or in individual speaker's contributions to those conversations. The original data on which the following and other discussions are based will be found in the Appendix (see pp. 193-196).

In each conversation, the total number of speaker-switches was noted and the numbers of overlaps, simple interruptions and silent interruptions were expressed as percentages of this total. For instance, in a conversation where, for the purposes of illustration, there were 100 speaker-switches and ten of these involved overlaps, 10% of speaker-switches in that conversation were overlaps. Since the number of speaker-switches in a conversation varied from 154 to 283 in these initial observations, it seemed more satisfactory to employ this type of measure than raw scores. A total of ten overlaps in a conversation consisting of only 150 speaker-switches, is probably somewhat different from a total of ten overlaps in a 280 speaker-switch conversation, even if both these dialogues lasted the same length of time.

Butting-in interruptions do not, of course, bring about a speaker-switch, but occur in mid-utterance. The number of utterances in a conversation equals the number of speaker-switches plus 1. Butting-in interruptions were expressed in terms of a percentage of the total number of utterances in a conversation. However, the similarity in the speaker-switch and the utterance figures means that the "percentage" measures for butting-in interruptions, and those for the other nonfluency types, are comparable.

The table on the following page indicates the relative frequency of the four nonfluencies, when data from the fifteen conversations were averaged.
<table>
<thead>
<tr>
<th></th>
<th>SI</th>
<th>BII</th>
<th>I</th>
<th>OL</th>
<th>Total raw score from 15 conversations</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>176</td>
<td>229</td>
<td>342</td>
<td>705</td>
<td></td>
</tr>
</tbody>
</table>

**Relative frequency of the four nonfluency types**

% of speaker-switches/utterances
Overlaps are therefore the most common, and silent interruptions the least common, speaker-switch nonfluencies. This ordering of overlaps, simple interruptions, butting-in interruptions and silent interruptions does not appear to be an artefact of averaged data. If individual nonfluency scores are prepared for the main subject and for her partners, conversation by conversation, the order is preserved.

In this case the four nonfluencies were defined in the following way:

- \( C_0 = \) number of times speaker becomes overlapped
- \( I = \) number of times speaker becomes interrupted
- \( B = \) number of times speaker butts in
- \( S = \) number of times speaker produces an incomplete utterance.

Defined in these terms, the nonfluencies have one feature in common: the speaker either loses or, in the case of the butting-in interruption, fails to gain the floor.

The four nonfluency types were ranked from 1 to 4, from the most to the least common, and Kendall's coefficient of concordance was estimated on the basis of first, the 15 sets of ranks for the main subject who participated in all the dialogues and secondly, the 15 sets of ranks for her 15 conversational partners. In both cases "S" was significant beyond the .01 level of probability (\( N = 4 \), nonfluency types; \( K = 15 \), conversations). The ranking tended to be 1) overlaps, 2) simple interruptions, 3) butting-in interruptions and 4) silent interruptions.

For the main subject's ranks "S" = 795.15, and for her conversational partners' "S" = 646.55. This suggests that, even though the main subject may have been altering her speaker-switching in accordance with the behaviour of her various partners, she also maintained a degree of self-consistency in this particular respect throughout the 15 dialogues.
However, it is of some interest to note that, in all conversations except one, the overlap was the most frequent nonfluency for both participants; in the fourteenth conversation the main subject and her partner had overlaps as the second most frequent nonfluency. There is the possibility that matching of behaviour was taking place on this unusual occasion.

Speaker-switch nonfluencies appear to differ in behavioural terms; they also appear to display some distinctive regularities with respect to their relative frequency both in averaged and in raw data. In the next two sections, the "basic working material" of these nonfluencies—language—will be examined in greater detail. Where appropriate, reference will be made to related psychological and social interactive variables.

**SPEAKER-SWITCH NONFLUENCIES AND LANGUAGE**

Simultaneous speech and interruptions in verbal continuity are the most prominent features of speaker-switch nonfluency. The following two sections of this chapter will deal with some of the linguistic concomitants of these features.
Simultaneous Speech

Simultaneous speech is present during three of the four nonfluencies (no simultaneous speech takes place when the speaker-switch involves a silent interruption), and it is perhaps most appropriately thought of in behavioural terms, at least initially.

In the present study, the length of periods of simultaneous speech was measured in terms of syllables; sounds less than one syllable long were treated as a whole syllable.

In the example below, simultaneous speech lasts for 3 syllables in both speakers' utterances:

A. They're very nice and super.
B. My excuse, my excuse was that um I've broken the zip of my others and they've gone in to be repaired ....

Occasionally, one speaker will produce more syllables than her conversational partner does. For instance:

A. I mean, what do these "Be" and "3 pluses" and things, mean?
B. I don't know what they mean, I think it, you see, I think really they, they, it means they can s-, fiddle them around.

In the extract above, A produces 7 and B produces 9 syllables, in the same period.

The numbers of syllables of simultaneous speech produced by speaker A and by speaker B were compared in a total of 840 instances of simultaneous talking. The three relevant nonfluency types were treated separately. Although there were some variations, these were not statistically
significant (p < .01 or .05) in any case. Both speakers tended to produce approximately the same number of syllables as each other, whether they were speaking simultaneously during an overlap, a simple interruption or a butting-in interruption.

Therefore, during simultaneous speech, the performance of both dialogue participants appears to be equivalent, in terms of the number of syllables produced. If, for the purpose of illustration, the performance of one speaker—the initiator of simultaneous speech in the three nonfluencies—is concentrated upon, it is also apparent that the length of simultaneous speech, measured in syllables, does not vary with statistical significance (p < .01 or .05), between the three nonfluencies. The table on the following page illustrates the frequencies, in percentage terms, of the varying lengths of simultaneous speech during overlaps, simple interruptions and butting-in interruptions. In all cases, the number of syllables are counted in the utterance of the initiator of simultaneous speech.

As mentioned in the first section of this chapter, overlaps (CL) are the most common speaker-switch nonfluencies. For the data in Table 2, a sample of overlaps was drawn from a third of the conversations which were recorded for the initial observations.

A chi square test of the differences in the length of simultaneous speech in the three relevant nonfluencies, was carried out on the raw data, and a statistically nonsignificant result was obtained ($\chi^2 = 15.095$; df = 12; p < .30). The greatest differences appear to be between overlaps and simple interruptions. A separate chi square test on these two sets of frequencies yielded a value which approached significance at the .05 level of probability ($\chi^2 = 12$; df = 6; p < .1). Overlaps seem
**TABLE 2**

Length of simultaneous speech (in syllables) during overlaps, simple and butting-in interruptions

<table>
<thead>
<tr>
<th></th>
<th>OL (2nd speaker)</th>
<th>I (2nd speaker)</th>
<th>BI (&quot;Butter-in&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>269</td>
<td>342</td>
<td>229</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of syllables of simultaneous speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>% of total no. of instances of nonfluency</td>
</tr>
</tbody>
</table>

No. of syllables of simultaneous speech
to involve an usually large proportion of the longer periods of simultaneous speech. This finding will be discussed later, in connection with other aspects of simultaneous speech.

In the majority of cases, intervals of simultaneous speech are short; periods 7 or more syllables long are comparatively rare. The modal length of simultaneous speech is one syllable in both simple interruptions and overlaps, and two syllables in butting-in interruptions. About 73% of simple interruptions involve periods of simultaneous speech one to three syllables long. The corresponding figures for butting-in interruptions and overlaps are approximately 70% and 68%, respectively.

Jaffe and Feldstein (1970) state that the average duration of simultaneous speech in their data was roughly .4 second. The mean length of simultaneous speech in Heltzer et al's (1971) data was approximately .8 second. They include all periods of simultaneous speech in their measurements; simultaneous interjections are excluded from the present data, since they are not speaker-switch nonfluencies (see p. 43). As interjectory remarks tend to be very brief, the average length of simultaneous speech in these conversations may be slightly longer than in Jaffe and Feldstein's and Heltzer et al's dialogues. In any case, most periods of simultaneous speech are much shorter than the majority of utterances. Jaffe and Feldstein also make this point, in connection with their data, and they suggest that it may indicate that an "inhibitory process" is operating in one or both speakers. The nature of this inhibitory process is not specified. The limited variability in the length of periods of simultaneous speech in these conversations, both within and across nonfluency types, might also be cited as possible evidence for the operation of an inhibitory process. Restricted
variability across nonfluency types, in terms of simultaneous speech duration, is in marked contrast to the considerable differences usually found between these nonfluencies in this study.

It seems probable that, whatever the nature of this hypothetical inhibitory process which limits the length of periods of simultaneous speech, the process will be a complex one. It is likely to involve social, cognitive and linguistic variables.

At the level of social interaction, for instance, the number of participants in these conversations may have had an inhibitory effect upon simultaneous speech. As mentioned in the previous chapter, Bales and Borgatta (1965) have noted a particularly low rate for showing disagreement and antagonism in two-member groups. A delicate balance is maintained between dominant and non-dominant partners. Jaffe and Feldstein's conversations and interviews also had two participants. Perhaps simultaneous speech is particularly short and limited in variability in two-person interactions, because this delicate balance is being preserved; some, though not all, lengthy stretches of joint talking may indicate overt competition for the floor. As noted above, there was a tendency for particularly long periods of simultaneous speech (seven or more syllables) to be associated with overlaps. In a later chapter of this thesis, nonfluency types are correlated with self- and other-rated measures of dominance. The nonfluency which was most highly correlated (p. < .05) with self-rated dominance was the overlap. Other-rated dominance was also positively (though statistically nonsignificantly) correlated with this nonfluency.

The length of intervals of simultaneous speech may also be restricted by limitations in human information processing abilities. During long
stretches of joint talking, speakers may be unable to hear each other efficiently and, perhaps equally important, they may have difficulties in monitoring the production of speech under such conditions.

Opinions about human information processing capacity during simultaneous speech, seem to vary somewhat. For instance, Miller (1963) has suggested that "one voice is poor masking noise for another", and that "There is no a priori reason why two people who have questions to ask one another could not question simultaneously and answer simultaneously", (p. 418). On the other hand, Dittman and Llewellyn (1968) maintain that brief interjectory remarks (such as, /mm-hmm/ and /I see/) are produced after terminal junctures in the other speaker's utterance because, in those positions, they do not interrupt the speaker and "vocal interruption makes it difficult to hear the speaker" (p. 83). It should perhaps be emphasized that Dittman and Llewellyn are referring to very brief listener responses.

In the present conversations, 68% of a sample of over 2,000 interjections involved simultaneous speech. There was no apparent disruption in either speakers' linguistic production or reception on these occasions; the interjector did not ask for any repetitions or clarifications and the main speaker did not seem to become unduly dysfluent while the interjections were being produced. In Bamford's (1971) terms, efficient division of attention appeared to be taking place, since each speaker was performing two tasks without detriment to either. However, Bamford suggests that, in many divided attention tasks, one channel is automated. Interjections are usually extremely stereotyped in linguistic form, which probably enables both their reception and production to become automated.
During the present conversations there were, however, a number of instances when division of attention, between production and reception, seemed to be taking place with linguistic output of a considerably less stereotyped nature. Altogether, 48 examples of divided attention during simultaneous speech were noted in these initial observations. In all cases, one of the speakers made explicit reference to her conversational partner's speech, which had been produced simultaneously with her own output. For instance:

B. .... I presume he's doing the church sort of side. Yeah. Oh, he's doing the second term?

A. (The second term) (Well -) B appears to have heard the exact content of A's "The second term", although this was produced simultaneously with B's own "(ch)urch sort of side". Similarly:

A. .... I think Ni was terribly lonely this year she really was she she 

B. Where? She lives in Edinburgh, does she?

A. Yes, in Locharten Gardens ....

In this instance, A's reply to B's question is appropriate (and correct), even though the major portion of the question was produced simultaneously with A's first utterance. If A had replied merely "Yes", this would not have been taken as sufficient evidence of divided attention.

On average, the "divider of attention" talked through, and then gave evidence of having heard, 4.6 syllables of her conversational partner's verbal output. The modal length of speech, over which divided attention spanned, was 4 syllables. There were ten examples of attention divided during seven or more syllables of simultaneous speech,

61
including one instance where thirteen syllables were involved. In these longer stretches of joint talking, some sampling of verbal output may have taken place, and the few syllables which were heard may have been sufficient for grasping the other speaker's meaning.

Perhaps attention was divided efficiently between production and reception more often during these conversations. Examples of divided attention were only noted when a speaker made explicit reference to her partner's simultaneously produced utterance. Instances where the reference appeared to be only implicit - and frequently this consisted solely of /Yes/ or /No/ - were disregarded. Unfortunately, experimental evaluation of this type of divided attention, where verbal production and reception take place simultaneously, appears to present some difficulties. In particular, the instructions, which would have to be given to participants in an experiment, would probably alter the situation so radically that, not only would it no longer resemble a conversation but, perhaps more importantly, attention would probably be divided in a quite different manner. For this reason, extrapolation of experimental findings to the more natural, conversational situation would be unwarranted.

Therefore, on the basis of instances which took place during these conversations, rather than experimental findings, it seems that speakers can simultaneously produce and receive verbal signals; in about 65% of cases, this division of attention takes place over stretches of speech between one and four syllables long. If data for the three simultaneous speech nonfluencies are averaged, approximately 60% of all periods of joint talking involve one to four syllables. Hence, most periods of simultaneous speech during nonfluent speaker-switching are of a length over which attention can be divided.
However, this correlation does not prove that periods of simultaneous speech are short because of limitations in human information processing. Indeed, three instances of explicit lack of divided attention were noted, and an average of only four syllables were involved in each of these cases. The ability to divide attention between verbal production and reception obviously has a more complex basis than simply "length of period of simultaneous speech". Additional evidence, concerning some linguistic aspects of nonfluent speaker-switches, suggests that, during simultaneous speech, linguistic and related cognitive capacities may become overloaded.

This evidence is drawn from several observations. First, and this will be dealt with more extensively in the following section, breaks in verbal continuity quite frequently coincide with periods of simultaneous speech. Simultaneous interjections, which are usually produced with relatively low vocal amplitude and in a stereotyped linguistic form, hardly ever accompany interruptions in verbal output. Their nature seems to ensure that they do not interfere with the main speaker's utterance. However, in these initial conversations, nearly 1,300 other instances of simultaneous speech were noted, and in 45% of cases they coincided with a break in verbal continuity. These breaks in continuity appeared to take place on a somewhat limited variety of syntactic units. This suggests that the precise linguistic structure of an utterance may influence the length of simultaneous speech, since there may be some specifically linguistic points at which a speaker is likely to interrupt himself and so terminate simultaneous speech.

Breaks in verbal continuity are sometimes treated as evidence of more general, psychological "interference". For instance, filled and unfilled pauses, which also temporarily interrupt the flow of speech,
are often discussed in terms of anticipation of increased information and momentary uncertainty of prediction. It is possible that two-person interruptions take place for a variety of social, linguistic and psychological reasons, including overloading of attentional capacities. This overloading may take place to the extent that one speaker breaks off in mid-utterance in order to restore the information load to a more manageable level.

Interruptions are not the only examples of interference in performance, during nonfluent speaker-switches involving simultaneous speech. Meltzer et al (1971) have noted that speakers who temporarily raise their voice during a period of joint talking, tend to succeed in holding the floor. They suggest that one of the reasons why an increment in vocal amplitude is successful in this situation, may be that it interferes with the other speaker's control of his cognitive and motor processes. One might also suggest that the increment in vocal amplitude indicates interference in the first speaker's utterance. If a speaker raises his voice he may "block out" his conversational partner's speech and enable himself to attend exclusively to his own verbal output. This raising of the voice during periods of simultaneous speech was also noted in the present conversations.

 Speakers interrupt themselves and raise their voices during some instances of joint talking. They also show a tendency to repeat themselves when taking the floor during simultaneous speech, and this repetition may also be a sign of interference. In these cases, repetitions consisted of at least one word, although repetitions of /Yes/ and /No/ were not included. At least part of the repetition took place during simultaneous speech, for instance:

1. *My excuse*, my excuse was that um I've broken the zip ....
2. The same, the same bits of evidence used ....

3. Well that's, that's a very nor-, it's a very, um ....

Occasionally, as in the third example, the repetition would be preceded by "utterance openers" such as /well/, /yes/ and /so/.

Over 14% of overlapping utterances were begun with repetitions and the corresponding figure for simple interrupting utterances was about 6%. It will be remembered that overlaps tend to involve a larger proportion of the longest periods of simultaneous speech, when compared with simple interruptions. This may, at least partly, account for the different percentages above. Simultaneous speech and repetition are probably intercorrelated: repetition may prolong simultaneous speech, and simultaneous speech may produce dysfluencies such as repetition. There may not be a single causal agent in this relationship. In addition, the behaviour of the other speaker may influence repetition by the overlapper. Simultaneous speech, like all other aspects of speaker-switch nonfluency, is the outcome of two people's performances. During overlaps, the first speaker does not break off in mid-utterance. This may increase the likelihood of repetition by the overlapper, who may keep his hold on the conversational floor by employing a linguistic strategy which minimizes cognitive and motor interference. From the point of view of the overlapped speaker, such repetitions may highlight the initiation of simultaneous speech during his utterance; it may serve generally as a social cue indicating an effort to take the floor. In addition, it may aid this speaker's selective attention to the beginning of an overlapping utterance.

However, it should be noted that speakers have a tendency to repeat themselves at the beginning of utterances, whether or not simultaneous speech is present. About 6.9% of utterances after perfect or silent
interruption speaker-switches open with repetitions of the sort described above. Repetition may, therefore, be more closely correlated with an utterance initial position, than with periods of simultaneous speech. Such a view is supported by comparison of the amount of repetition which takes place at the beginning of overlapping utterances, and at the end of overlapped utterances. A similar period of simultaneous speech is involved in both cases, but the percentages of utterances during which repetition takes place differ considerably: about 14% with overlapping utterances and 1.5% with overlapped utterances.

Nevertheless, repetition may be caused, in part, by interference and its incidence may rise during speaker-switches such as overlaps which, for various reasons, are associated with particularly long periods of simultaneous speech. Like all aspects of simultaneous speech, including possible limitations in its length, a number of factors are probably interacting in a complex manner; not least, perhaps, because conversation itself is characterized by the intricate interaction of a variety of social, cognitive and linguistic variables.

The length of periods of simultaneous speech does not appear to differ very greatly between overlaps, simple interruptions and butting-in interruptions. However, the points in the other speakers' outputs, at which overlappers and interrupters initiate their utterances, do seem to vary considerably between nonfluency types.

The precise positions to be discussed here will be marked with arrows in examples of the three simultaneous speech nonfluencies.
1. Overlap:
   B. ... she won't be working to the same pitch obviously.
    You couldn't expect her to be.
   A. This is what I'm worried about you see ....

2. Simple Interruption:
   B. Oh I was telling you about her last night, was I? Or didn't -
   A. I think you mentioned her by name ....

3. Butting-in Interruption:
   A. What sort were you looking for, a Grundig? Mine's not, mine's (Well -)
    (is it -) not a Grundig.

In all cases, these are the points at which the interrupter or over-lapper comes in during her conversational partner's utterance. In the second example, A's utterance was initiated during an unfilled pause in B's speech; this is a fairly common occurrence in all three nonfluency types. The onset of simultaneous speech sometimes coincides with the end, rather than beginning, of a word (for instance, during the first butting-in, in the third example). It was thought most profitable to look at whole words regardless of where, in their written form, simultaneous speech began. This is, of course, an arbitrary decision; speech is a continuum of sounds and one articulation affects another, both within and across word boundaries. However, great care was taken to locate the onset of simultaneous speech (see Chapter 2, p. 39) and it is hoped that the word is a suitable linguistic unit for the purposes of the present analyses and discussions.

The syntactic function of the words on which simultaneous speech was initiated were classified according to Fries (1952), with some modifications made mainly for statistical reasons. This classificatory
system will be used again in the final section of this chapter, in con-
junction with the last words of incomplete or interrupted utterances.
Altogether, twelve categories are employed; in addition, in this
section, a "pause" category is used for interrupting or overlapping
utterances which begin during an unfilled pause.

Fries' system of classifying parts of speech is not perfect, and it
has been the subject of criticism over the years. However, it was felt
that a number of points justified its use in this study. First, other
investigators of normal nonfluency in speech, such as Haclay and
Osgood (1959) and Quinting (1971), have employed this system. It
therefore facilitates comparison between studies of different non-
fluency types.

Secondly, many of the utterances in the present sample were incomplete.
Fries' emphasis upon the position of parts of speech within "utterance
units", provides a useful organizational basis for this data.
Grammatical systems which rely upon complete clauses or sentences for
identification of units would obviously have posed some difficulties.

Thirdly, Fries' system is based upon an analysis of a sample of speech
which was spontaneous and experimentally unstructured. Most of the
conversations recorded by Fries were conducted by telephone, and
lasted between five and thirty minutes. (Crystal and Davy, 1969,
while noting some differences between face to face and telephone con-
versations, conclude that telephone dialogue is probably a "subprovince",
rather than a separate type, of conversation). The system's basis
upon everyday language use probably makes it a particularly appropriate
method for arranging the data collected during these informal conver-
sations.
For statistical reasons, some of the infrequently occurring function words were placed in related word categories. This was felt to be more satisfactory than combining all of these words into a "miscellaneous function words" category. The numbers involved do not unduly distort the main categories into which these words are placed but, taken altogether, there are a considerable number of them. Some of these rarer words vary markedly in terms of their syntactic position in an utterance, or clause within an utterance. It seems that syntactic positions, as well as syntactic units, may be important in interrupted utterances; this point will be discussed later.

Ten of the twelve categories employed here include items which correspond to Fries' definitions and fit into his appropriate test frames. Two additional categories were drawn up: one of these is made up of "fillers" and filler-type phrases such as /um/, /er/, /eh/ and /sort of/, /I mean/, /y'know/; these words and phrases are ignored by Fries although they occur frequently in spontaneous, informal conversation. The other category consists of subject personal pronouns. Approximately 32% of all the nouns, in the present conversations, were subject personal pronouns. By separating subject personal pronouns, which frequently occur in a sentence initial position, from all other nouns, information about syntactic position was available and statistical analyses on these large numbers of words was more satisfactory. This separate treatment of nouns and subject personal pronouns is also present in Maclay and Osgood's analysis of nonfluencies.

Fries does not mention either proper nouns or /to/ as an infinitive marker of a verb. Here the former were classified as Class 1 words (corresponding roughly to traditional nouns) and the latter as a
Group B word (approximately modals and auxiliaries).

Words in Fries' Groups H (Look, say, listen, as in "Look, I want to ask you..."), M (Please) and O (Let's) did not occur in the particular positions selected for statistical analysis in these conversations. Nor were they present in a sample of about 1,000 words of continuous speech also drawn from these dialogues.

The following categories were employed. (Words in inverted commas and brackets after the category titles are approximate, traditional descriptions of the categories; there is no exact correspondence.)

i) Class 1(a) ("nouns"), including Group H (/there/, when used as a subject of a verb).

ii) Class 2 ("verbs") as defined by Fries.

iii) Class 3 ("adjectives"), including Group C (not) and Group D (called "intensifiers" by Fries, such as /very/, /really/ etc.), when those words negated or intensified a class 2 word.

iv) Class 4 ("adverbs"), including Groups C and D, when those words negated or intensified a class 4 word.

v) Class 1(b) subject personal pronouns.

vi) Group A ("determiners") as defined by Fries; definite and indefinite articles, possessive pronouns etc.

vii) Group B ("modals and auxiliaries"), combined with /to/ as an infinitive marker of a verb (see above), Group C (not) when it negated a class 2 word ("verb") and Group G (/do/, /does/, /did/).

viii) Group E ("conjunctions"), including Group J (Fries' "signs of inclusion", such as /after/, /because/, /if/, /until/, etc.)

ix) Group F ("prepositions"), as defined by Fries.

x) Group I (/when/, /why/; /where/, /how/, /who/, /which/, /what/), as defined by Fries.
xi) **Group K** (/well/, /oh/, /how/, /why/; often produced at the beginning of utterances), including **Group L** (/Yes/ and /No/) when, because of rising intonation and lack of any preceding question, the latter appeared to be preceding an utterance in much the same way as the words of Group K. Subsequently referred to as "utterance openers".

xii) "Fillers" and filler-type phrases (for examples, see above).

In the table on the following page each simultaneous speech nonfluency type is dealt with in terms of the word, in the other speaker's output, on which the overlapper or interrupter initiated her utterance. If the first word of such utterances coincided with a pause in the conversational partner's speech this was noted in the "pause" category.

The original frequencies are presented in percentage form in this table, to facilitate comparison between nonfluency types.

A sample of 323 overlaps was drawn from six of the fifteen conversations. Altogether, over 700 overlaps were recorded during these initial observations; it is hoped that the number examined here is sufficiently large to provide adequate information. Of these 323 overlaps, there were eleven cases where the syntactic function of the word upon which simultaneous speech was initiated was uncertain. There were seven uncertain cases in the simple interruptions and two in the butting-in interruptions. The uncertainty was due to indistinct pronunciation or incompleteness of utterance. These cases were excluded from the calculations in Table 3, leaving totals of 312 overlaps, 335 simple interruptions and 227 butting-in interruptions.

A chi square test, for three independent samples, was carried out on the raw data. A value of 95.034 was obtained. This is significant
### Table 3

Points at which Simultaneous Speech was Initiated during Overlaps, Simple and Butting-in Interruptions

<table>
<thead>
<tr>
<th>Class 1(a) (&quot;nouns&quot;)</th>
<th>OL</th>
<th>I</th>
<th>BII</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.64 %</td>
<td>9.85 %</td>
<td>18.06 %</td>
<td></td>
</tr>
<tr>
<td>Class 2 (&quot;verbs&quot;)</td>
<td>9.94</td>
<td>8.06</td>
<td>12.78</td>
</tr>
<tr>
<td>Class 3 (&quot;adj.&quot;)</td>
<td>10.26</td>
<td>7.16</td>
<td>9.69</td>
</tr>
<tr>
<td>Class 4 (&quot;adv.&quot;)</td>
<td>10.58</td>
<td>3.88</td>
<td>5.29</td>
</tr>
<tr>
<td>Class 1(b) (&quot;s.p.p.&quot;)</td>
<td>4.81</td>
<td>11.34</td>
<td>10.13</td>
</tr>
<tr>
<td>Group A (&quot;det.&quot;)</td>
<td>1.28</td>
<td>.89</td>
<td>1.76</td>
</tr>
<tr>
<td>Group B (&quot;mod. &amp; aux.&quot;)</td>
<td>5.13</td>
<td>5.67</td>
<td>3.08</td>
</tr>
<tr>
<td>Groups E &amp; J (&quot;conj. &amp; incl.&quot;)</td>
<td>2.09</td>
<td>13.13</td>
<td>6.17</td>
</tr>
<tr>
<td>Group F (&quot;prep.&quot;)</td>
<td>4.49</td>
<td>2.99</td>
<td>.44</td>
</tr>
<tr>
<td>Group I (when, why, etc.)</td>
<td>.96</td>
<td>1.49</td>
<td>3.08</td>
</tr>
<tr>
<td>Groups K &amp; L (&quot;utt. openers&quot;)</td>
<td>4.49</td>
<td>4.48</td>
<td>3.97</td>
</tr>
<tr>
<td>Fillers</td>
<td>7.05</td>
<td>9.25</td>
<td>6.61</td>
</tr>
<tr>
<td>Pauses</td>
<td>12.5</td>
<td>21.79</td>
<td>18.94</td>
</tr>
</tbody>
</table>

Add.ional chi square tests were carried out on the distribution of raw scores, across the nonfluency types, in those particular categories where comparisons of obtained and expected frequencies, in the original chi square test, indicated that the differences between nonfluency types were greatest (see p. 73). In each case the data were classified into two categories: the particular class or group of words under scrutiny (see above) and "all other points at which simultaneous speech was initiated." The following results were obtained (df = 2, in all cases; * = p < .01, ** = p < .001): Class 1a : $X^2 = 27.72**$; Class 4 : 12.59**; Class 1b : 9.43**; Groups E & J : 24.95**; Pauses : 9.965 **.

N = 312  N = 335  N = 227
beyond the .001 level of probability (24 df). Therefore, it is unlikely that the points at which simultaneous speech is initiated are independent of the type of speaker-switch nonfluency.

It seems that overlapping utterances are most likely to be initiated on nouns (25.64%) or during pauses (12.5%); the same is true in the case of butting-in utterances, although the figures here are 18.06% and 18.94%, respectively. Interrupting utterances, in simple interruptions, are most likely to coincide with either pauses (21.79%) or conjunctions (13.13%) in the other speaker's output.

The differences between nonfluency types seem to be centred on overlaps and simple interruptions in particular. This observation is confirmed by separate chi square tests comparing two nonfluency types at a time. The highest value was obtained when frequencies for overlaps and simple interruptions were contrasted (all values were significant \( p < .01 \) or beyond).

Overall, the dissimilarities are mainly in terms of a few syntactic categories. Comparisons of obtained and expected frequencies, in the original chi square test with all three nonfluency types, indicate that the differences are greatest in relation to nouns, adverbs, subject personal pronouns, conjunctions and pauses. Compared to overlapping utterances, simple interrupting utterances are initiated more frequently (than expected by chance) on subject personal pronouns and conjunctions, and during pauses; they are initiated less frequently on nouns and adverbs.

Butting-in interruptions seem to come between overlaps and simple interruptions in respect of the onset of simultaneous speech. Compared with simple interruptions, they coincide with about twice as many nouns,
rather more adverbs, fewer conjunctions and fewer pauses. In all these cases, the proportions observed for butting-in interruptions fall between the overlap and the simple interruption percentages.

It will be remembered that butting-in interruptions are apparently unsuccessful attempts to take the floor. This lack of success may be due not only to the syntactic function of the words upon which simultaneous speech is initiated, but also to the position of those words within an utterance. For instance, both overlaps and butting-in interruptions are quite often initiated on nouns. In this sample of spontaneous, conversational language there was a marked tendency for speakers to produce simple S-V-O (subject-verb-object) sequences; the subject was often a personal pronoun*. It seems likely that many overlapping utterances are coinciding with the final nominal structures in these S-V-O sequences, when these sequences are produced at the end of an utterance. (Over 45% of a sample of 360 completed, rather than interrupted, utterances finished with nouns. See Appendix, p. 197).

However, it is possible that such an attempt to take the floor could be misjudged. Some utterances are made up of a number of S-V-O sequences, frequently linked in a simple manner by the conjunctions /and/ and /but/. Such configurations might encourage misjudged speaker-switching.

* If this is a feature of everyday language in general, it may account for Bever's observation (see, for instance, 1970) that SVN sequences are assumed, in certain language perception tasks, to correspond to an underlying SVO arrangement, to the extent that this assumption creates what might be described as a "linguistic illusion". Moore (1972), in investigating the recognition of ungrammaticality, also found that subjects appear to look initially for a SVO sequence.
especially if they are produced with some of the intonational and visual cues which are associated with the end of utterances (for descriptions of such cues see, for instance, Kendon, 1967 and 1970; Duncan, 1972). When butting-in utterances coincide with nouns, in the other speaker's output, they may sometimes be unsuccessful attempts at overlapping, and the utterance position of the nouns may, at least partly, account for the lack of success.

Simple interruptions do not appear to be initiated on nouns so frequently as is the case with the other nonfluency types. Like all the simultaneous speech nonfluencies, however, the beginnings of simple interruptions quite often coincide with an unfilled pause in the conversational partner's speech. A number of investigators, including Goldman-Eisler (1968) and Bowman (1966), have noted the fragmentary nature of spontaneous speech. Unfilled pauses and the loose coordination of clauses within utterances are two of the features which probably contribute to this impression of fragmentariness. They may also encourage both mistimings of speaker-switches and attempts, successful or otherwise, to get a word in edgeways. These mistimings and attempts to take the floor may become particularly likely if pausing or loose coordination coincide with the production of what Quirk (1955) has aptly called "lean-to structures".

Quirk has noted that, during informal speech, a drop in intonation at the end of a syntactic unit is often followed by a structure which would be incomplete on its own. (Frequently such a structure is affixed to the main utterance by one of the recurrent coordinating conjunctions of colloquial English, especially /and/ and /but/).
Quirk cites the following example among others:

"Then he criticises points in the pragmatic approach - tests of experience all the time."

The second half of the utterance is bounded by two lowerings of intonation and, although it is structurally incomplete, it "leans to the first half because it is semantically related to that first half. In the present sample of conversation, lean-to structures were sometimes of very little semantic weight and, perhaps particularly in the case of overlaps, they often consisted of repetitions or even filler-type phrases. For instance:

B. Um, are you, is it a quite sociable flat, the flat?
A. Yes, yes very ....*

and:

B. ..... It's an absolutely grotty street, mind you, next door's derelict, and things like this.
A. Well, wh-, what's the street called? ....

Speaker-switch nonfluencies, of any type, can never be said to be caused by one person alone. The examples of overlaps with lean-to structures, cited above, are excellent illustrations of this point. In one sense B, in both of the overlaps above, could be regarded as the speaker who caused the overlaps, since she "tagged" fragmentary structures onto apparently complete utterances. However, the overlap would not have come about unless A had also spoken at those points.

* /Yes/ in this utterance is not an interjection, since it is in reply to a question.
The general fragmentary nature of spontaneous speech may increase the likelihood of all three nonfluency types. Such fragmentariness may be connected with hesitancy, and interrupters (perhaps particularly those who bring about simple interruptions) may be using points of hesitancy and planning, such as conjunctions and pauses, upon which to initiate simultaneous speech. Clancy (1972) notes that, in her sample of conversation, "the hearer often interrupts either immediately or soon after .... hesitations since the speaker is not holding the floor effectively" (p. 85).

However, it will be remembered that, compared with simple and butting-in interrupters, overlappers initiate simultaneous speech infrequently on conjunctions and possible points of hesitancy such as pauses. Nevertheless, there may be one underlying principle upon which the initiation of simultaneous speech, in general, is based. Both interrupters and overlappers may be attempting to take the floor at what Sacks et al (1974) have referred to as "transition relevance places". These places are points, within utterances, where the current speaker can or should give the floor to the other speaker. In the examples of lean-to structures above, the transition-relevance places in B's utterances are after "sociable flat", in the first instance, and after "next door's derelict", in the second instance. In both cases B could have completed her utterance and given the floor to A, since up until the transition-relevance places the utterances are syntactically and semantically complete. As Duncan (1972 and 1974) has observed, the completion of a grammatical clause which involves a subject-predicate combination, is one of a number of speaker turn signals. If a listener responds to this particular signal and, at the same time, the current speaker continues talking, simultaneous speech may coincide with a number of features which follow completed clauses within utterances. These
features are likely to include brief, unfilled pauses (see example 2, p. 67), conjunctions (see second example of an overlap with a lean-to structure, p. 76), and filled pauses (see first example, p. 96). Filled and unfilled pauses may also be responded to as indicators of hesitancy and an insecure hold upon the conversational floor.

Although response to transition-relevance places may account for some instances of simultaneous speech, anticipation of these places may also be an important consideration, particularly in the case of overlaps. It seems probable that there are a number of intonational, linguistic, and visual cues which indicate that a speaker is approaching the end of a clause or utterance. These cues may include particular intonational curves (perhaps especially lowering of pitch), certain head postures and patterns of eye contact, as well as characteristic syntactic and semantic configurations. On the basis of this information a listener may be able to anticipate the end of a clause or utterance. Anticipation of transition-relevance places and possible completions may have played some part in the following overlaps:

1. B. That's Innocent and Gregory, isn't it?
   A. Yeah, well, it's partly investiture ....

2. A. .... I expect you would like to go with him.  
   (Yes)
   B. Well, I'd prefer it, yeah, (Yes) but then he would want me to go to a Ranger's football match ... 

3. A. Yes, I take far too many notes.
   B. Yes, I do. It's and, eh, half of them, I don't use ....

Sacks et al (op. cit.) give similar examples and they also suggest that overlappers may be predicting the end of an utterance or a place at which they can take the floor.
Of course, not all transition-relevance places coincide with the ends of utterances, nor are they all positions at which the current speaker is necessarily willing to give up the floor. Presumably, this could lead to instances where the initiator of simultaneous speech was unsuccessful in an attempt to take a speaking turn. Such instances will consist of butting-in interruptions which, it has already been suggested, may sometimes be misjudged overlaps.

It will be remembered that butting-in interrupters often use some of the same points, as overlappers and simple interrupters, at which to initiate simultaneous speech. However, unlike simple interruptions and overlaps, butting-in interruptions do not result in a speaker-switch. This suggests that, while the success of an attempt to take the conversational floor may be partly linked to transition-relevance places and certain syntactic structures in the other speaker's utterance, these are not the only determinants of the outcome of speaker-switch nonfluency. Vocal amplitude (see Keltzer et al, 1971), the relationship between speakers, the topic under discussion and even the particular vocal habits of individuals are probably additional variables of some importance.

Nevertheless, the concept of transition-relevance places appears to be a useful one in the context of the present discussion, since it provides a basis around which to organize the differences, between nonfluency types, in terms of the syntactic positions at which simultaneous speech is initiated. During all three nonfluencies there may be an attempt to take the floor at a transition-relevance place; on occasion, these places may be anticipated by listeners, and this may be particularly true in the case of overlaps; during simple and some butting-in interruptions, on the other hand, such places may more often be responded
to (that is, simultaneous speech may be initiated after the transition-relevance features have been produced by the current speaker); finally, responses to, and anticipations of transition-relevance places may be unsuccessful, for a number of reasons, and the initiator of simultaneous speech may have to interrupt him-or herself. Since there are tendencies, in spontaneous speech, first, for different types of words to be associated with different clausal positions and secondly, for transition-relevance places to coincide with the ends of clauses, it is perhaps not unexpected that simultaneous speech is initiated on some types of words more often than others, according to whether the overlapper or interrupter speaks before or after a transition-relevance place.

The concept of transition-relevance places may also be of some value in the initial, more general discussion about the length of periods of simultaneous speech. Sacks et al (op. cit.) suggest that overlaps involve only brief periods of joint talking because they appear at transition-relevance places. It is argued that, since these places are positions at which a speaker can or should give up the floor, this removes one speaker from the overlap and therefore the overlap itself. However, while transition-relevance places may be places where speakers can or should relinquish their turn, this does not, in itself explain why first speakers in overlaps do give up their turns. Indeed, it seems that, upon some occasions they do not, and simultaneous speech is limited by a different method: breaks in verbal continuity in the form of butting-in interruptions. It seems probable that, from the speaker's, rather than the listener's point of view, transition-relevance places are associated with considerable linguistic and cognitive planning. The production of speech at these points may therefore be liable to disruption, and particularly when simultaneous speech takes place. In
the following section of this chapter, there is evidence to suggest that
interrupted speakers break off at points of hesitancy and planning,
some of which are associated with transition-relevance places. This
liability to disruption (whether or not it involves breaks in verbal
continuity) may account for the brevity of simultaneous speech more
satisfactorily than the mere presence of transition-relevance places.

In summary, the length of periods of simultaneous speech appears to be
limited both within and across nonfluency types. There is the
possibility that some inhibitory mechanism is involved in this
restricted variability.

Speakers seem able to divide their attention efficiently between
production and reception for short periods. Although there are some
differences, simultaneous translation also involves concurrent pro-
duction and reception. With training and experience this capacity,
to divide attention between one's own and another speaker's utterance,
may increase. In the normal conversational setting, however, this
potential capacity seems to be rarely employed.

If there is an inhibitory mechanism limiting the length of periods of
simultaneous speech in everyday dialogues, it probably involves social,
cognitive and linguistic processes. A number of variables may be
intercorrelated in a complex manner. For instance, it seems likely
that there are social conventions about the length of simultaneous speech
(although these may alter according to the relationship between speakers,
the topic under discussion and so on). Such conventions may be related
to considerations of cognitive difficulty and linguistic planning, two
variables which, in their turn, may be related.
Although the length of periods of simultaneous speech may not vary greatly between overlaps, simple interruptions and butting-in interruptions, the points, in the other speaker's utterance, at which this simultaneous speech is initiated, do differ considerably between the three nonfluency types. However, in all three cases, there may be attempts to take the floor after points of possible completion in the current speaker's utterance. From the evidence here, it appears that overlapping utterances may be deliberately — although perhaps not consciously — timed to coincide with, or even anticipate, these points.

Simple interrupting utterances may, intentionally or accidentally, come in at places of hesitancy or planning in speech; these places may often follow points of possible completion or, as Sacks et al. (op. cit.) call them, points of transition-relevance. Butting-in utterances are unsuccessful attempts to take the floor; this lack of success may have several causes and this suggests that, in all cases, syntax may be only one of a number of variables which influence the outcome of speaker-switch nonfluency.

Humans possess a number of cognitive skills, some of which are particularly closely connected with language use. In addition, humans are social beings and they use language as one means of communicating with one another. Therefore, simultaneous speech, like other aspects of linguistic interaction, involves social, linguistic and general cognitive variables.
SECTION 3

Interruptions in Verbal Continuity

Although social and cognitive factors must be taken into consideration, as they were in the discussion of simultaneous speech above, the linguistic aspect of speaker-switch nonfluency is perhaps most immediately evident in those nonfluencies which involve an interruption, or break in verbal continuity, in one speaker's utterance.

Breaks in verbal continuity take place during simple, butting-in and silent interruptions. They do not take place during overlaps. For the purposes of this discussion, interruption is defined as an intonationally, semantically, and syntactically incomplete utterance at a speaker-switch (or, in the case of butting-in interruptions, at an attempted speaker-switch). Occasionally, an interrupted utterance is also phonologically incomplete, that is, the break in continuity occurs in mid-word. In most instances, interruptions are characterized by an abrupt cessation in speech and a rising or "continuing" intonation.

Since the distinguishing mark of interrupted utterances is incompleteness, the final words of such utterances were examined in order to provide information about this feature. The three relevant nonfluency types were treated separately in this respect.

As an initial point, it was noted that some of the last words of interrupted utterances were phonologically incomplete, that is, the utterance finished on a part-word. For instance, in a simple interruption:
A. An I love, I love redbrick houses, Robert ha-, Robert hates them. He think they're horrible, he thinks they're garish. But - I pref-
B. I can't think, I don't think I really like redbrick houses ....

"Pref-" is obviously only a part-word. It seems likely that, if A's utterance had been phonologically complete, then "pref-" would have been the first syllable of "prefer".

It was calculated that nearly 24% of last words in simple interruptions were incomplete; the corresponding figure for butting-in interruptions was approximately 27%, while only 5% of silent interruptions ended in this way. Silent interruptions do not involve simultaneous speech. If there are inhibitory mechanisms limiting the length of simultaneous speech, they may operate in such a way that, once a threshold of joint talking has been reached, a speaker is obliged, for various reasons, to break off rapidly, sometimes in mid-word. Breaking-off may be effected rather more slowly during speech which does not involve simultaneous talking, as is the case apparently, with silent interruptions.

All the final words of interrupted utterances were classified in accordance with the twelve syntactic categories defined on pages 69 to 71. The incompleteness of utterances in the various types of interruption occasionally made the syntactic function of a final word uncertain. However, all final words, or part-words, were set in the context of utterances and conversations. Furthermore, interrupted speakers have a tendency to begin subsequent utterances by retracing part of their interrupted speech. For instance, in two simple interruptions:
B. .... Does he o-, oh he, he won't coun-, y-, but you're all girls — but he o-
A. I'm Miss Hill.
B. Yes, but he calls, he calls all the boys by their surname ....

and:

B. Yes. You see Vau-
A. The silly twit! The woman wears one as well as him.
B. Vaughan, Vaughan did the same thing ....

Sometimes, as in the first example, the retracing of an interrupted utterance is preceded by an "utterance opener", such as /Yes/, /Well/ and /You see/. This tendency, to repeat part of an interrupted output, varies with the nonfluency type: over 22% of butting-in interruptions display this behaviour pattern, while the corresponding figures for simple and silent interruptions are approximately 10% and 7%, respectively. This suggests that interruptions which occur because of butting-in are particularly closely connected with deliberate attempts to take, or maintain, a speaking turn, since it seems that, on occasion, some effort is made to continue talking, despite interruption.

Both the context of an utterance and the retracing described above assisted the classification of final words in interrupted utterances. However, there were some cases where, in spite of these factors, syntactic function was unclear. These cases were excluded from the analysis and Table 4 (see p. 89) is based on the remaining 314 simple interruptions, 216 butting-in interruptions and 173 silent
interruptions, (the original totals were 342, 229 and 176 respectively)*. As in Table 3, the raw frequencies are converted to percentages, to aid comparison between nonfluency types. Before presenting this table however, two general points, about interrupted utterances, will be dealt with.

First, it appears that all types of interrupted utterances differ from completed utterances, in terms of the syntactic function of their final words. Completed utterances take place when the speaker-switch is perfect or involves an overlap (there are no significant differences between the final words of the first utterances of these two speaker-switch types). A sample of 360 completed, as opposed to interrupted, utterances was drawn from the six fully-transcribed conversations in these initial observations. The final words of these utterances were then assigned to the twelve categories employed in Table 4**. Three, separate chi square tests were carried out on the final word frequencies for the various interruption types, each in comparison with the frequencies for the completed utterances. All the values obtained were significant beyond the .001 level of probability. (In order to avoid expected frequencies of less than 1, Groups I (when, why etc.) and A ("determiners") were combined into a "miscellaneous" category. The largest N involved in any pair of frequencies was 11. It is therefore

* Occasionally, an interruption would end on a word whose function was clearly verbal, but, because of incompleteness of the utterance, it was not evident whether this item was a main verb or an auxiliary. These doubtful verbal words were divided equally between Class 2 and Group 3 for each nonfluency type.

** Details of the percentages of words in each category will be found in the Appendix, p. 197.
unlikely that this modification unduly distorts the overall pattern of the individual sets of data. The three values of \( X^2 \) were: completed utterances + I = 209.74; + BII = 175.4; + SI = 268.89. Df = 10, in all cases). The main differences between the last words of completed and interrupted utterances appear to be in terms of nouns, verbs, conjunctions and fillers. Completed utterances finish frequently on nouns (45.55% of the time, compared with an average of just over 8% for the three interruption types) and infrequently on conjunctions (only one instance, out of a total of 360, was noted). In contrast to simple and silent interruptions, completed utterances end with few fillers, although speakers sometimes finish with /y'know/. When they are compared with simple and butting-in interruptions, verbs and auxiliaries are not common as final words.

Secondly, it seems that interrupted speakers do not break off at random in their verbal output. A sample of just over 1,000 words of continuous speech, produced by a total of six speakers, was assigned, word by word, to the twelve syntactic categories used in Table 4* (Fries, 1952, states that function words made up approximately a third of his material and, excluding fillers as Fries does, about 36% of the remaining words in the present sample consisted of function words.) Three, separate chi square tests were performed on this data and the sets of data from the interruptions. All the results were significant beyond the .001 level of probability (continuous speech + I: \( X^2 = 89.82 \); + BII: \( X^2 = 74.12 \); +SI: \( X^2 = 168.04 \). Df = 11 in all cases). Simple interruptions break off on more fillers, butting-in interruptions on more verbs and auxiliaries, and silent interruptions on more fillers and conjunctions.

* Details of the resultant percentages will be found in the Appendix, p. 198.
when compared with the various word frequencies in continuous speech.

Hence, the relative frequencies of certain syntactic classes differ, when the final words of interrupted utterances are compared with words in continuous speech and with the final words of completed utterances. The various types of interrupted utterance also appear to differ among themselves, in this respect, as illustrated by the table on the following page.

A chi square test, for three independent samples, was carried out on the raw data. A value of 110.26 was obtained. This is significant beyond the .001 level of probability (22 df). Therefore, it seems unlikely that the syntactic function of the final word of an interrupted utterance is independent of nonfluency type.

These particular dissimilarities appear to be mainly in terms of nouns, verbs, conjunctions and fillers. Butting-in interruptions finish on a higher number of verbs and auxiliaries and a lower number of conjunctions and fillers, than expected by chance. Silent interruptions, on the other hand, break off on more conjunctions and fillers, and fewer verbs and nouns than expected. Finally, simple interruptions seem to fall between the other two nonfluency types, in respect of the syntactic function of their last words, since, although obtained frequencies do not differ so markedly from the expected frequencies in their case, there is a tendency for there to be more verbs, nouns and fillers.

In the most general terms, it might be said that the three types of interrupted utterances are distinguished from each other by the varying proportions of fillers, conjunctions and verbs as final words.
Table 4
Syntactic Function of Final Words
of Simple, Fitting-in and Silent Interruptions

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1(a) (&quot;nouns&quot;)</td>
<td>10.51%</td>
<td>10.65%</td>
<td>2.89%</td>
</tr>
<tr>
<td>Class 2 (&quot;verbs&quot;)</td>
<td>23.25%</td>
<td>26.7%</td>
<td>8.67%</td>
</tr>
<tr>
<td>Class 3 (&quot;adj.&quot;)</td>
<td>4.46%</td>
<td>4.17%</td>
<td>1.73%</td>
</tr>
<tr>
<td>Class 4 (&quot;adv.&quot;)</td>
<td>3.5%</td>
<td>4.63%</td>
<td>3.47%</td>
</tr>
<tr>
<td>Class 1(b) (&quot;s.p.p.&quot;)</td>
<td>6.69%</td>
<td>11.11%</td>
<td>4.62%</td>
</tr>
<tr>
<td>Group A (&quot;det.&quot;)</td>
<td>1.91%</td>
<td>0.93%</td>
<td>4.05%</td>
</tr>
<tr>
<td>Group B (&quot;mod. &amp; aux.&quot;)</td>
<td>7.01%</td>
<td>13.43%</td>
<td>8.09%</td>
</tr>
<tr>
<td>Groups E &amp; J (&quot;conj. &amp; incl.&quot;)</td>
<td>14.01%</td>
<td>7.87%</td>
<td>27.75%</td>
</tr>
<tr>
<td>Group F (&quot;prep.&quot;)</td>
<td>4.14%</td>
<td>3.24%</td>
<td>4.62%</td>
</tr>
<tr>
<td>Group I (when, why etc.)</td>
<td>1.27%</td>
<td>2.32%</td>
<td>0.56%</td>
</tr>
<tr>
<td>Groups K &amp; L (&quot;utt. openers&quot;)</td>
<td>3.5%</td>
<td>7.41%</td>
<td>4.62%</td>
</tr>
<tr>
<td>Fillers</td>
<td>19.75%</td>
<td>5.56%</td>
<td>20.9%</td>
</tr>
</tbody>
</table>

N = 314       N = 216       N = 173

Additional chi square tests were carried out on the distribution of raw scores, across the three nonfluency types, in those particular categories where comparisons of obtained and expected frequencies, in the original chi square test, indicated that the dissimilarities between nonfluency types were greatest (see p. 88). In each case the data were classified into two categories: the particular syntactic class under scrutiny (see below) and "all other final words". The following results were obtained (df = 2, in all cases: * = p < .01, ** = p < .001). Class 1a: \( \chi^2 = 9.7\); Class 2: 24.204**; Groups E & J: 29.93**; Fillers: 37.774**.
Nearly 29% of silent interruptions and 20% of simple interruptions finish on fillers, while the corresponding figure for butting-in interruptions is only about 6%. Filled pauses are among the most commonly investigated speech errors. There appears to be some general agreement, which occasionally fosters unwarranted assumptions, that the presence of filled pauses indicates hesitancy, and that this hesitancy is, in some way, connected with the cognitive and linguistic planning of utterances. It has been reported that filled pauses tend to precede lexical, rather than function, words and that they frequently coincide with, or appear near, clause boundaries (see, for instance, MacKay and Cogood, 1959, and Quinting, 1971; Cook, 1971 and Boomer, 1965). In the present conversations, over 67% of a sample of 444 filled pauses (of the type studied by MacKay and Cogood) preceded lexical items and approximately 50% either coincided with clause boundaries or appeared between a conjunction and the first word of a clause. It is usually proposed that lexical items and the beginnings of clauses require more planning by speakers than function words and the ends of clauses, and that this increase in cognitive effort is correlated with various "hesitant" features, including filled pauses.

Compared with continuous speech (see pp. 87 & 88), the final words of simple and silent interruptions include abnormally large proportions of fillers. If fillers are indeed indicators of hesitancy and planning in speech, then it appears that speakers quite often lose their claim to the floor when they are hesitantly planning their utterances. This would not seem to be an unreasonable description of some interrupted utterances.
Fillers may be rare, as final words, in butting-in utterances partly because, with this nonfluency, the break in continuity occurs in the interrupter's not the defender's utterance. The interrupter is apparently unsuccessful and most butting-in utterances are very short; most are between one and four syllables long. It might be argued that, in most of these cases, not enough speech has been produced for hesitant features to appear in mid-utterance.

There has been some debate about whether filled pauses are produced as attempts to hold the conversational floor while verbal planning is taking place (see Boomer, 1965, Lalljee and Cook, 1969, and a preliminary, unpublished paper by Ball, 1975). From the present data, it would seem that fillers may be attempts to keep the floor, but that these attempts are not always successful. Presumably, if the production of a filled pause ensured that a speaker-switch did not take place, fillers would not be so common as final words in simple and silent interruptions.

Participants in conversations speak and listen; if, as speakers, they use filled pauses to try to hold the floor, as listeners they probably recognize such attempts in another speaker. Listeners may, therefore, perceive fillers as indicators of an insecure hold upon the floor: from the previous part of this chapter, there is evidence to suggest that, in general, overlappers and interrupters initiate simultaneous speech on a number of hesitant features, in the other person's speech, including filled and unfilled pauses, which can occur singly, in groups or together. If a particular examination is made of the 62 simple interrupted utterances which break off on fillers, it is found that, in those cases, simultaneous speech is most frequently initiated, by the other speaker, on fillers and conjunctions (in about 44% and 13% of the interruptions, respectively)*.

* For further, tabulated details see p. 102.
During verbal planning, filled pauses may sometimes be used as "don't interrupt" signals. The success of such a strategy may, however, vary. Moreover, the purpose of fillers may alter according to different situations. For instance, filled pauses are produced during some monologues, such as formal lectures, when the likelihood of interruption by another speaker is minimal. In those cases, the primary function of fillers may be to enable a speaker to pace his thoughts; long, unfilled silences may be as disruptive to the production of monologues as they are to conversations, although perhaps for different reasons. On the other hand, during dialogues the primary function of fillers may be floor apportionment. However, it is likely that, in both types of speech, fillers are produced for several reasons; during monologues some dialogue habits, including filled pauses, may emerge and dialogues, presumably, do not eliminate the necessity for verbal planning.

A further complicating factor in the issue of fillers and their relation to floor apportionment is the possibility that some filled pauses, either by themselves or in combination with conjunctions (/but um/, /and ah/, etc.), may be means of giving up, rather than holding, the floor. Duncan (1972), has referred to a number of stereotyped expressions, including /but um/, /y'know/ and /or something/ as "sociocentric sequences". Apparently, these sequences are often produced with a marked paralinguistic "trailing off", and accompanied by visual turn-yielding cues. Duncan suggests that, under such conditions, these sequences are signals which indicate that the speaker is giving the floor to his conversational partner.

In the present conversations, some of these expressions, particularly /but um/, /and ah/ and various conjunction-filler combinations, appeared at the end of interrupted utterances. (They were classified as fillers,
since the final word was a filler.) Over 12% of all silent interruptions, 6% of all simple interruptions and under 2% of all butting-in interruptions broke off on these conjunction-filler combinations. During simple and butting-in interruptions the expressions are often partially or completely overlaid with simultaneous speech; they are usually produced with a continuing or rising intonation and are abruptly terminated. The "trailing off", which Duncan notes, is most frequent and noticeable when sociocentric sequences occur at the end of silent interruptions.

Therefore, like fillers in general, sociocentric sequences may vary in function according to the situation. Floor-giving may be their primary use, only when they appear at the end of silent interruptions. If they appear in mid-utterance they may be functioning either as invitations to take the floor (invitations which have been ignored or refused by the listener), or as aids to verbal planning. In any case, their production may become interrupted, either intentionally or because of mistiming in speaker-switching, and they may appear as final words in simple and butting-in interruptions.

2. The three varieties of interruption differ in terms of the proportions of fillers (including sociocentric sequences) as final words. They also differ if the proportions of conjunctions, as final words, are compared. Only 8% of butting-in interruptions finish with a conjunction, while the figures for simple and silent interruptions are 14% and nearly 2%, respectively. In this case, the shortness of most butting-in utterances, mentioned above, usually ensures that only part of a clause is produced; therefore, the need to join whole clauses, by conjunctions or any other
means, does not arise. The majority of conjunctions in this nonfluency are /but/, in which case the interruption generally takes the following form:

\[(\text{But-})\]

A. .... Goodness so you don't \textit{got} much sleep, d'you not need much?

Boomer (1965) reports that unfilled pauses are most likely to occur after the first word of a phonemic clause. From his example of a five-word clause (p. 151), it appears that conjunctions were treated as first words of clauses*. Conjunctions were common first words (as defined by Boomer) in the present corpus of data, since there was a marked tendency, in medium-length and long utterances, to join simple clauses together by use of these words. It seems probable that many of Boomer's first words may have been conjunctions. Participants in dialogues may therefore become interrupted on conjunctions quite frequently because these words are often followed by an unfilled pause. This pause may enable the second speaker in a silent interruption to take the floor without any simultaneous speech being produced. During a simple interruption, simultaneous speech on, or immediately before, a conjunction may be particularly disruptive, since this word may often be followed by an unfilled pause.

If an interruption type ends frequently on fillers, it also tends to end frequently on conjunctions. There are some indications that these two classes of words may, at times, be functionally equivalent. Martin (1971), in a study of certain aspects of spontaneous monologue, notes that some conjunctions appear more frequently than others in hesitant

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*I am indebted to P L Brotherton (University of Melbourne) for drawing my attention to this fact.*
speech. He mentions /if/, /and/, /but/ and /so/ in particular, and suggests that these conjunctions may act as "hem and haw" words. Bowman (1966), in her study of spontaneous, informal conversation, surmises that some conjunctions "function merely as 'don't interrupt' signals" (p. 28). In the present dialogues, it seemed probable that the common conjunctions were sometimes being used as fillers, either as "hem and haw" or "don't interrupt" words. Occasionally, as mentioned above, these conjunctions appeared together with fillers, producing sociocentric sequences. More often, however, conjunctions are produced by themselves and immediately after those points where full-stops, semi-colons and commas occur in written language. Long or medium-length utterances frequently consist of a number of clauses joined together, in a fairly simple manner, by common conjunctions (/and/, /but/ etc.). Crystal and Davy (1969) have also noted this phenomenon in conversational language, and have referred to the resultant conglomerations as "clause complexes". The following extract, from one of the present conversations, includes several /and/s which string clauses together:

(Oh. Yeah)  

A. ..... Robert had him as a tutor you see for a term for "Europe since 1850" and Robert thought he looked so much like a bird and once he went into his room and he was writing up some notes and he got one of those little editor's peaks on, nothing else but the little editor's peak and he thought he looked just like a bird and the bird's beak and his funny little face.

When conjunctions are used in this way they appear at clause boundaries. As mentioned above, according to some research, fillers also coincide with, or appear near, clause boundaries. Speakers quite frequently lose their claim to the floor when they are producing either fillers
or conjunctions, (although the frequencies vary with the interruption type). In both cases, speakers may be at a point in their utterance which requires some planning; the period just before the opening of a clause may be one which is particularly susceptible to disruption in speech production. Such a view is supported by the results of an experimental investigation, by Ladefoged et al (1971), into the interruptibility of speech.

During simple interruptions, the initiation of simultaneous speech on, or shortly before, pre-clause words may disrupt a speaker's output and, at the first hesitant or "planning" point, he breaks off in mid-utterance. As mentioned previously, when simple interruptions break off on fillers, simultaneous speech is initiated most frequently on fillers. A similar pattern occurs with simple interruptions which finish on a conjunction; in 67% of those cases, simultaneous speech is initiated on a conjunction*. The initiators of simultaneous speech may, in both cases, be using preceding pauses and repetitions as indicators of hesitancy.

Alternatively, when initiation of simultaneous speech and interruption take place on the same word (either a filler or a conjunction), the interrupting speakers may be mistiming a speaker-switch. This may be the case in the examples below:

1. A. .... Robert's father will, is going to be a convalescent.
   (Uhmmum) Um -
   B. He'll want to be quite near.

2. B. ... So I thought that would be quite interesting 'coz the Tolstoy, reading through all that, and -
   A. R-Robert think he might do that ....

* For further, tabulated details see p. 102.
During silent interruptions, a speaker may lose his claim to the floor because his conversational partner initiates speech very shortly after the production of "hemming and having" or "don't interrupt" words, such as fillers and perhaps some conjunctions. It may be difficult to continue speaking if, at these particular points, another speaker takes the floor. On the other hand, some of these words, like Duncan's "sociocentric sequences", may be produced as invitations to take the floor, rather than attempts to continue talking.

From the listener's point of view — and sometimes the listener may disregard the speaker's intentions — a variety of vocal features, including filled and unfilled pauses, repetitions and perhaps the commoner conjunctions, may be used as means of effecting a speaker-switch in one way or another.

3.

Finally the three interruption types are also distinguished in terms of the proportions of verbs as final words. Simple and butting-in interruptions break off on verbs in 23% and 29% of cases, respectively, while the corresponding figure for silent interruptions is only about 9%. Approximately 17% of words in the sample of continuous speech, drawn from these conversations, were verbs. Therefore, the first two types of interruption finish more frequently, and silent interruptions less frequently, on verbs, than expected by chance.

Verbs are final words most often in butting-in interruptions. This is the only nonfluency type in which the initiator of simultaneous speech and the producer of the interruption are the same person. Typically, the utterances are interrupted quickly; in the majority of instances, less than five syllables have been produced. The length of butting-in
utterances may, in part at least, account for the frequency with which verbs are the final words. It has already been noted that there was a marked tendency, in these conversations, for speakers to produce S-V-O (subject-verb-object) sequences. The extract of speech on p. 95 includes a number of such sequences, linked, in a simple manner, by conjunctions. Perhaps many butting-in interruptions break off on a main verb because, given an interrupted utterance length of less than five syllables, breaks in verbal continuity often take place in the middle of a clause and the main verb tends to occupy a mid-clause position in spontaneous speech.

The notion of clausal position has also been used in discussing the frequency with which simple and silent interruptions end on fillers and conjunctions, words which have a tendency to occupy a pre-, rather than mid-, clausal position. Consideration of the form which interrupted utterances might take in languages other than English, suggests that clausal position may be an important factor in this context.

Interrupted utterances are, by definition, incomplete utterances. In the data analyzed here, the main verb appeared to be a relatively frequent final word in two types of interruption, particularly the butting-in interruption. There are some languages, however, in which the verb is often placed at the end of a clause or sentence. Presumably, in those cases, utterances which finished with a verb would most commonly be complete, rather than interrupted. In the present corpus of data, nearly 46% of completed utterances ended on a noun; on average, only 8% of interrupted utterances had nouns as their final words. For similar reasons of clausal position, verbs may be frequent last words in some types of interrupted utterances. S-V-O appears to be a common
clause structure in spontaneous speech, and butting-in interruptions tend to be between one and four syllables long; perhaps this combination of features ensures that the break in verbal continuity in butting-in interruptions quite often coincides with the main verb.

However, utterance length and word order within clauses may not be the only variables which make verbs comparatively frequent final words in interrupted utterances. Utterance length, for instance, is usually much greater and more variable in simple, rather than butting-in interrupted utterances. Yet, these interruptions also end relatively often on verbs. While fillers are generally recognized as being correlated in some way with hesitancy, and occasional references are made to conjunctions and hesitancy, main verbs are not usually discussed in terms of cognitive and linguistic uncertainty. However, it is possible that, like fillers and conjunctions, verbs precede a syntactic unit which involves additional planning.

Hannah and Gardner (1968), in a discussion of the location of stuttering dysfluencies, suggest that the nature of the English language is such that, during spontaneous discourse in general, pre-verbal units of

* In butting-in utterances, main verbs are preceded by a variety of words, either singly or together. Nearly 36% of butting-in utterances begin with an "utterance opener", such as /well/, /Yes/ or an exclamation, 25% begin with a subject personal pronoun and 14% with a noun or noun substitute.
clauses tend to be simple in structure*. The structuring of verbal and post-verbal units is usually more complex. There are, however, restrictions upon the form of verbal units and they may become well learnt, and therefore relatively fluent, by adulthood. In contrast, post-verbal units can be expanded in a large variety of ways, and they may never become as familiar and unhesitant production sequences as pre-verbal and verbal segments of clauses. Hannah and Gardner suggest that post-verbal units may therefore be particularly susceptible to dysfluency.

The application of this postulate to other research is somewhat difficult, because of the employment of an unusual classificatory system, based upon the clausal position of verbs and verb phrases. Nevertheless such considerations, and the general concept of syntactic position, should perhaps be kept in mind in this context. Butting-in and, to a lesser extent, simple interruptions appear to break off quite frequently upon verbs; that is, before the post-verbal unit. If this unit does require additional cognitive and linguistic planning, the initiation of simultaneous speech just before its production may disrupt further output. (The simultaneous speech may be initiated either by the producer of an interrupted utterance or an interrupter.) Indeed, simultaneous speech seems to be a concomitant of breaking off on a verb: verbs are rare as final words in silent interruptions. Perhaps the post-verbal unit is a segment of language which is "liable to disruption", rather than "hesitant" as fillers and some conjunctions.

* In the present conversations, pre-verbal units tended to be subject personal pronouns, rather than more complex noun phrases. Crystal and Davy (1969) assert that this infrequent use of nominal groups as subjects is a distinctive feature of conversational language.
appear to be. Speakers may not pause after verbs to the same extent as they pause after conjunctions and fillers (hence, presumably, the lack of simultaneous speech in many silent interruptions, which so often end on one of these last two types of words). However, simultaneous speech during the verbal unit may disrupt the production of the post-verbal segment, in approximately the same way, perhaps, as simultaneous speech during conjunctions and fillers appears to disrupt the production of a new clause.

Nevertheless, although syntactic position may be an important factor in determining the point at which a speaker becomes interrupted, it tends to concentrate attention upon the behaviour of one speaker. The actions of the other speaker may be an equally important consideration in discussing nonfluent speaker-switches, which are the product of interaction.

The simple interruption, where one speaker initiates simultaneous speech and the other speaker becomes interrupted, will be used to illustrate the value of an interactive approach. Simple interruptions break off most frequently on one of three types of words: verbs, fillers and conjunctions. The points at which simultaneous speech was initiated, during simple interruptions, regardless of the final words of those interrupted utterances, are illustrated in Table 3 (see p. 72). If three, separate classes of "onset of simultaneous speech" figures are prepared, according to whether the final words were verbs, fillers or conjunctions, the interaction between individual performances is clearly illustrated (see following page).

For statistical reasons, infrequently occurring words were combined into an "Others" category. Class 2 (verbs) and Group B (modals and
### Table 5

<table>
<thead>
<tr>
<th>Simultaneous Speech Initiated on</th>
<th>Final Word = Verb</th>
<th>Final Word = Filler</th>
<th>Final Word = Conjunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2 (verbs) &amp; Group B (mod. &amp; aux.)</td>
<td>26.05%</td>
<td>4.84%</td>
<td>4.55%</td>
</tr>
<tr>
<td>Class 1(b) (s.p.p.)</td>
<td>24.66</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Groups E &amp; J (conj. &amp; incl.)</td>
<td>9.59</td>
<td>17.74</td>
<td>65.91</td>
</tr>
<tr>
<td>Fillers</td>
<td>2.74</td>
<td>43.55</td>
<td>2.27</td>
</tr>
<tr>
<td>Pauses</td>
<td>16.44</td>
<td>16.13</td>
<td>4.55</td>
</tr>
<tr>
<td>Others</td>
<td>20.54</td>
<td>17.74</td>
<td>22.72</td>
</tr>
</tbody>
</table>

N = 73, N = 62, N = 44

In the table above, both the final words and the points at which simultaneous speech is initiated are produced by the interruptee. Sometimes, the interruptee will break off on the word or sound upon which simultaneous speech was initiated; this occurs most frequently with fillers and conjunctions (for examples, see extracts 1 and 2, p. 96).
auxiliaries) were combined into a single category; their syntactic position is similar, and both types of words appear frequently in the case of simple interruptions ending with a verb. The syntactic function of all words was certain in every case. The original frequencies are presented in percentage terms to aid comparison of figures.

A chi square test for three independent samples was carried out on the raw data. A value of 120.93 was obtained; this is significant beyond the .001 level of probability (df = 10). Therefore, it was unlikely that the points at which simultaneous speech is initiated are independent of the syntactic function of the final words of simple interrupted utterances.

With particular reference to verbs as final words, it appears that, in simple interruptions which break off on that syntactic unit, simultaneous speech is initiated on verbs, modals and auxiliaries, and subject personal pronouns. This is only very rarely the case, if at all, in simple interruptions which break off on either fillers or conjunctions. Therefore, whether the final word of a simple interruption is a verb may be, at least partly, determined by the interaction between individual speakers. However, considerations of word order and the clausal position of various syntactic units, including the verb, may also be important, and such considerations may, in their turn, be related to variations in cognitive and linguistic planning in different syntactic positions.

In butting-in interruptions, the initiator of simultaneous speech and the producer of the interrupted utterance are the same person. This pattern of behaviour appears to be correlated with a very limited utterance length. In this case, the variables of word order and clausal
position of certain syntactic units may be particularly influential in determining the final word of the interrupted utterance, while the point of initiation of simultaneous speech (in the other speaker's utterance) may be more closely related to the outcome of the attempt to take the floor.

Finally, the normal, apparently limited length of periods of simultaneous speech (which was discussed in the second section of this chapter), may be an additional factor which influences the type of word on which an interruption breaks off, both in butting-in and in simple interruptions. If, for instance, the onset of simultaneous speech coincides with a subject personal pronoun (either at the beginning of a butting-in utterance or within a simple interrupted utterance), and some hypothetical inhibitory mechanism "obliges" one speaker to stop talking after a certain period of time, that period of time may be such that the break in verbal continuity generally takes place upon a verb.

However, it seems probable that limitations in the length of periods of simultaneous speech would be only one of several interacting variables. For example, many simple interruptions which break off on fillers and conjunctions involve a single syllable of simultaneous speech, while the average length of simultaneous speech, in all simple interruptions, is nearly three syllables. Fillers and conjunctions may represent points of uncertainty and planning in speech. Simultaneous speech which is initiated at these points may be particularly disruptive, and verbal output may cease almost immediately.
In summary, simple, butting-in and silent interrupted utterances appear to be distinguished from each other in terms of the syntactic function of their final words. That is, speakers break off at different points in their utterances, according to how interruptions have been effected behaviourally. Fillers, conjunctions and verbs seem to be particularly important classes of words in this context. There is some evidence to suggest that all these words may precede points, in clauses and utterances, which require considerable planning. The production of speech after these words may therefore be liable to disruption. However, a number of other factors have to be considered in accounting for the syntactic points at which interruptions tend to occur. These factors include the behaviour of the conversational partner and the clausal positions of various syntactic units in spontaneous speech. In addition, social and psychological variables of a broader nature may also be important since, for instance, the relationship between speakers may influence certain aspects of speech, including hesitancy which, in its turn, may affect the relative frequency of the various interruption types.

In the first section of this chapter, nonfluent speaker-switches were distinguished from each other in behavioural terms. When a closer examination is made of two of the most prominent features of nonfluent changes in speaker - simultaneous speech and breaks in verbal continuity - these original distinctions would appear to be supported. The point at which simultaneous speech is initiated in the other speaker's utterance varies with statistical significance (probability < .001) between overlaps, simple and butting-in interruptions. The syntactic point at which interrupted speakers break off in mid-utterance also varies with statistical significance (again, probability < .001) between simple, butting-in and silent interruptions.
In addition to these overall differences, other chi square tests (see pp. 72 and 39) indicated that there were significant differences between nonfluency types at the level of individual syntactic classes and groups of words or sounds. These differences are discussed in detail in the appropriate sections of this chapter: differences in the points at which simultaneous speech was initiated were interpreted in terms of what Sacks et al (1974) have called points of transition relevance, while differences in the final words of interrupted utterances were explained in terms of verbal planning and clausal position.

In the following chapters, additional data will be used to examine the four types of non fluent speaker-switch from a number of different viewpoints. The basic dissimilarities, in terms of language, will be referred to, when appropriate, throughout subsequent discussions.
CHAPTER 4

THE RECEPTION OF SPEAKER-SWITCH NONFLUENCIES

Speech is both spoken and heard during conversations. In the previous chapter, the production of speaker-switch nonfluencies was emphasized. In this chapter, the reception of speaker-switch nonfluencies will be concentrated upon.

While transcribing the fifteen conversations of the initial observations, the present investigator noted that, unless the recordings were played slowly and repeatedly, many speaker-switch nonfluencies were not detected. Clancy (1972) states that she did not mark any overlaps in the original transcript of her conversation, as she "automatically heard them as the first speaker finishing and then the next beginning with no overlap. Other people who listened to the tape also did not hear any overlapping at first. It took much practice to detect this surprisingly frequent occurrence ...." (p. 83). These subjective observations suggest that at least some instances of speaker-switch nonfluency may not be consciously attended to by non-participating listeners. An experimental evaluation of this suggestion will be discussed in the first section of this chapter.

The possibility that participants in conversations also overlook these nonfluencies will be explored in the second section of the chapter. In the course of the fifteen conversations which provided material for the initial observations, a total of 1,452 speaker-switch
nonfluencies were produced. On only five occasions did a participant make a remark which suggested that she was aware of a speaker-switch nonfluency having taken place. Most of these remarks were of a somewhat indirect nature. They usually took the following form:

A. .... And, so when's he going to tell? Coz he knows she's going to be upset. Tell her -

B. Well, wait a minute. T-, Tony's wearing it on his little finger.

and:

(why-?) (ahha)

A. I just didn't - sorry.

B. Yeah, no, it's all right.

A. No you go on; honestly I'm doing all the talking.

The small number of these types of remarks precludes any generalizations about the conditions governing their production. In addition, it must obviously be remembered that the speaker-switch nonfluencies which were not accompanied by such remarks may, nevertheless, have been perceived by the participants. Overt, if indirect, references to nonfluent speaker-switching may disrupt the flow of a conversation; Goffman (1957) has made a similar suggestion in more general terms. In the second extract above, it appears that A's initial /Sorry/ leads to some confusion over which speaker should take the floor. Many nonfluent speaker-switches may therefore be perceived by participating speakers but, in order to avoid disruption of the interaction, they are not remarked upon. Nevertheless, the very large difference between the number of nonfluencies and the number of references to those nonfluencies, in these conversations, suggests that some "mistakes" in speaker-switching may not be noticed by those who are involved in their production.
SECTION 1

Reception of speaker-switch nonfluencies by non-participating listeners

Introduction

Subjects in this experiment were "non-participating listeners"; that is, they listened to a conversation in which they took no part. Although, in many everyday conversations, listeners are also speakers, and therefore active participants, the role of non-participating listener is not a particularly unusual one. For instance, in some three-person conversations, most of the speech is produced by two of the speakers, while the third person listens.

The experiment was designed to evaluate the suggestion, made in the introductory section of this chapter, that non-participating listeners may not consciously attend to all speaker-switch nonfluencies during conversations. From the data collected in the initial observations, it seemed possible that some types of speaker-switch nonfluency would be more readily detected than others. In order to formulate more specific hypotheses, it was assumed that the two most prominent features of nonfluent speaker-switching - simultaneous speech and the interruption of verbal continuity - had an additive effect upon the detectability of the various nonfluency types. Therefore, butting-in and simple interruptions, during which both features are present, may be more frequently detected than overlaps and silent interruptions, during which, in each case, only one of the two features occurs.

Furthermore, since butting-in interruptions are accompanied by a marked cessation in speech, they may be the most frequently detected of all the nonfluency types.
Method

(a) Subjects: Twelve female and three male subjects were employed. Most subjects were aged between 20 and 22 years old; their average age was 21.8 years. All the subjects were reading psychology as their main subject and were in their third year at university. They were all unpaid volunteers.

All the subjects spoke English as their first language, and stated that, as far as they knew, their hearing was normal. Twelve of the subjects were right-handed. In the case of the three (female) left-handed subjects a slight modification was made in the positioning of one piece of apparatus. This alteration will be described later.

(b) Apparatus: The experimenter and subject sat opposite each other on either side of a table. On the table there was a tape recorder, a metal box (4\(\frac{1}{2}\)" x 2\(\frac{1}{2}\)" x 1") with two buttons, in front of the subject, and a similar box with two differently coloured lights, in front of the experimenter. The apparatus was arranged as illustrated on the following page.

The two metal boxes were connected to each other in such a way that, when the subject pressed the right-hand button, a yellow light was illuminated on the experimenter’s box and, when the left-hand button was pressed, a red light became illuminated. This system of buttons and lights had advantages for both the subject and the experimenter. From the subject’s point of view, a manual response, such as pressing a button, was less likely to interfere with listening to a tape recording than an auditory response was. From the experimenter’s point of view, two intermittently illuminated lights, of different
Arrangement of apparatus in reception experiment

Subject

Experimenter

Box with buttons
Tape recorder
Table
Box with lights
colours and in different positions on a metal box, were easy to attend to and did not mask any auditory output. The lights were bright enough to enable the experimenter to follow and mark transcripts of a tape recording, which was played to the subjects, without looking up from those transcripts.

The tape recorder was 14" high and was placed between the subject and the experimenter, in the centre of the table. Subjects faced the back of the tape recorder. These arrangements ensured that the experimenter's face, the lights on the experimenter's box and the movement of the tape, when the recording was being played, were not visible to the subjects, and so were unlikely to be distracting visual stimuli.

An excerpt of conversation was used as stimulus material, in this experiment; it consisted of approximately ten minutes of one of the dialogues recorded for the initial observations. The recording was played in stereo, and the tape recorder was positioned to enable the two outputs to be an equal distance from the subject's head. During the conversation 51 speaker-switches took place, including 22 overlaps, 7 simple interruptions, 8 butting-in interruptions and 5 silent interruptions. In addition, there were 197 interjections which involved simultaneous speech.

The experimenter had transcripts of the stimulus material; all periods of simultaneous speech and all speaker-switch nonfluencies were marked upon them.

(c) Procedure: Each subject was given the following instructions:
"I want you to listen to this tape recording of two friends talking together about their families, what they like doing in their spare
time, and so on. As you listen, you'll hear that sometimes the two people talk at once, and you'll also hear that they sometimes interrupt each other. When an interruption occurs you will notice that the sentence being spoken is left unfinished, and that often a certain intonation pattern stands out. (Demonstration given with /I think/, finishing abruptly on a rising intonation.)

"I'd like you to put the forefinger of your right hand on the right-hand button in front of you, and the forefinger of your left hand on the left-hand button. Whenever you hear the two people talking at once, I'd like you to press the right-hand button and if you hear an interruption, press the left-hand button. So, it's the right-hand button for when they both talk at once, and the left-hand button for when you hear an interruption. Try the buttons. O.K.?"

"I'll start the tape now and you'll hear the conversation begin in a few seconds."

If necessary, clarifications and repetitions of these instructions were given to the subjects.

As periods of simultaneous speech are more common than interruptions, most subjects used the right-hand button more often than the left-hand button. Some left-handed colleagues suggested that they would prefer to use their dominant hand in responding to periods of simultaneous speech. Therefore, in the case of left-handed subjects the box was reversed. This allowed the left-hand button to be pressed in response to simultaneous speech, without affecting the colour coding of responses on the experimenter's box. Where appropriate, alterations were made in the instructions when the subjects were left-handed.
The experimenter marked subjects' responses on transcripts of the conversation. Subjects' reaction times were fast, and there was little difficulty in deciding which period of simultaneous speech or which interruption a particular response was meant to correspond to.

Subjects were told to respond to only two features: simultaneous speech and interruptions. These features of conversation are rarely discussed in detail either by academics or by laymen. Therefore, it was felt that any differentiations between simultaneous interjections and other periods of simultaneous speech, or between different types of speaker-switch nonfluency, would merely confuse the subjects.

Results and Discussion

As a general, preliminary point it should be noted that subjects' responses were of a somewhat complex nature. Upon occasion, the participants in this experiment pressed the "interruption" and "simultaneous speech" buttons when neither of these features was present; they pressed each of the buttons in response to a wide variety of stimuli, not only those with the appropriate features; finally, they appeared to vary their definitions of "interruption" and "simultaneous speech" during the course of the experimental period (this led, for example, to some simple interruptions being responded to as interruptions, some being counted as instances of simultaneous speech, and some evoking no response, during a single presentation of the stimulus material).

It appears, therefore, that, placed in this particular experimental setting, and asked to respond to interruptions and periods of simultaneous speech, the ordinary listener does not employ a stable
classificatory system. Moreover, there are considerable interindividual differences in this respect. For instance, two subjects responded to 7 of the 8 butting-in interruptions in the extract of conversation. One of these subjects classified all seven nonfluencies as "interruptions", while the other subject responded to 4 of them as "interruptions" and 3 of them as "instances of simultaneous speech". In addition, the response rates, for the various nonfluencies, varied quite considerably among the fifteen subjects, who all listened to the same piece of conversation. Although, on average, approximately 31\% of silent interruptions, for example, were responded to in some way, seven subjects did not respond to any, and two subjects responded to all instances of this nonfluency.

It should be remembered that, in this task, subjects were required to respond to formal aspects of verbal interaction. Five of the subjects spontaneously said that they found the experiment difficult because they "kept listening to the conversation". After elaborations of this point, it became clear that "the conversation" referred to what the people in the dialogue were saying, as opposed to how they were saying it. Selective attention to formal features of conversation may be a formidable task, without previous experience or special training.

The main purpose of this experiment was to evaluate the suggestion that non-participating listeners may not consciously attend to all instances of speaker-switch nonfluency. With this specific purpose in mind, an attempt was made to simplify the results obtained.

Responses of the "false alarm" type were disregarded; in general they were less common than errors of classification. The table on the following page shows the averaged response rate, by the 15 subjects, to the four types of speaker-switch nonfluency and to interjections.
TABLE 6

Percentages of nonfluencies responded to

a) in either way □

b) correctly  □

(Averaged response rate of 15 subjects)
Involving simultaneous speech. In the plain columns, only "correct" responses are noted. The correct response to simple, butting-in and silent interruptions was pressure of the "interruption" button, since a break in verbal continuity is the distinguishing feature of those nonfluency types. The correct response to overlaps and simultaneous interjections was pressure of the "simultaneous speech" button. The striped columns take into account any response to a stimulus; that is, the number of responses was counted, and the type of those responses was disregarded. Simple and butting-in interruptions involve both simultaneous speech and incomplete utterances; the counting of either of the possible responses to these two nonfluencies may give a more accurate picture of their detection by subjects. In any case, comparison of the two types of column gives some indication of the variety of responses given to individual nonfluencies.

Throughout this discussion, it must be remembered that subjects may not have responded to all the stimuli which they detected. However, it is hoped that the instructions to participants ensured that, when they heard a stimulus, subjects produced some response to it, and that, therefore, the response rates give an adequate indication of the detection of nonfluencies.

From the results in Table 6 it appears first, that not all instances of speaker-switch nonfluency and simultaneous interjection were responded to. In most cases, subjects gave responses to some instances of a nonfluency type, while apparently ignoring others. No particular examples of any nonfluency type were systematically "overlooked". Instead, there was a tendency for different subjects to ignore different stimuli within a nonfluency type. This pattern of responding suggests that most nonfluencies were audible, but that mechanisms of selective
attention interfered with this audibility.

The results in Table 6 indicate secondly, that some nonfluency types were responded to more often than others. It was suggested, in the introduction to this section, that butting-in and simple interruptions might be detected more frequently than overlaps and silent interruptions. When only the "correct" responses are considered, this suggestion receives some support. However, if all responses are counted, then the following pattern emerges: butting-in interruptions are responded to most often and silent interruptions least often, while the response rates for overlaps and simple interruptions were very similar, and fell somewhere in between these two extremes. Simultaneous interjections were the least frequently responded to of all the "nonfluencies".

Although there were large variations in the absolute levels of response by individual subjects, to the various stimuli, the hierarchy of response rates, described above, appears to hold for the raw, as well as the averaged data. Each subject's overall response rates for the five nonfluencies were ranked from 1 (for the highest response rate) to 5. Kendall's coefficient of concordance was computed for the 15 sets of ranks. The same procedure was carried out using four response rates for each subject; in this case, simultaneous interjections were omitted from the calculations. In both instances, the results were significant beyond the .01 level of probability (in the former case, s = 1,224; in the latter case, s = 459). Therefore, it is unlikely that a response rate hierarchy of butting-in interruptions, overlaps, simple interruptions and silent interruptions (and, finally, simultaneous interjections, if they are included), varied greatly among individual subjects in this experiment. It is also unlikely that the differences in response rates
for the various nonfluencies, shown in Table 6, are merely the result of averaged data.

Returning to that averaged data, it appears that there is no clear-cut and systematic relationship between the commonness of a nonfluency (either in this extract of conversation or in the 15 conversations in general, see p. 52), and the frequency with which that nonfluency evokes a response. However, the various nonfluencies differ from one another, not only in terms of their relative commonness, but also with respect to their behavioural characteristics. These characteristics may, at least partly, account for the differences in response rates for the five nonfluent features.

It was noted previously that butting-in utterances are short, and tend to finish with remarkable abruptness. The abrupt ending of most butting-in interruptions may, in itself, account for the frequency with which this nonfluency type evoked a response. However, it should also be noted that the loudness of any speech, produced at the point of interruption, is probably accentuated by this sudden "breaking-off" which, on most occasions, is preceded by a large intake of breath, at the beginning of the utterance.

In contrast, the break in verbal continuity at the end of simple interruptions is often much less abrupt, and the response rate for this nonfluency type was considerably lower than in the case of butting-in interruptions. When the break itself is not prominent, simple interruptions may resemble overlaps. For this reason perhaps, the overall response rates for overlaps and simple interruptions were very similar. However, different proportions of these two nonfluency types were classified as "interruptions" and "instances of simultaneous speech".
For instance, nearly 42% of simple interruptions were responded to as "interruptions", while the corresponding figure for overlaps was approximately 25%. The similarity in the overall response rates may, therefore, be the result of two different response strategies.

It was suggested, in the introduction to this section, that the two main features of speaker-switch nonfluency - simultaneous speech and interruption - might have an additive effect upon the detectability of nonfluencies. That is, nonfluencies, such as simple interruptions, which have both these features, might be heard more easily than those, like overlaps, which have only one of the features. The similarity in the overall response rates for overlaps and simple interruptions suggests that the detection of nonfluencies has a more complex basis.

The break in verbal continuity at the end of silent interruptions is only infrequently of an abrupt nature. Indeed, some of the last words of these utterances are drawled. On average, subjects responded least often to this particular type of speaker-switch nonfluency. The lack of simultaneous speech and any marked break in verbal continuity may account for the results obtained. However, it should be noted that, while every subject responded to at least some instances of the other nonfluencies, seven subjects gave no response to any of the silent interruptions. The low response rate to silent interruptions seems to be due mainly to this lack of response from some subjects. The mean response rate of those who did respond in some way was approximately 58%. This is slightly higher than the response rates associated with overlaps and simple interruptions (about 55% and 54%, respectively).

It seems probable that at least some subjects were defining interruptions as "successful or attempted speaker-switches involving simultaneous
speech". Breaks in verbal continuity may have been regarded as relatively unimportant, unless they had some features which made them particularly prominent, as is the case with most butting-in interruptions and some simple interruptions. Silent interruptions do not correspond to the definition of interruption, given above. For this reason they may not have been responded to by almost half the subjects.

Finally, of all the stimuli, interjections involving simultaneous speech were responded to least often. The periods of simultaneous speech are typically very short in these cases, and no breaks in verbal continuity take place. In addition, simultaneous interjections are usually produced in a few stereotyped forms and with a low vocal amplitude. The combination of these features may make these stimuli particularly easy to overlook. It should also be remembered, perhaps, that simultaneous interjections are unlikely to correspond to the definition of interruptions, in the paragraph above; it seems improbable that they would be often regarded as either attempted or successful speaker-switches. Finally, simultaneous interjections are an extremely common feature of spontaneous conversation. In this extract, there were nearly five times as many simultaneous interjections as all the other nonfluencies combined. In an everyday situation, conscious attention to all interjections would probably interfere with

* Overlaps do correspond to the definition of interruption, given above. This may account for the fact that almost half the overlaps which evoked a response were classified as "interruptions", even though overlaps do not, in fact, involve any break in verbal continuity.
listening to the main utterances of a conversation. Subjects in this experiment may have "overlooked" many simultaneous interjections because they were attending to the stimulus material in accordance with some of the habits learnt in the normal, non-experimental setting. Remarks made by five of the participants (see p. 115) lend some support to this view.

In summary, it appears that subjects do not respond to all instances of speaker-switch nonfluency and simultaneous interjection. The way in which subjects fail to respond suggests that they are not consistently paying conscious attention to these features. When responses are given, it does not seem as if any stable and regular method of classification is being employed.

Behavioural and linguistic dissimilarities among speaker-switch nonfluencies have already been noted in the previous chapter. The results of this experiment suggest that an additional set of dissimilarities may exist. Subjects responded to some stimuli, including the various speaker-switch nonfluencies, more often than others. Differences in response rates were quite marked in some cases.

Butting-in interruptions were responded to most frequently; it seems probable that the abrupt cessation of speech, associated with this nonfluency type, made it particularly prominent for listeners. This abruptness of interruption is either absent or not so frequently present in the other nonfluencies.

Among the speaker-switch nonfluencies, silent interruptions were associated with the lowest average response rate. Certain behavioural characteristics, including the lack of simultaneous speech, in this nonfluency, may account for this result. If a nonfluency does not
contain any simultaneous speech, it may not be regarded as an interruption, at least by some subjects.

Simple interruptions and overlaps were both responded to with moderate frequency. Neither nonfluency involves a marked break in verbal continuity, which might make it particularly prominent, or lacks simultaneous speech, which might result in its being ignored by some subjects. The fact that simple interruptions consist of incomplete utterances, as well as simultaneous speech, did not seem to make them more frequently responded to than overlaps, during which only simultaneous speech is present.

Finally, of all the stimuli, simultaneous interjections were responded to least often. A number of the behavioural characteristics of these very common instances of simultaneous speech may make them particularly easy to overlook.

It is hoped that the results of this experiment give some indication of the extent to which non-participating listeners detect various types of speaker-switch nonfluency. However, it must be remembered that subjects had no visual record of the conversation in which these nonfluencies were produced. Preliminary observations of a thirty-minute, videotaped dialogue suggest that there may be some movements of the body which are associated with speaker-switch nonfluency. These movements may vary among individuals, and they may not be produced during every nonfluency. Nevertheless, they may provide information, to listeners, which would aid the detection of certain features, such as interruptions and simultaneous speech. It is hoped that, in future, experiments of this nature will be based upon both visual and
verbal records of dialogues. Some interesting comparisons might be made between the results of those experiments, and the results of investigations using only verbal records.

Previous experimental studies of the reception of normal nonfluencies have used monologue material (see, for instance, Williams and Kent, 1956, and Martin, 1971). This experiment is concerned with dialogue nonfluencies, and there are some considerable methodological differences between it and the monologue studies. For this reason, no attempt is made to compare the present findings with the results of those experiments.

The broader implications of the results of this experiment will be discussed at the end of the chapter.
SECTION 2

Reception of speaker-switch nonfluencies by dialogue participants

Introduction

From the results presented in the first section of chapter 3, it appears that all four types of speaker-switch nonfluency occur frequently enough to be regarded as normal features of spontaneous conversation. However, during conversations, references to nonfluent changes in speaker are rare, and for this and related reasons it seems possible that dialogue participants may have only a minimal awareness of most of the interruptions and periods of simultaneous speech which they produce. To investigate this possibility, pairs of subjects were asked to have conversations without interrupting one another or speaking at the same time as one another. It was hypothesized first, that subjects would not perform this task perfectly and secondly, that they would not notice many of the nonfluencies which did occur.

In order to use previous conversations as control data, the main subject and two of her conversational partners, from the initial observations, were used in this investigation. The number of conversations was limited to two, since one might reasonably expect a main subject, who participates in all dialogues, to make substantial adaptations in her behaviour, over a larger number of trials. Of course, one might wish to make a separate study of such adaptations. However, that was not the aim of this particular exercise. The limited amount of data, obtained in this investigation, should obviously be treated as material of a preliminary nature.
Method and Procedure

Each conversation lasted 10 minutes. Both recording sessions were held, one immediately after the other, when all the other dialogues (including seven which will be described in the next chapter) had been completed.

The setting and procedure were the same as those used during the initial observations (see Chapter 2). Subjects were told, once again, they could talk to each other about anything. However, the following additional instructions were given:

"I would like you to talk for 10 minutes, without interrupting each other, or speaking at the same time as each other, although you may go /m-hm/, /yes/, /oh really?/ and so on, briefly, while the other person is speaking."

Clarification of the term "interruption" was given by mentioning "the presence of simultaneous speech" and "an abrupt breaking off, before you've finished your sentence". This definition excludes silent interruptions. However, it appears, from the results of the previous section, that many subjects may regard simultaneous speech as an essential feature of interruptions. "Interruption" was defined in the way described above in order to simplify instructions, and thereby avoid possible confusion.

* The experimental procedure used here could be systematically altered in order to investigate other aspects of speaker-switch nonfluency. For instance, subjects could be told that it did not matter if they interrupted each other or spoke simultaneously, or that they should interrupt each other as frequently as possible. Alternatively, one subject could be instructed to interrupt frequently, while the other subject could be told not to interrupt at all.
Subjects were told that they could produce simultaneous interjections. The results of the previous section indicate that at least some simultaneous interjections are responded to, mainly as instances of simultaneous speech, by all subjects. Since this study is concerned with nonfluencies in speaker-switching, an attempt was made to give instructions which might concentrate subjects' attention on those features in particular, rather than any related phenomenon, such as simultaneous interjections.

The two subjects who were chosen as partners for the main subject had participated in previous conversations. One of the subjects had taken part in the conversation with the highest percentage of speaker-switch nonfluencies, while the other subject had participated in the conversation with the lowest such proportion.

Results and Discussion

In the table on the following page, speaker-switch nonfluencies in these two, ten-minute conversations ("experimental" dialogues) are compared with the nonfluencies, produced by the same pairs of subjects during the first ten minutes of their conversations in the initial observations ("control" dialogues). The results for each conversational pair are presented separately.

It was hypothesized above that, in this experimental situation, subjects would not refrain completely from producing various speaker-switch nonfluencies. The results in Table 7 suggest that such a hypothesis should be accepted. However, while it is clear that speaker-switch nonfluency was not eliminated from subjects' conversations, comparison of the experimental and control data indicates that some reduction in nonfluency took place. Overall, and in the case of most individual
**TABLE 7**

Comparison of speaker-switch nonfluencies under control: [ ] and experimental: [ ] conditions

---

**Conversational pair no. 1**

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Exp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of sp-switches:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>74</td>
<td>43</td>
</tr>
</tbody>
</table>

(% of speaker-switches/utterances)

* No BII's in exp. condition

---

**Conversational pair no. 2**

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Exp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of sp-switches:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>86</td>
<td>88</td>
</tr>
</tbody>
</table>

(% of speaker-switches/utterances)
nonfluency types, the proportions of nonfluencies are smaller in the experimental dialogues. This is true for both conversational pairs. The only speaker-switch nonfluency which did not show a marked reduction, in at least one of the experimental dialogues, was the silent interruption. It will be remembered that subjects in this experiment were given a definition of the term "interruption" which excluded silent interruptions. It is possible that the lack of any substantial reduction in the percentage of silent interruptions, in either dialogue, is due to the instructions which subjects received. However, an additional factor may be that, according to the results obtained from non-participating listeners, many subjects do not regard this nonfluency type as an instance of interruption, even when "interruption" is defined in such a way that silent interruptions are included.

It is of some interest to note that there was a marked difference in the interactional style of the two experimental dialogues. An indication of this difference is given by the relative numbers of speaker-switches in each pair of experimental and control dialogues (see Table 7). Whereas the second pair of subjects produced almost the same number of speaker-switches in the two conditions, the first pair of subjects produced notably fewer speaker-switches in the experimental condition. The second experimental dialogue gave an overall impression of nervous volatility; the utterances were short, and both participants spent some considerable time laughing and giggling. (Krause and Pilisuk, 1961, have suggested that "intrusions" in speech, such as laughs, coughs and clearings of the throat, indicate transitory anxiety.) In contrast, the interaction during the first experimental dialogue was conducted in a cautious manner and at a comparatively slow pace,
With limited evidence, it is impossible to say which of these dialogue styles would generally be most successful in bringing about a reduction in speaker-switch nonfluency.

Both experimental dialogues did, of course, have the main subject as a participant, and this variation in interactional style may be an interesting example of the flexibility of some aspects of an individual's verbal behaviour. On each occasion, the main subject apparently matched her behaviour to that of her conversational partner: she produced long utterances in a controlled and deliberate style in the first dialogue; in the second dialogue, she engaged in rapid speaker-switching with short utterances.

Neither of the dialogue styles described above appeared to ensure that subjects eliminated all speaker-switch nonfluencies from their conversations. However, the elimination of speaker-switch nonfluencies may be a formidable task, and for at least two reasons. First, speaker-switching involves interaction between individuals. Secondly, there is evidence to suggest that the subjects in this experiment were unaware of most of the nonfluencies which remained in their conversations.

Speaker-switching is an interactive process. Therefore, if alterations in speaker-switching are to take place, individual subjects have not only to control their own behaviour, but also to fit it in with the behaviour of their conversational partners. This may be a very complex exercise. The task might be made easier by the employment of a special system of either vocal or visual signals, in conjunction with the initiation and completion of speaking turns. When asked, the subjects here said that they had used no such signals in any systematic way. Nevertheless, all three subjects made remarks which indicated that
they had used some visual signals, at least occasionally. Perhaps additional experience in this experimental situation would have resulted in subjects developing a signalling system, and eventually producing a continuous series of perfect speaker-switches.

However, it is unlikely that such a system would be fully developed until participants became conscious of most of the nonfluencies which they produced. It seems probable that the subjects who took part in this experiment were not consciously aware of at least some of their nonfluent speaker-switches. A total of 43 nonfluencies were produced during the two experimental dialogues. (This total excludes silent interruptions, since they may not be regarded as interruptions by most subjects.) Only four “references”, of various kinds, were made by the subjects to these nonfluencies. Of course, many more may have been heard but not referred to. As suggested previously, references to nonfluencies in speaker-switching may be avoided, because they can disrupt the flow of a conversation. However, the explicit apologies and the laughter, after some instances of simultaneous speech, were in marked contrast to the lack of response to other, similar nonfluencies which apparently did not cause even the slightest hesitation by their producers.

It is interesting that, in reply to a question concerning the ease of conducting a conversation within the restrictions imposed, subjects told the experimenter that they did not find the task particularly difficult. One might suggest that subjects answered in this way because they were largely unaware of the imperfections in their performance.

One reason for this possible lack of awareness may be that, in very
general terms, the semantic content of the experimental dialogues appeared to be as high as that of the control dialogues. On both occasions, subjects carried out fairly complex discussions of various topics, exchanging information, questioning one another and giving relevant, or at least related, replies to previous remarks. Therefore, it seems that subjects made little or no effort to reduce the content of their conversation, in order to concentrate upon its form. The present investigator has found, from personal experience, that attempts to listen to speaker-switch nonfluencies (which are formal features of dialogue), while participating in a conversation, nearly always result in losing the semantic thread of that conversation. Clancy (1972) makes a somewhat similar observation about overlaps in particular "... in my own conversations it was impossible for me to ... try to refrain from making overlapping interruptions since the effort required made me too tense to continue a normal relaxed conversation" (p. 83). It may be very difficult to attend consciously to both the form and the content of verbal interaction, for any considerable length of time. The subjects here made no noticeable attempt to lessen their concentration upon the content of their conversations, and this may have resulted in insufficient attention to formal features, including nonfluent speaker-switches.

Previous investigations of the reception of nonfluencies by speakers differ methodologically from the present study. More importantly perhaps, they deal only with monologue nonfluencies, such as repetitions of syllables and words. Typically, subjects are asked to read a passage (Eveslage and Brookshire, 1972) or to produce either a spontaneous monologue (Siegal and Martin, 1960, and Siegal and Hanson, 1972) or
a prepared speech (Miller et al., 1961). "Punishing" or "highlighting" stimuli, such as tones, electric shocks and flashing lights, are delivered during the monologue, either randomly or after each nonfluency in the subject's speech. It is obviously somewhat difficult to compare the findings of such experiments with the results of the present investigation.

In the introduction to this second section, it was hypothesized first, that subjects would not perform the experimental task perfectly, and secondly, that they would not notice many of the nonfluencies which did occur during their dialogues. On the basis of the results obtained, the first hypothesis can be accepted, and there is considerable support for the second hypothesis.

The results of both investigations of the reception of nonfluent speaker-switches suggest that not all instances of interruption and simultaneous speech are consciously attended to, either by dialogue participants or by non-participating listeners. Remarks made by subjects in the first experiment, and the behaviour of participants in the second experiment, indicate that conscious attention tends to be reserved for the content of a conversation. This tendency may interfere with any attempt to attend consciously to the formal features of a dialogue, such as speaker-switch nonfluencies, for more than a few seconds at a time. Therefore, there appears to be an interesting and customary division of conscious and unconscious attention, between the content and the form of verbal interaction. However, during conversations, form and content interact, and a concomitant interaction between the two types of attention should perhaps be considered in any broad theory of the perception of language.
At a less general level, the results of both experiments, and the first experiment in particular, cast doubt on the veracity of a popular notion, that all so-called interruptions are dominance attempts. On the whole, different response rates were associated with different nonfluency types, in the first experiment; moreover, a substantial proportion of some nonfluencies failed to evoke responses. If all interruptions were the result of aggressive competition for the floor, one might reasonably expect that, as a whole, they would be more readily perceived. It seems much more likely that speaker-switch nonfluencies have a variety of causes: some of them may indeed be dominance attempts, but others may be the result of verbal interaction per se. The latter types of nonfluencies may be such normal features of spontaneous conversation that they are both produced and perceived unconsciously.
CHAPTER 5

SPEAKER-SWITCH NONFLUENCIES UNDER "NO VISION" CONDITIONS

Introduction

In the previous chapters, discussion has concentrated upon the production and the reception of vocal features of speaker-switch nonfluency. In this chapter, an attempt will be made to assess the role of vision in nonfluent speaker-switching.

Preliminary examination of a videotaped dialogue suggests that several patterns of eye and body movements may be associated with each type of nonfluency. Unfortunately, data of this type require very detailed analysis, which can prove extremely time-consuming. In order to obtain a reasonable sample of behaviour, from several pairs of subjects, it was decided that the problem should be approached indirectly. In the initial observations, participants could see one another while they conversed. In the dialogues to be discussed here, conversational partners were unable to see each other; this will be referred to as the "No Vision" condition.

There is a growing literature on visual behaviour during social, and particularly verbal, interaction; some behavioural patterns, such as body movements, can be seen and others, such as eye contact and gaze
direction, involve seeing (for reviews of this literature see, for instance, Argyle, 1969, and Rutter, 1973). A few investigators have examined these types of visual behaviour in connection with utterance occurrence and speaker-switching. For example, Kendon (1967) has noted that, at the beginning of long utterances (those lasting 5 or more seconds), speakers tend to look away, whereas at the end of such utterances, and at the end of phrases within utterances, they tend to look back at their conversational partners. It is suggested that this behavioural pattern helps speakers to plan their verbal output, and to check their partners' reactions to their utterances. In addition, it may have signal value for listeners and, with head nods, it may assist the "meshing" or "synchronization" of different speakers' contributions to a conversation.

Argyle et al (1968) report that this synchronization of speech deteriorates when vision is reduced. They conducted a number of experiments in which one or both members of a conversational pair were wholly or partly invisible. Their results indicate that pauses and interruptions are more frequent in conditions of reduced vision, than in normal, face to face conditions. Unfortunately, no definition of the term "interruption" is given, although it may refer (as it appears to, in Kendon's writings) to all periods of simultaneous speech.

Although they give no indication of alterations in frequency, Jaffe and Feldstein (1970) maintain that periods of simultaneous speech are shorter in their reduced vision condition, than in a normal vision condition. They also report that "switching pauses" (which come between different speakers' utterances) and within-utterance pauses are relatively short in the reduced vision condition.
Finally, Crystal and Davy (1969) have compared a telephone conversation with face to face dialogues. Like Jaffe and Feldstein, they note that pausing is reduced when conversationalists cannot see one another. In addition, they point out that filled pauses are very common in this situation. There is a brief discussion of the interactional consequences of these alterations in conversational style.

The studies above differ from one another in terms of methods employed and results obtained. Various features of speaker-switch nonfluency are either ignored or not defined. In addition, some features are given such broad definitions that several items are treated as a unitary phenomenon. However, all three studies indicate that conversations in conditions of reduced or no vision differ from face to face interactions, and that lack of vision may alter speaker-switching. It is hoped that, by employing precise definitions of a number of different speaker-switch phenomena, the present study of "No Vision" conversations can give a clearer indication of the nature of such alterations.

Method and Procedure

In Argyle et al's (op. cit.) "No Vision" condition, auditory communication was "mainly via the intercom system" (p. 7). Although good telephone and intercom systems exist, they always entail some reduction in the quality of auditory signals. In order to eliminate degraded signal quality as a possible contaminating variable in these observations, the present investigator placed a wooden screen between speakers. This arrangement also ensured that subjects could hear non-vocal sounds, such as those which are produced by movements of the body. These sounds are usually absent from telephone and intercom conversations,
and their absence may contribute to the uncomfortable impression of
talking to a disembodied voice, an impression which is often experienced
during such dialogues.

The physical conditions, under which subjects conversed during these
observations, are somewhat similar to those employed by Jaffe and
Feldstein (op. cit.). In their case, conversationalists were prevented
from seeing one another by the presence of an opaque screen which, it
is reported, eliminated visual-gestural communication.

While the wooden screen used here caused a minimal reduction in the
amplitude and quality of speech, it made any visual interaction
impossible. It should perhaps be noted that this lack of vision is
unlikely to have affected the intelligibility of speech. Sumby and
Pollack (1954) employed both "Vision" and "No Vision" conditions in an
investigation of the contribution of vision to speech intelligibility.
When verbal stimuli were produced in a noise-free environment, there
was little difference in the intelligibility scores obtained under
the two conditions. Although the "No Vision" condition in the present
investigation was not noise-free, the speech to background noise ratio
was very high, and any non-vocal sounds were intermittent. It is
therefore unlikely that participants, because of their not being able
to see their conversational partners, found any difficulty in hearing
them.

Subjects were questioned in this matter after recording sessions.
They expressed surprise at the suggestion that they should have found
speech other than normally intelligible.
These "No Vision" conversations were recorded after all the conversations in the initial observations had been completed. Once again, the main subject participated in every dialogue. Her conversational partners were seven of the fifteen subjects who had taken part in the initial observations. Subjects were told that, as before, they were to talk for half an hour, about anything they liked, only this time they would not be able to see one another because of the wooden screen. They were instructed not to look around the screen or to move from their chairs, until the end of the recording session.

The conversations were held in the same room as before, and the same apparatus was used, with the addition of the wooden screen. This screen was 3' high, 2' 6" wide and 3/4" thick. As illustrated in the diagram on the following page, it was placed on a table, between the two speakers. The main subject always sat on the chair nearest the window. (For measurements of the room, the table and the tape recorder see Diagram 1, Chapter 2, p. 29).

Results and Discussion

All instances of speaker-switch nonfluency were noted in the seven, half-hour conversations. According to Argyle et al's (1968) results, the synchronization of speech deteriorates in conditions of reduced or no vision, and interruptions are more frequent. In order to determine whether a similar alteration had taken place during the present conversations, a comparison was made between the speaker-switch nonfluency in these conversations and, as control data, the speaker-switch nonfluency of the same, seven conversational pairs, when they took part in the "Vision" dialogues of the initial observations.
Room arrangements during "No Vision" conversations
The four nonfluency types were treated separately. The table on the following page shows the average percentages of speaker-switches and in the case of butting-in interruptions — utterances which were nonfluent, in the two conditions. (The percentages for individual conversational pairs are to be found in the Appendix; see pp. 193-196.)

All nonfluencies increased, at least to some extent, in the "No Vision" condition. Therefore, in general terms, Argyle et al.'s results would seem to have been replicated. However, it will be noted that some nonfluency types increased more than others. This can perhaps be most clearly illustrated by expressing the increase in each nonfluency as a percentage of the amount of that nonfluency in the "Vision" condition. For instance, on average, about 12.5% of speaker-switches in the "Vision" conversations involved a simple interruption; the corresponding figure for the "No Vision" conversations was nearly 14%. Therefore, there was an increase of 1.5%, which, when expressed as a percentage of the "Vision" conversations' 12.5%, gives a "percentage increase" figure of 12%. The table on page 143 shows the percentage increases in the four nonfluency types.

A one-sample chi square test, carried out on the data illustrated in that table, yields a value of 63.64 (3df; p < .001). It is therefore unlikely that the differences in percentage increases arose by chance.

In view of these results, it would seem that, while a statement of the type "speaker-switch nonfluency increases when subjects cannot see one another" is accurate, it fails to take into account what may be a considerable difference between nonfluency types. The reasons why silent interruptions increased more than the other nonfluencies will be discussed in a later section of this chapter, when additional
In order to assess the statistical significance of interaction between production of the various interruption types and visibility of the conversational partner, a two-way analysis of variance was carried out on the data which is summarized in Table 8. The F ratio obtained for interaction between these two variables was not significant at either the .01 or .05 levels of probability ($F = 0.14; df 3, 48$). Therefore, as suggested by the results of the four separate Wilcoxon matched-pairs signed-ranks tests (see pp. 144 - 145), lack of vision had no significant differential effect upon the relative frequency with which the four types of speaker-switch non-fluency were produced under the two conditions.
TABLE 9

Percentage increases of speaker-switch nonfluencies in "No Vision" conversations

<table>
<thead>
<tr>
<th>% increase</th>
<th>OL</th>
<th>I</th>
<th>BII</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>(0.56 % increase)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
alterations in conversational style have been noted.

The data illustrated in Table 9 indicate that, although there are differences among the various nonfluencies, there is, on average, an increase in speaker-switch nonfluency in the "No Vision" condition. However, if a closer inspection is made of the behaviour of individual pairs of subjects in the two conditions, it is evident that some decreases in nonfluency take place when speakers cannot see one another. For instance, four of the seven conversational pairs produced somewhat smaller proportions of overlaps in the "No Vision" condition. In order to determine whether the increases were of a significantly greater size and number than the decreases, Wilcoxon matched-pairs signed-ranks tests were carried out. This statistical procedure takes account of both the direction and the magnitude of differences within pairs. The four nonfluency types were treated separately and, in each case, the "Vision" and "No Vision" nonfluency percentages were compared for the seven pairs of subjects. (The data, upon which these calculations are based, may be found in the Appendix; see pp. 193-196.)

All the results were statistically nonsignificant (level of significance: .01 or .025). In a one-tailed test, where N = 7, T must equal only 2 to be significant at the .025 level of probability; the following values were obtained; overlaps, $T = 15*$; simple and butting-in

* As mentioned above, decreases were more common than increases in the case of overlaps. In all other cases, the reverse was true. To make the four values of $T$ comparable, ranks associated with decreases were summed for overlaps, even though these were not, in fact, the less common ranks, as the statistical procedure normally demands. If the less common ranks - the increases - are summed, then $T$ equals 13 and is, once again, statistically nonsignificant.
interruptions, \( T = 9 \), in both cases; silent interruptions, \( T = 4 \).
Therefore, although there are differences among the nonfluency types, the "No Vision" condition does not appear to bring about any significant increases in the amount of nonfluent speaker-switching.

Incidentally, when \( T \) was computed for the numbers of speaker-switches (fluent and nonfluent) during the conversations in the two conditions, the value obtained was nonsignificant (\( T = 14 \)). On average, there were about 226 speaker-switches in the "Vision" conversations, and 224 in the "No Vision" conversations. Therefore, the overall amount of speaker-switching does not appear to alter greatly when subjects cannot see one another.

The results concerning nonfluent speaker-switches are perhaps somewhat unexpected, since vision is generally supposed to play an important part in spoken interaction in general, and in speaker-switching in particular. Argyle et al express surprise that their subjects did not find the synchronization of speech more difficult in "No Vision" conditions. However, auditory information alone may be sufficient to ensure adequate synchronization of speech.

Duncan (1972) lists six "turn-yielding signals" which occur, either singly or together, when one speaker gives the floor to another. Although no indication is given of the relative importance of the six signals, it is interesting to note that five of them are auditory and involve the production of particular patterns of, for instance, intonation, pitch and loudness, and syntax. The only visual signal consists of alterations in body motion. From Duncan's analyses, it would appear that there is a large enough number of auditory turn-yielding signals for smooth speaker-switching to take place, without the speakers being able to see one another.
It may be of additional interest that Kendon (1970) has observed a precise synchronization of speakers' and listeners' body movements, even when those speakers and listeners are not looking at one another. It seems that, for this synchrony to occur, speech is sufficient. The results of the present investigation suggest that it may also be sufficient for the synchronization of verbal behaviour to take place.

However, the situation may be more complex. Speech may only be sufficient if some adaptations in behaviour are made during "No Vision" conversations. Argyle et al suggest that familiarity with the telephone may produce alternative techniques of interaction, for use when the other speaker cannot be seen. No specification of these alternative techniques is given; however, the present investigator noted a number of phenomena which may elucidate their nature.

First, at a general level, it seems likely that "No Vision" conditions increase the importance of auditory cues for dialogue participants. This view is supported by remarks from the participants in these conversations. For instance, one of the subjects noted that she had to be more explicit when the other speaker was not visible, since there were no facial expressions to resolve ambiguities. A remark of this nature suggests that, not only may auditory cues be all-important in these situations, as Crystal and Davy (op. cit.) have also asserted, but subjects may be consciously aware of their importance.

Another subject opened a brief discussion which is of particular interest here, since it concerns speaker-switching:

B. ... What I, what I imagined would happen would be, like, one of us would talk and then there'd be a silence and then the next person would talk you know what I mean?
A. Yes but it's not like that is it?
B. More like on a, like on a telephone call perhaps a bit.

These remarks were made at the beginning of a conversation, before many nonfluencies had been produced. Periods of greater nonfluency were not followed by similar remarks. It is therefore unlikely that a particularly high rate of nonfluent speaker-switching prompted their production. No discussion of this particular nature took place during the "Vision" conversations. Hence, it is possible that it was the lack of visual cues which drew subjects' attention to a formal aspect of verbal interaction which, according to the results of the previous chapter, may not be consciously attended to in more normal circumstances.

A number of investigators have noted another change in verbal behaviour during "No Vision" conversations. Crystal and Davy, for instance, mention that, during their extract of a telephone conversation, pausing was reduced to a minimum. Any pauses which did occur were either filled, or inserted at points of obvious grammatical incompleteness. Similarly, Kasl and Mahl (1965) note that there was a substantial increase in the "ah" ratio in subjects' speech, when interviews were carried out in a "telephone-like", rather than a face to face, situation. This change in pausing would appear to be related to the alteration discussed in the paragraph above; in the absence of visual cues, verbal signals probably become more important, and subjects may use signs such as filled pauses, rather than body movements and facial expressions, to indicate that they have not yet completed an utterance.

An increase in filled pauses or "fillers" was evident in the present "No Vision" conversations. Moreover, this increase occurred at some points of speaker-switch nonfluency in particular, as well as throughout
the conversations in general. A greater incidence of fillers at these points of nonfluency is of interest in the context of the present investigation.

In order to assess the extent of this increase, the final words of the three nonfluencies involving interruption were compared when they were produced in the seven "No Vision" conversations, and when they occurred in the seven, corresponding "Vision" conversations. Final words were placed in two categories: "fillers" and "other words". The filler category contained the same sounds, words and phrases as it did when used in Chapter 3 (see page 69). With the "Vision" and "No Vision" conditions and the two final word categories, a 2 x 2 contingency table was prepared for each of the three interruption types. Chi square tests were then carried out on the basis of this data, which was in the form of frequencies. The following values were obtained,(df = 1, in all cases):

- Silent interruptions : $X^2 = 9.329$ (p. < .01)
- Simple interruptions : $X^2 = 8.639$ (p. < .01)
- Butting-in interruptions : $X^2 = 1.652$ (p. < .20)

In all instances, there were larger proportions of fillers as last words in the "No Vision" conditions. The percentage of silent interruptions which ended with fillers increased by over 23% in the "No Vision" condition. The corresponding figures for simple and butting-in interruptions are approximately 15% and 6%, respectively. When subjects could not see one another, nearly 43% of silent interruptions ended on a filler; 30% of simple interruptions and 11% of butting-in interruptions finished in this way.

The difference, in terms of fillers as final words in the two conditions,
is greatest for silent interruptions, then simple and, finally, butting-
in interruptions. The "final word" data obtained from the fifteen
"Vision" conversations (see page 89) indicate that silent
interruptions are the nonfluency type most likely to end on a filler
with simple and butting-in interruptions following, in that order. It
would appear therefore, that those nonfluencies which normally break
off on a relatively large proportion of fillers, also tend to be the
nonfluencies which are most affected by the increase in fillers during
"No Vision" conversations.

It was suggested, in Chapter 5, that, at times, fillers and conjunctions
may be functionally equivalent. However, while there were more fillers
at the end of interruptions in the "No Vision" conversations, there was
no comparable increase in conjunctions at those points. Indeed, there
were fewer conjunctions at the end of simple and silent interruptions,
when speakers could not see one another. Although these variations
were present, in no case did the number of conjunctions differ
significantly (p. < .01 or .05) when data from the two conditions were
compared. Therefore, it should be emphasized that if conjunctions and
fillers are functionally equivalent, they are so, only upon some
occasions. It is possible, for instance, that while both these types
of words may allow speakers to "hem and haw", only fillers have the
additional function of indicating that a speaker wishes to continue
talking. Hence, when verbal "don't interrupt" signals are of
particular importance (during "No Vision" conversations, for example),
fillers are employed with considerable frequency, but there is no marked
variation in the number of conjunctions.

The suggestion was put forward above that certain adaptations in
behaviour may take place in "No Vision" conversations. These
adaptations may include first, an enhancement of auditory, as opposed to visual, cues and secondly, an increase in the incidence of filled pauses. The present investigator noted another alteration in behaviour, which appears to be at least indirectly related to both these adaptations: compared with the face to face conversations, the "No Vision" dialogues were characterized by a general uncertainty. There is some evidence, from remarks made by subjects during their conversations, that this "No Vision" condition seemed strange to most of the participants, even though many of them were presumably used to talking on the telephone. For instance, two of the subjects mentioned that being unable to see the other speaker was "weird", and that it was "funny talking and not seeing". The discussion about speaker-switching, which was quoted previously (see pp. 146 - 147), also indicates that the participants found this situation unusual. Given that the conversational setting seemed strange to the subjects, it is perhaps not surprising that their interaction in that setting was characterized by uncertainty.

Among the particular features of these "No Vision" conversations, which may have contributed to that impression of uncertainty, was the increased incidence of fillers, discussed above. From, for instance, Goldman-Eisler's (1968) work, there are indications that hesitancy in speech is related to "uncertainty of prediction" (p. 48). Although the reference is to uncertainty of linguistic output in particular, it seems probable that some situations, including those where one is unable to see the other speaker, might encourage a general lack of assurance over the predictability of events. Some of those events may be of a specifically linguistic nature, but others may have a broader psychological basis. In any case, one of the outward manifestations of that uncertainty may be the frequent use of filled pauses.
Another feature of the "No Vision" conversations, which may have contributed to the impression of uncertainty, is the increase in silent interruptions. It will be remembered that this is the speaker-switch nonfluency which is most likely to become more frequent if speakers cannot see one another. When the main subject ranked her fifteen conversational partners in terms of how dominant she thought they were, that set of ranks correlated negatively \((p, <.05)\) with another set of ranks, based upon the frequency with which those partners produced silent interruptions (see Chapter 6). That is, those subjects who produced relatively large numbers of silent interruptions tended to be ranked low, in terms of dominance, by the main subject. Perhaps silent interruptions occur frequently in a variety of situations where speakers feel uncertain, and where their ability to dominate is presumably restricted; "No Vision" conversations may be one of those situations.

However, an additional, related point should be noted. Silent interruptions often finish with fillers, particularly in "No Vision" conditions. A considerable proportion of those fillers (between 40% and 45%, in both conditions) are produced with a conjunction, in combinations such as /and ah/ and /but um/. According to Duncan's (1972) work, these combinations, and similar words and phrases, are one of several types of auditory turn-yielding signals. Since auditory, rather than visual, cues are probably of particular importance in "No Vision" conversations, silent interruptions may become unusually numerous in such dialogues because they frequently contain auditory turn-yielding signals. The increase in such interruptions may, therefore, be evidence of not only uncertainty in "No Vision" conversations, but also the enhancement of auditory cues under those conditions.
In summary, the results of the present investigation provide some indirect evidence about the role of vision in nonfluent speaker-switching. Lack of vision does not appear to lead to any statistically significant \( p < .01 \) or \( .05 \) increases in speaker-switch nonfluency. However, this may be so because subjects seem to make several, related adaptations to the "No Vision" situation. For instance, they increase the number of filled pauses in their speech, they may employ vocal turn-yielding signals more frequently than normal and, in general, they appear to pay particular attention to the vocal cues of conversation.

Despite, or perhaps because of, these adaptations, subjects appear to find "No Vision" conditions unusual, and their conversations have an uncertain quality. It should be remembered that, in order to converse without visual cues, participants must adapt their behaviour in relation to other speakers' behaviour; that is, they must take part in interactional changes. As suggested previously this is probably a much more complex task than altering behaviours which can be performed by one individual in isolation.

Both the adaptations and the uncertainty suggest that vision is an integral part of speaker-switching. In normal circumstances, vision and sound are probably two dependent parts of a single system. For this reason perhaps, visual information apparently cannot be removed, without affecting the vocal cues which govern interaction in general, and speaker-switching in particular.

However, this is not to suggest that vision plays the same role in all four types of speaker-switch nonfluency. There was a significant difference in the amount by which each nonfluency increased in the "No
Vision" condition. Moreover, the greater incidence of filled pauses appeared to have a different effect upon the three interruption types. In general terms, these may be additional pieces of evidence to support the notion that the four nonfluencies should be treated separately, and not as a single behavioural phenomenon.

In particular, this separate treatment may be appropriate when considering the role of vision in nonfluent speaker-switching. The silent interruption was the nonfluency type most likely to increase during the "No Vision" conversations. It would seem that, at least upon some occasions, these interruptions are, in effect, productions of and responses to explicit, turn-yielding signals. As such, an increase in silent interruptions probably indicates a successful adaptation to the lack of visual information. As speaker-switches of a predominantly vocal nature, vision may play only a minor role in their production under normal circumstances.

Overlaps may also be speaker-switches of a mainly vocal nature although, in their case, the increase, under "No Vision" conditions was negligible. The removal of visual information did not appear to alter the proportion of speaker-switches which involved overlaps. Such information may, therefore, play a minimal part in the production of this nonfluency.

Alternatively, vision may be important in overlaps and, when visual cues are absent, overlaps may be mistimed. The result of this mistiming may be an increase in the amount of butting-in and simple interruptions, since mistiming appears to be an important feature of these two nonfluencies (see Chapter 3, section 2).

Both butting-in and simple interruptions did increase, moderately, in
the "No Vision" conversations. It was suggested previously (see pp. 77-79), that the language of spontaneous conversation includes a number of features which make mistimed speaker-switching probable. In face to face interaction, visual cues may mitigate the confusion sometimes caused by speech. Without these cues, mistimings may become more likely, and there may be an increase in butting-in and simple interruptions. However, adaptations in behaviour, under "No Vision" conditions, probably ensure that mistimings do not become significantly more numerous when speakers cannot see one another. The filling of pauses, for instance, may help to keep unintentionally mistimed speaker-switches to a minimum, by diminishing the number of confusing silences within utterances.

It should be remembered, of course, that none of the increases in the speaker-switch nonfluencies was statistically significant (p. < .01 or .05). The increase which most nearly approached statistical significance was associated with silent interruptions, and this indicated an adaptive improvement, and not a deterioration, in speaker-switching. Although vision may indeed be an integral and important part of speaker-switching in normal conversations, the unexpectedly smooth synchronization of speech in these dialogues suggests that the whole system of cues, upon which speaker-switching is based, is a flexible and adaptive one.
CHAPTER 6

SPEAKER-SWITCH NONFLUENCIES AND INDEXICAL INFORMATION

Introduction

Up to this point, speaker-switch nonfluency has been dealt with in terms of its production and reception, in a variety of conditions. This approach helped to delineate the essential characteristics of the four nonfluency types. It also suggested how some basic psychological and psycholinguistic skills may be employed during periods of speaker-switch nonfluency. It did not, however, include any attempt to outline what might be called the indexical properties of speaker-switch nonfluency — properties which provide information about the speakers themselves.

Abercrombie (1967) has noted that speech has a number of features which carry indices of the regional origins, the characteristics (such as age, sex and personality) and the moods of speakers. Typically, these features are described in terms of accent, tempo, voice quality and so on: all features of speech which are present during monologues. However, it seems probable that indexical information may also be carried by some characteristics of vocal behaviour which necessitate two speakers for their production, and are therefore peculiar to dialogues. These features will include the various types of speaker-switch nonfluency. In these cases, aspects of the interaction itself, rather than of the speech used during that interaction, are probably of primary importance.
Information about the indexical properties of speaker-switch nonfluency is of interest for both a general and a particular reason. At a general level, such information may lead to fuller and more accurate descriptions of the four types of nonfluency. More specifically, it may allow assessment of one of the commonest assumptions about so-called interruptions, namely, that they are an index of one speaker's ability or willingness to dominate another. In the concluding chapter, all the findings reported here, including those connected with the indexical properties of speaker-switch nonfluency, will be drawn together, in order to present an account of each nonfluency type. In this chapter, an examination will be made of the relationship between interruptions and dominance or, more precisely, speaker-switch nonfluencies and dominance. "Dominance" here refers to one of the "dimensions of [a] relationship" between two people (Argyle, 1969); a dominant person wants to control or influence the behaviour of others when interacting with them.

Of course, these nonfluencies may be indices of personality characteristics other than dominance. In addition, they may indicate how well dialogue partners know one another, what mood they are in, what type of topic they are discussing and so on. However, probably the most widely held idea about interruptions, and one which is common among both laymen and academics, is that they are closely related to dominance. For this reason, dominance will be the personality characteristic concentrated upon in this discussion. It must, of course, be regarded as only one example of a certain type of indexical information which conversationalists might draw from speaker-switch nonfluency. The various nonfluencies may, in fact, be indices of characteristics of an apparently much less complex nature. Frequent overlapping and
interrupting may, for instance, indicate that a speaker is capable of quick verbal responses, and this capability may be unrelated to more complex variables, such as dominance. The possibility that the various nonfluencies are connected to a speaker's latency of verbal response, will be considered after an examination has been made of the relationship between speaker-switch nonfluency and dominance.

In both cases, the nonfluency data is drawn from the original, "Vision" dialogues, during which fifteen speakers conversed with the main subject. Speaker-switch nonfluency was estimated by noting the total number of any one nonfluency in a conversation, taking the number contributed by the main subject's partner, and expressing that as a percentage of the total. For instance, in a conversation where ten overlaps took place and four of these were brought about by the main subject's partner, 40% of the overlaps would have been caused by the partner (that is, simultaneous speech would have been initiated by the partner). This "percentage of total" figure emphasizes the relative performance of the two participants, and allows comparison between conversations. The previously-employed figures, based upon the total number of speaker-switches in a dialogue, were unsuitable since they are connected with conversations, and the measures of dominance and latency of verbal response, to be described below, refer to individuals.

SECTION 1
Speaker-switch nonfluencies and dominance

A number of investigators appear to assume that interruptions are closely related to dominance. For instance, Chapple (1953) states that the purpose of the interruption period in his Standard Interview is to
determine subjects' persistence, ability to dominate or submissiveness; Argyle (1969) refers to "attempted interruptions, in which there is a struggle for the floor" (p. 261; my underlining) and Leighton et al (1971) claim that data on interruptions in normal and clinic families "give .... an indication of how the two groups accept the prevailing conditions of dominance and submission" (p. 225).

Other investigators have been more cautious in stating their case; Meltzer et al (1971) maintain that it is a mistake to infer that every interruption is a "miniature battle for ascendance", and they suggest that some periods of simultaneous speech may be the result of mistimings or mistakes in turn-taking. Evidence from the present study lends some support to that notion, since it seems possible that at least some simple and butting-in interruptions are caused by mistimings, rather than attempts by one speaker to wrench the floor from another.

Although it is not always clear, most investigators seem to define interruptions as "all periods of simultaneous speech", (see, for instance, Jaffe and Feldstein, 1970; Matarazzo and Wiens, 1972; Meltzer et al, op. cit.). In the classificatory system used here, three types of simultaneous speech are distinguished (overlaps, simple and butting-in interruptions). As Meltzer et al suggest, only some instances of joint talking may be dominance attempts. Perhaps the present classificatory system is one basis upon which those instances can be distinguished from others which may be more closely connected to different variables, including perhaps, mistiming.
Method

In this study a subject's tendency to dominate - to influence or control the behaviour of others when interacting with them - was estimated in two ways: first, all subjects completed a self-rating personality questionnaire which contained items from Cattell's 16PF Form, dominance scale (Cattell and Stice, 1962); secondly, the main subject ranked her fifteen conversational partners according to how dominant she thought they were. These observations, where one subject interacted with a number of different subjects, make information of the latter type particularly useful.

Each subject completed the self-rating personality questionnaire by herself, after having had the accompanying instructions explained to her by the experimenter. Subjects were instructed to ask for any clarification they might need. The tests were then analyzed, and the main subject's partners were ranked, from 1 to 15, in terms of their scores on the dominance scale: rank number one was assigned to the most dominant partner.

Dominance scores on this personality test ranged from 9 to nought (maximum score: 12) and averaged 4.75. It is suggested that the "average British male or female" will score approximately 4.5 on this scale. The main subject's score was 5.

When the main subject was asked to rank her friends according to how dominant she thought they were, she was given the following instructions:

"In some conversations there is one person who disrupts the conversation by being dominant, bossy and aggressive. Here is an alphabetical list of all the people with whom you have had recorded conversations. Could
you please rank them from the most dominant, bossy and aggressive to the least, numbering them 1 to 15."

The words "bossy" and "aggressive" were included in the instructions, since these traits tend to be positively correlated with dominance (see Cattell, 1944 and 1965). They might, therefore, give the subject a fuller idea of the personality characteristic she was being asked to concentrate upon, while performing this task. From the instructions it will be obvious that this measure of dominance is probably more circumscribed than that obtained from the personality test, since this measure deals with dominance during conversations in particular.

As described above, speaker-switch nonfluency data were in the form of "percentage of total" figures for the main subject's fifteen dialogue partners. Since each nonfluency type was treated separately, there were four sets of these figures. Within any one type of nonfluency the "percentage of total" figures were ranked from 1 to 15; that is, the conversational partner who had brought about the highest percentage of, say, overlaps in a conversation was ranked number 1, while the partner who had brought about the lowest such percentage was ranked number 15. These speaker-switch nonfluency ranks were correlated with the rank from the personality questionnaire and the main subject's dominance rank. As the information from the main subject was in the form of ranks, other data were ranked in order to make them comparable for statistical purposes.

Results and Discussion

In the table on the following page OI, I and BI refer to the initiator of simultaneous speech in overlaps, simple interruption and butting-in
interruptions, respectively. \textit{SI} refers to the producer of the incomplete utterance in a silent interruption. \textit{Dom. P.S.Q.}\textsuperscript{**} is the personality questionnaire measure of dominance, while \textit{Dom. M.S.} refers to the main subject's dominance ranking. Spearman's rank correlational method was employed. \( N = 15 \), in all cases; * = significant beyond the .05 level of probability.

\textbf{TABLE 10}

\begin{center}
\textbf{Speaker-switch Nonfluencies and Dominance}\\
(\( N = 15 \))
\end{center}

| \textit{Dom. P.S.Q. + Dom. M.S.} | \( \rho = .1333 \) |
|----------------------------------|-----------------
| \textit{Dom. P.S.Q. + \% total OL} | \( \rho = .4662^* \) |
| \textit{Dom. P.S.Q. + \% total I} by | \( \rho = .1632 \) |
| \textit{Dom. P.S.Q. + \% total II) partner} | \( \rho = -.0613 \) |
| \textit{Dom. P.S.Q. + \% total SI} | \( \rho = -.1037 \) |

| \textit{Dom. M.S. + \% total OL} | \( \rho = .2009 \) |
| \textit{Dom. M.S. + \% total I} by | \( \rho = -.0364 \) |
| \textit{Dom. M.S. + \% total II) partner} | \( \rho = .2821 \) |
| \textit{Dom. M.S. + \% total SI} | \( \rho = -.4688^* \) |

It appears that the self-rated dominance rank (\textit{Dom. P.S.Q.}) and the rank obtained from the main subject are positively although only weakly correlated. As Argyle (1969) emphasizes, there is a difference between wanting to control or dominate other people and being able to do so. It is probable that a desire to dominate played at least some part in subjects' responses to the questionnaire, while the main subject's...

\textsuperscript{**} \textit{P.S.Q.} : Personal Style Questionnaire; C. Brand (1972), unpublished preliminary paper.
rank is more likely to have been based upon experience of successful dominance.

It is also evident that not all nonfluencies are positively and significantly \((p < .01 \text{ or } .05)\) correlated with either of the measures of dominance. Indeed, only the percentage of total overlaps brought about by the partner is significantly related to self-rated dominance and the silent interruption - which involves no simultaneous speech - to perceived dominance (i.e. the main subject's rankings). A statement of the kind "all interruptions are dominance attempts" would seem to be unwarranted on the basis of this data. It may be appropriate to think of only overlaps and silent interruptions in terms of dominance and submission and then, of course, only related to, rather than caused by this personality factor.

Subjects who brought about a relatively large percentage of the total overlaps in any conversation tended to rate themselves as highly dominant. It was suggested, in Chapter 3 (see p.76), that speakers who bring about overlaps may be anticipating either possible completion points within utterances or the ends of utterances. As Annett and May (1956) have noted, anticipation is one of the features of skilled performance. Skill usually implies control, both of one's own and, under certain circumstances, other people's behaviour. The anticipation which is probably involved in some overlapping may normally be associated with only self-control (although, in speaker-switching, that self-control will be related to another speaker's behaviour).

However, when a dialogue participant engages in relatively frequent overlapping, this self-control may be accompanied by a desire to control or dominate the conversational partner's behaviour.
Subjects who produced comparatively large percentages of silent interruptions in any conversation were usually ranked low in dominance by the main subject. It will be remembered that a substantial proportion (29%) of the final words of these incomplete utterances were fillers, many of which appeared in stereotyped phrases such as /but um/, /and ah/, /y'know/ and /sort of/. Duncan (1972) claims that these so-called "sociocentric sequences" are turn-yielding signals. In this respect, it is of some interest to note that silent interruptions were the nonfluency type most likely to increase under the "No Vision" condition. Since auditory, rather than visual, cues are probably of particular importance in such circumstances, silent interruptions may become particularly numerous because they frequently contain auditory turn yielding cues. However, for a silent interruption to take place such cues must be not only produced, but also responded to; indeed the response is obviously a vital feature of this nonfluency. For this reason, perhaps, silent interruptions are more highly correlated with perceived, rather than self-rated, dominance, although the turn- yielding features of the nonfluency probably account for the negative correlations in both cases.

Simple and butting-in interruptions may be more appropriately thought of as related to variables other than dominance. Examination of the linguistic form of these two speaker-switch nonfluencies suggests that many of them may be mistimed or misjudged attempts to take the floor. The language of spontaneous conversation includes a number of features which makemistimings probable. In particular, the loosely co-ordinated nature of clauses within utterances, and the presence of what Quirk (1955) has referred to as "lean-to structures" (see Chapter 3, p. 75), may make it difficult for a listener to tell when a speaker has
completed an utterance. The variability in the length of speaking turns in informal dialogue, from one word to several hundred words, is probably an additional factor which encourages mistiming.

However, it should be remembered that, although in these particular conversations many simple and butting-in interruptions may have been the result of mistiming (which might be unrelated to any attempt to dominate), this may not be true of conversations in general. Arguments were extremely rare during these dialogues, and the overall impression was one of friendly concurrence amongst speakers. It may be of some relevance that there were only two participants in each dialogue, and that all the speakers were friends of the main subject. Other conversational settings might encourage different types of interaction and more numerous dominance attempts. Some of these attempts could take the form of simple and butting-in interruptions, which, under such circumstances, might be more highly correlated with various measures of dominance.

From the results above it appears that not all speaker-switch nonfluencies may be closely related to dominance. On the other hand, the fact that some nonfluencies do seem to be significantly correlated with certain measures of dominance does not imply that these are the only aspects of speaker-switching with which dominance may be connected.

In order to illustrate this point, the fifteen "Vision" conversations were ranked according to the number of speaker-switches, both fluent and nonfluent, which took place in each one. This set of ranks was then correlated with those obtained from the main subject and the personality questionnaire. In the latter case, the coefficient obtained
was not statistically significant ($p = .0757$, N.S., .01 or .05 levels of probability; $N = 15$). However, the correlation between the set of ranks from the main subject and the set of ranks based on the number of speaker-switches in each conversation was significant beyond the .025 level of probability ($p = .5741; N = 15$). That is, the subjects ranked highest by the main subject tended to take part in the conversations with relatively large numbers of speaker-switches. Indeed, the two variables are correlated to such an extent that the number of speaker-switches in a conversation would appear to be a better predictor of perceived dominance than any of the speaker-switch nonfluency measures which were used in Table 10.

Since all the conversations lasted the same length of time, those which had large numbers of speaker-switches also had comparatively few long utterances. Goldman-Eisler (1954) has suggested that long utterances (which she defines as those over 100 syllables) depend, to some extent, upon the passivity of the other speaker. If this is so, frequent changes in speaker may indicate some competition for the floor, and one might therefore expect such speaker-switching to be positively correlated with some measures of dominance. In the present investigation the correlation was highest in the case of perceived, rather than self-rated, dominance. As mentioned previously, the former measure was concerned with dominance during conversations in particular, while the self-rated measure was of a more general nature. Since the frequency of speaker-switching is obviously an aspect of conversation, perhaps the correlation was highest with perceived dominance because that measure was specific in a particularly relevant way.
The findings above suggest that some speaker-switch nonfluencies are related to dominance. However, the various nonfluencies may be more closely associated with personal characteristics of an apparently much less complex nature. In the following section, an examination will be made of one such variable—latency of verbal response—in relation to speaker-switch nonfluency.

SECTION 2
Speaker-switch nonfluencies and latency of verbal response

Intuitively, it seems probable that the production of some speaker-switch nonfluencies is related to the speed with which individual dialogue participants give verbal responses to the speech of their conversational partners. In particular, overlapping and simple interrupting utterances may be associated with quick verbal responses by the initiators of simultaneous speech. This latency of verbal response (LVR) appears to be a relatively stable personal characteristic (see Jaffe and Feldstein, 1970).

The method and procedure used to measure the present subjects' LVRs are similar to those employed by Willard and Strodtbeck (1972) in an investigation of the relationship between LVR and participation in small groups. Briefly, subjects were individually presented with twenty sentence stubbs, and asked to give a vocal completion of each one. The period between the end of each sentence stubb and the beginning of a subject's completion of that stubb was timed. This period constituted the LVR. A fuller description of the method and procedure appears below.
Method

In their LVR task, Willard and Strodbeck used eighteen incomplete sentences, which they chose from those devised by Loevinger and Wessler (1970) in order to test ego development. Some of the sentence stubs in Loevinger and Wessler's lists (for instance, "My main problem is ..." and "The thing I like about myself ....") are of an awkwardly personal nature. Such stimulus material may be suitable for an ego development test. However, it was felt that, if it was used in the present experimental task, it might encourage unusually long LVRs. The results of a study by Schulz and Barefoot (1974) lend some support to this view, since they suggest that the more intimate a personal question is, the longer subjects will take to respond to it. Of course, intimate personal matters are sometimes discussed in everyday conversations, but the present investigator considered that, if they were raised in an experimental setting, they would produce LVRs which were unrealistic in terms of normal behaviour. The twenty sentence stubs used here will be found in the Appendix (see p. 199); none of them requires subjects to respond with very intimate, personal information or opinions.

Perhaps the most intimately personal item in the list of sentence stubs is "Sometimes I wish .... " (number 18). It is of some interest that, when the two longest LVRs were noted for each subject, this stubb had the largest number of slow responses. In contrast, a very similarly worded item, "Sometimes she wished that ...." (sentence stubb number 6), was never responded to particularly slowly by any of the subjects.

Sentence stubbs were used to estimate LVR since they limit the number
of possible responses from subjects, and so introduce some control into the experimental task; at the same time, they are stimuli which are probably complex enough to give a realistic indication of the speed with which subjects produce verbal responses during conversation. If LVR had been estimated by asking subjects to give replies to complete sentences, the variability of possible responses would have been much greater than in the present case. If, on the other hand, subjects had had merely to repeat words or phrases, only minimal planning of response would have been necessary. It is hoped that the use of sentence stubs provides a productive compromise between these two extremes.

Procedure

Altogether 14 subjects took part in this experiment; they had all previously completed the self-rating personality questionnaire, the results of which were discussed above, in connection with speaker-switch nonfluencies and dominance. Unfortunately, two of the main subject's partners were unavailable by this stage in the investigation.

Each subject was tested individually in a small sound-proofed room. The experimenter sat on one side of a table on which two tape recorders and a microphone were placed. Subjects sat opposite the experimenter and they were given the following instructions:

"You will hear a tape recording of 20 incomplete sentences 10 seconds after the word "ONE" has been said. I'd like you to complete the sentences briefly and with the first thing that comes into your head. There is a 10-second interval between the end of one incomplete sentence and the beginning of another. Please speak into the microphone in front of you."
Two examples of sentence stubbs, with a 10-second interval between them, were read out to each subject. Finally, each subject was asked whether she understood the instructions and the nature of the task.

The tape-recorded sentence stubbs were spoken by the experimenter. Since all the subjects had met the experimenter at least twice before, this was a voice with which they were reasonably familiar.

Sentence stubbs and subjects' responses to them were simultaneously recorded in each trial. The period between the end of each incomplete sentence and the beginning of a subject's response to it was timed. This period constituted the LVR. In Hillard and Strodbeck's (op. cit.) study, a "LVR index" was prepared, for every subject, by averaging the five fastest response times in each individual case. The same procedure was carried out here. The indices obtained ranged from 0.35 to 1.43 seconds, and averaged 0.95 of a second; the main subject's LVR index was 0.53 of a second. The LVR indices from the main subject's conversational partners were ranked from 1 to 13, from the shortest to the longest latency. This rank was then correlated with the speaker-switch nonfluency ranks, the rank from the personality questionnaire and the main subject's dominance rank. As mentioned previously, two of the main subject's partners could not take part in the LVR test; their speaker-switch nonfluency and dominance data were omitted from these calculations.

Results and discussion

In the table on the following page 01, I and III refer, as before, to the initiator of simultaneous speech in overlaps, simple interruptions
and butting-in interruptions, respectively. SI refers to the producer of
the incomplete utterance in a silent interruption. Dom. P.S.Q. is
the personality questionnaire measure of dominance, while Dom. M.S.
refers to the main subject's dominance ranking. Spearman's rank
correlation method was employed once again. N = 13, in all cases:
* = significant beyond the .05 level of probability.

**Table 11**

<table>
<thead>
<tr>
<th>Speaker-switch Nonfluencies and Latency of Verbal Response (LVR)</th>
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<tr>
<td>(N = 13)</td>
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<tr>
<td>LVR + Dom. P.S.Q.</td>
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<tr>
<td>LVR + Dom. M.S.</td>
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<td>LVR + % total OL</td>
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<td>LVR + % total R1 partner</td>
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<td>LVR + % total SI</td>
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It appears that LVR is positively correlated with both measures of
dominance; the correlation is statistically significant (p. < .05) in
the case of perceived, as opposed to self-rated, dominance. Therefore,
those subjects who had short LVRs tended to rate themselves and, in
particular, to be rated as comparatively dominant.

Willard and Streutbeck also appear to have found an association between
short LVRs and high dominance, although they express it in terms of a
negative correlation. Perhaps short LVR should be thought of merely
as a feature of dominant behaviour during conversations. However,
it may be a feature which is more immediately relevant to considerations
of nonfluent changes in speaker, than the broader concept of dominance.

In this respect, it is interesting to note that LVR appears to be a
better predictor of two of the nonfluencies—overlaps and simple interruptions—than either of the measures of dominance discussed above.

Although, in the table above, overlaps, simple and butting-in interruptions all involve the initiation of simultaneous speech, they are not all similarly related to LVR. The coefficients obtained indicate first, that subjects who brought about relatively large percentages of total overlaps tended to have short LVRs; secondly, that subjects who brought about the larger percentages of total simple interruptions were apt to have comparatively long LVRs; finally, LVR appears to be unrelated to the percentages of total butting-in interruptions produced by the main subject's partners. Only in the case of overlaps is the coefficient of correlation statistically significant (p. < .05).

These correlational differences are perhaps most interesting when they are considered in conjunction with another set of differences. In Chapter 3 it was reported that the points, in the other speaker's utterance, at which simultaneous speech is initiated, differ significantly (p. < .001) between overlapping, simple interrupting and butting-in interrupting utterances. Overlapping utterances are most likely to be initiated on nouns, simple interrupting utterances tend to coincide most frequently with pauses, while butting-in interruptions seem to resemble both simple interruptions and overlaps in this respect, since, in their case, simultaneous speech is initiated most frequently, and to an almost equal extent, both on nouns and during pauses (see Table 3, p. 72). On the basis of this information it was suggested that, when speakers overlap the utterances of their conversational partners, they may often be initiating speech just before
what Sacks et al (1974) have called "transition relevance places". During simple interruptions, on the other hand, the initiation of simultaneous speech probably takes place more frequently just after such places. Although, in both cases, initiators of simultaneous speech may be orientating themselves towards places of transition relevance, there appears to be a difference in timing between the two nonfluencies. If this difference is related to the speed with which individual speakers give verbal responses, then one might expect to find that (as the data in Table 11 indicate) relatively frequent overlapping is associated with short LVR, while relatively frequent simple interrupting is correlated with longer LVR.

The correlation between butting-in interruptions and LVR may be very low because, as the data on the initiation of simultaneous speech suggest, butting-in interrupters may be attempting to take the floor, sometimes just before and sometimes just after transition relevance places. When treated as a single phenomenon, these two differently timed responses may, in effect, cancel each other out as far as a possible relationship, either positive or negative, with LVR is concerned.

The correlation between silent interruptions and LVR is also very low. It should be remembered that, in Table 11, SI refers to the producer of the incomplete utterance, rather than the speaker who takes the floor. One should not, perhaps, expect to find that LVR is particularly closely related to the relinquishing of speaking turns. However, even if the "% of total" figures are based upon the relative frequency with which the main subject's partners take the floor, during silent interruptions, the correlation with LVR is still low ($p = .0783$). It may be of some relevance that no simultaneous speech takes place during this nonfluency
and that, at least upon some occasions, the first speaker may be inviting his or her conversational partner to take the floor (by producing stereotyped phrases such as /but um/ and /or something/; see Chapter 3, p. 92). These two features may make silent interruptions somewhat different from the other speaker-switch nonfluencies, and it may be inappropriate to think of them either in terms of competition for the floor, or as mistimed and misjudged changes of speaker. Perhaps speaker-switches which take the form of silent interruptions should be regarded as acceptances of invitations; when this process takes place smoothly, particularly long and particularly short LVRs may be of little significance. Indeed, a long LVR, after an invitation to take the floor, might encourage the producer of that invitation to begin speaking again. In such circumstances, simultaneous speech would probably take place, either in the form of a butting-in interruption or as a simple interruption. This suggests that, while there may be differences in the outcomes of the three types of interruption, common factors may sometimes underlie the initial stages of their production.

Perhaps the most unexpected correlation in Table 11 is the one between simple interruptions and LVR. One might suppose that those speakers who relatively often succeed in taking the floor by interrupting their conversational partners, would tend to give quick verbal responses. However, the correlation coefficient obtained suggests that just the opposite may be true. In conjunction with information of a linguistic nature, this correlation is at least plausible; without such information it would probably have been a puzzling anomaly. This would seem to be an excellent illustration of the way in which the specification of linguistic characteristics can make an important contribution to the understanding of phenomena like speaker-switch nonfluencies, which are often examined only from a sociopsychological point of view.
Until now, this discussion of LVR and speaker-switch nonfluency has concentrated upon the behaviour of the main subject's partners. However, it may also be important to consider the main subject's behaviour and the effects that her LVR may have had upon nonfluent speaker-switching throughout these conversations.

It will be remembered that, according to the results of the sentence completion task, the main subject had a shorter than average LVR. More specifically, only two subjects had LVRs shorter than hers. The data in Table 11 suggest that short LVR is associated with relatively frequent overlapping, while longer LVR is correlated with relatively frequent simple interrupting. If the main subject's tendency to give quick verbal responses remained fairly stable throughout the conversations, one might expect to find that, on average, she brought about a higher percentage of total overlaps than total simple interruptions. This expectation is confirmed since, on average, during the fifteen "Vision" conversations, approximately 54% of the total overlaps and only 41% of the total simple interruptions were brought about by the main subject. (It should be emphasized, however, that this finding does not imply that the main subject's LVR was stable throughout the conversations.)

As the main subject participated in all conversations, this propensity, to bring about more overlaps and fewer simple interruptions than other speakers, may have affected the final totals of these two nonfluency types. That is, it may have inflated the number of overlaps and attenuated the number of simple interruptions in these conversations. This possibility should obviously be borne in mind when extrapolating some of the results of these investigations to conversations in general.
To summarize: speaker-switch nonfluency may carry indexical information about participants in dialogues; in particular, according to a common assumption, all so-called interruptions may be an index of one speaker's ability or willingness to dominate another. However, the data above suggest that it may be appropriate to think of only certain types of speaker-switch nonfluency — overlaps and silent interruptions — in terms of dominance.

Speaker-switch nonfluency may, of course, be an index of personal characteristics much less complex (or, at least apparently much less complex) than dominance. One such characteristic — latency of verbal response — was considered here. Not all speaker-switch nonfluencies appeared to be similarly related to LVR; indeed, only relatively frequent overlapping was significantly (p. <.05) and positively correlated with this variable.

As a general point, the two sets of correlations (between speaker-switch nonfluencies and dominance, and speaker-switch nonfluencies and LVR) appear to support the notion, mentioned previously on several occasions, that there are considerable differences between the four types of nonfluent speaker-switch. These differences will be summarized in the following chapter, which will also include some general conclusions and suggestions for possible areas of future research.
In the introductory chapter, it was noted that comparatively little attention has been paid to both the linguistic form and the interactional significance of two-person nonfluencies in speech. Typically, these so-called "interruptions" have been treated as a unitary phenomenon; they are often defined as "all periods of simultaneous speech", and any details of their behavioural and linguistic form are disregarded. This approach would appear to be questionable, according to the present findings.

In this study, four different kinds of speaker-switch nonfluency were distinguished, each in contrast to the notion of the perfect speaker-switch. Initially, the distinctions were drawn in terms of behavioural differences. Subsequent examination of the linguistic concomitants of the four nonfluencies appeared to vindicate these initial distinctions. Further support for treating speaker-switch nonfluency as a number of different phenomena came from a variety of sources: an assessment was made of the reception (rather than the production) of the various nonfluencies; conversations where the speakers could not see one another were examined in terms of alterations in nonfluent speaker-switching; finally, speaker-switch nonfluencies were correlated with individual differences in dominance and latency of verbal response.
If all the data obtained in this investigation are drawn together, it is possible to set forward tentative descriptions of the four types of speaker-switch nonfluency:

**Overlaps** are the most commonly produced nonfluency. The initiator of simultaneous speech takes the floor, and there is no apparent break in continuity in the first speaker's utterance.

The syntactic points at which simultaneous speech is most often initiated, in the other speaker's utterance, during this nonfluency, suggest that overlappers may be monitoring the speech of their conversational partners very closely and perhaps even predictively. On the basis of this monitoring, overlapping speakers may time the initiation of simultaneous speech with some precision.

It seems probable that participants in dialogues are indeed capable of such precise timing. A number of workers, including Bowman (1966), Jefferson (1973) and Speier (1972), have noted the production of several kinds of collaborative or jointly produced utterances during conversations. In these cases, two speakers make separate, but precisely timed and appropriately synchronized, contributions to one semantic whole; the synchronization may or may not involve simultaneous speech. The examples below are drawn from the conversations recorded for the present investigation:

1. **B.** I love, I love Scotland because -
   **A.** You're born ah here. 
   
   *(coh., yeah)*

2. **A.** It's very verdant and it's got masses of trees and things and -
   **B.** 'LD cuckoos.

3. **A.** .... we'd probably have to be in London anyway from, f-, from *(Point of view, yeah)*
   a job point of view, ....
The last example illustrates a type of jointly produced utterance which is of particular interest in terms of predictive monitoring* by the initiator of simultaneous speech. Since B is producing the same phrase as A, and at almost exactly the same time as A (by the time /v/ is reached, the speech of both participants is precisely synchronized and the word is produced "in tandem"), it seems highly probable that she was anticipating what A was going to say.

This particular type of collaboratively produced speech would seem to indicate that listeners are at least capable of predictive monitoring of their conversational partners' utterances. This does not, of course, imply that such monitoring is a significant feature of overlapping during changes in speaker. However, it is of some interest to note that when speakers say the same thing at exactly or almost exactly the same time, they nearly always do so either at the ends of utterances or at points of possible completion within utterances. To use Sacks et al's (1974) phrase, these instances of jointly produced speech tend to occur just before "transition relevance places". As suggested in Chapter 3 (see pp. 78 and 79), the anticipation of these places probably plays some part in the production of overlapping utterances.

If such anticipation is indeed taking place during overlaps, various types of verbal and visual information are likely to form the bases upon which predictions are made. The lack of any significant change in

* The idea that listeners construct a "running hypothesis" (Kendon, 1970, p. 122) about what their conversational partners are going to say, has been put forward by a number of writers (in addition to Kendon, 1970, see also Bruce, 1957, Jefferson, 1973, and Duncan, 1974.)
the amount of overlapping, under "No Vision" conditions, may give some indication of the relative importance of these two types of information. If visual cues were paramount, one might expect that their removal would result in large alterations in overlapping. However, the fact that the amount of overlapping appeared to be unaffected by lack of visual information, does not necessarily imply that verbal cues are of primary importance during overlapping; as suggested in Chapter 5, the situation may be more complex.

Subjects who produced relatively large percentages of the total overlaps in any conversation tended to have comparatively short latencies of verbal response. If anticipatory responses play some part in overlapping, it is perhaps not surprising that those speakers who overlap their conversational partners quite often, characteristically produce quick verbal responses.

These relatively frequent overlappers also tended to rate themselves as dominant. It is interesting that Willard and Strodtebeck's (1972) short LVR subjects tended to be among the more active participants in small-group discussions. There is the possibility that overlapping is one of the means whereby subjects who wish to participate actively in conversations, can do so. One should perhaps expect such subjects to score quite highly on a self-rating dominance scale.

However, this is not to suggest that all overlaps are dominance attempts. The results of the reception experiment indicated that subjects responded to only about half of the instances of this nonfluency. As suggested in more general terms in Chapter 4, this low response rate would seem to cast some doubt upon the validity of the assumption that all such examples of simultaneous speech involve aggressive
competition for the floor. It may be more appropriate to think of at least some overlaps as, for instance, means whereby a speaker can comment upon a topic, before a change in subject matter results in that comment either being forgotten or becoming irrelevant. In such instances, dominance may be a variable of limited importance.

Whether overlaps are related to dominance or to some less aggressive desire to participate in a conversation, it seems that it may be misleading to characterize all of them in terms of a lack of synchronization between the utterances of individual speakers. First, at a general level, overlapping may aid synchronization by eliminating some periods of potentially awkward silence from conversations. As Hayakawa (1952) emphasizes, "the prevention of silence is in itself an important function of speech" (p. 72), since silence can have a disruptive and disturbing effect upon many interactions. Secondly, some overlaps may involve precisely timed initiations of simultaneous speech, based upon the predictive monitoring of otherspeakers' utterances; it may be quite erroneous to regard such overlaps as "mistakes" in speaker-switching.

In the case of simple interruptions, however, the notion of mistimed or misjudged speaker-switching may not be wholly inappropriate.

Simple interruptions are the second most common type of speaker-switch nonfluency. Like overlaps, they involve periods of simultaneous speech, and the initiator of simultaneous speech takes the floor; unlike overlaps, there is an interruption in the continuity of the first speaker's utterance.

The syntactic points at which simultaneous speech is most often
initiated, in the other speaker's utterance, during this nonfluency, suggest that the interrupters are responding to, rather than anticipating, possible completion points within the utterances of their conversational partners. In this respect, it is interesting to note that, although the correlation is not statistically significant, speakers who brought about comparatively large percentages of the total simple interruptions in any conversation, tended to have long LVRs.

It seems that, in many cases, the interrupter is attempting to take the floor after a possible completion place, only to find that the other speaker had not, in fact, finished; simultaneous speech and an interruption then occur. As mentioned previously, the fragmentary and loosely coordinated nature of spontaneous, informal speech, and the variability in the size of speaking-turns in casual conversations, make such mistimings likely. The results in Chapter 6 suggest that these mistimings, in the form of simple interruptions, may be unrelated to any attempt to dominate. However, if this speaker-switch nonfluency is indeed the result of mistiming, either deliberate or unintentional, it must be emphasized that all mistimings at speaker-switches are the product of the behaviour of two speakers.

Under "No Vision" conditions there is a small, statistically non-significant (p. > .01 or .05) increase in the percentage of speaker-switches which involve simple interruptions. During face to face conversations, visual cues may minimize confusion over speaking-turns at possible completion points; without these cues such confusion may increase. However, that increase is probably limited by the adaptations in behaviour which take place when conversationalists cannot see one another.
Like the initiation of simultaneous speech, the break in continuity during many simple interruptions appears to be related to possible completion points. It seems that, from the interruptee's point of view, such places may be liable to disruption because they involve considerable linguistic and cognitive planning. In all cases, however, the interrupter's behaviour is probably an important factor in determining the syntactic points at which the interruptee will break off.

Although these breaks in continuity may contribute to the impression that there is a lack of synchrony during simple interruptions, it should be remembered that, without the breaks, that lack of synchrony would probably be very much greater. As Sacks et al (1974) point out, the interruption of talk before a possible completion point is one of the "repair mechanisms" for handling errors and violations in turn-taking. From the evidence regarding the initiation of simultaneous speech and the breaks in verbal continuity, it would seem that the reparation takes place in an organized manner during this nonfluency. Hence, if simple interruptions are to be characterized as "mistakes" in speaker-switching, it is important to remember that they are systematic mistakes with several regular features.

Butting-in interruptions might also be described as organized mistakes. This nonfluency type is less common than either overlaps or simple interruptions. Simultaneous speech is present; in this case, it is the initiator of simultaneous speech who breaks off in mid-utterance.

The syntactic points at which simultaneous speech is most often initiated, in the other speaker's utterance, during this particular nonfluency, suggest that, once again, the interrupter's attention is directed towards possible completion points. Sometimes simultaneous
speech is initiated just before, and sometimes just after, these transition relevance places. The combination of these two differently timed responses in a single category - "butting-in interruptions" - may partly account for the lack of any strong relationship between frequent production of this nonfluency and particularly long or particularly short LVR.

Despite the fact that butting-in interrupters often use some of the same points, as overlappers and simple interrupters, at which to initiate simultaneous speech, their attempts to take the floor are apparently unsuccessful. This suggests that the presence or absence of transition relevance places and certain syntactic structures, in the other speaker's utterance, are not the only variables affecting the success of such attempts. Other factors, probably of a broader psychological nature, may also have to be considered. However, the evidence presented in Chapter 6 does not lend any strong support to the notion that one of these factors may be dominance.

Under "No Vision" conditions there is a statistically nonsignificant \( p > .01 \) or \( .05 \) increase in the percentage of utterances containing a butting-in interruption. This increase may take place for reasons similar to those mentioned above, in connection with simple interruptions.

Butting-in interruptions are the speaker-switch nonfluencies most frequently responded to by non-participating listeners. It seems likely that the particularly abrupt cessation in speech which typically accompanies this nonfluency type, may, at least partly, account for this observation. However, the fact that butting-in interrupters attempt to take the floor, and then almost immediately cease talking, may, in
itself, draw attention to this type of speaker-switch nonfluency.

The close temporal proximity between the beginning and the end of butting-in utterances may also be an important factor in any consideration of the syntactic points at which breaks in verbal continuity take place, during instances of this nonfluency. Verbs, and their modals and auxiliaries, may be particularly frequent final words of butting-in utterances, because they normally occupy a clausal position which coincides with the ends of interrupted utterances of this length. However, the presence of these types of words at the end of a substantial proportion of simple interrupted utterances (which tend to be much more variable in length), suggests that the situation may be more complex than this. It is possible that verbs are often final words of both butting-in and simple interrupted utterances because they precede a syntactic unit which involves considerable linguistic and cognitive planning.

Altogether, butting-in interruptions seem to be misjudged attempts to take the floor. However, these "mistakes" in speaker-switching do not appear to take place in a haphazard fashion, and they are rectified quickly before they lead to any serious disruption in the give and take of dialogue.

Despite the fact that, like simple and butting-in interruptions, silent interruptions involve a break in verbal continuity, the notion of mistimed or misjudged speaker-switching may not be entirely appropriate in their case.

Silent interruptions are the least common of all the nonfluency types. As mentioned above, the first speakers' utterances are incomplete; in
addition, and unlike any of the other nonfluency types, no simultaneous speech is present.

This lack of simultaneous speech may account for the absence of response, from some non-participating listeners, to any instances of this particular speaker-switch nonfluency. It seems probable that one everyday definition of the term interruption is "a successful or attempted speaker-switch involving simultaneous speech". Silent interruptions do not, of course, correspond to this definition, and for this reason they may often fail to evoke a response.

The final words of silent interrupted utterances are most often conjunctions or fillers. Both these types of words tend to occur quite frequently at clause boundaries. From the speaker's point of view the period just before the opening of a clause may be one which is particularly prone to disruption in speech production. As far as the listener is concerned, clause boundaries may be points of possible completion and therefore "transition relevance places"; in addition, fillers may indicate that a speaker has what might be described as an insecure hold upon the conversational floor. With these considerations in mind, it is perhaps not surprising that a number of speaker-switches take place after the production of fillers and conjunctions. However, as an additional point, it should be remembered that some silent interruptions end with stereotyped conjunction-filler combinations and filler phrases, which Duncan (1972) claims are turn-yielding signals. If this is the case, then it may be more appropriate to think of some of these speaker-switches as the acceptances of invitations, rather than the grasping of possible opportunities.

Subjects who produced a relatively large proportion of silent
interruptions in any conversation were usually ranked low in terms of dominance, by the main subject. In certain circumstances, conjunctions and fillers in general may be produced and interpreted as turn-yielding signals, and silent interruptions may be negatively correlated with perceived dominance for this or a related reason.

The possible turn-yielding properties of some of the final words of these incomplete utterances may also account for the fact that silent interruptions were the nonfluency type most likely to increase in the "No Vision" condition. In such circumstances visual turn-yielding signals are ineffectual, and there may be a compensatory increase in the frequency with which vocal signals are employed. The production and reception of some of these vocal signals may take the form of silent interruptions.

Finally, the results reported in the second part of Chapter 6 suggest that LVR and silent interruptions are not closely related. If a substantial proportion of silent interruptions can be appropriately described in terms of the acceptances of invitations, then it is perhaps not unexpected to find that LVR is a factor of limited relevance. Particularly long and particularly short LVRs may play little part in the production of responses to explicit turn-yielding signals, especially as those responses do not seem either to anticipate the signals, or to follow them after prolonged pauses.

It was suggested above that it may be erroneous to regard all overlaps as "mistakes" in speaker-switching. A similar suggestion might be made in connection with silent interruptions. Although, in their case, the first utterances are incomplete, this incompleteness may encourage, rather than disrupt, synchrony between the utterances of
individual speakers. Indeed both overlaps and silent interruptions may make positive contributions to the flow of conversation between speakers. Perhaps the term "speaker-switch nonfluency" is best reserved for simple and butting-in interruptions, since only in their case is there evidence to suggest that the synchrony of dialogue has been temporarily disrupted. If overlaps and the three types of interruption are all to be regarded as instances of nonfluency, it must be remembered first, that they are so, only in contrast to perfect speaker-switches, and secondly, that nonfluency can have positive as well as negative features.

Four types of speaker-switch nonfluency were distinguished in this investigation. It is hoped that this classification of "interruptions" has led, and will lead, to more productive research and analysis than might be possible with previous, general descriptions of the phenomena. However, it should be emphasized that this is a preliminary system of classification, and one which may need some considerable modification. Data from other sources may indicate that both the number and nature of the categories should be revised. For instance, a better understanding of the nature of butting-in interruptions may come from consideration of the content, rather than the form, of language, at these particular points of speaker-switch nonfluency. Some speakers may be unwilling to give up the floor when their conversational partners butt in, because they wish to finish what they are saying. In such cases, the content of an utterance (what is being said) may be more important than its form (how it is being said), although content and form are probably related. Similarly, the exact nature of overlaps may become clearer if certain aspects of intonation are examined in
relation to this type of speaker-switch nonfluency. It was suggested above that speakers may sometimes monitor the utterances of their conversational partners predictively, and then overlap those utterances on the basis of such monitoring; perhaps some particularly prominent features of intonation, such as the tonic syllables in tone-groups (see Laver, 1970; p. 68), are of major significance in assisting overlappers to anticipate either possible completion points within other speakers' utterances, or the ends of those utterances.

Given the preliminary state of the present classificatory system, it may be most suitable to put forward the conclusions of this study in terms of nonfluent speaker-switching in general, and to refrain from mentioning any particular nonfluency types. The present investigation was, of course, based upon a limited sample of conversation. However, it is hoped that, expressed in these very general terms, the conclusions will be of some relevance to investigations of other kinds of spontaneous, informal conversation.

First, it appears that speaker-switches are frequently other than perfect. (A perfect speaker-switch takes place when a change in speaker is effected in such a way that (a) there is no simultaneous speech and (b) the first speaker's utterance appears to be complete in every way.)

Secondly, it seems probable that nonfluent speaker-switches are normal and acceptable features of spontaneous, informal conversation. Even when dialogue participants were given explicit instructions not to interrupt each other and not to speak at the same time as each other, they continued to produce speaker-switches which were other than perfect; moreover, there is some evidence to suggest that they were unaware of at least some of these remaining instances of nonfluency.
Thirdly, there appears to be a number of different types of nonfluent speaker-switch; the distinctions were based upon both linguistic and psychological data, which are described and discussed at various points in this thesis.

Finally, none of the types of nonfluent speaker-switch takes place in a haphazard way; in general, nonfluent speaker-switching appears to be a highly organized phenomenon and, as such, it may be a valuable source of information about various aspects of human behaviour.

In order to illustrate the way in which nonfluent speaker-switching may elucidate the nature of some types of behaviour, the organization of speech production and the ontogenetic development of certain communicative skills will both be considered briefly, in connection with nonfluent changes in speaker.

First, nonfluent speaker-switches may be a supply of interesting data about the size and nature of hypothetical units of speech production. A number of writers have proposed that series of complex muscular movements are prepared and then "'triggered off' as a whole", to use Craik's (1947) expression; this concept has been applied specifically to the production of speech by Lashley (1951) and Laver (1970). In the context of this theoretical concept, the two or three syllables of simultaneous speech, which precede the break in verbal continuity in many simple and butting-in interruptions, are of some interest; if groups of syllables or words are indeed prepared in advance and then "triggered off" as units, one might perhaps expect to find that, at some points, the flow of speech did not cease immediately, after being intercepted by another speaker's utterance. (This is not to suggest that these periods of simultaneous speech are related only to certain
feature of speech production.) Also of interest is the fact that when the final words of interrupted, rather than overlapped, utterances are compared with a sample of continuous speech, statistically significant (p. < .001) differences are obtained (see Chapter 3, p. 87). These differences suggest that speakers are more likely to break off at some points in an utterance than at others.* This evidence might also be regarded as support for the notion of a pre-planned unit of speech production.

Secondly, nonfluent speaker-switches may be a source of interesting information about the acquisition, by children, of certain communicative skills. Until recently, attention has been focused almost exclusively upon phonological, syntactic and semantic development, and comparatively few studies have dealt with the development of these skills which are

* The interruptibility of speech has been experimentally examined by Ladefoged et al (1970). There are, however, a number of features of the design of their experiment which make it difficult to interpret the results in terms of speech production under more natural conditions. The present investigator attempted to conduct a somewhat similar experiment, the design of which more closely approximated a conversational setting. Unfortunately, this arrangement presented some practical difficulties. There was also the problem that, although the situation was intended to resemble a dialogue, the experimental constraints may have made it implausible as a dialogue to the subjects. (For a discussion of this general problem, see Krause, 1970). If this was the case, then the results of the experiment were probably of limited generality.
involved in what Laver and Hutchison (1972) have called "interaction-management" (by which they mean the organization of the temporal progress of conversations, by the participants in those conversations).

Papers by de Long (1974) and Keenan (1974) have rectified this imbalance to some extent, since they both consider aspects of turn-taking in dialogues, in which the speakers are pre-school children. The subject of nonfluent speaker-switching is not discussed in detail in either paper. However, a remark by de Long is of some interest in this context; he asserts that children seldom interrupt one another. If, as the results of this investigation suggest, nonfluent speaker-switches take place systematically and involve certain skills, then their infrequent occurrence in children's conversations may indicate a lack, rather than a presence, of proficiency in turn-taking. The development of the various types of nonfluency may therefore be of some interest in any investigation of the ontogenetic development of verbal communication in general, and interaction-management in particular.

Finally, speaker-switch nonfluencies are one source of information about a very common behaviour - spontaneous conversation - that is all too often ignored by psychologists and linguists.
APPENDIX

CONTENTS

1.a Correlations between main subject's and partners' speaker-switch nonfluencies

1.b Details of percentages of nonfluent speaker-switches

2. Syntactic function of final words of completed utterances

3. Syntactic function of words in a sample of continuous speech

4. Sentence stubbs used in Latency of Verbal Response task

Definitions and examples of the four speaker-switch nonfluency types (on removable cards, inside back cover of thesis)
Correlations between main subject's and partners' speaker-switch nonfluencies

(See p. 23)

By employing one main subject throughout the conversations discussed in this thesis, there is the possibility that the scope of the study was unduly limited. However, variations in the main subject's nonfluent speaker-switching do not appear to have been matched by her partners, to any significant extent. The percentages of nonfluent speaker-switches - of the four different types - were ranked from 1 to 15, from the highest to the lowest, for both the main subject (A) and her partners (B), in the fifteen "Vision" conversations. These ranks were then correlated (Spearman's rank correlational method) and the following results were obtained:

\[
\begin{align*}
\text{% s-switches = 0L by A/ditto by B} &= .0107 \\
\text{% s-switches = 1 by A/ditto by B} &= .3536 \\
\text{% utterances = 0L by A/ditto by B} &= .1893 \\
\text{% s-switches = SI by A/ditto by B} &= .1071 \\
\end{align*}
\]

The raw data upon which these calculations are based appear on pp. 193 - 196. In no case is \( p \) statistically significant \((p \leq .01 \text{ or } .05)\). These results suggest that the main subject had a restricted influence upon nonfluent speaker-switching in these conversations, and that therefore the generality of the study is unlikely to have been seriously impaired.
DETAILS OF PERCENTAGES OF SPEAKER-SWITCH NONFLUENCIES

(Figures in brackets refer to the results obtained under "No Vision" conditions, see Chapter 5)

OVERLAPS

<table>
<thead>
<tr>
<th>% S-S* involving OLs</th>
<th>% S-S = Main Subject Overlapping</th>
<th>% S-S = Other Overlapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.97 (22.34)</td>
<td>9.89</td>
<td>13.07</td>
</tr>
<tr>
<td>28.48</td>
<td>14.56</td>
<td>13.93</td>
</tr>
<tr>
<td>24 (26.07)</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>17.53</td>
<td>12.34</td>
<td>5.2</td>
</tr>
<tr>
<td>36.71 (34.71)</td>
<td>23.94</td>
<td>12.77</td>
</tr>
<tr>
<td>31.98 (29.1 )</td>
<td>18.78</td>
<td>13.2</td>
</tr>
<tr>
<td>22.76 (23.28)</td>
<td>7.09</td>
<td>15.67</td>
</tr>
<tr>
<td>20.32 (19.64)</td>
<td>4.28</td>
<td>16.04</td>
</tr>
<tr>
<td>14.22 (18.61)</td>
<td>5.17</td>
<td>9.05</td>
</tr>
<tr>
<td>19.3</td>
<td>9.65</td>
<td>9.65</td>
</tr>
<tr>
<td>16.89</td>
<td>5.2</td>
<td>11.69</td>
</tr>
<tr>
<td>20</td>
<td>6.5</td>
<td>13.5</td>
</tr>
<tr>
<td>14.4</td>
<td>6.44</td>
<td>7.96</td>
</tr>
<tr>
<td>12.32</td>
<td>7.39</td>
<td>4.93</td>
</tr>
<tr>
<td>21.64</td>
<td>8.21</td>
<td>13.43</td>
</tr>
</tbody>
</table>

Means:
21.56 (24.85) 10.09 11.47

* S-S = speaker-switch
<table>
<thead>
<tr>
<th>% S-S involving Is Main Subject Interrupting</th>
<th>% S-S = Other Interrupting</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.54 (14.09)</td>
<td>3.18</td>
</tr>
<tr>
<td>13.93</td>
<td>3.9</td>
</tr>
<tr>
<td>16.45 (23.25)</td>
<td>11.56</td>
</tr>
<tr>
<td>5.20</td>
<td>1.95</td>
</tr>
<tr>
<td>14.37 (14.70)</td>
<td>7.45</td>
</tr>
<tr>
<td>16.27 (8.99)</td>
<td>8.12</td>
</tr>
<tr>
<td>16.92 (13.36)</td>
<td>5.22</td>
</tr>
<tr>
<td>7.49 (16.52)</td>
<td>4.28</td>
</tr>
<tr>
<td>6.9 (6.93)</td>
<td>0.86</td>
</tr>
<tr>
<td>8.49</td>
<td>2.7</td>
</tr>
<tr>
<td>6.06</td>
<td>2.6</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>8.72</td>
<td>4.17</td>
</tr>
<tr>
<td>8.38</td>
<td>2.96</td>
</tr>
<tr>
<td>10.08</td>
<td>4.48</td>
</tr>
<tr>
<td>Means:</td>
<td>10.32 (13.99)</td>
</tr>
</tbody>
</table>
## BUTTING-IN INTERRUPTIONS

<table>
<thead>
<tr>
<th>% Utterances with BII</th>
<th>% Utterances = BII by Main Subject</th>
<th>% Utterances = BII by Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.58 (5.5)</td>
<td>2.47</td>
<td>2.11</td>
</tr>
<tr>
<td>7.55</td>
<td>4.4</td>
<td>3.15</td>
</tr>
<tr>
<td>3.98 (6.23)</td>
<td>1.77</td>
<td>2.21</td>
</tr>
<tr>
<td>5.16</td>
<td>1.29</td>
<td>3.87</td>
</tr>
<tr>
<td>12.17 (18.82)</td>
<td>8.99</td>
<td>3.19</td>
</tr>
<tr>
<td>14.14 (10.56)</td>
<td>10.1</td>
<td>4.04</td>
</tr>
<tr>
<td>5.35 (5.6)</td>
<td>1.86</td>
<td>1.49</td>
</tr>
<tr>
<td>6.42 (3.13)</td>
<td>4.28</td>
<td>2.14</td>
</tr>
<tr>
<td>2.15 (8.91)</td>
<td>1.72</td>
<td>0.43</td>
</tr>
<tr>
<td>5.0</td>
<td>3.46</td>
<td>1.54</td>
</tr>
<tr>
<td>7.33</td>
<td>4.31</td>
<td>3.02</td>
</tr>
<tr>
<td>5.97</td>
<td>2.49</td>
<td>3.48</td>
</tr>
<tr>
<td>6.03</td>
<td>2.26</td>
<td>3.77</td>
</tr>
<tr>
<td>11.27</td>
<td>2.45</td>
<td>8.82</td>
</tr>
<tr>
<td>10.78</td>
<td>2.97</td>
<td>7.81</td>
</tr>
</tbody>
</table>

Means:
- 7.06 (8.4)          
- 3.66                           
- 3.4
## SILENT INTERRUPTIONS

<table>
<thead>
<tr>
<th>% S-S * involving SIs</th>
<th>% S-S =* SIs by Main Subject</th>
<th>% S-S =* SIs by Other</th>
<th>Conversation Number</th>
<th>Number of Speaker-Switches</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.89 ( 5.16)</td>
<td>2.63</td>
<td>1.06</td>
<td>1</td>
<td>283 (291)</td>
</tr>
<tr>
<td>4.44</td>
<td>3.17</td>
<td>1.27</td>
<td>2</td>
<td>158</td>
</tr>
<tr>
<td>5.78 ( 9.73)</td>
<td>2.67</td>
<td>3.11</td>
<td>3</td>
<td>225 (257)</td>
</tr>
<tr>
<td>14.29</td>
<td>3.25</td>
<td>11.04</td>
<td>4</td>
<td>154</td>
</tr>
<tr>
<td>3.72 ( 1.77)</td>
<td>3.19</td>
<td>0.53</td>
<td>5</td>
<td>188 (170)</td>
</tr>
<tr>
<td>6.1 (12.69)</td>
<td>3.05</td>
<td>3.05</td>
<td>6</td>
<td>197 (189)</td>
</tr>
<tr>
<td>5.22 ( 9.40)</td>
<td>1.49</td>
<td>3.73</td>
<td>7</td>
<td>268 (232)</td>
</tr>
<tr>
<td>4.27 ( 3.57)</td>
<td>1.6</td>
<td>2.67</td>
<td>8</td>
<td>187 (224)</td>
</tr>
<tr>
<td>3.45 ( 6.44)</td>
<td>2.16</td>
<td>1.29</td>
<td>9</td>
<td>232 (202)</td>
</tr>
<tr>
<td>2.7</td>
<td>1.54</td>
<td>1.16</td>
<td>10</td>
<td>259</td>
</tr>
<tr>
<td>3.9</td>
<td>2.6</td>
<td>1.3</td>
<td>11</td>
<td>231</td>
</tr>
<tr>
<td>8.5</td>
<td>4.5</td>
<td>4</td>
<td>12</td>
<td>200</td>
</tr>
<tr>
<td>6.82</td>
<td>2.27</td>
<td>4.55</td>
<td>13</td>
<td>264</td>
</tr>
<tr>
<td>4.93</td>
<td>3.94</td>
<td>0.99</td>
<td>14</td>
<td>203</td>
</tr>
<tr>
<td>4.85</td>
<td>2.24</td>
<td>2.61</td>
<td>15</td>
<td>268</td>
</tr>
<tr>
<td>Mean:</td>
<td>5.52 ( 6.98)</td>
<td>2.7</td>
<td>2.82</td>
<td>221.13 (223.57)</td>
</tr>
</tbody>
</table>

* Incomplete utterance produced by main subject and other
### SYNTACTIC FUNCTION OF FINAL WORDS
**OF COMPLETED UTTERANCES**

(N = 360)

<table>
<thead>
<tr>
<th>Class 1(a) (&quot;nouns&quot;)</th>
<th>45.55%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2 (&quot;verbs&quot;)</td>
<td>13.88</td>
</tr>
<tr>
<td>Class 3 (&quot;adj.&quot;&quot;)</td>
<td>12.22</td>
</tr>
<tr>
<td>Class 4 (&quot;adv.&quot;&quot;)</td>
<td>11.94</td>
</tr>
<tr>
<td>Class 1(b) (&quot;s.p.p.&quot;)</td>
<td>2.5</td>
</tr>
<tr>
<td>Group A (&quot;det.&quot;)</td>
<td></td>
</tr>
<tr>
<td>Group B (&quot;mod. &amp; aux.&quot;)</td>
<td>1.11</td>
</tr>
<tr>
<td>Groups E &amp; J (&quot;conj. &amp; incl.&quot;)</td>
<td>0.28</td>
</tr>
<tr>
<td>Group F (&quot;prep.&quot;)</td>
<td>3.33</td>
</tr>
<tr>
<td>Group I (when, why etc.)</td>
<td>0.26</td>
</tr>
<tr>
<td>Groups K &amp; L (&quot;utt. openers&quot;)</td>
<td>3.06</td>
</tr>
<tr>
<td>Fillers</td>
<td>5.83</td>
</tr>
</tbody>
</table>

Definitions of the syntactic categories will be found on pp. 69-71
SYNTACTIC FUNCTION OF WORDS
IN A SAMPLE OF CONTINUOUS SPEECH
(N = 1002)

Class 1(a) ("nouns") ...... 20.36%
Class 2 ("verbs") ...... 16.77
Class 3 ("adj.") ...... 8.78
Class 4 ("adv.") ...... 4.59
Class 1(b) ("s.p.p.") ...... 9.38
Group A ("det.") ...... 6.29
Group B ("mod. & aux.") ...... 5.99
Groups E & J ("conj. & incl.") ...... 8.88
Group F ("prep.") ...... 8.68
Group I (when, why etc.) ...... 0.7
Groups K & L ("utt. openers") ...... 2.69
Fillers ...... 6.89

Definitions of the syntactic categories will be found on pp. 69-71
Sentence stubbs used in Latency of Verbal Response task

1. Being with other people -
2. The thing I like about university -
3. At times she worried about -
4. Raising a family -
5. My favourite pastime -
6. Sometimes she wished that -
7. Most children enjoy -
8. When he hit her -
9. My father -
10. The house was -
11. Her conscience bothers her if -
12. His political views are -
13. She didn't like the painting because -
14. When I go to the theatre -
15. Shopping is -
16. He won a prize for -
17. My new shoes -
18. Sometimes I wish -
19. The family doctor -
20. I feel sorry for -

(Sentence stubbs number 1, 3, 4, 6 and 9 are drawn from Loevinger and Wessler (1970))
BIBLIOGRAPHY


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DEFINITIONS AND EXAMPLES OF THE FOUR NONFLUENCY TYPES

1. **OVERLAP** : "OL"

Simultaneous speech is present. The initiator of simultaneous speech takes the floor. There is no apparent break in continuity in the first speaker's utterance.

**Example**

B. But anybody who's a bit lazy I suppose, is it, that he used to **picks on**?

A. A bit weak I'd say.

2. **SIMPLE INTERRUPTION** : "I"

Simultaneous speech is present. The initiator of simultaneous speech takes the floor. There is an interruption in the continuity of the first speaker's utterance so that that utterance is semantically, syntactically, intonationally, and sometimes phonologically, incomplete.

**Example**

B. ... other people had gone to see their directors of studies (uhm) later than I had (uhm) and got in because they'd just, he'd, they had said that the -

A. 'Phon-, he'd 'phoned up at the time probably.
DEFINITIONS AND EXAMPLES OF THE FOUR NONFLUENCY TYPES (continued)

3. **BUTTING-IN INTERRUPTION : "BII"**
   
   Simultaneous speech is present. The initiator of simultaneous speech breaks off in mid-utterance.

   **Example**
   
   A. He dislikes anybody who's *, you've got to put on the appearance of being quite a resilient, thick-skinned person.

   (* = nonlinguistic, vocal sound)

4. **SILENT INTERRUPTION : "SI"**

   Simultaneous speech is not present. The first speaker's utterance is incomplete.

   **Example**

   A. It wasn't in ours actually it was a bloke, (yes) and um—
   B. But anybody who's a bit lazy I suppose, ....