Code-switching amongst bilingual (Punjabi-English) nursery school children: co-operation and conflict in relation to familiarity

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ABSTRACT

The study examines whether code-switching amongst bilingual children aged 4+ years has social significance. Twelve subjects were selected and recorded, keeping the setting and topic constant, each with three different interlocutors, (a) a good friend (Major contact) (b) a friend of intermediate acquaintance (minor contact) (c) a comparative stranger (null contact), making 36 dyads.

Switching occurred more markedly between minor contacts, whereas good friends and comparative strangers preferred the use of one language. The social significance of the code-switching was interpreted using concepts from mathematical game theory and the 'psychological states' of co-operation and conflict from interpersonal behaviour research. Analogies were drawn between the conflict which choice of code demands of young bilinguals and the 'evolutionarily stable strategy' combining co-operation with limited conflict in intraspecies encounters.

A conversation-acts and sequencing analysis showed that good friends were significantly more 'sociocentric' than either minor or null contacts. An intermediate state of familiarity seems to be the 'watershed' where conversational conflict or defection is displayed and then resolved in increasing manifestations of co-operation as young children interact more. The conflict is expressed in the 'game' played out between the bilinguals' two languages in a conversation. The content of some utterances may display conflict, particularly in monolingual stretches. The co-operation takes several forms, (a) a trend towards language homogeneity as a conversation progresses, (b) moving from minor to Major levels of familiarity, conversational turns containing code or content defections are significantly reduced ($p < .01$), (c) as familiarity increases more conversational turns are linked into sequences, ($p < .01$ between Major and minor contacts) (d) as familiarity increases conversational cohesiveness improves in that pausing is progressively reduced ($p < .01$ between Major and null contacts).

Groups-of-four were no less skillful than dyads, neither in their collective movement towards one language use for each conversation, nor in their ability to form sequences of turns.

CHAPTER 1

INTRODUCTION

The thesis begins by outlining the Theoretical orientation of the study in Chapter two. The selection of material to be discussed in Chapter three, which has the general title of Child language, is explained and the background to the experimental design chapter, which comes somewhat later at the end of the introductory chapters, is given. The primary concern was to provide a framework in which code-switching/mixing which had social significance could be experimentally examined. A conversation-acts analysis (C-acts, Dore et al. 1978) which later became a substantial part of the analysis of results and is introduced in Chapter three, Part three, is not mentioned in the theoretical orientation since it was not a motivation for the experimental design. Rather, it was applied in response to hypotheses formulated after the data had been collected.

The first point covered in the theoretical orientation chapter is an extension of the idea of a *sociolinguistic variable* to a conceptually different position from the regular usage of the term and the emphasis on a syntagmatic rather than a paradigmatic analysis. The social meaning of code-switching is discussed, that of adults only briefly as it seems likely that child code-switching may differ from the adult pattern. The variables frequently mentioned as affecting choice of code are setting, topic and interlocutor. This study is set up as an experiment in that attempts are made to control all the variables except for one, the interlocutor. Interlocutors systematically chosen to represent three levels of familiarity constitute the independent variable. The notion of a *speech community* is taken to its lowest conceptualization as when two children meet and interact. Sociometric techniques are discussed as a methodology for finding interlocutors who vary in their degree of familiarity with each other. A note on combining experimental and ethnographic techniques is included to suggest how experiments can be done in contrived but seemingly natural conditions. Finally the motivation

for including a study of the bilingual speech of groups-of-four is discussed.

Chapter three, Child language, is divided into three parts. The first part, written in the main before the research was carried out, is a fairly lengthy discussion of the background literature on Early child bilingualism. An attempt is made to establish the youngest age at which children could be chosen to take part in the research project. The question posed was: 'At what age would bilingual children be able to discriminate two lexicons and two sets of syntactic rules and have the possibility of expressing themselves appropriately in either language given that circumstances placed constraints on the choice of code?' In order to answer this question studies are reviewed which look at independent development or early mixing of the bilingual's two languages, both of the lexicon and of the two sets of syntactic rules, together with the emergence of translation ability. Theoretically the children selected for the study had to be sufficiently advanced on the path to bilingualism that a choice was possible for them to express any message in either of the languages. It was concluded that bilingual children of nursery school age, about four years, should be able to fulfil these conditions.

It is likely that the incidence of code-switching or code-mixing in a community may obscure the fact that the bilingual's two languages can be used without one language interfering with the other (I am concerned with levels above the phonological level) and so a discussion of some studies relating to code-switching which arises from the 'social context' aside from the cognitive problem of differentiating the languages, is presented in Chapter three, Part two, under the heading Sociolinguistic switching.

The third part of Chapter three, Conversational competence of nursery school children, briefly presents a number of perspectives on how competent children of about four years old are likely to be in holding a conversation if they are presented with a novel situation requiring joint attention. Of particular interest is whether their speech is expected to be *sociocentric* or *egocentric*, that is to what extent is it linked-in to the speech of another in a previous turn or

merely a monologue accompanying the activity? For the purpose of examining turns forming part of a sequence and also to enable a qualitative comparison of conversations, a conversation-acts analysis is proposed.

The two chapters following the one on child language are both concerned with co-operation and conflict, from the psychological perspective in Chapter four and then using concepts from mathematical game theory and evolutionary biology in Chapter five. Although these chapters appear before the results section, they were researched and written after the data had been analysed and patterns had begun to emerge, in an attempt to give a framework within which the results could be understood. Chapter four, Co-operate or conflict, concepts from interpersonal behaviour research, is a departure into the psychological literature of personality theory, in particular, circumplex models of interpersonal behaviour. A suggestion is made, for which support can be found in recent work on circumplex arrangements of behavioural traits and states, that instead of viewing behavioural states as plotted around the two orthogonal axes of Dominance-Submission and Love-Hate a single axis of Co-operation-Conflict is a useful conceptualization, where *Co-operation* is a blend of Love and Submission and *Conflict* is a blend of Dominance and Hate.

Chapter five, Co-operate or conflict, mathematical game theory as a model, in the first part, proposes that the two *languages* used by the bilingual can be viewed as *players* in a game, to which mathematical game theory can be applied, resulting in a number of predictions about the incidence of code-switching. Where the observed code-switching fails to match the predictions, explanations can be provided in terms of the 'psychological states' of co-operation or conflict, which were the subject of Chapter four. A further analysis, which can be applied to conversational turns, is suggested where bilingual *language users* are considered as *players* in a game and turns can be marked as *co-operation*, where no code switching is involved, or *defection*, where there is a code-switch at the beginning or in the middle of a turn. The notion of a *dynamic collective rationality* (Rapoport 1966) predicts that conversational behaviour

will become increasingly co-operative, which in terms of child language means a progression towards language homogeneity as individuals interact more (i.e. become friends). A different interpretation of dynamic collective rationality leads to the conclusion that, amongst adults, co-operation need not be equated with language homogeneity.

Another application of mathematical game theory in evolutionary biology, the subject of the second part of chapter five, is concerned with intraspecies co-operation and restraint in conflict. Some recent animal behaviour research considers the evolution of co-operation within species, when the choice is to co-operate with an interactant or to defect. A play-off between various types of strategists using computer simulations (Axelrod & Hamilton 1981) has found that an *evolutionarily stable strategy* is TIT-FOR-TAT (TFT), which co-operates on the first move then does whatever the opponent does, always being prepared to return to co-operation. It is possible that TFT could be transferred to the bilingual situation and provide a model for code-switching which ultimately leads to increasing proportions of co-operation as individuals repeatedly interact. Asymmetric contests from animal behaviour which could provide a model for the polarization towards single language dominance are also discussed, in section 5;3.

Experimental design and method is the subject of Chapter six. The investigation was conducted in two parts. The first part dealt with the bilingual speech of dyads. It was carried out in two Leeds nursery schools (Brudenell and Dewsbury Rd. schools). The second part, for groups-of-four, was done in Southall, London borough of Ealing (Glebe, Havelock and Wolfields schools). The areas differ in that Punjabi/English bilinguals in Southall find considerably more support for their Punjabi mother tongue in the local community, where Punjabi speakers are in the majority. In the first part, conversations of dyads, 12 nursery school children who were bilingual in Punjabi and English were selected as experimental subjects. Using sociometric techniques three contacts were found for each subject. The three contacts differed in their degree of familiarity with the subject. A Major (M), a minor (m) and a null (n) contact were found

for each subject. The twelve subjects were recorded in conversation with their M, m, and n contacts, in randomized order, making a total of 36 dyadic conversations of about 5 minutes each. The children were left alone in a room and they were given the task of feeding one of a number of pet animals or birds. In the second part of the study, eight groups-of-four children composed of mixed Major and minor contacts were recorded in situations similar to those for the dyads, i.e. the four alone in a room with the task of feeding two caged birds, but in this case the children were videoed as well as tape recorded. The groups-of-four part of the study was designed to test a notion that four children would have more difficulty than two in resolving the dilemma of each having the possibility of speaking two languages.

The conversations, a total of 251 minutes recording time in all (200 minutes for the 36 dyads and 51 minutes for the 8 groups-of-four) were transcribed using the conventions set out in the Appendix (section 10;1).

A conversation-acts coding was used to classify utterances. The transcription forms sections 10;2;1 and 10;2;2 of the appendix.

The Results, Chapter seven, consists of three main parts, with subdivisions. Differences between the three sets of familiarity levels for dyads, Major contacts, minor contacts and null contacts were initially of most interest. The data from the groups-of-four has not been subjected to such extensive analysis as the dyadic data. The first analysis (section 7;1) is based on a lexical count of types and tokens and measures of the amounts of pausing and laughter in each conversation. Developing from this section are two techniques for plotting the conversations on graphs, conversation profiles, section 7;1;3, and conversation mapping, section 7;1;4. The second part of the results chapter, section 7;2, is an analysis of the dyadic conversations based on co-operation and defection following a mathematical game theory model. Two types of defection are considered, those involving code-switches and those where the content of the message displays defection. Finally, in section 7;3, a conversation-acts coding, which accompanies transcription in the appendix, enabled the application of a sequencing analysis. C-acts

were totalled for each conversation in order to compare the means for the sets, Majors, minors and nulls, and to compare dyads with groups-of-four.

The main findings, reported in the first part of the results, are that code-switching/mixing is more prevalent for minor contacts, i.e. at an intermediate state of friendship, than for either Major or null contacts. The conversation profiles (section 7;1;3 and Graphs 7;1 to 7;23) show that when conversationalists employ both codes, the switching behaviour of one participant tends to follow a similar pattern to that of the partner, with some exceptions which can be explained in terms of the special characteristics of the interactions. Conversation mapping graphs (section 7;1;4 and Graphs 10;1 to 10;32) were most useful as working representations on which to mark conversational code-defections. Some features of the conversations which this study does not examine in depth, such as turn-taking and the distribution of pauses and laughter, are highlighted in the conversation mapping.

The analysis of turns for co-operation and defection (section 7;2) showed overwhelmingly more co-operative moves than defections at all levels of familiarity. But there were more code-defections for minor contacts than either Major or null contacts, although differences failed to reach significance. However, when defection by content of message and defection by code were added together, then minor contacts showed more defections overall than either Major or null contacts to a highly significant extent. Code-defection and content defection seemed to be in roughly complementary distribution, so content defection was most often displayed in the monolingual conversations of these bilinguals.

Another type of co-operation between conversationalists emerged when, utilizing the conversation-acts analysis, turns were labelled as 'linked' or 'isolated' depending on whether they formed part of a sequence with other turns or not (section 7;3). Means of percentages of linked turns per conversation were compared for sets of Major, minor and null contacts. Conversations for these sets showed that higher percentages of linked turns (i.e. those turns forming part of a sequence) co-occurred with increasing degrees of familiarity

between participants. Major contacts were more linked-in (or sociocentric) with their partners than minor or null contacts to a highly significant extent. Some dyads for null contacts showed particularly low percentages of linked turns, but the difference between the sets of minor and null contacts was not significant.

Bar graphs plotted for the means of C-acts for sets of Majors, minors and nulls and groups-of-four were found to be very similar, confirming that the recording situations had been comparable. The graphs for some individual dyads which exhibited very low percentages of linking (all null contacts) showed different ranges and proportions of C-acts from those shown in the graphs-for-means.

The Discussion, Chapter eight, begins with two analyses in the game-theoretic framework. The first, section 8;1, considers languages as players on the model presented in Chapter 5;1;2. The conclusion is that it is normal to introduce linguistic conflict at an intermediate stage of familiarity and that generally this conflict co-exists with co-operation when speakers can understand each other. The overall pattern for dyads and groups-of-four is to resolve the two-language dilemma in a movement towards language homogeneity. A comparison is made with Le Page's (1985) description of *diffusion* and *focussing*.

The second analysis, 8;2, considers people as players and is based on the model of the Prisoner's Dilemma game which was introduced in section 5;1;3 in the context of a *rational* solution and again in sections 5;2;4 and 5;2;5 in relation to an *evolutionarily stable strategy*. The conclusion is that young children engage in TFT behaviour which leads to acceptance of the collectively rational solution of increasing the proportions of C following CC moves as their conversations and friendships progress i.e. as they interact more. It seems most likely that the TFT strategy has been genetically programmed in humans and is nurtured in the nursery school environment and presumably in the homes and community of the young bilinguals studied here.

The next section, 8;3, considers some examples, first, of metalinguistic awareness and preference for language homogeneity, followed by instances of the type of 'conversational' code-switching described by Gumperz (1982) which could be seen as co-operation (C

moves) in that it demonstrates an understanding of both cultures. This conversational switching is representative of the higher order of dynamic collective rationality, described in section 5;1;3, where speakers can demonstrate their co-operativeness by switching between the languages of the social groups to which they feel affiliated.

Chapter 8 concludes with a discussion of the patterning of C-acts in dyads and groups-of-four and the linking of turns into sequences. Linking is viewed as an expression of Piaget's (1926) *sociocentism* developing out of *egocentrism*, or as another form of co-operative behaviour. There is some evidence from the groups-of-four data that the maximum number of children who can normally manage to actively participate in this sort of situation is three.

The major findings of the study are summarized in the Conclusions, Chapter 9, with cross references to different parts of the thesis.

CHAPTER 2
THEORETICAL ORIENTATION

The design of the present study is a response to a number of disparate observations and research findings in sociolinguistics and early child bilingualism. The ideas which provided the background to the study have been taken from the work of others which is acknowledged but has not been reviewed in detail. The study developed from extending the notion of a *sociolinguistic variable* through the levels from phonological to syntactic and further to the level of a language or register. Then an interest in a syntagmatic rather than a paradigmatic analysis led to a change in perspective taking the original idea to a conceptually different position from that of a sociolinguistic variable. An examination of developing bilingualism in children (reviewed in Chapter 3, Part 1) indicated that by nursery school age (4+), bilinguals are generally able to separate their two codes, so this seemed to be a good place to start looking for code-switching/mixing which had social significance. The social meaning of adult switching/mixing is covered only briefly in this chapter (section 2;2) since it may not provide an interpretation for the phenomenon in children's speech. The general orientation is to aim for objectivity wherever possible in the hope of reducing the extent to which the results would simply represent the researcher's preconceptions.

2;1 SOCIOLINGUISTIC VARIABLES - PARADIGMATIC AND SYNTAGMATIC ANALYSIS

Sociolinguistic variables, as opposed to linguistic variables, carry social significance. The use of one variant rather than another conveys social meaning. Lavandera (1978a) discusses the nature of sociolinguistic variables, commenting that phonological variables such as (r) in Labov's N.Y. city study (Labov 1972a) are the simplest to deal with because they have no referential meaning. Morphological and syntactic variables, however, suffer from the problem of having referential as well as stylistic meaning. Generally it has been

accepted by sociolinguists, she says, that the variants studied above the phonological level should have the same referential meaning, but this need not be the case and indeed is too restricting. In a paradigmatic analysis it is the alternatives (variants of the variable) which are emphasised. Table 2;1 gives examples of some variants which have been studied at different levels.

TABLE 2;1

Examples of variants of sociolinguistic variables studied at various levels

Phonological	(r):[r] (r): o (Labov 1972a)	contrasts in Bokmål - Ranamal (Blom & Gumperz 1972)
Morphological	presence/absence of copula in B.E.V. (Labov 1972b)	
Syntactic	indicative/ subjunctive in Spanish (Lavandera 1982)	
All levels	Punjabi/ Hindi (Gumperz 1964)	

The notion of sociolinguistic variable could be taken a step further than the syntactic level to that of language or register. Bilingual speech is convenient to study because the formal changes are more clearly apparent than for registers. Consider two bilinguals who are engaged in a code-switched conversation. We can think of a chunk of Punjabi or a chunk of English as variants of the language variable. It is not, however, of interest to know, in the paradigmatic sense, how a particular stretch of Punjabi may have been expressed in English i.e. its translation, although it is important to know that the speaker can produce the other language equivalent utterance and thus that the choice is really possible. Instead we will look along the length of the conversation, in a syntagmatic analysis, at how and in what proportions the variants English and Punjabi are strung together. A difference between this treatment and

previous use of the term *sociolinguistic variable* is that in this case the notion of *variant* is conceptually different.

2;2 SOCIAL MEANING IN ADULT CODE-SWITCHING

One type of interaction where code-switching is very likely to be found is amongst members of groups living in an urbanized area who use a minority language in the home and a majority language in their interactions with the larger community (Gumperz 1982 p.64). The phenomenon has been largely studied with adults. Gumperz (1982 p.59) defines code-switching as 'the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems'. According to this definition code-switching can take place within a single sentence. Di Sciullo et al (1986 pp. 1-2) distinguish *inter-sentential code-switching* which, they say, is more typical of diglossia situations, from *code-mixing*. The latter is 'a form of linguistic behaviour which produces utterances consisting of elements taken from the lexicons of different languages.' Borrowing is seen as a related phenomenon, but in this case the borrowed item would generally be phonologically adapted to the borrowing language. In addition it may be morphologically adapted and speakers will often have intuitive knowledge about the status of the borrowed word in the lexicon. Whether a base-language equivalent is known to speakers and whether the item is in common use should also be considered in classifying 'borrowed' words.

Different interpretations of switching/mixing appear in the literature. One view expressed by Labov (1971) is that it is random and meaningless. Others attribute a complex social meaning to the phenomenon (Gumperz 1976, 1982; Agnihotri 1979)

Labov believes that the kind of variation seen, for instance, in the code-mixing which has been observed in the speech of N.Y. Puerto Ricans, is random. He comments on an example of this Spanish/English mixing (1971 p. 457):

> So far ... no-one has been able to show that such rapid alternation is governed by any systematic rules or constraints and we therefore must describe it as an irregular mixture of two distinct systems.

Labov is led to make this claim, says Gumperz (1982 p.70), because of an implicit definition of the term 'social' as limited to phenomena showing statistically predictable distributions within extralinguistically defined human groups.

In contrast, Gumperz' own work in the ethnographic tradition employs a definition of *social* which is expressed in terms of sociological role theory. A listener is seen as assigning a speaker to social categories, placing him within the range of known social categories and assessing the degree to which they share social background. Code-switching/mixing is seen as a communicative resource, having a social meaning which speakers and listeners agree upon. The social meaning is, however, complex. Gumperz has shown qualitatively (Gumperz 1982, Chapter 4) that members of the community can agree on interpretations of switching in context and on categorizing others on the basis of their switching, so there must be some regularities and shared perceptions on which these judgements are based.

It is the type of code-switching referred to as *conversational* as opposed to *situational* which is of particular interest. In the latter case there is an almost one-to-one relation between language usage and social context and each variety has a distinct place or function in the local speech repertoire. Conversational code-switching, on the other hand, is of greater sociolinguistic significance, as it displays a much more complex relationship of language usage to social context. Conversational code-switching occurs in conditions of change, Gumperz says, where group boundaries are diffuse, norms and standards of evaluation vary and where speaker's ethnic identities and social background are not matters of common agreement. Speakers and listeners are seen as subconciously employing and interpreting the social correlates of bilingual conversations. The way that a person switches and uses borrowings can reveal social background and attitudes. Bilinguals are, however, cautious about switching on first meeting with another bilingual before knowing something about the other person's social background and attitudes. Switching in these

circumstances could lead to serious misunderstanding, claims Gumperz (1982 p. 69).

A different interpretation of the social significance of code-mixing was given in a study of the language of adolescent Sikh immigrant children in Leeds. Agnihotri (1979) found a complex and unpredictable code-mixing of Punjabi and varieties of English. An 'acts of identity' analysis (Le Page 1975) was used to describe the social processes accompanying the linguistic ones. A complex sociolinguistic model would be required to account for the variability but the switching/mixing is considered neither random nor meaningless.

There is general agreement that analysis of bilingual interaction reveals a difficulty in predicting exactly when switches will take place, hence their apparently random nature. Most success in charting constraints on switching has been in the case of fairly stable bilingual populations (Kachru 1978; Valdés Fallis 1976).

In a study of Hindi/English code-switching, Verma (1976) sees bilinguals' switching as patterned and predictable on the basis of topical and situational features. Speakers are seen as producing a chain of codes and ways of organizing these varies from context to context. It was this observation that led me to think of the possibility of syntagmatic sociolinguistic variables (see section 2;1).

2;3 SOCIAL MEANING IN CHILD CODE-SWITCHING

Adolescent Punjabi/English bilinguals in an urban area have been shown to mix and switch codes (Agnihotri 1979). Young bilingual children also mix and switch. This may occur because the child is incapable of separating the two languages, in which case it is a function of development, or it may arise because the child has alternative lexicons and alternative sets of syntactic rules available to him and he chooses from one of the alternatives, variably, sometimes sentences/phrases/lexical items are chosen from Punjabi and sometimes from English. It should be possible by examining studies of early bilingual development to discover when a

child exposed to two languages is able to productively differentiate one language from the other without much so-called interference or overgeneralization of rules. If after this stage in his bilingual acquisition the child switches and mixes codes then the question posed by such variation is whether it is random and thus meaningless or whether it is non-random and so carries social significance in addition to the referential meaning of the utterance. The literature relating to early bilingual acquisition is reviewed in Chapter three, Part one.

2;4 CODE-SWITCHING IN ADULTS AND CHILDREN COMPARED

We cannot assume that the code switching/mixing of young children, when it is not a feature of lack of differentiation of the two codes, will have the same social significance as that of adults. Even if children conversationally code-switch in a pattern similar to the adult one, they will not easily be able to tell us their interpretation of code-switching as adults can, so the type of qualitative analysis used by Gumperz is not appropriate here. In any case, four year olds are unlikely to have the cognitive capacity for abstraction which would underlie the kind of explanations which Gumperz offers.

The research on child switching/mixing is reviewed in Chapter 3, Part 2. There are reports of differences and similarities between adult and child switching. Garciá (1980) suggests that code-switching in children differs quantitatively and qualitatively from adult patterns. So we may expect to observe a different kind of switching amongst children, which has hitherto received little attention. On the other hand a report by Oksaar (1975) claims that switching in children has a similar basis to that in adults. If this is the case, observations may reveal the first stages of a communicative resource which will later become elaborated in line with the adult pattern. The social meaning of child switching/mixing certainly seems to be open to question and experimentation.

2;5 MAJOR FACTORS AFFECTING SWITCHING

Ervin-Tripp (1964) has identified three major features of the speech situation aside from linguistic and stylistic rules which govern code-switching: a. the participants, b. the setting, c. the topic or range.

It is the first factor, the participants, which I would like to focus on, because it seems likely that most variability arises as a bilingual interacts with different people, all other factors being equal. Speaking as a bilingual, Grosjean (1982 p.136) says that it is rare to find bilingual friends or relatives who do not have an 'agreed-upon' language of interaction. On the other hand, examples of who switches with whom (p.149) indicate that intimacy can favour switching. A bilingual interacting with another bilingual is, in general terms, seen as selecting a base language and then deciding whether or not to code-switch (p.129).

An aim of this study is to show that switching/mixing which is not attributable to lack of differentiation of the two developing linguistic systems of the young child occurs and carries social significance which contributes to the meaning of the message. This switching/mixing would be expected to vary depending on whom the bilingual is talking to (interlocutor), where he is (setting), and what he is talking about (topic). The first factor, that of different interlocutors, is the one which promises to show most variability. Grosjean (1982 p.202) confirms this:

> As might be expected from our discussion of the person-language bond, most studies state that the participant is the most important factor in language choice.

2;6 A SPEECH COMMUNITY

A number of definitions of *speech community* are reviewed in Hudson (1980 pp.25-30). He reaches the conclusion that the notion of speech community may be misleading as it implies the existence of discrete groups of people in society which sociolinguists should be able to recognize. An alternative concept, suggests Romaine (1980) is

the *social network*, as used by Milroy (1980). The social network represents a level of abstraction below the level of speech community and is a useful area in which to examine the relation between kinds of language and uses of language.

Taking this idea to an even lower level of abstraction, a community could be said to start with two individuals who choose to interact. In a nursery school class where activities are fairly unstructured and children are allowed to wander from one activity to another, they are free to associate with whom they choose. A child's *degree of familiarity* or *contact* with others could provide a social dimension along which speech samples could be collected and compared.

Sociometric techniques have been used in the school classroom to establish friendship networks (Jennings 1959). Each child is asked to name his/her three best friends in order of preference. The results are then graphed in the form of a sociogram. This is similar to a network where the most popular members of the class have most lines leading to their names. I have adapted this idea so that the first stage is observation by the experimenter of a child's encounters, over a fixed period during a free activity session in the nursery class, rather than asking the child who his/her friends are. If X interacts with Y several times in a fixed period then it can be assumed that X and Y actively seek each other's company, are friends, and have a record of having conversed with each other. A notion of community then begins to emerge from the number of encounters or the degree of familiarity which children have with each other. A social dimension, degree of familiarity of participants, can be extracted, along which variation in code-switching can be examined.

The community will not be completely charted nor will open or closed networks (Milroy 1980) be relevant since young children would not be expected to have much freedom to enter open networks. Two children meeting and conversing will be regarded as a *community*. It will be possible to place emphasis on an individual's language use in relation to that of his interlocutor rather than making comparisons between an individual's language and a normative standard. However, it is necessary to assume the existence of external languages otherwise the notion of code-switching makes no sense.

2;7 EXPERIMENTAL SOCIOLINGUISTICS IN A NATURAL SETTING

2;7;1 Bilingual speech in dyads

Experiments set up artificial situations says Ervin-Tripp (1964 p. 257). This is inevitable because they allow artificial constraints on normal co-variance. I believe, however, that observations of social interaction are possible in contrived conditions which seem natural, particulary if the subjects are young children. The *observer's paradox* (Labov 1972a p.113) whereby the observer influences the events he is observing, can be minimised if the children are sufficiently attracted by their conversational stimulus, if the experimenter leaves the room and if the conversation is recorded or videoed inconspicuously.

This study aims to explore the variation in code-switching/mixing of young children depending on the degree of familiarity of the subjects with their interlocutors who are selected on the basis of their relative frequency of interaction with the subjects during a period of observation.

The speech data are recorded in a controlled experimental setting where all variables except one are kept constant. Degree of familiarity of participants is taken as the controlled variable. Each subject's speech is sampled in three conditions along this dimension of familiarity: in conversation with a *Major* contact, with a *minor* contact and with a *null* contact (in randomized order). The other two factors claimed to affect switching (section 2;5), the setting and the topic, are kept constant. To achieve constancy of topic a number of different pets are used as a stimulus to conversation (in theory three animals are needed so that novelty value is preserved together with constancy of topic, but in practice, more than three were used). Given a subject sample large enough to apply statistical significance tests, any significant variation found in the speech data can be argued to be causally related to the systematically varied degree of familiarity.

Much sociolinguistic research has typically used correlational techniques where variants of a variable are shown to co-occur with

social parameters such as age or social class/status. Co-occurence is not necessarily evidence of causality so an experimental situation with controls is a more powerful tool.

In the ethnographic tradition, the experimenter spent some time in each nursery classroom in order to be accepted by the children as someone who might legitimately take them into a room and leave them for ten minutes with a caged animal.

2;7;2 Bilingual speech in groups-of-four

The results of the first part of the study, bilingual speech in dyads, indicated that most of the code switching/mixing seemed to take place between minor contacts, when children were getting to know each other. Results also showed that, in spite of extensive switching and mixing in a dyad, there was a tendency for the conversation, as it progressed, to resolve itself in increasingly higher proportions of one language or the other. The second part of the study was designed to maximise the possibility of switching and to find how a larger group, of four children, would resolve the problem of having two languages available to them in addition to having loosely established friendships with other members of the group. As far as code choice was concerned, participants would be in the most difficult contrived situation. At the same time, a sufficient degree of affiliation was maintained in a group-of-four so that it would resemble a group which had been 'naturally formed'.

CHAPTER 3

CHILD LANGUAGE

PART 1: EARLY CHILD BILINGUALISM

3;1 DEFINITIONS

A child can acquire two languages in infancy either *simultaneously* or *successively*. MacLaughlin (1978) uses an age criterion of three years to distinguish the two modes of bilingual acquisition, where a second language introduced after the age of three years is termed successive acquisition. Bilingualism is a complex notion related to linguistic, psychological, and social variables, some of which will be focussed on in this study.

Weinreich (1953) first commented on the artificiality of the distinction between bilingualism and monolingualism in his study of the interference effects resulting from language contact within a single individual. The two systems involved, he said, could be languages, dialects of the same language, or varieties of the same dialect. Swain (1977) has more recently restated that learning two or more languages does not differ in a significant way from learning one language since even monolingualism almost invariably involves the acquisition of two or more codes. A speaker's substitution of one language for another or one dialect for another or one variety of dialect for another are all examples of code-switching. However, language switching in young children is more obvious than use of different registers. So examination of switching between languages allows us to make statements with greater confidence.

3;2 METHODOLOGY

Many of the studies on early bilingualism, e.g. Leopold (1939-1949), Imedadze (1967) collected material by the 'diary method'. Whilst such studies often present large quantities of

data, especially in Leopold's case, they are often methodologically questionable as there are no controls over elicitation situations.

It is difficult to strike a balance between observing individual children in considerable detail and extracting generalizations from many cases. On the one hand, it is only by focussing on single cases that the systematic nature of the process of acquisition can be observed with its features particular to the individual and, on the other hand, data collected from a number of children is essential to the formation of statistically significant generalizations. And both of these are a necessary foundation for a theory of acquisition.

3;3 MIXED OR INDEPENDENT DEVELOPMENT OF THE TWO LANGUAGES OF THE BILINGUAL CHILD

Most of the literature on infant bilingualism falls into two main categories; those writers who consider that the child has one linguistic system at the beginning which slowly differentiates into two and those who see the child as having two systems from the outset. The literature relating to these two different interpretations will be introduced in this section with reassessment in a framework which attempts to account for the discrepancies. First, lexical mixing at the earliest stage of bilingual language development will be considered. It is from this earliest stage that much of the disagreement on underlying process seems to stem. Following this, the two different perspectives on syntactic development will be examined: whether the bilingual's two languages develop independently, or whether there is one system which differentiates into two. In the course of attemping to find an explanation for the discrepant findings, a sociolinguistic perspective will be proposed to account for most of the mixing.

3;3;1 Early mixing of lexical items

All the studies reported deal with spontaneous child speech which was elicited in a naturalistic situation or recorded by the child's caretakers during the course of the day.

Amongst the earlier studies Leopold (1939-1949) reports that his daughter Hildegard used one language system, a blend of English and German, in the first stage. At age 1;6 her vocabulary consisted of 36 English items, 24 German, and 29 English/German ones. Some of her two- and three-word utterances were mixed constructions. A code-mix of similar proportions was found by Volterra and Taeschner (1978) who studied the language of two children brought up in an Italian/German bilingual environment, Lisa at age 1;11 and Giulia at age 1;6. A vocabulary count which compares the results from both studies is shown in Table 3;1. Items coded as Italian/German or English/German are defined as 'words which are closely akin in form and meaning in both languages.' Equivalents are those words which can be considered to correspond in the two languages.

TABLE 3;1

Composition of three bilingual children's vocabularies in the second year (adapted from Volterra & Taeschner (1978)

LISA 1;11 (Volterra & Taeschner)	GIULIA 1;6	HILDEGARD 1;6 (Leopold)
38 Italian	27 Italian	36 English
25 German	33 German	24 German
24 Italian/German	22 Italian/German	29 English/German
3 Equivalents	5 Equivalents	5 Equivalents

Only a few of the items in the bilingual's two languages correspond at this stage e.g. Lisa's vocabulary includes *chechea* which is a variant of *acqua* (Italian-'water') and *Wasser*

(German-'water'). There is some evidence that these instances are not considered by the child to exactly correspond. For example Lisa uses *da* (German) for objects present and visible but *là* (Italian) for objects not visible. An instance of this kind of differentiation was shown by a child I met in Spain. He spoke English at home but at age 2 went to Spanish nursery school, where he would have been given tap water *agua* to drink. He consistently referred to water in a glass as *agua* but water to wash as *water*. His English speaking mother bathed him but never gave him tap water to drink. So although the child was using two externally different linguistic codes; Spanish and English, he was incorporating them into his personal system in a contextually rule-governed manner.

Imedadze (1967) reports a similar linguistic development in her child who was brought up in a Russian/Georgian bilingual setting, according to the one-language-one-person principle, where the mother and father spoke Georgian and the grandmother and nurse spoke Russian. The child's first words were *tsiti* (flowers - Russian) and *buti* (ball - Georgian). At age 1;2 he used his first translational equivalents without one inhibiting the other. At 1;3 he was heard to say *modi ak* (come here - Georgian) then *idi idi* (come here - Russian). An example of his mixed speech about this time was the utterance:

puri	khochish	chama
(bread	want	eat)
Georgian	Russian	Georgian

At this stage his speech was said to have no grammatical structure.

Burling (1959 p.67) reports that his child, acquiring both English and Garo (Assam region, India) spoke initially 'with a single linguistic instrument, forged largely from Garo, but with the addition of English vocabulary and a few extra English phones'.

The above studies have all supported the idea of the bilingual child's first language being a mix of the two languages to which he is exposed. Comparing the children's ages and stages

of development in these studies, mixing is reported by Volterra & Taeschner, Leopold, Imedadze and Burling at a time when the child is typically speaking with one-word utterances, perhaps with sequentially related holophrases (Bloom 1973) or is at the beginning of the two-word phase.

So, the stage of bilingual acquisition in which the child has a mixed lexicon tends to coincide with the period when he has his own idiosyncratic language system, which is on the whole pre-syntactic. Dore et al (1976 p.13) describe this first stage as follows:

> .. the earliest patterned speech is not organized in terms of grammatical categories but in terms of more fundamental co-ordinations of conceptual meaning with phonetic outputs.

For the child developing bilingually we might expect a mixed lexicon initially since the child's caretakers probably each refer to different objects and activities and the child hears too few equivalents to realize that two systems are operating. The data from Table 3;1 shows the small number of equivalents in the bilingual's two languages. A report by Oksaar (1975), of a Swedish/Estonian bilingual child, bears out this interpretation. She says that the first mixed stretches of speech were due to intralinguistic factors, since the child had heard the words in only one language. So household activities such as *moppa* (to mop), *damma* (to dust),and *städa* (to tidy up) were all in Swedish because the activities were performed by the Swedish household help.

3;3;2 Independent development of the two languages

Reporting on her daughter's acquisition of Spanish and English, Bergman (1976) supports the notion of independent development of the two languages from the beginning. The author is especially concerned with the possessive which is differently realized in Spanish and English and so unfortunately no details

are given of the earliest language where a language mix may have been used. She says of this 'first' stage (p.86):

> It was my belief.... that each language would develop independently of the other with a minimum of mixing between the two. In her early development this seemed to be the case.

The first utterances reported are at about 1;2 when the child said:

> mine, that's mine.
> mío. Es mío.

This example, however, is more typical of language produced later than the one-word stage. One definition of a *syntactic utterance*, given by Dore et al (1976 p.21) is as follows:

> Syntactic utterances are considered to be those in which two or more words are produced forming one intonational pattern and in which the relation among the words is one of the factors determining the meaning of the utterance.

Bergman's example, rather than a first stage speech sample, is better described as from a stage of language acquisition when the operation of syntactic rules is apparent.

Other studies, Padilla & Liebman (1975), Lindholm & Padilla (1978) and García (1980), which have considered that the bilingual child has two differentiated systems from the start have typically looked at slightly older children who could probably already be considered to manifest syntactic relations in their speech.

Padilla & Liebman (1975) report on three English/Spanish bilingual subjects of ages 2;2, 2;1 & 1;5. They conclude that the subjects demonstrated the use of one set of rules per language which was particularly evident at the phonological level. If there is a stage when the children cannot differentiate, the authors claim, then this is quite early.

A small proportion of mixed utterances, 2% of the total utterances (110/5177), was found in the bilingual speech of 5 Spanish/English children between 2;10 and 6;2 (Lindholm & Padilla

1978). The differentiation of two linguistic systems clearly occurs quite early and this finding is predicted from the previous one where Padilla & Liebman (1975) could have missed the earlier mixing since their youngest child was 1;5 and the data was weighted towards older children. Since it was admitted then that the mixed system occurs early if at all, then it would certainly have been missed by Lindholm & Padilla (1978) starting with children aged 2;10.

Another study with 12 Spanish/English children aged 2;5 to 3;5 by García (1980) showed a minimal amount of switching/mixing in the children of less than 1%.

3;3;3 Mixed or independent development

Individual differences may account for the apparently conflicting reports as to whether the bilingual child starts with a mixed system. Grosjean (1982 pp.173-175) describes different strategies for bringing up a child bilingually, such as 'one-person-one-language' where each of the child's caretakers speaks only one language, or there may be a separation of languages by place, for instance the minority language in the home and the majority language outside. Alternatively, a more 'natural' state is the free alternation of languages in the child's environment.

The explanation for Bergman's child's ability to keep her languages separate from the beginning could lie in the distinct identities of her linguistic models. The impression given is that Bergman's daughter did not live in a bilingual community (she was taken twice a week to play with Spanish children) so the English and Spanish in her linguistic milieu would be clearly defined. The mother's expectations may also have been important (see Bergman's quote in section 3;3;2).

The child reported by Imedadze (1967), an early mixer who had clearly defined linguistic models in terms of one-person-one-language, was able to address one person in one language with infrequent mixing very early.

At 1;8;25 he said:

In Georgian to his mother:
Patala bichi chamovalda, satskali bichi.
(The little boy fell down, poor boy.)
In Russian to his grandmother:
Adin mal'chik upal, ba-dina
(A boy fell down, Granny.)

Another explanation for the discrepancies between reports of independent development or early mixing of the bilinguals two languages could stem from methodological differences. Firstly, the diarist has little opportunity to hear a repetition of the child's utterance as is possible in the case of the tape-recorded speech produced in experimental situations. Secondly, the diarist usually knows the child well (as a caretaker) and has established ways of interacting with the child, particulary in respect of code-choice. On the other hand, the experimenter attempts to make selective observations by arranging for the child's interlocutor to fulfil certain conditions (e.g. monolingual, potential code-switcher).

A further explanation for the discrepant findings could be found in the different age-ranges studied. It seems that researchers supporting the notion of one linguistic system which becomes differentiated have looked at children from the time they made their first interpretable utterances, whereas those committed to independent development have not examined the earliest speech of the child and so missed the one-word mixed-lexicon stage.

3;4 TRANSLATION ABILITY

At some stage bilingual children are reported to realize that equivalents exist and begin to be able to translate i.e. produce paraphrasing utterances consecutively in either language. This ability accompanies the transition from one mixed vocabulary to two vocabularies and can occur at various ages. Table 3;2 gives examples of early incidences of this translation ability from the Imedadze, Volterra & Taeschner and Leopold data. The ability to

translate is still accompanied by mixing although percentages are not available for the children mentioned in the studies above. Productive translation seems to be evidence that the two language systems are differentiated or in the process of differentiating.

TABLE 3;2

Early instances of translation reported in two studies of bilingual children (Volterra & Taeschner, 1978; Leopold, 1939-49)

Volterra & Taeschner			
2;5	Lisa	Occhiali, Brillen (glasses glasses)	(Italian/German) while showing a picture
2;2	Giulia	Metti tavolo di Giulia (put table of Giulia)	She wants her mother to put some cups on the table.
		Das da, das da auf Tisch von Giulia (that there, that there on table of Giulia)	
Leopold			
1;6	Mother	Don't you know what 'no, no' means?	
	Hildegard	nein, nein	
3;0	Hildegard	Nose	
	Father	Wie hiesst das auf Deutsch? (What's the name in German?)	
	Hildegard	Nase	
Imedadze			
1;2		modi ak (come here) Georgian idi, idi (come here) Russian sakhli (house) Georgian domik (house) Russian	

A case study by Levy (1985) of a Hebrew/English bilingual child focuses on the significance of the translation ability and its relation to mixing. Yair at age 18 months with a vocabulary of 30 single Hebrew words was introduced to an English-speaking day nursery. Conditions were optimal for bilingual acquisition as Hebrew was generally spoken at home so the two languages were externally differentiated according to person and place. Three

language samples were taken at ages; 2;1, 2;3 & 2;5 (roughly corresponding to Brown's stages 1 to 3). Mixing of Hebrew words into English in the day nursery setting was negligible. Table 3;3 shows the mixing of English into Hebrew at home during the same periods.

The smaller number of mixed utterances at age 2;1 can be easily accounted for as the child had only a weak command of English at that age. Even later, samples showed minimal mixing, less than 15% in each case. Levy considers in some detail the phenomenon of interlanguage repetition included in the mixed utterances. Swain (1972) has also reported a period of cross-language repetition or 'spontaneous translation' by a French/English bilingual child, which she interpreted as an indication of the child's belief that the interlocutor required an additional cue in order to understand. Levy, however, considers that cross-language repetition represents hypothesis-testing by the child. Since English is sometimes used in the home to visitors, or is heard on T.V. the child hypothesises that here is an environment where both words are required, but he soon realizes that this is incorrect and discards the notion.

TABLE 3;3 .

Percentages of English, Hebrew and mixed utterances used in the home environment by one child (Levy 1985)

Age	English %	Hebrew %	Mixed %
2;1	22	71	7
2;3	33.8	51.6	14.6
2;5	46	42	12

By the age of two, Yair was said to have linguistic awareness. He could translate on request although sometimes with difficulty; either after a pause, apparently for thought, or sometimes giving a related word rather than the exact translation

e.g. Mother: How does Pat say lion?
Yair: namér (tiger)

3;5 SYNTACTIC DEVELOPMENT

There have been a number of different perspectives on the development of syntax in the bilingual infant. It has been proposed that one syntactic system differentiates into two (Volterra & Taeschner 1978). Mixed input may be responsible for mixed-language use (Bergman 1976). There have been, on one hand, reports of overgeneralizations from the syntactic system of one language to that of the other (Imedadze 1967; Volterra & Taeschner 1978) and, on the other, suggestions that interlanguage interference is minimal when the two languages are dissimilar (Burling 1959) and also when the languages are more closely related (Padilla & Lindholm 1976; Lindholm & Padilla 1978).

3;5;1 <u>One differentiating syntactic system</u>

The process of bilingual acquisition is viewed by Volterra & Taeschner (1978 p.312) as consisting of three stages. At first there is early mixing of lexical items, then this is followed at a second stage by a differentiation of two lexicons but the application of one syntactic system, finally two syntactic systems are distinguished. The mixed and differentiated lexicons have been discussed in the previous sections (3;3;1, 3;3;2 and 3;3;3). Early solutions to the infant bilingual's syntactic problem may be in the form of a single system, which is identical with neither of the target languages, say Volterra & Taeschner (1978 p.324). Mismatches with the adult model should not then be considered as instances of overgeneralization from one language to the other. In the case of Lisa's first rules for negation her pattern is neither the German one, where negation follows the verb, nor the adult Italian pattern, where negation precedes the verb. She put the negative marker at the end of the sentence, as monolingual Italian children sometimes do.
e.g. a sentence heard in Italian was:

Lisa cade no
(Lisa falls no)

and at 2;7 a sentence in German:

Lisa haia haia machen no
(Lisa sleep does no)

Possession was also marked in a syntactically consistent form in both of Lisa's languages, neither with the German adult form of the possessive 's, nor with the Italian adult pattern using the preposition *di*.

e.g. Lisa Hose German
(Lisa pants)
and Lisa bicicletta Italian
(Lisa bicycle)

3;5;2 Mixed input

Bergman (1976) reports incidents of apparent overgeneralization of rules in her daughter, Mary, who uses the English *'s* possessive in Spanish after a period of using the English and Spanish possessives correctly.

At about 1;6: That's coffee. That's Mommy's. That's Mommy's coffee.
At about the same time:
Son las botas de papá. (They-are the boots of papa)
In both cases, the English and Spanish constructions are correct.
But about 2;3:
Es de papá's. Es de Ani's. Es de Mamás. Es de María's.
(It-is of papa's. It-is of Ani's. It-is of Mama's, It-is of Maria's)

Here she is using a combination of Spanish and English possessive marking.

Bergman was puzzled by this development until she noticed that one of the child's caretakers used non-Spanish constructions such as:

¿Es Jennifer's? (Is-it Jennifer's)

presumably because 'Jennifer' did not lend itself to adaptation to the Spanish phonological system. Bergman's explanation for this apparent overgeneralization of rules is that it is not so much linguistic incompetence but rather a consequence of mixed-language input.

3;5;3 Overgeneralizations or interference at the syntactic level

At a stage when the process of differentiating the two syntactic systems was well under way, Volterra & Taeschner (1978 p.325) report cases of interference at the syntactic level. This is more obvious in situations of conflict such as telling a story in Italian from a German book. Lisa at 3;6 was reported to use German utterances based on Italian word order and vice versa.

German Ich nicht bin müde.
(I'm not tired. Adult form:...bin nicht.....)
which is modelled on the Italian:
Io non sono stanca.

Italian Quel bianco pecora
(The white lamb. Adult form: pecora bianco.)
which is modelled on the German:
Das weisses Lamm

Imedadze (1967) also noted difficulty with grammatical forms differently realized in Georgian and Russian. From the age of about 1;8 the child was correctly using the Russian pattern for object inflection but generalizing this to Georgian which requires subject inflection.

He said:

	Dali unda tsignis	Georgian
Correct form:	Dalis unda tsigni	
	(Dali wants the book)	

Forms which were analogously constructed in both languages were, however, mastered simultaneously and without difficulty.

3;5;4 Minimal interference for dissimilar languages

Evidence for minimal structural interference comes from studies where the two languages were grammatically dissimilar. Burling's son who was acquiring English and Garo (Burling 1959) is described as being flexible in his use of lexical items but he did not generalize morphology and syntax from one language to another. Mixing of English items into Garo was common in the speech of adults in the community so the child's language presumably reflects this. The morphology of Garo is not a

'luxury' of the fully developed language according to the author and Stephen was very consistent in using the strict ordering of morphemes in Garo words. Burling says (p.66):

> He would first learn a number of examples of the construction by rote and at this stage it was generally difficult to tell whether he understood the meaning of the construction or not, though for the most part this seemed unlikely. He would then generalize the construction and learn to substitute other appropriate forms in the same construction... these constructions were rarely grammatically incorrect.

The child's morphology and syntax were Garo even if the lexical items might be English and however many morphemes might be borrowed there was seldom any question as to which language he was using since affix morphology and syntax were either all Garo or all English. After 2;8 when the vowel system differentiated, the phonology was also appropriate to the choice of grammatical system.

It has been suggested (Lipski 1978) that the closeness of fit between the surface syntactic structure of the two languages and the general configuration of grammatical elements places constraints on code-switching. So, in a case where the superficial syntactic forms of utterances expressed in the two languages are discrepant such as in Garo and English, lexical borrowing would predictably be the commonest type of code-switching.

Holm et al (1973) looking at English loan words in the speech of Navajo children have found that compared with thirty years ago (Sapir's work) there has been a major change from the absence of loan words to the situation today. It was earlier felt that structural considerations between these two very different languages prevented linguistic borrowing but now socio-cultural factors are seen to be more important; the Navajos being more assimilated than 30 years ago. However as with Burling's data there seems to be lexical borrowing from English with suffixes provided by the base language, in this case Navajo.

e.g. schooldi — at school
dormitorygóó — towards dormitory

Syntactic interference may be less likely when the bilingual's two languages have very different syntactic rules.

3;5;5 Minimal interference for closely related languages

Lindholm & Padilla (1978) report little mixing in English/Spanish bilingual infants. Mixed utterances were only 2% of the total number. Table 3;4 shows the types of mixing exhibited by 5 children aged 2;10 to 6;2.

TABLE 3;4
Breakdown of language mixes by type for five Spanish-English bilingual children, 2;10 to 6;2, based on a total of 5,177 utterances in both Spanish and English (Lindholm & Padilla 1978).

TYPE	SPANISH WITH ENGLISH INSERT	ENGLISH WITH SPANISH INSERT
Lexical		
Noun	71	12
Verb	3	3
Conjunction	5	2
Adjective	2	-
Phrasal	4	8
Total	85	25

The most common mix involves insertion of single lexical items, generally English nouns into Spanish utterances. Where English nouns followed a Spanish article or demonstrative, the number of the functor was always in agreement with the number of the noun, this was not always the case for gender. Very few phrasal mixes were observed but when these occurred structural consistency of the utterances was maintained. There was no repetition of articles or other sentential information. This point, of the structural consistency of mixed utterances, is also made by Padilla & Liebman (1975). Their examples are given in Table 3;5.

In another study, Padilla & Lindholm (1976) examined the acquisition of various grammatical structures in English/Spanish

of 19 bilingual children aged 2 to 6;4. Comparison of acquisition of the interrogative (wh/k-d) structures revealed that the rule for preposing the interrogative word was followed in both languages by even the youngest child. The inversion rule was employed about 1 to 1½ years sooner in Spanish than in English, and in English the inversion rule seemed to be learned simultaneously with auxiliary verb insertion. The authors suggested that the explanation for the age difference in using the inversion rule in the two languages was that in English the children were concentrating on auxiliary verb insertion (e.g. inclusion of 'do', 'does' in the English question form) and expanding superficial structures before beginning to invert the subject noun phrase with the verb.

TABLE 3;5
Examples illustrating the structural consistency of mixed utterances

Joaquin ≈ 2;2	Bobby ≈ 2;1	Michelle ≈ 1;5
es a baby horsie	una baby	¿ Qué that?
es un baby pony	es a baby	dame that

Having compared the relative developments of the interrogative and other structures in the two languages, it is concluded that children learn the structures of each language separately. The only case of structural interference reported is that of double negatives in English.

e.g. But I'm not gonna make nothing.

In Spanish there would be two negatives;
No voy a hacer nada.

Citing evidence from McNeill (1970) that this kind of structure occurs in the speech of monolingual English children they feel that even these instances may not be real examples of syntactic interference from one language to another.

Such a large scale survey as this, where 19 subjects were studied, is concerned with making generalizations about the process of acquiring two languages simultaneously, so it is perhaps not so sensitive to the incidence of syntactic interference as the longitudinal studies of individual children speaking under 'natural' conditions, which presumably include conditions of stress and conflict as far as language is concerned. The conditions under which data was collected favoured differentiation of the two language systems since child speech was taped in clear-cut Spanish-speaking or English-speaking conditions, i.e. in conversation with an experimenter who spoke only English or only Spanish. It appears that the researchers expected that the two language systems would be differentiated and the experimental design encouraged such a finding. However, the results illustrate that syntactic interference need not (possibly, even cannot) be an extensive phenomenon in young bilinguals.

One study gives an idea of levels of mixing varying with developmental stages of language acquisition. Redlinger & Park (1980), in a study of 4 bilingual children growing up in a German-speaking community, analyse mixing in relation to linguistic development as measured by M.L.U. (Mean Length of Utterance). They relate this to Brown's (1973) five stages. The results of mixing levels found are shown in Table 3;6.

TABLE 3;6
Percentage of mixing at different stages of language development
(Redlinger & Park, 1980)

STAGES	
1	20%→30%
2	12%→20%
3	6%→12%
4&5	2%→ 6%

In order of frequency, substitutions occurred for: noun, adverb, article, pronoun, verb, adjective, preposition and conjunction.

The figures show mixing to be inversely associated to language development. This study is, however, mostly concerned with lexical intrusions from one language into the other and confirms the conclusion reached in a previous section that the bilingual child's earliest language is a mix of lexical items from the two external sources. There is a suggestion that the speed of differentiation of the two languages could vary depending on the separation of the child's linguistic models in terms of the one-person-one-language principle. The emphasis of the study is not on syntactic interference, so little more can be added about the stage under consideration where the possibility of translation and two sets of syntactic rules seem to be emerging.

In summary, from an age when it is sensible to talk of syntax in child speech, syntactic interference or overgeneralization of rules from one language to the other obviously takes place as the concrete examples given by various authors show. But large scale studies suggest that the interlinguistic syntactic influence can be minimal if conditions favour separation of codes. The process of keeping the two sets of syntactic rules separate is not an easy process say Volterra & Taeschner (1978) and interference is more likely to occur in conditions of conflict for instance where simultaneous interaction with different language speakers is necessary. It appears that bilingual children of about nursery school age (four years) should be able to keep their languages separate.

PART 2: SOCIOLINGUISTIC SWITCHING

So far I have used linguistic terminology such as *systems*, *syntax*, *lexicon* and *interference* which imply the existence of an external 'normative' language. Language on the whole has been referred to outside a social context in an attempt to discover the extent to which children are able to discriminate different language systems. It seems that bilinguals use a mixed lexicon at

the beginning, although there may be individual differences in this respect. There are varying reports as to how separate the children are able to keep the syntactic rules for the two languages. But if these rules are not learnt separately then they soon differentiate. A sociolinguistic interpretation which includes the influence of extralinguistic situational factors may be able to contribute to an understanding of the sometimes contradictory findings. It could enlarge our perspective on the conditions under which a child achieves his communicative competence in two languages.

3;6 LINGUISTIC MODELS

The acquisiton of first words is usually in the context of visual-motor activity, rather than in a verbal context as for adults. The words are then tied to person or place. When the child produces what, on the face of it, seems to be a mixed utterance it is only mixed from the point of view of the listener since the child has no alternatives. At this earliest stage the child has built up an idiosyncratic system from the models available and it may be the case that the earliest mixed lexicon triggers later use of the first-learned forms even when the child's language has developed to the extent that the alternatives in both codes are known. Ervin-Tripp says that lexical items acquired in childhood may retain connotations from that time so presumably the language of first learning has affective attributes regulating its selection later on.

In one nursery school I visited, two children who were making model cameras from bricks for me returned to exactly the same activity when they saw me two weeks later, presumably guided by the association of person, place and activity. The same seems to be true of bilingual childrens' linguistic behaviour. Several writers have commented that the child uses the language with which he first communicated with someone on a later occasion and is upset if that person tries to speak the child's other language (e.g. Volterra & Taeschner 1978; Grosjean 1982 pp.198-199).

In situations where code-mixing and switching is prevalent such as in a community where two or more languages are in contact, it is said to be the norms of the face-to-face community which influence bilingual speech (Blom & Gumperz 1972). Trudgill (1982) also stressed that face-to-face interaction is more important than the influence of the media on speech. So we might expect that children learning language in a community where code-switching is prevalent amongst adults will reflect the norms of the community in their linguistic acquisition in addition to exhibiting the switching/mixing which may stem from learning lexical items in a certain context.

3;7 FEATURES OF CHILD CODE-SWITCHING

The developmental character of children's code-switching has been little researched but studies indicate that there is a difference in quantity and quality between child and adult code-switching says García (1980 p.245). Different kinds of code-switches are reported to be more frequent at different ages. McClure (1981) examining Spanish/English bilinguals found mixing of individual lexical items from one language into the other was more common for younger children, whereas older children, over nine years, more frequently code-changed, i.e. they switched languages for a phrase or sentence.

In a study of first and second grade Spanish/English bilinguals during classroom activities the general rule seemed to be 'use English whenever possible' (Shultz 1975). When they did code-switch, the children appeared to be using Spanish or English as a function of their perception of the listeners' competency in either language. Another study of code-switching, amongst six-year olds (Genishi 1981 p.150), suggested that the main rule governing code-switching, which adults would take for granted, was 'speak the language the listener knows best'. Other social meanings of code-switching, hypothesised by Gumperz (1976), such as sophisticated judgements relating to speaker intentions and the conventions for signalling social/ethnic background are

developmentally outside the scope of these young children, Genishi claims.

García (1980) looked at the role of language switching during Spanish/English bilingual mother-child interactions and attempted to add a qualitative interpretation of switched language use to the quantitative analyses usually reported. Adult characteristics of code-switching, it is claimed, may manifest themselves at later periods of bilingual acquisition. The children aged 2;5 to 3;5 were observed over a nine-month period in a natural setting with their mothers. The mothers' code-switching was of three types:

1. Instruction. Information about the second language was given in the first. e.g. *Se dice apple in inglés.*
2. Translation. The same information was given in both languages. e.g. *This is a boy. Este es muchacho.*
3. Code-switching. Switched language use was any instance of use of both languages other than the above two categories.

Instruction and translation accounted for 60% of the mothers' switched utterances. The children switched rarely, less than 1% of the time. Within the mother-child interaction switching had the function of conversational clarification and possibly language learning or teaching. Code-switching in the literature has generally been taken as type three where a choice is possible.

3;8 SWITCH POINTS

There seems to be a general consensus that it is difficult to predict when a switch will take place unless the personal history of the child is known and even then explanations are post hoc.

Oksaar (1975) says that code-switching and interference on the sentence and discourse level cannot be explained satisfactorily if isolated from the situation. She considered the following as causes of switching in her infant son:

1. Person and place most obviously caused a code-switch, e.g. leave-taking from his father in Estonian at the door of a

friend's house he switches to Swedish as his Swedish playmate opens the door and says:

kofferten inte mee; bilen inte mee.
(the bag is not with me, the car is not with me.)

2. Topic sometimes influenced the choice of code, so if the child talked about cars he used Swedish since he only knew the names in Swedish.

3. Estonian words hardly ever appeared in Swedish sentences but when they did they followed the rules of place and person, i.e. when and from whom learnt.

4. Items in the other language could be used as quotations from an earlier utterance.

5. Code-switching also arose in an appellative function. To strengthen the argument in Estonian he might repeat a request in Swedish.

Piette (1982) gives an example of a Welsh/English bilingual child aged about six who in telling a story uses Welsh for the narrative and English for direct-speech role playing, rather like putting on an accent for a character.

Rhodri: Edrychodd e lan a welodd e. (he looked up and saw)
: Ioics.
: I'm not going back in there without my tiger.
: Teigr gyda fe ti'n gweld. (he had a tiger with him you see)

The child appears not only to have learnt rules for alternation between the two languages but is able to use them for dramatic effect. McClure (1981) confirms that switches related to mood shift appear at about the age of six years. Then slightly later, at about 8/9 years, switches for emphasis occur.

3;9 WHY CODE-SWITCH?

Oksaar (1975) sees code-switching as a strategy for attaining communicative competence in two languages. In her conclusion she says (p. 385);

> Code-switching reveals that language contact operates on at least two levels. Thus it develops an awareness of two languages, which makes it possible to use the 'right'

sequences in the 'right' situations. However it also seems to develop awareness for rationality in performance; interference may occur on one occasion and not on another even if it is equally possible in either case.

So it would be surprising if code-switching did not take place. In the same way that the infant does not use the 'right' grammar on the adult model when he is acquiring language neither does he consistently use the appropriate code for the context. He gradually learns to separate the codes concurrently with acquiring the syntactic rules. This separation of codes seems to be analagous to the monolingual's use of different registers to different interlocutors. At about four years old monolinguals '..may whine at their mothers, engage in intricate verbal play with their peers and reserve their narrative, discursive tales for grown-up friends', (Gleason 1973 p.167). At about this age then, we might expect that bilinguals will have developed some sophistication in their selection of the appropriate code for the context.

Ervin-Tripp (1967 p.82) suggests that perhaps the bilingual child's selection of linguistic variety is more dependent on the social milieu and less dependent on private motives than that of the adult whose language is under more conscious control. If the community has a long history of bilingualism code-switching/mixing may be the norm and code-separation may be reserved for formal registers and written language. In such a case we would expect that children, not having had much exposure to situations where the languages are differentiated, would have more difficulty in separating the codes. This point is reiterated by Swain (1977) who believes that code-mixing in a Canadian bilingual community is a necessary part of language acquisition. A nine-month study (Swain 1974) of one French/English bilingual child, dominant in French, showed many cases of deviation from French and English norms of lexical and structural use. Two researchers conducted the study, one of whom posed as a monolingual English speaker and the other as a monolingual French

speaker. The child achieved lexical consistency before structural consistency in the two languages and his growing sensitivity to language specific elements was thought to be due to the need to communicate with monolingual speakers of French and English.

Grosjean summarizing child code-switching says (1982 p.206):

> Code-switching... occurs early in children but at first is used mainly to express a word or an expression that is not immediately accessible in the other language. With time it is used as a verbal or communicative strategy and ultimately as a marker of group membership.

A description of the changing nature of code-switching is given by Vihman (1985) who studied an Estonian/English bilingual child. At the first stage of acquisition universal principles of child syntax are applied, then rules specific to each language are employed. This is accompanied by a drop in the level of mixing as the child achieves a metalinguistic awareness probably around the age of two. As the child develops his own perspective on code-mixing, there is a return to language mixing in the bilingual context which can be regarded as a more advanced stage.

PART 3: CONVERSATIONAL COMPETENCE OF NURSERY SCHOOL CHILDREN

Theoretically a nursery school child presented with a task in the company of one or more of his peers could remain silent, speak to himself, pay attention to what a partner says and make an appropriate contribution, speak in overlap with the speech of others or display random gaps between utterances. It seems likely that children who are more familiar with each other, and so sharing a conversational history, will have qualitatively better conversations than children who have hitherto been strangers. However, the effect of increased familiarity on the quality of conversation may not be measurable in children as young as four years, unless they have developed a capacity for *social* speech. The following section presents, in brief, a range of perspectives on how 'social' we might expect the language of nursery children to be.

A distinction between the two categories of *egocentric* (private) speech and *sociocentric* (social) speech was made by Piaget (1926) to describe the language of young children. Speech which was not adapted to listener's needs, egocentric speech, was said to be typical of the young child. At the first stage of development a child in the company of others was described as engaging in *collective monologue*, which is social in the sense that the presence of others acts as a stimulus to conversation, but egocentric in that the point-of-view of the other is not taken into account. With time, the child's language was seen as developing to a sociocentric state, where speech is adapted to the listener's needs. Piaget's work suggests that the transition to the sociocentric state is facilitated by same-age peer interaction when conflict arises as egocentric problem-solving strategies are challenged by a peer. However, up to the age of about six or seven the child was considered a poor communicator because of his inability to 'decentre' and appreciate the position and needs of the other participant in the conversation.

Evidence that young children can appreciate the position of others much earlier than Piaget proposed is presented by Donaldson (1978). If tasks are designed which are 'humanly comprehensible' in that they involve seeing another point-of-view from the the standpoint of the other's feelings and intentions, rather than a literal reading of 'seeing' from another perspective, then children as young as three years are able to 'decentre' and take account of others in their communication. Donaldson says (1978 p.121):

> All normal children can show skill as thinkers and language-users to a degree which must compel our respect, so long as they are dealing with 'real-life' meaningful situations in which they have purposes and intentions and in which they can recognize and respond to similar purposes and intentions in others.

Garvey and Hogan (1973) studied the videotaped play sessions of 18 child dyads aged 3½-5. They conclude, in line with Piaget's observations, that children of this age-range engage in

egocentric speech such as repetitions, monologuing and collective monologuing, together with muttering, self-answered questions and task self-guidance. However, most of the time the children's speech was social in that it was adapted to the speech or nonverbal behaviour of the partner. The greatest part of this social speech was composed of single exchanges but all dyads produced some sequences as long as three exchanges. Results comparing younger with older dyads in the 3½-5 age-range showed that older dyads were capable of producing proportionally longer sequences; eleven out of twelve of the older dyads formed sequences of six exchanges, compared with only half of the younger dyads. Sequences as long as twelve were recorded for both younger and older dyads. Garvey and Hogan (1973) say it may be more useful to consider children's language as 'sociocentric' from the outset.

A study by Pellegrini (1981) examined the effect of an audience on the production of private speech. The speech of preschoolers was compared in two conditions, one supportive of oral communication, free play, and one non-supportive of oral communication, doing puzzles with a non-communicative adult. The criteria for classifying speech as 'private' were lack of eye contact and reduced utterance volume. In the first condition, free play, when a response from an auditor was more likely, children were found to have higher coefficients of egocentricism (total private speech utterances divided by total speech utterances). The ratio of private to total speech utterances for all the children in the free play condition was 268:750 or 0.357. The same ratio for children in the puzzle condition was 9:111 or 0.08. The results were interpreted as supporting a view of the non-differentiation of private from social speech.

The general picture emerging seems to be that children of about four years can be described as egocentric, because there is no doubt that Piaget's findings can be replicated using the same tasks, says Donaldson (1978 p.23). However, sociocentric behaviour, in particular socially oriented speech, can be observed in young children if the task or situation is more

meaningful to the participants, and even overt apparently private speech may be uttered in the expectation of its reaching an auditor.

It may be that language is best viewed as sociocentric from the earliest stages. Macnamara (1972) proposed that language-learning is closely bound up with other types of learning and an ability to interpret situations concerning human interaction through processes of hypothesis-testing enables the child to acquire a knowledge of language in context. Agreeing with this position Bruner (1975a p.2) describes language as a 'specialized and conventionalized extension of co-operative action' used to regulate joint activity and joint attention. The emergence of this capacity to engage in co-operative action with others is observed quite early. Bruner cites evidence that children can distinguish very early the category of <u>people</u> from the category of <u>things</u> (Trevarthen 1974) and that distinctive responses are shown to each. Communicative intentions are observable in the first few months of life. Bruner (1975a) suggests that the child has an innate capacity for constructing schemata related to 'inter-subjective' events as compared with other events. Children's language is seen as developing out of the social interaction between young children and their mothers while they are engaged in joint activities such as pointing, searching or playing with objects (Bruner 1975b). From a different theoretical perspective, Vygotsky (1962) views language acquisition as a gradual internalization of dialogue strategies which have been overtly practised between an adult and child, but speech is likewise seen as having a social nature from the beginning.

Speech act theory (Austin, 1962; Searle, 1969) is concerned with the conventional communicative purposes of utterances. A wide range of communicative behaviours from prespeech to adult dialogue have been empirically investigated using various speech act taxonomies. Dore, Gearhart and Newman (1978) review the theory behind the development of one system, a 'task' model of conversation acts, which has been used to examine pre-schoolers'

use of language in conversation with an adult (Dore 1978). Different C-act patterns are reported for two different situations, the classroom and in a supermarket. A number of factors constituted the situation (which should be distinguished from the purely physical 'setting'). These included the number of participants, the ratio of adults to children, the interactive style of the participants, and the task. It was not possible to isolate the specific effects of each factor in the experiment as it had been designed.

In order that young children may use speech acts effectively they must be able to minimally sustain discourse and they must recognize the more specific pragmatic rules connected with certain speech acts, such as that a request is followed by a response. The conversations analysed by Dore (1978) between young children and an adult were sufficiently 'social' to apply a conversation-act (C-act) and sequencing analysis (the C-act coding is reprinted in section 10;1). It is suggested that peer interactions without teacher support are much less complex than teacher-child interactions. Dore et al (1978 p.383) say:

> Their talk may be a flow of collective and private monologue interspersed with genuinely communicative exchanges.... Children tend to mesh their talk with their simultaneous actions; the context for their talk is largely limited to local, ongoing activities.

A study by Pelligrini (1982) adopted Dore's C-act analysis in an examination of the conversations of same-age dyads of children, in the 3 to 5 age range, who were doing puzzles. He concludes that the ability to use language to direct peer behaviour develops during the pre-school period. Three sub-categories of age-range were compared. All groups were able to use speech acts to minimally sustain discourse but the oldest group used more language which specifically guided peer behaviour, such as rules/explanations, directives, and responses to requests.

As far as the flow of conversation is concerned, how competent could we expect young children to be in sharing the speech stream? Ervin-Tripp (1979 p.392) summarizes the work on adult turn-taking. Adult Americans overlap only briefly, allow short gaps between turns, but tend to overlap more when sequences are more predictable, e.g. at conversation closure. But social norms may vary and in an Indian-English study (Agrawal, 1976) interruptions were interpreted as a gesture of co-operative talk. Ervin-Tripp predicts that, aside from social norms, for the purely 'utilitarian' reason that conversationalists are interested in the speech of others, we would expect nonoverlaps and long gaps in young children's conversations. Garvey and Hogan (1973) report a rate of one utterance every 4.6 secs. for the 18 dyads, aged between 3½ and 5, which they studied in a play situation.

In the present study we might expect, given a meaningful task with novelty value which requires joint attention, that children should generally be able to minimally sustain discourse. Monologuing, collective monologuing, egocentric/private speech not directly linked-in to the previous turn are likely to occur but smaller proportions are expected when children know each other well. If the situations are similar, the range and proportions of C-acts for each conversation should be similar. But if 'number of participants' is a factor affecting the *situation*, as Dore suggests it might be, or additionally if 'familiarity of participants with each other' is a factor, then the range and proportions of C-acts may vary for different conversations.

CHAPTER 4

CO-OPERATE OR CONFLICT: CONCEPTS FROM INTERPERSONAL BEHAVIOUR RESEARCH

The present section draws on research into personality theory and the interpersonal dimensions of social behaviour which may provide a model for the type of behaviour I have referred to as sociolinguistic code switching/mixing in young bilinguals. The particular area of personality theory which is of interest is the representation of the relationship of personality traits or modes of behaviour to each other. Two different types of approach can be identified in the literature; the search for underlying factors by factor analytic methods and the elaboration of a *circumplex* model. The term *circumplex* (Guttman 1954) refers to a circular arrangement of variables derived from an intercorrelation matrix. Variables which are placed adjacent to each other on the circle are more closely related than those further apart. In a circumplex model of interpersonal behaviour it is the ordering and spacing of the variables (traits) on the circle which defines their structure. The interrelationship of behavioural modes displayed on the circumplex model is of particular interest in the present linguistic study. I will first consider the trait/state distinction, then mention some early circular representations of interpersonal behaviour, leading on to a more extensive presentation of recent circumplex models and finally to the concepts from these which can be transferred to a psycholinguistic/sociolinguistic setting, under the heading of flexible response modes. There is a final note on terminology.

4;1 TRAITS AND STATES

Construction of personality theory generally begins with a compilation of *trait terms*, words describing the whole range of possible behaviours. The selection of a set of generic terms from this original set which will be representative of the spectrum of

interpersonal behaviour is the task of the personality theorist. Conte & Plutchik (1981) give an idea of the size of the problem. They derived a list of 223 trait terms from eight sources which included more than 20,000 trait names. Allport & Odbert, as early as 1936, compiled a list of 17,953 words referring to personality which has served as a basic reference point for many theorists. A distinction was made at the time between *traits* and *states* and about a quarter of the total were listed under *traits* and a quarter under the heading of *states*, the remainder were considered as social evaluations or of metaphorical/doubtful status. *Traits* and *states* can be distinguished by their frequency of occurrence. Behaviours which are performed with apparent regularity are judged to emanate from within the individual (*traits*) whereas behaviours performed only occasionally (*states*) are seen as being dictated by fleeting social, physiological or environmental conditions. The trait/state distinction pervades the personality literature but it can also be argued that the division is an arbitrary one (Allen & Potkay 1981), since descriptive terms can feature in both trait and state lists.

Although I will be examining theoretical taxonomies of personality which deal with the domain of traits, or more specifically interpersonal traits, an extension of models to encompass temporary behaviour states or moods may prove to be more appropriate for transfer to a sociolinguistic setting.

4;2 A CIRCULAR MODEL OF INTERPERSONAL BEHAVIOUR

A circular ordering of interpersonal constructs was proposed in the 1950's by a number of investigators, Leary (1957) and associates (Freedman, Leary, Ossorio & Coffrey, 1951; LaForge & Suczek 1955), but the formulation was primarily theoretical; variables were arranged in a circle then the statistical pattern was shown to follow the conceptual one.

These researchers started with a set of 'several hundred' interpersonal descriptive words which on inspection all seemed to have some reference to the two factors of *power* or *affiliation*.

They then refined sixteen generic interpersonal factors from the first array of terms and arranged these in two-dimensional space around the four nodal points of the two axes of power and affiliation. The four points were *Dominance - Submission* on the vertical (power) axis and *Hostility - Affection* on the horizontal (affiliation) axis. So, for example, one of the sixteen generic terms, *mistrustful*, would be a blend of submission and hostility and would be positioned in the third quadrant of the circle.

The placement of traits around the circle in a theoretical model is somewhat arbitrary it has been argued (Conte & Plutchik 1981), but data from LaForge & Suczek (1955) has shown that the sixteen variables they employed correlate more closely with adjacent items than with variables one step, two steps etc. apart. So the units around the scale are correctly ordered although they may not be equidistant.

4;3 CIRCUMPLEX MODELS OF INTERPERSONAL BEHAVIOUR

A *circumplex* according to Guttman's definition (1954) is a model depicting a circular ordering of variables based on their degree of similarity. Variables next to each other on the circle are highly correlated and coefficients reduce with the increase in distance between items on the circle. An example may clarify the concept:- when the variables are personality traits, adjacent items, which would share semantic features, might be, e.g. peaceful and co-operative. Examples of variables placed opposite each other in the circle which share no semantic features could be, e.g. argumentative and obedient. The circumplex is mathematically derived from the intercorrelation matrix of the variables under consideration. The matrix is factor analyzed and the first two factors are extracted. The loading of all the variables is then plotted on two orthogonal axes which represent the first two factors. The location of the variables should form an approximate circle.

Foa (1961) reviews work by Borgatta et al (1958) and Schaefer (1959) which supports a circumplex order or at least part of one.

In the first study personality trait rankings of members of graduate student groups, by their peers, were factor analyzed. Two major factors emerged of *Individual Assertiveness* and *Sociability*. The authors show that intercorrelations among thirteen personality variables loaded on the two major factors. These could be arranged in a *simplex* i.e. along a line where each variable correlates higher with variables which are nearer to it along the line and lower with variables further away. When these variables were plotted on two co-ordinates according to their loadings on the major factors, very few variables had a negative loading on Sociability which suggested that the original set of variables was biased in that it excluded traits which were unsociable and unassertive. If such traits had been included, the simplex would probably have folded on itself into a more circular order.

Schaefer analyzed data from mother-child dyadic interactions and found two major factors of *Control-Autonomy* and *Love-Hostility* which resemble closely those of Individual Assertiveness and Sociability reported by Borgatta. The correlation coefficients in this case fall into the circumplex pattern although there is a gap where variables representing unsociability could be expected.

Wiggins (1979) established sixteen preliminary clusters of interpersonal traits based mainly on the Leary (1957) system, and demonstrated that the domain of interpersonal traits was best described with reference to a circumplex model. One difference was that in Wiggins' model the configuration of generic terms was adjusted so that vectors appearing opposite each other on the circle were bipolar opposites. However the same basic axes of *Dominant-Submissive* and *Warm-Cold* featured in the model.

A number of other studies have demonstrated that the first two factors arising from a factor analysis account for most of the variance when personality is defined in terms of interpersonal relations (Becker & Krug 1964; Kassenbaum, Couch & Slater 1959; Schaefer & Plutchik 1966). Evidence has also been accumulating that when the interpersonal variables are plotted

on the orthogonal axes representing the two major factors they fall into a circular pattern. The circumplex model of personality which is claimed to be 'parsimonious and meaningful' (Conte & Plutchik, 1981, p.701), and 'potentially falsifiable' (Wiggins, 1979, p.399) has emerged from empirical observations in two recent studies (Conte & Plutchik 1981 and Fisher et al 1985).

Conte & Plutchik discuss the development of the model and say (p.702):

> There thus appears to be considerable stability of results across studies using different methodologies and different populations of subjects. This relative invariance can be thought of as a direct function of the implicit circular ordering of traits which a circumplex analysis makes explicit.

In their own study they sought to determine exact locations for the personality variables around the circle. Deriving a set of 223 trait terms from the massive array mentioned earlier (in section 4;1), they, first, used a modified paired comparison method to locate the terms on a circle. The ordering was then checked by an independent method utilizing factor analysis of semantic differential ratings of a sample of 40 of the terms which verified the first ordering.

The authors conclude that the model describes in two dimensional space the interrelations among a set of trait terms that adequately represent the interpersonal trait domain. However, in preference to labelling the axes of the two dimensions as Love-Hostility or Dominance-Submission, they suggest a new perspective on the issue. If the circular ordering is correct, they say, then any particular axis is arbitrary and no more basic than any other. Clusters of traits appear probably because of initial selection of trait terms. Axes are simply arbitrary reference points which are methodologically necessary so that factor loadings can be plotted. When the positions of trait terms relative to each other have been established then the axes can be removed, and relations expressed through the circular network.

But the two axes of Dominance-Submission and Love-Hate (Warm-Cold) have become accepted notions in the interpersonal behaviour literature e.g. Lorr & McNair (1965); Argyle (1970). I would like to move the axes rather than dispense with them and suggest that a new focus on an axis of *Co-operation/Conflict*, where Co-operation is a blend of love and submission and Conflict is a blend of hate and dominance, could provide a shift of vision. If the D-S vertical axis is moved about 35 degrees anti-clockwise we have a new perspective on interpersonal relations and group dynamics. It is theoretically possible for everybody to co-operate in interpersonal relations, but since interactants usually start from an individually preferred position (egocentric) then conflict can be seen as a necessary short-term behaviour to achieve a co-operative solution (sociocentric).

FIGURE 4;1 Angular placement of 171 personality trait terms based on the method of direct similarity scaling (Conte & Plutchik 1981) Axes have been marked in for: A. Dominance-Submission, B. Love-Hostility, C. Co-operation-Conflict.

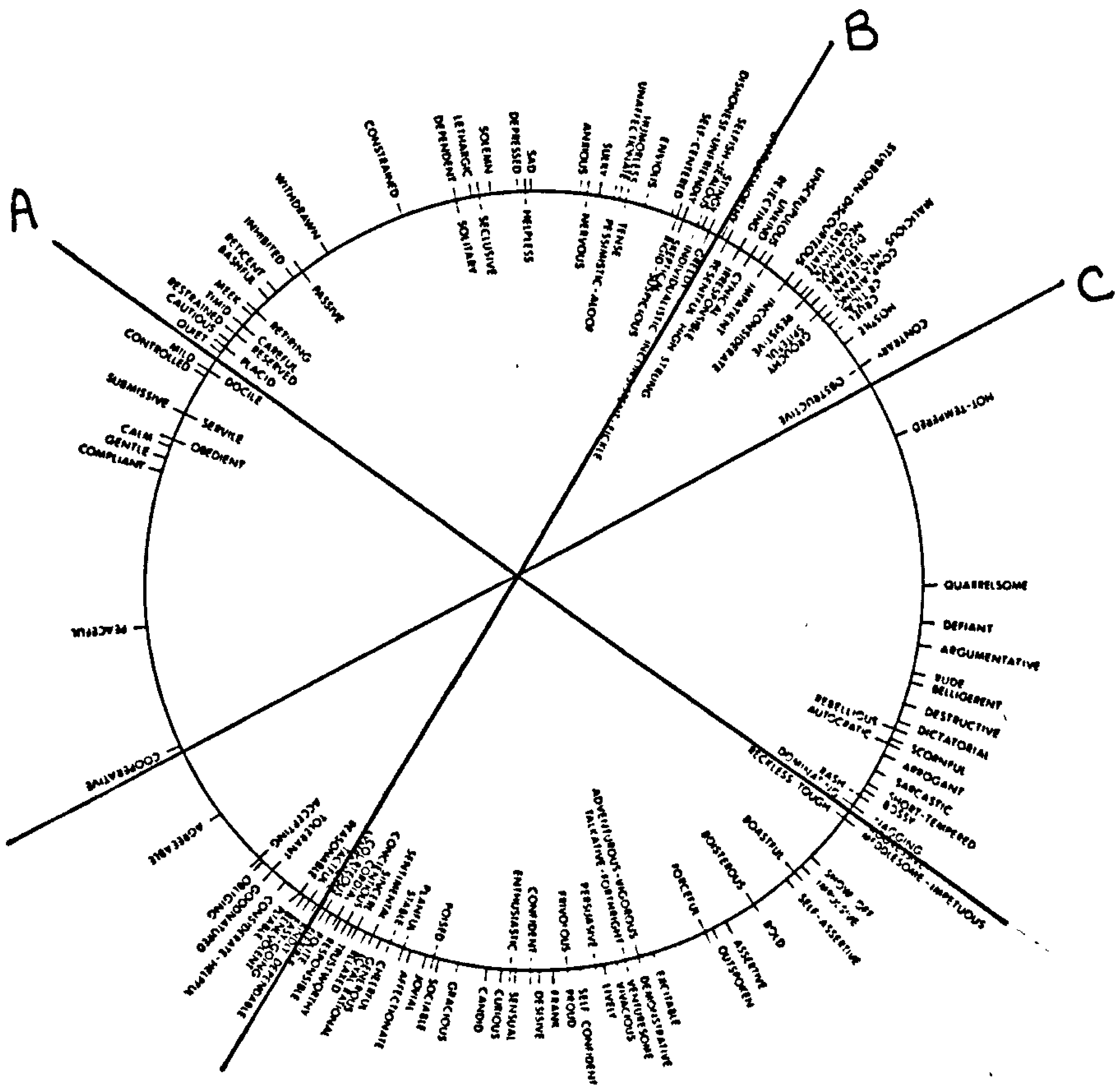


Figure 4;1 shows the Conte-Plutchik circumplex for trait terms. I have marked in the two axes D-S, L-H, which they have dispensed with, for purposes of comparison with the suggested Co-operation/Conflict axis.

4;4 FLEXIBLE RESPONSE MODES

My attempt to make use of a reinterpreted version of personality psychology as a framework within which to understand co-operation/conflict in two-language conversations is not entirely unproblematic. One problem is that I have taken a model from personality trait theory, where terms represent a disposition of an individual to respond in characteristic ways and transported it to the arena of flexible behaviour characteristics, of states and moods. Instead of referring to a person as high on conflict, I would like to say that X conflicts in one situation and co-operates in another. Has this notion been accommodated in the literature? A number of studies show that it has. I will briefly consider 'interactionist' personality theory, then an extension of the circumplex model of personality traits to temporary moods.

Whether an individual's behaviour is determined largely by dispositional characteristics or by the different situations in which he finds himself or by an interaction of the two is an important issue in personality theory. Allport (1966) and Gormley & Edelberg (1974) favour a traditional trait approach to personality, believing that behavioural characteristics are relatively stable over time and across situations. An alternative position stresses situational determinants as most significant in determining a person's behaviour (Mischel 1968, 1969). In its extreme form the 'situationalist' position denies individual differences. The 'interactionist' position provides a compromise between the two extremes, where person variables are seen as interacting with situational variables. Endler & Magnusson (1976, 1978) support the interactionist position and note that: 'most of

the formulations of modern trait theorists are compatible with an interactional model of behaviour' (1978 p.592).

So an orientation towards the interactionist position in personality theory will allow the kind of flexibility required to apply the circumplex model to behaviour which does not necessarily emanate exclusively from dispositional characteristics of the individual, but rather, is to some extent determined by the situation in which a person interacts with others.

One recent study (Fisher et al. 1985) has extended the circumplex model of personality trait language to self-reported moods. Several criticisms of the Conte-Plutchik circumplex are discussed. The major difficulty is that since judges rated the *meaning* of trait terms rather than their own behaviour a *semantic* rather than a *psychological* taxonomy would have resulted. This possibility is a consequence of the rater invoking an *implicit personality theory* (Bruner & Tagiuri 1954; Mulaik 1964) which is a conceptual framework that judges carry around in their heads developed partly from experience of how people behave but which is also a reflection of the implicit similarity and bipolarity of linguistic terms. The Fisher et al. study aimed to show that the circumplex derived from behavioural self-ratings matched the Conte-Plutchik circumplex of personality traits. 141 college students were asked to self-rate their mood twice a day, over 15 days. It was found that the circumplex generated by these behaviour measures compared well with the Conte-Plutchik circumplex of semantic ratings. They conclude that there is little difference between the two, so confirming Russell's (1980) thesis that the implicit personality theory that raters invoke when they make judgements of similarity has much in common with the cognitive process which raters use when interpreting their own affective experience. The relation between trait and state is clarified in the conclusion:

> Although the items in the Conte-Plutchik circumplex were carefully chosen to represent behavioural traits, even to the extent that state specific terms were screened out in

the selection process, the underlying theory of the circumplex model is that personality traits form a circumplex because they are aggregates of affective states that also have a 'circumplicial' structure (Plutchik 1980). Our analysis supports Plutchik's hypothesis of state to trait continuity. (Fisher et al 1985 p.241)

From the preceding studies I would like to take the notion of an axis of Co-operation/Conflict from the circumplex model at the level of state rather than trait and to consider an involuntary interpersonal response, which a person may or may not be aware of, termed *co-operate* or *conflict*, and to transfer this to a sociolinguistic setting. The interpersonal response of co-operate/conflict will be proposed as an underlying mechanism in code-switching behaviour.

4;5 TERMINOLOGY

The term 'conflict' may seem unduly harsh to describe a code-switch, perhaps because conflict has been equated with aggression in the psychological literature. A multitude of terms have been used almost interchangeably to describe conflict behaviour, says Shantz (1987 p.284), such as: aggressive, agonistic, assertive, aversive, coercive, conflictual, disruptive or even negative. It is suggested that a dyadic conception of conflict is more appropriate, where the incompatible behaviours or goals of the two participants are overtly opposed and the aim is to overcome the other's opposition or resistance. Most conflict, then, can be seen as behaviour which does not necessarily involve aggression although aggressive behaviour tends to arise in the context of social conflict.

The personality trait terms in the 'conflict' region of the Conte-Plutchik circumplex (Fig. 4;1) confirm that the term has acquired over-intense connotations of hostile behaviour. As well as referring to the code-switching behaviour of young bilinguals as 'conflict', I propose to adopt the term 'defection' from mathematical game theory and talk of *conversational defection*. Additionally, with reference to the content of the message, the

term *disaffiliative* behaviour will be used, which is intended to imply conflict with an absence of aggression.

CHAPTER 5

CO-OPERATE OR CONFLICT: MATHEMATICAL GAME THEORY AS A MODEL

The ideas expressed in this chapter, coming from a variety of fields, are linked together by a common thread in that they all relate to mathematical game theory and the classification of behaviour along the co-operate/conflict dimension which was discussed in the last chapter. I will give a brief introduction to game theory and its vocabulary, then consider the simplest game analysis, the 2 x 2 zero-sum game, and show how this model could be applied to make predictions about a bilingual situation. Different levels of 'rationality' are considered leading to a higher level analysis where a *collectively rational solution* is for a speaker to co-operate with an interlocutor. For child language, a trend towards language homogeneity in bilingual conversations is predicted, but a different analysis is possible for adult speakers in a situation of language contact. Then, the next section will cover the evolution of co-operation in animal species in the game theoretic framework. Finally, there is a mention of the logic of asymmetric contests and how this might be applied to a bilingual community.

5;1 GAME THEORY

When the term *game* is used by game theorists, they mean a social situation involving two or more actors (*players*), in which the interests of the players are interconnected or interdependent (Zagare 1984). Poker, noughts and crosses and chess are *games* in this sense but so are business decision-making processes and military operations. Since Von Neumann and Morgenstern (1953) formalised game theory with reference to economics, game theoretic models have had applications in a wide range of fields: politics, psychology, sociology, and more recently in the evolution of behavioural characteristics (e.g. Maynard-Smith & Price 1973; Maynard-Smith 1974, 1982). One key concept in game-theoretic analysis is that players are *rational* and will act in

such a way as to bring about the most preferred of possible outcomes, assuming that the other party is acting in the same way. In the strictest sense this rationality is self-interested, the rational player is playing to enhance his own position and has no conception of collective interest. When game analysis is transferred to the field of evolutionary biology then the notion of *rationality* is replaced by *population dynamics and stability* and, instead of the concept of a *self-interested* player, we have the notion of *fitness* in the Darwinian sense. A first impression may be that a model which takes rational decisions or stable behaviour states as a prerequisite is an unlikely candidate for application to code-switching behaviour in bilinguals, which has been described as 'an irregular mixture of two distinct systems' (Labov 1971 p.457). But it is precisely the rationality of the analysis which reveals non-rational psychological states. Rapoport in his conclusion to 'Two person game theory' (1966 p.214) says:

> The great philosophical value of game theory is in its power to reveal its own incompleteness. Game theoretical analysis, if pursued to its completion, perforce leads us to consider other than strategic modes of thought.

5;1;1 A 2 x 2 zero-sum game

The figures 2 x 2 refer to two *players* who each have a choice of two possible *moves* in the game. As an illustration (from Venttsel 1963 p.6) consider players A and B who each have a coin in front of them. In one *play* of the game they each have to choose whether they will show 'heads' (h) or 'tails' (t). If the coins show the same sides (both heads or both tails) then A wins and scores 1 point. If the coins show different sides (one 'heads' and one 'tails') then B wins and scores 1 point. Figure 5;1 shows the payoff matrix for the game.

The game is described as zero-sum (as opposed to non-zero sum) because A gains by the same amount that B loses and vice-versa. One play of this particular game is not particulary

enlightening, but imagine the players repeating the game a number of times. Since they are acting 'rationally', then they are both playing to win. What would be the best strategy? Consider person A, if he chooses a pure strategy, for example: h, h, h, h, his opponent, B, will quickly adopt the pattern: t, t, t, t, to produce the condition of 'different sides' so that he can win. If A pursues a mixed strategy he is more likely to win. It turns out that A's best strategy is to use both of his pure strategies (heads and tails) at random but an equal number of times. The same optimal strategy applies for B. In fact, since the game is zero-sum, nobody will win if A and B both pursue their best strategy.

FIGURE 5;1

Payoff matrix for person A - 2 x 2 zero-sum game

	B (h)	B (t)
A (h)	1	-1
A (t)	-1	1

(h)=heads
(t)=tails

In order for a situation to fit the game-theoretical framework certain conditions have to be met; there must be choice of actions, and as well as being interdependent, outcomes have to be unambiguously defined and assigned a numerical value, players should show distinct preferences among outcomes and they are then assumed to behave in a rational manner, by making the most self-advantageous choices to maximise their payoff. The 'heads and tails' game fulfils these conditions but it is difficult to see how bilingual code-switching behaviour could meet the criteria. A major problem is the difficulty of establishing distinct preferences and assigning a payoff value to choices. How can we

say that bilingual X *prefers* Punjabi (in a given setting) and that the payoff to him if he succeeds in weighting the conversation towards higher proportions of Punjabi than English is a numerical value *p*? This task is conceptually possible, however, if after examining a sample of X's conversations with other bilinguals, statistical probabilities are calculated as an inductive prediction of how X will code-switch his speech on future occasions. Let us consider, instead of the bilingual speakers as players, a convenient abstraction where the two languages, Punjabi and English, are players in a game. Can such an abstraction be justified?

5;1;2 First analysis: languages as players, a 2x2 bilingual game

Linguists are on the whole occupied with finding rules at various levels of analysis, apart from sociolinguists who stress that the actual data of everyday speech does not always fit the formulated rules. Language is often treated as an object outside its social context. I am proposing that the bilingual's two languages can, similarly, for the purposes of analysis, be regarded as existing as entities apart from the psychological state of the speaker. The application of game theory to 'depersonalized' languages could be seen as the same order of abstraction as a grammatical analysis which disregards social context. In this analysis it would not be the 'people' who are the players, because their psychological states are not easily quantifiable and are 'irrational' in that the speakers cannot always be viewed as trying to maximise their payoff when in conversation with their interlocutors. For instance, it would be difficult, in the game matrix, to accommodate the idea that an individual may wish to identify with, or distance himself from, his interlocutor.

Let us assume, then, that whereas *people*, with a choice of language or register available to them, are prone to psychological states which cause them to behave irrationally, *languages*, can act rationally in the sense that they can make

choices which are 'preferable' to themselves. I suggest a separation of the *psychological state* of the speaker from the *language* he uses so as to allow a simple application of game theory.

We can consider the *languages*, in this case English and Punjabi, as *players* in the game. A systematic analysis is possible if we say that, since languages are rational in the sense that they are rule-governed, then for the sake of structural consistency, an English unit prefers to be followed by an English unit and a Punjabi unit prefers to be followed by a Punjabi unit. Since choice of Punjabi excludes choice of English at any one point and vice versa, the payoff matrix is quite simple. When P (Punjabi unit) follows P the payoff is 1. Similarly when E (English unit) follows E the payoff is 1. But when E follows P, or P follows E the payoff is -1. The resulting bilingual payoff matrix is shown in Figure 5;2.

FIG. 5;2
A bilingual game matrix for both Punjabi and English as players

	P	E
P	1	-1
E	-1	1

But according to the game-theoretic model the players adopt rational strategies to achieve maximum payoff, so Punjabi and English would both be competing against each other at every choice point, be it word, clause or sentence boundary. The optimal strategy, noted above, is for each player to use both of the pure strategies at random and an equal number of times. Since there are so many potential switch points in a stretch of conversation then the pattern of code-switching which would be predicted from this model is one of *random and frequent* switching

where the mean payoff is zero, so neither Punjabi nor English would be proportionally over-represented in the total conversation.

If the predicted pattern was not found, how could the results be explained? The psychological states which were abstracted out when languages rather than people were considered as players would have to be reconsidered in line with the quotation from Rapoport (see section 5;1) that where game theory fails to predict a result by rational analysis, it allows us, indeed 'leads us to consider other than strategic modes of thought'. So the human element (the interpersonal aspect of the social context) in the bilingual game would be exposed by the 'depersonalized' language analysis.

Sociolinguistic evidence points to the fact that choice of language is not a rational decision (Gumperz & Hernández-Chavez 1972 p.88; Hasselmo 1970 p.208; Labov 1971 p.457; Lipski 1978 p.255; Valdés Fallis 1976 p.53), at least not in the strict game-theoretic sense that a person chooses his language units on the basis of wanting to maximise his payoff against his interlocutor. If language is considered as part of a person's past and identity, he can be seen as choosing speech acts so as to identify with, or distance himself from his interlocutor (Le Page 1985 p.181). These are just two of the non-rational choices which an individual contributes to the process of code-selection. He makes these choices, consciously or unconsciously, depending on how he views the other person in an interpersonal exchange.

I would like to consider, in the framework being developed here, the moods and states highlighted in the last chapter, in particular the interpersonal responses of co-operate or conflict/defect. I suggest that the *psychological state* of co-operate or defect, emanating from the person/persons in the game, can be seen as acting on the *players* (which are the two languages).

Where a bilingual dyadic conversation does not exhibit the 'frequent and random switching' which the bilingual matrix in Figure 5;2 predicts then the following general interpretations

are possible: firstly, stretches of conversation in which either Punjabi or English is maintained represent co-operation; secondly, a non-switched conversation represents total co-operation; thirdly, a conversation where one person speaks one language and the other person speaks another shows total defection; fourthly code-switches represent defection. These observations will be considered in a discussion of the dyadic *conversation profiles* which represent the 'depersonalized' play-off between the two languages. This can be found in section 8;1.

Considering the *languages* as players and *co-operate/defect* as psychological states allows us to make abstractions which yield general predictions about *overall* conversational trends. Perhaps a different game-theoretic analysis is possible, taking speakers as players, now that the psychological states have been identified as co-operate and conflict/defect. To be of practical use, this analysis would consider conversational turns as moves in a game in which the psychological states of the players and the languages they use interact with each other. This possibility is further explored in the final section of this chapter.

5;1;3 Second analysis: levels of rationality, individual or collective rationality

The notion of *individual rationality* has been used in the game analysis so far. Rapoport (1966 p.130) describes this behaviour:

> By definition a 'rational player' looks out for his own interest only. On the one hand, this means that the rational player is not malicious - that is, he will not be motivated to make choices simply to make the other lose (if he himself gains nothing in the process). On the other hand, solidarity is utterly foreign to him. He does not have any concept of collective interest. In comparing two courses of action, he compares only the payoffs, or the expected payoffs, accruing to him personally.

But 'rationality' can have many meanings and we can speak of *levels of rationality*. The Classic Prisoner's Dilemma game (also

referred to in the next section 5;2) provides a model for the notion of *collective rationality*.

The Prisoner's Dilemma game for two players has different payoff values for the joint moves of the players. Figure 5;3 shows the payoff matrix. If both players co-operate they both score (1 each). If one co-operates and the other defects, the defector does well (scores 2) but the co-operator scores rather badly (scores -1). If both defect, they neither gain nor lose (0 each).

FIG. 5;3

Payoff matrix for the Prisoner's Dilemma

	Defect	Co-operate
Defect	0 0	-1 2
Co-operate	2 -1	1 1

In the absence of negotiation or binding agreements, a player of this game, operating an *individual rationality*, cannot be induced to play C (co-operate). Whatever the other does, it is to his advantage or lesser disadvantage to play D (defect). If both players reason this way, then they are both worse off than if they had chosen a solution of mutual benefit, i.e. both C. The notion of *collective rationality* prescribes a different strategy, that both participants choose C.

There can also be a higher order of rationality which takes *conditional response probabilities* into account. For instance, in an iterated version of the Prisoner's Dilemma game, a choice of C after CC would indicate trust between the players, C following DD would show a readiness to initiate co-operation in a position of mutual distrust and D following CC would demonstrate an

exploitation of goodwill. This 'dynamic' conception of rationality is described by Rapoport (1966 p.210) as:

> ... an ability to read the environment, to change one's hypotheses in accordance with acquired information and, by acting on the hypotheses, to affect the environment, in particular the perceptions of other actors like oneself.

Let us consider how the notion of a *dynamic collective rationality* in the game of Prisoner's dilemma could be transferred to a bilingual code-switched conversation. Taking a conversational turn as a move in the game, on each turn speakers have the choice of co-operating, by staying in the same code, or defecting, by changing code or code-switching in the middle of a turn. Code-switches mid-turn complicate the picture and a technique for categorising conversational turns as co-operation or defection is elaborated upon in the results chapter (section 7;2). However, there are still only two choices as far as language is concerned, code-switch (defect) or non-code-switch (co-operate). One element in the 'rationality' of this solution is that speakers favour language homogeneity, which happens to be the case for many young children, as the studies reported in Chapter 3, part 1 show. So in this case the 'collective rationality' is to solve the dilemma of having two languages available to both players by increasing the proportions of C following CC (where C is a turn involving no code change) as the conversation or friendship progresses. There could, however, be other solutions.

Imagine, for instance, a population of adult bilinguals who are well practised in switching and mixing codes such that the task presents no extra cognitive load for them, their reading of the environment could be such that advantages are to be bestowed on them, by showing themselves to have access to both social groups which the two languages represent. In this case the collective understanding of how to solve the two-language dilemma would be to co-operate in switching and mixing codes. For these speakers three code-mixed turns (or some unit other than a turn)

would be interpreted as C following CC. It is difficult to see how the 'collective rationality' could be fully described in such cases without recourse to speaker intuitions which is, in fact, the methodology of much of the work on code-switching (e.g. Blom & Gumperz 1972; Gumperz 1982; Kachru 1978; Lavandera 1978(b); Le Page 1985; Verma 1976).

5;2 THE EVOLUTION OF CO-OPERATION IN ANIMAL SPECIES

A discussion of the evolution of co-operation in animal species is appropriate because it offers an analogy for the conditions under which humans can achieve co-operative behaviour and at the same time accounts for restraint in conflict. So the dimension of co-operation/conflict which was focussed on in interpersonal behaviour research (Chapter 4) receives support, together with the idea of dyadic conflict without aggression (section 4;5). The account which will be given hinges on other applications of mathematical game theory. I will first mention restraint shown by animals in intraspecies conflict and consider how game theory has been adapted to fit the evolutionary context, with the associated concept of an *evolutionarily stable strategy* (Maynard-Smith & Price 1973; Maynard-Smith 1974). This will lead into a recent theory of co-operation based on reciprocity (Axelrod & Hamilton 1981; Axelrod 1984) and suggestions for how some of the ideas could be applied to code-switching behaviour.

5;2;1 Intraspecies conflict

Observations of intraspecies conflict among animals reveal that most is of a 'limited war' type, fighting is rarely fatal. Lorenz (1966) presents a case for the 'gloved fist' nature of intraspecies aggression typified by ritualized fighting. Maynard-Smith & Price (1973 p.15) comment: 'How can one explain such oddities as snakes that wrestle with each other, deer that refuse to strike foul blows and antelope that kneel down to fight.' A previously accepted view was that natural selection in respect of

aggressive and co-operative behaviour took place at the group level. An explanation would be something like: limiting serious injury to combatants is necessary for the survival of the species, or a species whose members were prepared to sacrifice themselves for the good of the group would be less likely to become extinct. Recently it has been claimed that, at the level of species, the processes of selection are too weak to provide an adequate account and a return to Darwin's individual level of selection gives the best explanation of the evolution of ritualized behaviour in animal conflict (Maynard-Smith & Price 1973; Axelrod & Hamilton 1981).

5;2;2 Kinship

An explanation of co-operation and altruistic behaviour has always posed a problem in the Darwinian framework because survival of the fittest individuals and co-operative behaviour towards other individuals, which implies a reduced individual payoff, seem to be opposed. One extension to evolutionary theory seeks to explain co-operative behaviour between kin. Dawkins (1976) argues that the fundamental unit of selection is the gene (i.e. at a lower level of selection than the individual). The gene, it is claimed, is a self-interested entity concerned with perpetuating and increasing its replicas in future generations. In pursuit of this end, closely related individuals, who have sets of genes in common, are driven to behave altruistically towards each other. Evidence from animal species besides humans confirms that altruistic and co-operative behaviours usually occur when the interactants are related. It is suggested then that to build a society in which individuals co-operate generously and unselfishly towards a common good, will be with little help from biological nature. There remains some hope, however (Dawkins 1976 p.3):

> It is a fallacy.... to suppose that genetically inherited traits are by definition fixed and unmodifiable. Our genes may instruct us to be selfish, but we are not necessarily

compelled to obey them all our lives. It may just be more difficult to learn altruism than it would be if we were genetically programmed to be altruistic.

5;2;3 Reciprocity and the evolutionarily stable strategy

Another development in evolutionary theory, the idea of reciprocation, where the strategy adopted by a member of the population is dependent on strategies adopted by others, leading to restraint in conflict situations, has been developed by Maynard-Smith & Price (1973), Maynard-Smith (1974) and Maynard-Smith & Parker (1976) with reference to the concept of an *evolutionarily stable strategy*. They employed game theory in a unique way to show that ritualized conflict behaviour can evolve by individual selection.

In ordinary game theory with repeated plays of the game the notion of equilibrium is important. Once the equilibrium point is reached it will not pay a player to change his strategy so long as the other players maintain theirs, as his payoff cannot be improved upon. When the game analysis is applied in evolutionary biology the equilibrium idea is represented by the *evolutionarily stable strategy* (ESS) which when adopted by most of the members of the population cannot be bettered in terms of reproductive fitness. We need not assume that the players are rational beings, instead it is the player's genes which make him use the strategy. Maynard-Smith & Price (1973) ran a computer simulation between different hypothetical strategies: mouse, hawk, bully, retaliator and prober-retaliator in an intraspecies conflict situation, to ascertain whether limited conflict behaviour could, theoretically, be accounted for by individual selection. The moves available were C = conventional fighting tactics, D = dangerous fighting tactics, and R = retreat. *Mouse* never plays D and retreats in the face of D. *Hawk* always plays D until seriously injured. *Bully* plays D if making a first move and plays D in response to C. He plays C in response to D and retreats if the opponent plays D again. A *retaliator* plays C on the first

move, plays C if the opponent plays C, and with high probability plays D in response to D. *Prober-retaliator* would behave similarly but there is always a small probability that he will play D in response to C. After giving a D probe, he reverts to C if the opponent retaliates, but 'takes advantage' by continuing to play D if the opponent plays C.

The strategies which proved most successful against all the others were retaliator (an ESS) and, to a lesser extent, prober-retaliator (nearly an ESS). Over time a population of these various strategists would tend to evolve to a point where retaliator and prober-retaliator were maintained at high frequency with the others at low frequency through mutation.

5;2;4 TIT FOR TAT behaviour

The general principle that an ESS for co-operative behaviour can evolve in a population of initially self-interested individuals (*egoists*) has been developed by Axelrod & Hamilton (1981). They base their model on the Classic Prisoner's Dilemma game (described in 5;1;3) and include the idea of participants interacting repeatedly.

From the payoff matrix in Figure 5;3, it can be seen that in one play of the game or if the chances of a repeat interaction with a given player are small then the best policy is to adopt an 'individual rationality'; it pays to defect. There is an individual incentive to defect regardless of what the other player does. *Defect* is an ESS and no other strategy can invade it for single plays of the game. However if both players defect, then jointly they do less well than if they had co-operated, hence the dilemma. So in a social group where individuals are likely to meet again and remember each other a co-operative strategy would pay in the long term. Assuming, that players will interact again, in the *iterated* Prisoner's Dilemma, with a probability *p*, the best stategy to adopt would depend on the history of interactions between those players.

In a computer tournament which was run between different strategies to find the most successful solution to the Prisoner's Dilemma, the winning strategy, submitted by A. Rapoport, was one of co-operation based on reciprocity called 'TIT FOR TAT'. This strategy is simple: co-operate on the first move and do whatever the opponent does on subsequent moves. TIT FOR TAT (TFT) can be described as 'nice, provokable and forgiving'. A TFT strategist is never the first to defect and returns to co-operate if the other player does, acting as though remembering only one move back. Proof that the TFT strategy is both robust and evolutionarily stable for a sufficiently large probability of repeated interactions is presented by Axelrod & Hamilton (1981 p.1393).

There is a problem of how co-operation could get started in a world where all are defectors, since defect is also an ESS. A solution, it is claimed, could be provided by kinship and clustering. According to the 'selfish gene' theory close relatives will help each other in order to promote the spread of common genes. Kin selection may be needed for the initial spread of a strategy, then if individuals mostly play with their neighbours a cluster of TFT strategists will emerge who can invade a group composed of virtually all 'always defect' strategists. TFT once established with a sufficiently high probability of repeat interaction between individuals is stable enough to withstand invasion from a cluster of any other strategy.

Another explanation of how TFT may evolve in a primordial world (full of defectors), where the chance of reinteracting is minimal, is that TFT may evolve from a less co-operative ancestor who is well adapted to a defector's world. Bartholdi et al. (1986 p.135) suggest that a missing link could be a *suspicious TFT* (STFT), who defects on the first move of a game but then reverts to TFT. The authors claim that STFT would be a viable strategy in a world where relationships are transient.

5;2;5 ESS or DSS

There has been some discussion in the literature on whether the ESS can be learned. In the strictest sense the ESS is genetically encoded and if the kind of behaviour described as that of a 'retaliator' or TFT is learned rather than preprogrammed then it will have to be renamed. The developmentally stable strategy (DSS) has been suggested (Dawkins 1980; Harley 1981; Maynard-Smith 1982). Harley's (1981) study showed that a generalized learning rule which is not specific to a particular game can take a population to an ESS in one generation, but this is unlikely to provide an explanation for the development of a TFT strategy, says Maynard-Smith (1982 p.171). Because an individual would be required to start with a number of possible strategies (TFT being one of many), he would have to play long matches against individual opponents and adjust frequencies of response based on outcomes of past matches before discovering that TFT was the best strategy. 'One lifetime would not be long enough for such an inefficient learning process'. Once established in a group, however, learning could be important in maintaining the most appropriate strategy, since it would not pay to deviate.

I suggest that TFT behaviour could provide a model in bilingual code-switching, where the rule is speak the language the stranger speaks to you, if he defects by code-switching do the same, but be prepared to show co-operation by staying in the same code as your interlocutor. If he says something disaffiliative, retaliate but be prepared to be forgiving (i.e. return to co-operation). If four-year old children behave in this way, it could lead to a fairly strong claim about co-operative behaviour and restraint in conflict being an ESS which has been genetically encoded. If co-operative behaviour exists in a community of four-year old children, perhaps we should look at why researchers find it necessary to examine how 'behaviour to which some sort of 'morality' can be imputed can spontaneously

emerge from a world of selfishness' (Bartholdi et al. 1986 p.131), when the world of selfishness is not the biological creation.

5;3 ASYMMETRIC CONTESTS

Contests in the game theoretic framework may be symmetric or asymmetric. When players have the same choice of strategies, are assigned the same payoff values and start in the same situation then the game is described as *symmetric*. Referring back to the payoff matrix for the bilingual game, Figure 5;2, the game seems to be a symmetric one. Most games, as Maynard-Smith points out (1982 p.22), are asymmetric. Examples are contests between male and female, old and young, small and large or the owner of a resource and a newcomer. If players are unaware of the asymmetry and the payoffs are unaffected by it, then the asymmetric cue will have no influence. However, if the asymmetry is perceived by both contestants beforehand then this can bias the outcome of the game in favour of the holder of the asymmetric cue even though the payoffs are the same for each strategy.

In the case where English and Punjabi are players an asymmetric cue could be provided by the language use in the community at large, outside the specific bilingual interchange under consideration. In an area where English is the predominant language, for example where there is a low percentage of Punjabi speakers in the population, we would expect the contest to be settled by the asymmetric cue favouring English. Higher proportions of English would increasingly feature in the dyadic conversations of bilinguals as they played the iterated Prisoner's Dilemma where 'speak the same language' means co-operate and 'change code' means defect. On the other hand in an area where Punjabi is overwhelmingly the background language, the asymmetric cue favouring higher proportions of Punjabi between interactants over time would be expected.

CHAPTER 6

EXPERIMENTAL DESIGN AND METHOD

6;1 PART 1: BILINGUAL SPEECH IN DYADS

The experimental design hinges on the interplay of participants, setting and topic. The setting and topic were kept constant as far as conditions allowed. In practice this meant achieving a balance between an ethnographic and experimental approach, so children were observed in contrived yet seemingly natural conditions. The variation in participants is the key variable. I will make a distinction throughout between the *subjects* in the study and their *contacts or interlocutors*, even though all the children are in a sense 'experimental subjects'.

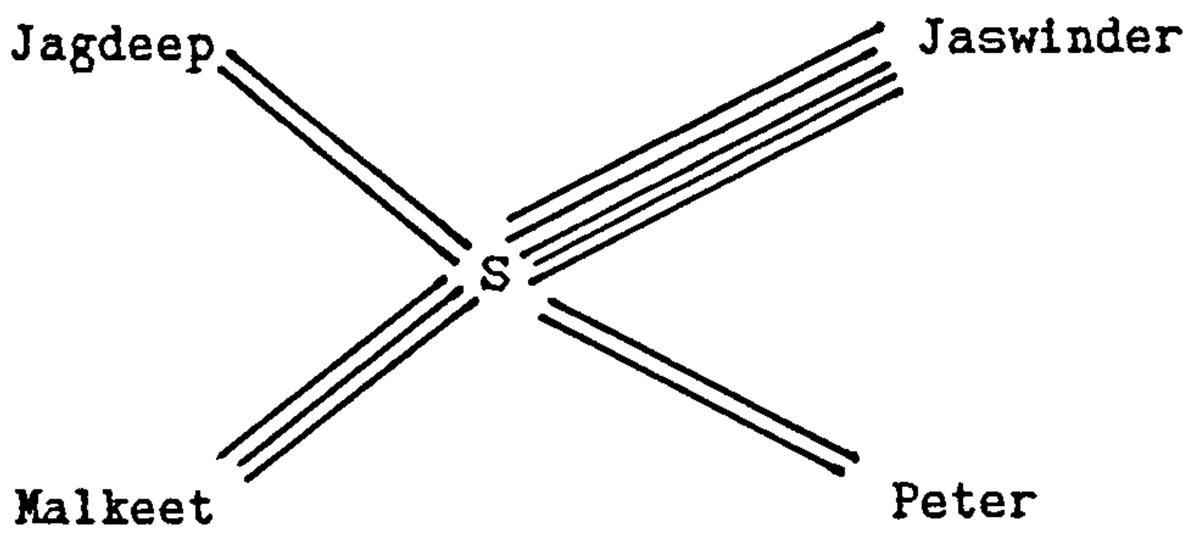
In Chapter 2 (sections 2;6 and 2;7) the idea of systematically varying *degree of familiarity* of participants was introduced. The degree of familiarity of a subject with his contacts is a variable ranging from *stranger* to *very good friend* or *relative*, but for convenience three categories are distinguished; *Major* contact, *minor* contact, and *null* contact. The divisions are, of course, the experimenter's categories, deriving from the necessity of sampling along a continuous scale.

The subjects selected for observation were bilingual children, aged about four years, with a confident ability to use both Punjabi and English as judged by the class teacher and a Punjabi/English bilingual member of the nursery school staff. Initially a total of 9 subjects was chosen from two nursery schools in Leeds (Brudenell and Dewsbury Rd. schools). One subject's performance had to be rejected since two of the three recordings were spoiled by crying. In a later stage of data collection, 4 more subjects were taken from one of the two nurseries (Brudenell) under slightly different conditions of selection (see section 6;1;4 for an explanation). In total, then, there were 12 subjects, 5 boys and 7 girls, selected by the experimenter. The study had two stages: the first stage established contacts for each subject by sociometric methods and in the second stage children were recorded in twos, i.e. *dyads*.

6;1;1 First stage - choice of participants using sociometric techniques

The subjects, numbered 1 - 12, were each observed for a half-hour period during free activity in the nursery classroom in order to chart a sociogram of their contacts. By this method, the subjects *self-selected* the children which the experimenter would pick out to partner them in the recording sessions.

FIGURE 6;1 Sociogram for S's contacts in a half-hour period



An example of a sociogram (with pseudonyms) is given in Figure 6;1 for a subject S. The number of lines connecting his name to another one represents the number of times he was observed to interact with that person in a half-hour period. The length of encounters and their content were noted by the experimenter, who became a familiar figure in the classroom during the observation period. Two or three days were spent in each nursery before recording began. Observation and recording then ran concurrently, with the experimenter spending one full day per week in each nursery for two months (for the 9 dyads) together with 10 half-days (for the extra 4 dyads).

From the sociogram (Figure 6;1), Jaswinder would be taken as the only possible *Major* contact because he has the largest number of ties with S and his interactions, described in hand-written notes made by the experimenter at the time of observation, included verbal interchange. Either Jagdeep or Malkeet could be selected as the *minor*

TABLE 6;1

Ages at time of recording in years/months/days, for dyads

dyad	subject		interlocutor	
1M	4.4.16	(m)	adult	(f)
2M	3.8.4	(m)	4.1.4	(f)
3M	4.1.17	(f)	4.2.12	(f)
4M	4.3.2	(m)	3.7.23	(m)
5M(a)	4.2.29	(f)	4.2.20	(f)
5M(b)	4.4.0	(f)	4.3.21	(f)
6M	3.10.27	(m)	4.1.22	(m)
7M	4.1.21	(f)	4.2.3	(m)
8M	4.0.21	(f)	3.6.20	(f)
9M	4.4.11	(f)	4.2.0	(f)
10M	3.8.27	(m)	4.5.27	(m)
11M	3.11.19	(f)	4.7.27	(m)
12M	4.1.17	(f)	4.1.17	(f)
1m(a)	4.4.16	(m)	4.0.6	(m)
1m(b)	4.4.21	(m)	4.0.11	(m)
2m	3.8.17	(m)	4.2.15	(m)
3m	4.0.16	(f)	4.1.12	(f)
4m	4.2.24	(m)	4.3.14	(m)
5m	4.3.12	(f)	4.1.24	(f)
6m	3.10.8	(m)	3.3.15	(f)
7m	4.1.18	(f)	3.4.12	(f)
8m	3.11.25	(f)	3.9.6	(f)
9m	4.4.11	(f)	3.7.16	(f)
10m	3.9.4	(m)	3.6.28	(m)
11m	4.1.0	(f)	4.5.1	(f)
12m	4.2.14	(f)	4.1.0	(f)
1n	4.4.29	(m)	4.4.18	(m)
2n	3.8.9	(m)	4.3.16	(m)
3n	4.0.29	(f)	3.6.22	(f)
4n	4.3.20	(m)	3.10.21	(m)
5n	4.4.0	(f)	3.7.10	(f)
6n	3.10.15	(m)	3.3.20	(m)
7n	4.0.28	(f)	3.4.17	(f)
8n	4.0.24	(f)	3.4.19	(f)
9n	4.4.25	(f)	4.0.9	(f)
10n	3.8.14	(m)	3.1.14	(m)
11n	4.0.16	(f)	4.3.29	(f)
12n	4.1.23	(f)	3.3.2	(m)

m=male, f=female. The subject of the 1M dyad is the same child as the subject of the 1m dyad and of the 1n dyad. The 2M subject is the same child as the subject of the 2m and the 2n dyads and so on, up to 12M,12m and 12n. Children who appeared in two different roles by unavoidable duplication are shown with the two ages at recording dates connected by a line.

contact if they are known to use both languages. Peter is rejected as a possible minor contact since he is not bilingual in Punjabi and English. A *null* contact is a Punjabi/English bilingual child who was not seen interacting with the subject, so does not feature on the sociogram and who, when asked if he knows S or plays with him, replies in the negative. A null contact in the nursery class cannot be a complete stranger, rather a contact with whom speech exchange appears to be relatively rare if not absent.

To meet the requirements of the experimental design, it had to be possible to isolate for each subject, a *Major* and a *minor* contact who also spoke Punjabi and English. Observations on considerably more than the twelve subjects had to be undertaken and abandoned because for instance, their encounters were more typically with English monolinguals, or a Punjabi/English bilingual chose to interact most often with a Gujerati/English bilingual, or they interacted with others who had already taken part in the experiment as a contact of someone else. The last problem, that of trying not to duplicate the appearance of a contact was minimised but could not be completely avoided. In 4 out of 36 cases contacts were duplicated in a conversation with another subject.

Overall, each of the twelve subjects had three contacts; a Major, a minor and a null with whom he/she would be recorded, giving a total of 36 short conversations (actually 38 conversations were recorded since two retakes were necessary). A theoretical maximum of 48 children was involved in the dyads but in fact there were only 44 participants because of duplication (one participant was an adult - see 7;0;1 for an explanation). The children were taken from a pool totalling about 180. (N.B. These nursery classes have different populations a.m. and p.m.).

Since each subject is dealt with in relation to his contacts alone, it is possible to say that X is a Major contact for subject A compared with Y who interacted less and so is a minor contact. Another subject B who happens to be very gregarious may interact more with his own minor contacts than A did with his Major contact, but as each subject is considered in relation to his own set of contacts, this does not present a methodological problem. In practice it was

not difficult to pick out one minor contact and one Major contact for each subject although it would have been difficult to categorize all the contacts on this basis, as some were, quite naturally, borderline Major/minor.

A listing of the ages of subjects and those of their interlocutors is given in Table 6;1, together with girl/boy combinations in the dyads. The coding of dyads as 1M, 2M etc. is explained in section 6;1;3 under the heading 'Notation system'.

6;1;2 Second stage - recording dyads in conversation

Setting and topic

In all cases the speech data was recorded in a room near the nursery class, usually a staff-room with which the children were familiar. The tape recorder (Uher 4000 Report-L), fitted with an external microphone (Sennheiser) on a long lead, was placed out of sight. The microphone was visible and although some of the children knew its function, e.g. they might say 'one, two, three, four, five' into it, their conversation did not appear to be inhibited. I suspect that they associated a microphone with an amplified sound and so did not realize that they were being 'listened to'.

The pet/pets acting as topic stimulus, either a hamster, a rabbit, a guinea pig or a pair of birds were caged, covered with a cloth and put on a low table with the microphone nearby. Some small pieces of suitable food such as apple, carrot or millet and a drinking bottle where appropriate were provided. The different pets and the task of feeding provided a topic for the conversation, although of course the children did not limit their conversation to the activity of the pets. It would be impossible to achieve such an ideal without the aid of an adult who had been instructed to direct the conversation, which would have defeated the object of the design. Since each subject took part in the experiment three times with his different interlocutors, three animals were needed (more if contacts were duplicated in other parts of the experiment or if a second recording were necessary). Use of exactly the same conversational

topic was undesirable as it would have led to effects caused by lack of novelty of the topic.

Method

The experimenter brought the children into the room and settled them near the microphone. They had the choice of sitting on a chair (only two were provided) near the table or kneeling on the floor. After uncovering the animal and ensuring that the children were not frightened, the experimenter said that she had to go out for a few minutes and could they please talk to the animal and feed it until she got back.

A recording time of five to six uninterrupted minutes was aimed for with each dyad. It was always possible to check the situation by looking through a window and if the children, for instance, strayed from the microphone or misbehaved towards the animal the experimenter intervened. There were inevitably unpredictable events. The final recordings were edited for periods when a third person entered the room, this is marked in the transcription. Final timings were calculated from the sound, on the tape, of the door closing to the door opening.

6;1;3 Notation system

The situation where subject number 1 is in conversation with his/her Major contact is written as *1M* (capital M). Number 1 with his minor contact is *1m* and number 1 in a dyad with his null contact is *1n*. The other subjects with their three different contacts are written; *2M 2m 2n, 3M 3m 3n*, etc. up to *12M 12m 12n*.

From chapter 7 onwards, the dyads 1M to 12M will be referred to as *a set of M contacts*. Similarly the dyads of minor contacts will be *a set of m contacts* and those for null contacts will be *a set of n contacts*. The use of the term 'set' is adopted to avoid confusion with the term 'group' which is reserved for groups-of-four in the second part of the data collection.

TABLE 6;2
Random order of recordings with topic stimulus (Read down the columns)

1m(a)	guinea pig	1n	guinea pig (2)	11M	rabbit
1M	hamster	5m	guinea pig (2)	10n	guinea pig
2M	hamster	3n	guinea pig	12M	hamster
3m	hamster	2m	guinea pig (2)	10M	guinea pig
5M(a)	hamster	6M	hamster	12n	guinea pig
6m	rabbit	4n	hamster	10m	rabbit
8m	rabbit	5n	rabbit	9M	rabbit
4m	rabbit	3M	rabbit	9m	guinea pig
1m(b)	rabbit	5M(b)	hamster (2)	11n	guinea pig
2n	rabbit	8M	guinea pig	9n	birds
7n	guinea pig	7m	rabbit	12m	birds
6n	guinea pig	8n	hamster (2)	11m	birds
4M	guinea pig	7M	hamster (2)		

N.B. (2) refers to a second animal, physically distinct from the first of its type.

The order of recording of dyads with their conversational stimulus was a random one, constrained by the availability of children or topic stimulus at the particular time of recording. The final order is shown in Table 6;2. The recordings of subjects 1-8 were made between 26/1/83 and 1/3/83. The second set, for subjects 9-12 was made between 15/1/86' and 26/2/86. As far as possible the participation of one subject in two of his/her dyads on the same day was avoided. However, for the dyads; 1M and 1m(a), 5M(b) and 5n and 9M and 9m, recordings had to be made on the same days. In these cases the first recording was made early in the morning/afternoon session and the second was made as late as possible to maximise the interval between recordings.

6;1;4 A note on subjects 9-12

The results of the first sessions of data collection, for subjects 1-8, showed a bias towards English speech rather than Punjabi for dyads of Major contacts. This might have been expected as the setting was 'English' and the situation was introduced by an English speaker. In order to offset the bias, subjects 9 to 12, recorded 3 years later, were specially selected because they all had

Major contacts in the nursery who had been Major contacts for some time in the home and local community. Subject 9 and her Major contact both had mothers who were best friends. Subject 10 was a similar case. Subject 11 had a cousin. Subject 12 had a twin sister. It was hoped that by this selection, the chances of finding Major contacts speaking Punjabi in the school setting would be maximised. The minor and null contacts for subjects 9-12 were found by the earlier sociometric method. An unexpected difficulty arose in that children who had such 'strong' Major contacts, interacted infrequently with others so their minor contacts tended to be less obvious.

6;2 PART 2: BILINGUAL SPEECH IN GROUPS-OF-FOUR

Method

In order to take groups-of-four children from the nursery class population, schools with a high proportion of Punjabi/English bilinguals were needed. This second part of the study was done in three Southall nurseries (Glebe, Havelock and Wolfields) where the large majority of children were mother-tongue Punjabi speakers. Eight groups-of-four children took part, between 15/4/86 and 25/4/86. Four other groups-of-four (the first groups which were selected) had to be rejected as the recordings were unclear. The main problem was the lack of carpets/curtains in the recording area, which gave an echo effect on tape, but also, the experimenter had some initial problems with the positioning of the video microphone.

Pets were again used as a topic stimulus. A pair of zebra finches, which had been introduced at the end of the dyads' study had proved to be a good topic stimulus, because children find them attractive, and the task of feeding by taking individual seeds off a strand of millet was sufficiently absorbing to enable the recording sessions to be lengthened to about 8-10 minutes. (The birdsong on tape, however, was irritating during transcription and perhaps a quieter species could be found).

The selection of groups started by observing one child in a free activity session in order to find three other bilinguals who could

form, with him, a group of four loosely affiliated children. But constraints of time, changed the procedure and sometimes the nursery staff suggested possible fours, or at least two of a possible four, then the experimenter completed the procedure, checking by observation and questioning of the children to ensure that the friendships were sufficiently 'dilute' to maximise code-switching and mixing. The selection of familiarity levels for groups-of-four was not as rigorously established as it had been for the dyads, but the intention was not to compare groups-of-four with each other, as it had been for dyads. Table 6;3 gives the composition of the groups-of-four in terms of Major and minor contacts. The ages of the participants are noted in Table 6;4. The letters A to H refer to the total of eight different groups recorded in the three schools.

TABLE 6;3

Composition of groups-of-four

groups	
B,C,D,E,F,H, G, A,	2 Major contacts with one minor contact for each 4 minor contacts 2 Major contacts with another 2 Major contacts, unfamiliar with the first pair.

TABLE 6;4

Ages at time of recording in years/months/days, for groups-of-four

group	children 1		2		3		4	
A	4.11.19	(f)	4.3.13	(f)	4.4.24	(f)	4.6.3	(f)
B	4.0.24	(m)	4.0.1	(m)	3.8.24	(m)	4.9.14	(m)
C	4.1.12	(m)	4.1.15	(m)	4.1.12	(m)	3.9.28	(f)
D	4.6.11	(f)	4.7.1	(f)	3.10.23	(f)	4.7.23	(f)
E	4.5.20	(f)	4.6.21	(f)	4.4.2	(f)	4.5.16	(f)
F	3.10.11	(f)	4.3.6	(f)	4.1.6	(m)	3.6.22	(f)
G	4.4.10	(f)	4.2.18	(f)	4.6.26	(f)	3.5.1	(f)
H	4.4.29	(f)	3.5.18	(f)	3.5.1	(m)	3.10.5	(f)

The groups-of-four were tape recorded and videoed simultaneously. The video camera was set up on a stand and the experimenter pretended to take a photograph of the children before leaving the room. None of the participants seemed to be aware that the camera was continuously recording them. A video recording was essential with a group-of-four so that voices could be assigned to the different children when the tapes were transcribed. In addition, having two recordings of the interaction was useful because some utterances which were missed by the external microphone of the tape-recorder, were picked up by the internal video camera microphone.

CHAPTER 7

RESULTS

7;0 INTRODUCTION TO RESULTS

The recorded data, totalling 200 mins for the twelve subjects who formed dyads with their Major, minor and null contacts, was transcribed together with an additional total of 51 mins for the eight groups-of-four children. The transcription conventions have been outlined in section 10;1, together with the conversation-acts coding adopted from Dore (1978).

The dyadic data was subjected to more analysis than the groups-of-four data since the three conditions for dyads, Major, minor and null, were designed to test differences arising from the variation in one variable, i.e. the degree of familiarity of the contact with the subject. The main body of the results section is composed of comparisons between the linguistic behaviour of the three sets, Major, minor and null dyads. The data for the groups-of-four was collected, using different subjects, in a different locality, to test a hypothesis arising from the results of the dyadic situation. Although some comparisons are possible between the dyadic and groups-of-four data, such as relative proportions of Punjabi/English in the total lexical count and patterning of conversation acts, the mixed composition of groups-of-four in terms of Major and minor contacts prevented direct comparison of them with sets of either Major or minor dyads.

A number of analyses were applied, which fall into three main categories. The first category is based on a <u>lexical count of types and tokens</u>, both English and Punjabi (section 7;1;1 dyadic data, 7;1;2 data from groups-of-four). The amounts of time spent in <u>pausing</u>, and <u>laughter & related noises</u> were also totalled. Two different kinds of graphs were plotted to show the progression of conversations over time. The first of these, *conversation profiles* (7;1;3, Graphs 7;1 to 7;23 for dyads and groups-of-four), highlight the changing proportions of Punjabi and English in a conversation along its length. The second type, *conversation mapping* (7;1;4, Graphs 10;1 to 10;32 for dyads only), show individual contributions

to the overall conversation, highlight code-mixing/switching within a turn, show relative length of turns and length of pauses and the distribution of laughter.

The second set of analyses, which developed from the application of mathematical game theory to code-switching, was concerned with co-operation and defection (section 7;2, dyads only). Conversational turns were classified as *co-operation* or *defection*. Initially, a code-switch was considered as a defection regardless of the content of the message. Then, the content and force of the message were examined as a possible source of conversational defection. Code and content defections are compared in bar graphs (Graphs 7;24 to 7;26).

The third category of analysis (section 7;3, dyads and groups-of-four data presented together) was based on a conversation-acts classification. Conversational turns which formed part of a sequence with other turns were bracketed together as *linked* turns whilst those which were unconnected with previous or following turns were labelled *isolated* turns.

Conversation-act (C-act) codings were totalled and averaged for Major, minor, null sets of dyads and groups-of-four. The results were plotted on bar graphs in order to examine differences in patterning of C-acts between the four sets (section 7;3, Graphs 7;27 to 7;30). Bar graphs for atypical dyads, those displaying minimally sequenced conversations and the dyad which included an adult, were also plotted (section 7;3, Graphs 7;31 to 7;35).

7;0;1 Exceptional data

In compiling the data, it emerged that recordings from the dyads which included subjects 8 and 12 were unusual in a number of ways. In the tables following Table 7;1 the data relating to subjects 8 and 12 is presented in italics and is not included in the calculation of means. All data from these subjects has been omitted from significance testing (t-tests) between sets. Additionally, the data has not been processed beyond the second category of analysis (for co-operation and defection), and it is not included in the appendix.

The reasons for omission are as follows: Subject 8 spoke a variety of Punjabi which her two interlocutors in 8M amd 8m had difficulty in understanding (requests for clarification numbered 13 in the 8M conversation and 9 in that of 8m). Also, a higher than average proportion of utterances for these two dyads was unintelligible to the transcribers. Subject 12 was atypical in all three situations; 12M, 12m, and 12n. Firstly, the subject's Major contact was her twin sister, but the sister had been living with an aunt and had recently returned from a holiday in India, whilst the subject had stayed in Leeds. The subject used a large proportion of English in her conversation with her sister (see Table 7;2). By accident rather than design, the subject of 12M is also the interlocutor in 9M, a situation in which she was able to considerably reduce the amount of English in her conversation with a best friend. Secondly, there was difficulty in finding a minor contact for subject 12 by observation, since she preferred to associate only with her two Major contacts. A solution was to choose, as interlocutor, a girl who liked to talk to everybody and claimed to know subject 12. The subject, however, showed some reticence in the 12m conversation, contributing only 22% of the conversation. Thirdly, the null contact chosen was of the opposite sex which would not have mattered at minor or Major level where contacts were selected on the basis of their having been observed in conversation with the subject, but the occurrence of seven 'interruptions' (door opening) for 12n, in 306 secs. recording time, shows that the two children did not want to stay together.

Second sets of recordings were made, at a later date, for dyads 5M and 1m, since the first recordings were too short. In both cases the first and second recordings showed similar trends, so the figures for the 'double takes' were totalled in the results tables. The notation adopted is that, in the case of subject 5, 5M(a) refers to the first recording, 5M(b) refers to the second recording and 5M is the sum of 5M(a) and 5M(b), and similarly for subject 1, 1m(a) is the first recording, 1m(b) is the second and 1m is the total.

Subject 1 showed a strong preference for conversing with adults rather than his peers and a bilingual member of the nursery staff was

taken as his Major contact. The experimenter told the interlocutor that she was interested in recording the children's natural speech, in particular their mother tongue. After the recording, the interlocutor said that she normally spoke English to that particular child and although she had tried to introduce some Punjabi into the conversation, it seemed unnatural. The transcription for dyad 1M shows that the interlocutor's attempts to switch the conversation into Punjabi were ignored by the subject.

7;0;2 Format of Tables

The data from the dyads is listed throughout in three sets. The Major dyads, subjects 1-12, followed by the minor dyads, subjects 1-12, then the null dyads, subjects 1-12. Where subjects 8 and 12 have been italicized, the corresponding figures have not been included in the reported means.

Although an average of 5 minutes recording-time (r-time) was aimed for, actual r-times varied. Where *raw data* is referred to in the tables, the figures are for the actual r-time for each dyad. The *mean r-time* for the total M, m and n dyads was 333 seconds. A table displaying *raw data* is normally followed by one where data has been *recalculated proportionally for an average recording time of 333 seconds*. In the tables, these recalculated figures are reported rounded off to the nearest whole number, but for the purposes of calculation they were taken correct to the first decimal place.

The data from the eight groups-of-four (A to H) is similarly presented as either raw data or data recalculated proportionally for an average recording time of, in this case, 382 seconds.

Subscripts $_s$ and $_r$ refer to the subject and interlocutor respectively. E and P represent English and Punjabi. The combination of language and speaker is shown as, for example, E_s.

7;1 TYPE AND TOKEN COUNTS

Words were assigned to two categories, either English or Punjabi, for the type and token count. English words which are commonly used

in Punjabi speech, such as book, school, friend were counted as English unless they had been subjected to Punjabi morphological processes, as for instance in the case of /rəbiṭa/ (rabbit - nominative masculine singular), which was classified as Punjabi. Adopting this method, of considering each token in isolation from the phrase in which it occurs, means that Punjabi is slightly under-represented in the type and token count. A further consequence is that code-switching is not distinguished from code-mixing. The imbalance is offset in the conversation profiles (Graphs 7;1 to 7;23) and conversation mapping (Graphs 10;1 to 10;32) where words of English origin which are so frequent in Punjabi speech as to be considered by Punjabi speakers to be 'Punjabi' are counted as such.

The English contractions gonna and wanna are classified as types in their own right, but the more 'standard' contractions e.g. "he's", "I'll" are classified as consisting of two types: he and is/has; I and will. Phrasal verbs such as "fall off" are split into fall and off. Exclamations "oh", "ah", are not included in the count, but "eh?" and "um?" as a request for clarification are counted as one type. Estimated numbers of unintelligible Punjabi and English tokens are not included in the count, but they are included in the conversation profiles and mapping.

7;1;1 Data from dyads

Tables 7;1 to 7;3 report type and token counts for Punjabi and English in each dyadic conversation, for the subject and interlocutor of each dyad separately (Tables 7;1 and 7;2) and for both participants added together (Table 7;3). Then, percentages of Punjabi and English in each conversation, both types and tokens, are reported (Table 7;4). The total length of time spent in pausing and the number of seconds spent in laughter are given in Table 7;5, together with figures for laughter and noises denoting a playful attitude added together. The figures recalculated proportionally for an average recording time of 333 seconds are reported in the right-hand columns of the same table (Table 7;5).

TABLE 7;1 Raw data for dyads

dyad	r-time (secs.)	tokens				types			
		E_S	E_I	P_S	P_I	E_S	E_I	P_S	P_I
1M	575	192	434	0	9	83	125	0	5
2M	450	113	300	1	1	53	124	1	1
3M	375	264	237	4	0	111	92	2	0
4M	321	175	223	4	0	77	79	4	0
5M(a)	132)	154	33	0	0	55	16	0	0
5M(b)	315)	251	96	0	0	86	48	0	0
6M	318	178	169	0	0	64	71	0	0
7M	324	79	117	0	0	41	45	0	0
8M	182	37	34	49	51	27	20	26	38
9M	294	29	18	78	60	18	14	48	36
10M	329	136	144	0	0	65	81	0	0
11M	312	192	185	5	3	75	67	2	1
12M	328	68	23	91	56	33	16	36	39
	---								
mean	354.6								
1m(a)	195)	78	62	3	17	53	34	3	13
1m(b)	241)	79	73	17	21	42	45	13	18
2m	236	41	44	26	12	25	26	16	7
3m	247	67	63	56	49	44	34	33	30
4m	445	51	26	118	111	27	9	54	56
5m	274	261	146	0	1	86	76	0	1
6m	290	130	99	0	0	58	46	0	0
7m	333	15	9	48	72	12	6	33	39
8m	357	18	66	49	20	14	21	23	16
9m	274	102	110	32	11	51	51	17	10
10m	396	192	244	0	0	69	79	0	0
11m	346	204	115	0	1	67	53	0	1
12m	320	42	149	0	0	32	71	0	0
	---								
mean	329.5								
1n	302	75	30	16	2	40	22	11	2
2n	215	43	70	2	14	31	44	1	11
3n	324	120	84	0	0	48	46	0	0
4n	480	194	193	9	4	67	74	3	2
5n	299	293	136	0	0	96	57	0	0
6n	247	97	62	0	2	44	30	0	2
7n	345	23	27	0	2	11	12	0	1
8n	295	161	82	0	0	68	46	0	0
9n	311	173	121	0	0	59	54	0	0
10n	354	112	104	0	0	47	57	0	0
11n	314	238	120	0	0	88	57	0	0
12n	306	37	48	23	68	24	29	13	40
	---								
mean	316								

overall mean = 333.4 secs

TABLE 7;2 Type and token count recalculated proportionally for an average recording time of 333 secs.

Dyad	Tokens				Types			
	E_S	E_I	P_S	P_I	E_S	E_I	P_S	P_I
1M	111	251	0	5	48	72	0	3
2M	84	222	1	1	39	92	1	1
3M	234	210	4	0	99	82	2	0
4M	182	231	4	0	80	82	4	0
5M	302	96	0	0	105	48	0	0
6M	186	177	0	0	67	74	0	0
7M	81	120	0	0	42	46	0	0
8M	*68*	*62*	*90*	*93*	*49*	*37*	*48*	*70*
9M	33	20	88	68	20	16	54	41
10M	138	146	0	0	66	82	0	0
11M	205	197	5	3	80	72	2	1
12M	*69*	*23*	*92*	*57*	*34*	*16*	*37*	*40*
means	155.6	167	10.2	7.7	64.6	66.6	6.3	4.6
1m	120	103	15	29	73	60	12	24
2m	58	62	37	17	35	37	23	10
3m	90	85	75	66	59	46	44	40
4m	38	19	88	83	20	7	40	42
5m	317	177	0	1	105	92	0	1
6m	149	114	0	0	67	53	0	0
7m	15	9	48	72	12	6	33	39
8m	*17*	*62*	*46*	*19*	*13*	*20*	*21*	*15*
9m	124	134	39	13	62	62	21	12
10m	161	205	0	0	58	66	0	0
11m	196	111	0	1	64	51	0	1
12m	*44*	*155*	*0*	*0*	*33*	*74*	*0*	*0*
means	126.8	101.9	30.2	28.2	55.5	48	17.3	16.9
1n	83	33	18	2	44	24	12	2
2n	67	108	3	22	48	68	2	17
3n	123	86	0	0	49	47	0	0
4n	135	134	6	3	46	51	2	1
5n	326	151	0	0	107	63	0	0
6n	131	84	0	3	59	40	0	3
7n	22	26	0	2	11	12	0	1
8n	*182*	*93*	*0*	*0*	*77*	*52*	*0*	*0*
9n	185	130	0	0	63	58	0	0
10n	105	98	0	0	44	54	0	0
11n	252	127	0	0	93	60	0	0
12n	*40*	*52*	*25*	*74*	*26*	*32*	*14*	*44*
means	142.9	97.7	2.7	3.2	56.4	47.7	1.6	2.4

TABLE 7;3

Type and token count for English items and Punjabi items in each dyadic conversation, recalculated for an average recording time of 333 secs., subject and interlocutor scores added together

	Tokens		Types	
	E	P	E	P
1M	362	5	120	3
2M	306	2	131	2
3M	444	4	181	2
4M	413	4	162	4
5M	398	0	153	0
6M	363	0	141	0
7M	201	0	88	0
8M	*130*	*183*	*86*	*118*
9M	53	156	36	95
10M	284	0	148	0
11M	402	8	152	3
12M	*92*	*149*	*50*	*77*
	---	---	---	---
means	322.6	17.9	131.2	10.9
1m	223	44	133	36
2m	120	54	72	33
3m	175	141	105	84
4m	57	171	27	82
5m	494	1	197	1
6m	263	0	120	0
7m	24	120	18	72
8m	*79*	*65*	*33*	*36*
9m	258	52	124	33
10m	366	0	124	0
11m	307	1	115	1
12m	*199*	*0*	*107*	*0*
	---	---	---	---
means	228.7	58.4	103.5	34.2
1n	116	20	68	14
2n	175	25	116	19
3n	209	0	96	0
4n	269	9	97	3
5n	477	0	170	0
6n	215	3	99	3
7n	48	2	23	1
8n	*275*	*0*	*129*	*0*
9n	315	0	121	0
10n	203	0	98	0
11n	379	0	153	0
12n	*92*	*99*	*58*	*58*
	---	---	---	---
means	240.6	5.9	104.1	4

TABLE 7;4

<u>English and Punjabi as a percentage of the total number of words in each dyadic conversation</u>

	Tokens		Types	
	%English	%Punjabi	%English	%Punjabi
1M	98.6	1.4	97.6	2.4
2M	99.4	0.6	98.5	1.5
3M	99.1	0.9	98.9	1.1
4M	99.0	1.0	97.6	2.4
5M	100	0	100	0
6M	100	0	100	0
7M	100	0	100	0
8M	*41.5*	*58.5*	*42.2*	*57.8*
9M	25.4	74.6	27.5	72.5
10M	100	0	100	0
11M	98.0	2.0	98.1	1.9
12M	*38.2*	*61.8*	*39.4*	*60.6*
means	92	8	91.8	8.2
1m	83.5	16.5	78.7	21.3
2m	69.0	31.0	68.6	31.4
3m	55.4	44.6	55.6	44.4
4m	25.0	75.0	24.8	75.2
5m	99.8	0.2	99.5	0.5
6m	100	0	100	0
7m	16.7	83.3	20	80
8m	*54.9*	*45.1*	*47.8*	*52.2*
9m	83.2	16.8	79.0	21.0
10m	100	0	100	0
11m	99.7	0.3	99.1	0.9
12m	*100*	*0*	*100*	*0*
means	73.2	26.8	72.5	27.5
1n	85.3	14.7	82.9	17.1
2n	87.5	12.5	85.9	14.1
3n	100	0	100	0
4n	96.8	3.2	97.0	3.0
5n	100	0	100	0
6n	98.6	1.4	97.1	2.9
7n	96.0	4.0	95.8	4.2
8n	*100*	*0*	*100*	*0*
9n	100	0	100	0
10n	100	0	100	0
11n	100	0	100	0
12n	*48.2*	*51.8*	*50*	*50*
means	96.4	3.6	95.9	4.1

TABLE 7;5

Pauses, laughs & noises and laughter alone. (1) Raw data. (2) Recalculated proportionally for an average recording time of 333 secs.

(1)

	Pauses	Laughs & noises	Laughter
1M	323	21	17
2M	170.5	52	44
3M	100.5	67	67
4M	107.5	17.5	0
5M(a)	34	2	2
5M(b)	77.5	67.5	22.5
6M	132.5	13.5	12
7M	217	18.5	5
8M	49.5	21.5	7
9M	133	6.5	6
10M	120	29	21.5
11M	90.5	25	5.5
12M	146.5	5.5	2.5
1m(a)	108	14	14
1m(b)	124.5	8	8
2m	146.5	8	2
3m	113.5	7	4
4m	206	53	15.5
5m	56.5	37	15
6m	172.5	4	1
7m	210.5	5.5	0
8m	216	3	0
9m	121.5	67.5	58
10m	117	2	0
11m	180.5	3	0
12m	217	13	3
1n	222	13.5	7
2n	120.5	20	8
3n	99	54.5	46.5
4n	218	71.5	26
5n	104.5	5.5	0
6n	132	28.5	4
7n	201	69.5	50.5
8n	109	25.5	19.5
9n	142	0.5	0
10n	232	6.5	0.5
11n	140	1	1
12n	163	9.5	0

(2)

	Pauses	Laughs & noises	Laughter
1M	187	12	10
2M	126	39	33
3M	90	60	60
4M	112	18	0
5M	83	52	18
6M	139	14	13
7M	223	19	5
8M	*91*	*40*	*13*
9M	151	7	7
10M	122	30	22
11M	97	27	6
12M	*149*	*6*	*3*
means	133	27.8	17.4
1m	178	17	17
2m	207	11	3
3m	153	9	5
4m	154	40	12
5m	69	45	18
6m	198	5	1
7m	211	6	0
8m	*202*	*3*	*0*
9m	148	82	71
10m	98	2	0
11m	174	3	0
12m	*226*	*14*	*3*
means	159	22	12.7
1n	245	15	8
2n	187	31	12
3n	102	56	48
4n	151	50	18
5n	116	6	0
6n	178	38	5
7n	194	67	49
8n	*123*	*29*	*22*
9n	152	1	0
10n	218	6	1
11n	149	1	1
12n	*177*	*10*	*0*
means	169.2	27.1	14.2

t-test results

In order to establish whether the means of Punjabi/English language mix, and hence code-switching, varied significantly depending on the degree of familiarity of the subject and interlocutor, correlated sample t-tests were applied. Conversation profiles (Graphs 7;1 to 7;23) indicated that conversations tended to resolve themselves into greater proportions of one language compared with the other. To accommodate the fact that, for instance, the subject in 4m prefers to speak mainly Punjabi with 4m interlocutor, but prefers English with 4M interlocutor, whilst testing the notion that minor contacts appeared to switch more, the t-test was run between figures for the percentage of the *language of highest incidence* (lhi). Table 7;6 provides an example.

TABLE 7;6
Matched pairs for two groups, Major contacts and minor contacts

group M dyads	% tokens of lhi.	group m dyads	% tokens of lhi.
1M	98.6 %E	1m	83.5 %E
2M	99.4 %E	2m	69.0 %E
3M	99.1 %E	3m	55.4 %E
4M	99 %E	4m	75.0 %P
5M	100 %E	5m	99.8 %E
6M	100 %E	6m	100 %E
7M	100 %E	7m	83.3 %P
9M	74.6 %P	9m	83.2 %E
10M	100 %E	10m	100 %E
11M	98.0 %E	11m	99.7 %E
means	96.9		84.9

Correlated sample t-tests were run between the three groups, Major, minor and null, for percentage tokens of the lhi, percentage types of the lhi, total numbers of Punjabi and English tokens, total time spent in pauses and total time spent on laughter and related noises denoting a playful attitude, in all cases for data proportioned to 333 secs. duration. The results are given in Table 7;7.

The results in Table 7;7 show that switching is significantly greater, for both types and tokens, in conversations between minor contacts, as compared to either null or Major contacts. When Major and null contacts are compared, there is no significant difference in the code-switching of the two groups. Major contact conversations yielded significantly more tokens altogether (E+P) than null contact conversations. And there were, to a highly significant extent, more pauses in conversations where the familiarity level was null rather than Major. None of the other differences between means reaches significance.

TABLE 7;7
Comparisons of means, using correlated sample t-tests

		groups*	t	degrees of freedom	p
tokens % lhi	(S and I)	M and m	2.25	9	a.s.
tokens % lhi	(S only)	M and m	2.47	9	5%
tokens % lhi	(S and I)	n and m	2.49	9	5%
tokens % lhi	(S only)	n and m	2.56	9	5%
tokens % lhi	(S and I)	M and n	0.13	9	n.s.
tokens % lhi	(S only)	n and M	0.18	9	n.s.
types % lhi	(S and I)	M and m	2.45	9	5%
types % lhi	(S only)	M and m	2.60	9	5%
types % lhi	(S and I)	n and m	2.64	9	5%
types % lhi	(S only)	n and m	2.63	9	5%
types % lhi	(S and I)	M and n	0.13	9	n.s.
types % lhi	(S only)	n and M	0.25	9	n.s.
pauses		m and M	1.96	9	n.s.
pauses		n and m	0.62	9	n.s.
pauses		n and M	3.29	9	1%
laughs and noises		M and m	0.53	9	n.s.
laughs and noises		n and m	0.39	9	n.s.
laughs and noises		M and n	0.07	9	n.s.
total E & P tokens		M and m	1.58	9	n.s.
total E & P tokens		M and n	2.55	9	5%
total E & P tokens		m and n	1.86	9	n.s.

(E = English, P = Punjabi, S = subject, I = interlocutor, n.s. = not significant, a.s. approaching significance, * the first of the pair has the higher mean score.)

An examination of Table 7;4 reveals two different subgroups in the group of 12 subjects, aside from subject 12, who is exceptional

in all circumstances. Subjects 6 and 10 exhibit no code-switching and subjects 5 and 11 only a negligible amount, whilst subjects 1, 2, 3, 4, 7, 8, 9, all display code-switching which generally follows a similar pattern, being more prevalent between minor contacts than either null or Major contacts. The presence of non-switchers is the factor which contributes most to the lowering of the t statistics for the group % type and % token counts, which are significant only at the 5% level or below. In order to examine the behaviour of the switchers, they were isolated and their data was subjected to further significance tests.

χ^2 test results

The dyads which included subjects 1, 2, 3, 4, 7, 8, all switched or mixed codes most at minor contact level, i.e. at an intermediate state of familiarity, compared with Major and null levels of familiarity. The dyads which included subject 9 showed mixing at minor level (83% lhi) but there was slightly more mixing at Major level (75% lhi), however, examination of the conversation profiles for 9m (Graph 7;11) and 9M (Graph 7;2) shows that the mixing was of a different character (section 7;1;3 outlines the conversation profile technique). In line with the previously observed pattern, mixing was absent at null level for 9n.

χ^2 tests were applied to the token-count data from Table 7;3 for each of these seven subjects in their three dyads. The χ^2 test matrix was designed to accommodate the idea, mentioned earlier, that a subject has a *language of highest incidence* in interaction with a given interlocutor and switches some of the time to the other code. An example of the matrix used is given in Table 7;8. The results of the χ^2 tests for tokens produced by the dyad as a whole are given in Table 7;9. The same test was applied to the token frequencies for the subjects alone (from Table 7;2) and the results are also given in Table 7;9. The token count for *subject 8* in the 8M dyad differed from that for *dyad 8M* in that the subject alone showed more mixing at Major contact level than minor contact level, although the token count for the dyad displayed the general pattern of maximal switching

between minor contacts. Subject 8 was, however, exceptional (see section 7;0;1), and whereas she spoke more Punjabi than English in the minor dyad, her interlocutor spoke more English than Punjabi in the same conversation, which accounts for the fact of maximal switching between minor contacts when the summed token count for both members of the dyad is considered.

The χ^2 results in Table 7;9 showed that the observed pattern for switchers (with the exception of subject 7 whose figures did not meet the test criteria) could not have arisen by chance. Dyads 1,2,3,4, and 8 mixed or switched codes more at minor contact level than at either null or Major contact levels, to a highly significant extent.

TABLE 7;8
Observed token frequencies for dyads

	lhi	lli
7M	201	0
7m	120	24
7n	48	2

lhi=language of highest incidence
lli=language of lowest incidence

TABLE 7;9
Results of χ^2 tests for tokens (1) dyad tokens (2) subject tokens

	(1)			(2)		
	χ^2 dyad tokens	p	d.o.f	χ^2 subject tokens	p	d.o.f.
1M,1m,1n	50.0	0.1%	2	20.1	0.1%	2
2M,2m,2n	98.0	0.1%	2	57.0	0.1%	2
3M,3m,3n	325.8	0.1%	2	174.5	0.1%	2
4M,4m,4n	132.2	0.1%	2	70.5	0.1%	2
7M,7m,7n	n.p.			n.p.		
8M,8m,8n	160.5	0.1%	2	95.9*	0.1%	2
9M,9m,9n	81.3*	0.1%	2	55.9*	0.1%	2

(n.p. = not possible to apply the test since not all cells for expected frequency exceed 5
d.o.f. = degrees of freedom).
* more mixing at M than m level.

7;1;2 Data from groups-of-four

No significance tests have been applied to the raw data for groups. The data presented in the following tables should be read in combination with the conversation profiles (Graphs 7;18 to 7;23) since the figures as they stand give no indication of how the groups-of-four children resolve their dilemma of each having two languages and additionally being unfamiliar with some members of the group.

The raw data for type and token counts for each member of the eight groups-of-four is given in Tables 7;10 and 7;11, for the actual recording times. These figures were adjusted proportionally to an average r-time of 382 seconds and are reported in the following two Tables, 7;12 and 7;13. The Punjabi and English totals for both type and token counts and the percentages of Punjabi and English for each group conversation as a whole are given in 7;14. The amount of time spent in pauses and laughter and noises denoting a playful attitude is shown in Table 7;15. The left-hand columns give the raw data, then, in the two right hand columns the figures are adjusted proportionally to an average recording time of 382 seconds.

TABLE 7;10
Token count for each member of the groups-of-four

group	r-time	tokens per person							
	(secs)	1		2		3		4	
		E	P	E	P	E	P	E	P
A	470	5	3	31	0	97	8	84	11
B	381	35	86	69	24	19	65	32	32
C	281	101	0	67	6	70	2	2	0
D	356	55	52	13	86	22	114	36	72
E	548	120	0	198	1	107	2	109	3
F	298	5	166	27	87	11	58	0	0
G	300	32	34	14	74	72	163	0	0
H	424	37	60	26	23	39	103	11	34
	-----								
mean	382.3								

TABLE 7;11
Type count for member of the groups-of-four

group	r-time (secs)	types per person							
		1		2		3		4	
		E	P	E	P	E	P	E	P
A	470	5	3	18	0	59	8	46	10
B	381	28	50	32	17	16	35	18	20
C	281	30	0	40	5	37	2	2	0
D	356	38	28	10	39	13	50	23	39
E	548	63	0	74	1	51	2	54	3
F	298	5	77	18	49	10	36	0	0
G	300	23	26	10	48	35	90	0	0
H	424	29	36	17	21	21	45	11	27
	----								
mean	382.3								

TABLE 7;12
Token counts recalculated proportionally for an average recording time of 382 seconds

group	tokens per person							
	1		2		3		4	
	E	P	E	P	E	P	E	P
A	4	2	25	0	79	7	68	9
B	35	86	69	24	19	65	32	32
C	137	0	91	8	95	3	3	0
D	59	56	14	92	24	122	39	77
E	84	0	138	1	75	1	76	2
F	6	213	35	112	14	74	0	0
G	41	43	18	94	92	208	0	0
H	33	54	23	21	35	93	10	31

TABLE 7;13
Type counts recalculated proportionally for an average recording time of 382 seconds

	types per person							
	1		2		3		4	
group	E	P	E	P	E	P	E	P
A	4	2	15	0	48	7	37	8
B	28	50	32	17	16	35	18	20
C	41	0	54	7	50	3	3	0
D	41	30	11	42	14	54	25	42
E	44	0	52	1	36	1	38	2
F	6	99	23	63	13	46	0	0
G	29	33	13	61	45	115	0	0
H	26	32	15	19	19	41	10	24

TABLE 7;14

(1) Totals of type and token counts for the four members of each group (for an average recording time of 382 secs).
(2) English and Punjabi as percentages of the conversations.

	(1)				(2)			
group	tokens		types		tokens		types	
	E	P	E	P	%E	%P	%E	%P
A	176	18	104	17	90.7	9.3	86	14
B	155	207	94	122	42.8	57.2	43.5	56.5
C	326	11	148	10	96.7	3.3	93.7	6.3
D	136	347	91	168	28.2	71.8	35.1	64.9
E	373	4	170	4	98.9	1.1	97.7	2.3
F	55	399	42	208	12.1	87.9	16.8	83.2
G	151	345	87	209	30.4	69.6	29.4	70.6
H	101	199	70	116	33.7	66.3	37.6	62.4
	184.1	191.3	100.8	106.8	54.2	45.8	55.0	45.0

TABLE 7;15

Pauses and laughs & noises for each group conversation. (1) Raw data, (2) Recalculated proportionally for an average recording time of 382 seconds

		(1)		(2)	
group	r-time	pauses	laughs & noises	pauses	laughs & noises
A	470	293.5	23	239	19
B	381	121	9	121	9
C	281	125	20.5	170	28
D	356	75.5	23.5	81	25
E	548	247	23.5	172	16
F	298	116	5	149	6
G	300	44.5	11.5	57	15
H	424	184	7.5	166	7
	----			----	----
mean	382.3			144	16

(all measurements in seconds)

TABLE 7;16

Table of means for sets of dyads and groups-of-four recalculated to an average of 333 seconds

	total tokens (E+P)	total types (E+P)	pauses	laughs & noises
M dyads	341	142	133	28
m dyads	287	138	159	22
n dyads	247	108	169	27
groups	327	181	126	14

In Table 7;16, for the purposes of a general comparison, the means are presented for the sets of dyads and groups-of-four readjusted to the average recording time for dyads (333 seconds). Since the groups-of-four consisted of a mixed composition of Major and minor contacts, direct comparison with sets of dyads is not possible, however, some interpretation can be made; the figures show that the quantity of talk (total E+P tokens = 327) is not reduced by the complication of having four rather than two possible speakers (the corresponding figures for Major dyads and minor dyads are 341 and 287 tokens

respectively); pausing and laughs & noises are slightly reduced in groups-of-four compared with dyads.

7;1;3 Conversation profiles

Bilingual conversations were plotted on graphs to give *conversation profiles*, which showed relative proportions of the two languages as the conversation progressed. The method of plotting a *conversation profile* was devised as a result of a series of attempts to adapt traditional ways of representing information in graphic form. The starting point is zero on the x and y axes. Each word in the unfolding conversation takes the graph one unit to the right. Each token of Punjabi is represented as one unit upwards and each token of English as one unit downwards. Moving along a stretch of dialogue, for each Punjabi token a point is marked one square diagonally up, to the right, and for each English token a point is marked one square diagonally down, to the right. The line joining these points is the conversation profile. A line falling on the diagonal leading to the top right would be a conversation consisting of 100% Punjabi tokens, a line falling on the diagonal leading to the bottom right would be 100% English. The point where a conversation profile crosses the x axis shows a conversation which is 50% Punjabi and 50% English up to that point.

There were some differences between the assignment of lexical items for the conversation profiles and that for the type and token count. English lexical items which are acceptable in Punjabi speech, as judged by native speakers, such as friend, hello, school, were counted as Punjabi when they appeared in a stretch of Punjabi but as English when they appeared in a stretch of English. Estimates of unintelligible tokens were included in the profiles. Tokens of doubtful status and eh? um? (requests for clarification) were marked on the horizontal. Exclamations such as oh! were not included. An example of a short interchange plotted as a conversation profile is shown in Figure 7;1.

FIGURE 7;1 Tokens plotted as a conversation profile

S bite nəi kərta (3)
BITE NOT DO

I o mera khalωga (2)
HE MINE WILL-EAT

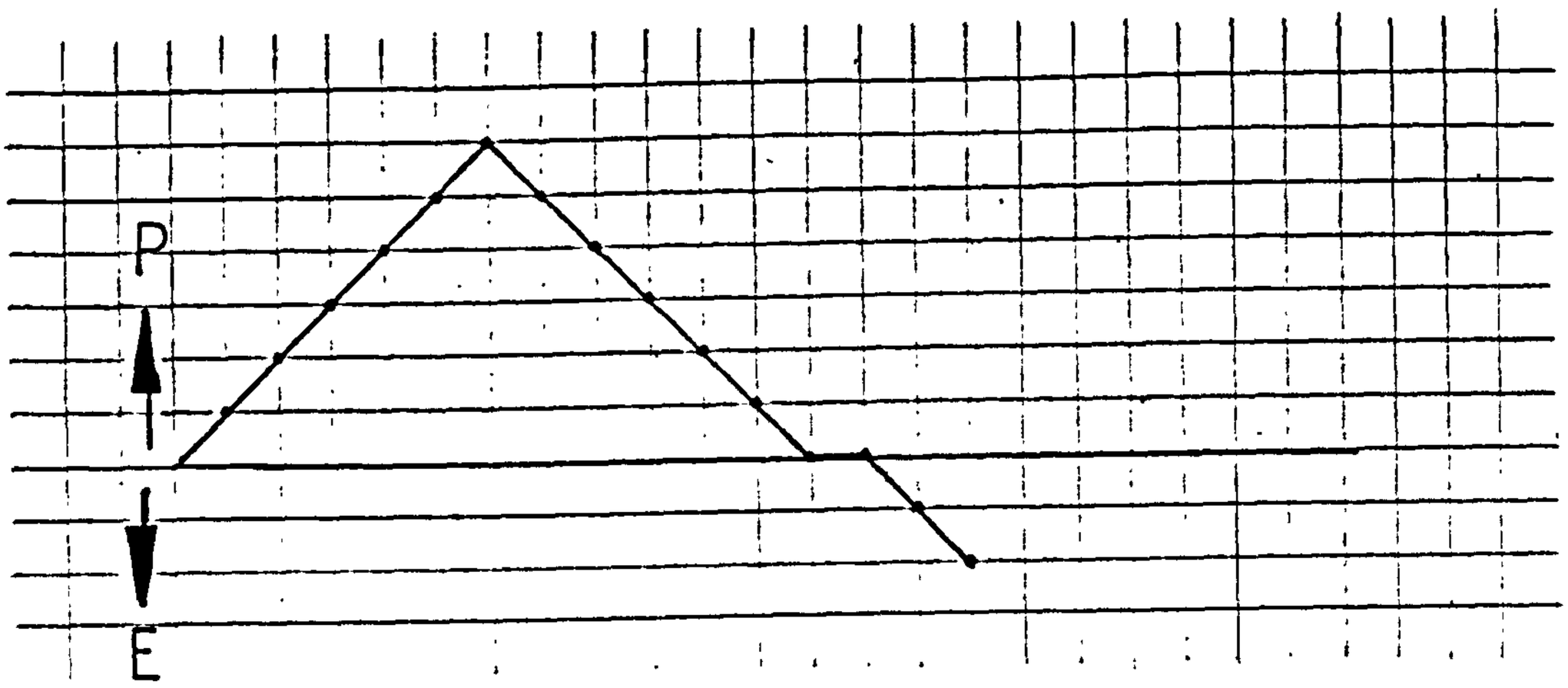
here you are (laugh=2)

S stop it now (5)

I eh?

look, look

S = Subject
I = Interlocutor



A short line across the profile marks a point where the conversation was interrupted. Conversation profiles for both members of a dyad were plotted together, and then profiles for individual members of the dyad were plotted to compare their relative contributions to the joint profile. As in the case of type and token counts, there is again no distinction between code-switching and code-mixing in conversation profiles, since profiles are strings of isolated tokens. Joint and individual profiles for code-mixed Major dyads; 8M, 9M, 12M are shown in Graphs 7;1 to 7;3. The longest profile on each page is for the joint conversation, the shorter profiles being for the individual participants, labelled *S* (subject) or *I* (interlocutor). Profiles for minor dyads; 1m(a), 1m(b), 2m, 3m, 4m, 7m, 8m, 9m, are shown in Graphs 7;4 to 7;11. Code-mixed null dyads, which with the exception of 12n, show only small defections into the other code, are plotted in joint profiles on Graphs 7;12 to 7;16. The contributions of either S or I to the defection is marked on the single joint profile. The 12n dyad mentioned earlier as exceptional data, is shown

in the three-part format (1 joint and 2 individual profiles) in Graph 7;17.

Group profiles are drawn to half the scale of the dyad profiles, where one square represents two tokens. These are in five-part format. A joint group profile is presented first, with contributions by each of the four group participants on the following page. These are shown in Graphs 7;18 to 7;23 for groups A, B, D, F, G and H.

The conversation profiles show the overall shape of the conversation as it progresses, and the individual profiles give an impression of the degree to which the individual contributions mirror or adapt to each other. However, since conversational turns are of different lengths, and, overall, one child in a dyad may speak more than the other, one individual profile cannot be compared at a given point with the paired individual profile at the same point. This drawback is more pronounced for groups-of-four where there is a silent child, e.g. Graph 7;22 (b,c,d,and e) for group G.

7;1;4 Conversation mapping

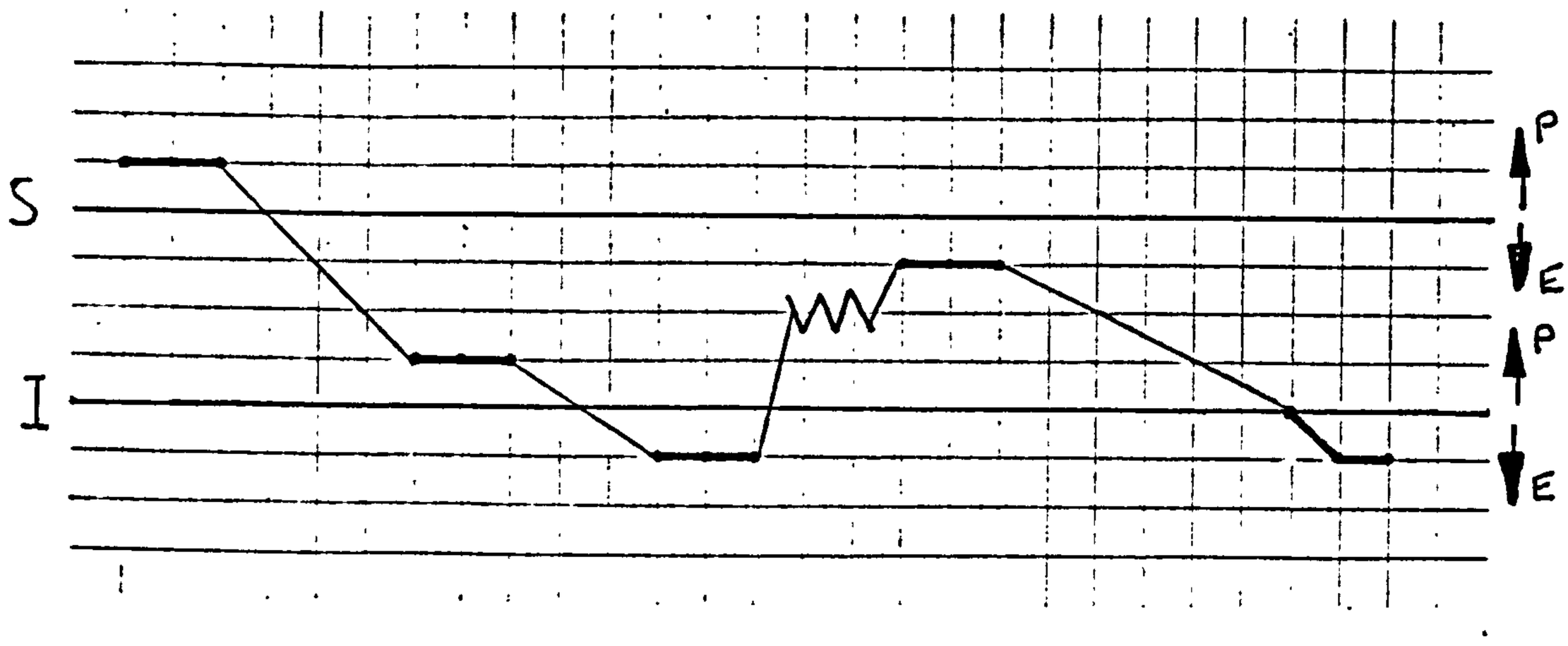
A different type of conversation plotting was needed to compare individual contributions to the overall bilingual mix. *Conversation mapping* was devised to examine turn exchanges and their relationship to the bilingual mix.

In this plot two x axes run one above the other. The subject's tokens are plotted on the top axis, the interlocutor's on the bottom axis. For each participant each Punjabi token is plotted one unit upwards and each English token one unit downwards. One token advances the graph by one unit on the horizontal; so whilst speech from S is plotted, the axis for I remains blank and vice versa. Pauses are incorporated into the graph, one unit is missed for every one second pause, and the next token is marked on the following square. Pauses of less than a second are ignored. It must be stressed that two scales are in operation here. For stretches of speech, one unit represents *one token* but for silence or laughter, one unit represents *one second*, so comparative lengths of speech and silence/laughter are not equivalent. The system breaks down for speech in overlap when

tokens from the two parties are not of the same number and for speech/laughter in overlap. Overlaps occurred infrequently and are marked on the graphs. For the conversation mapping, laughter, noises and exclamations such as oh! ah! are marked in a central position between the two axes. Finally tokens and items marked between the two axes were joined by a line. So that patterns could be more clearly seen, stretches of Punjabi and English were highlighted in different coloured ink, on the working copies. In the case of conversation mapping, code-switching at turn boundaries is clearly distinguished from mid-turn switching/mixing. The mapping technique is potentially useful for examining intersentential switching and intrasentential mixing.

As in the case of the conversation profiles, English words which are acceptable in a stretch of Punjabi speech were counted as Punjabi. Additionally, tokens of doubtful status were marked on the axis itself and tokens for which the transcribers were uncertain of the identity of the speaker were marked between the axes. Figure 7;2 shows the short interchange which was printed in Figure 7;1 plotted as conversation mapping. The conversation mapping for dyads is shown in Graphs 10;1 to 10;32. Groups-of-four have not been mapped, but the task is theoretically possible using four parallel x axes.

FIGURE 7;2
The conversation from Figure 7;1 plotted as conversation mapping



7;2 CO-OPERATION AND DEFECTION

7;2;1 Co-operation and code-defection

Using the conversation mapping graphs, turn exchanges were classified as moves which either entailed *co-operation* (C) or *defection* (D). A turn was considered as all the utterances by one child until the other child took the floor. The first conversational turn was classified as C if it was in one code or D if it was mixed. Subsequent turns were marked C or D depending on their internal consistency and their relation to the previous turn. All mixed turns were D. The second turn (and the same applied to all subsequent turns) was marked C if it was in the same code as the previous turn, D if it was in the other code and D if the second turn was itself mixed. A mixed turn where the language of the latter part was taken up by the next speaker was considered as D followed by C. Figure 7;3 summarizes the decision-making process adopted.

FIGURE 7;3
Classification of conversational turns as co-operation (C) or defection (D)

1st turn		2nd turn (and subsequent turns)	
E	(C)	E	(C)
E	(C)	P	(D)
P	(C)	P	(C)
P	(C)	E	(D)
E	(C)	E+P	(D)
E	(C)	P+E	(D)
P	(C)	P+E	(D)
P	(C)	E+P	(D)
E+P	(D)	P	(C)
E+P	(D)	E	(D)
P+E	(D)	E	(C)
P+E	(D)	P	(D)

A few special considerations were applied. An individual token from the L2 embedded in a stretch of L1 with L1 turns before and after it was not counted as defection (L1 represents one of the languages, either Punjabi or English). Vocatives were not counted as a switch (e.g. 'rabbit', 'bà'-brother). Exclamations were considered

code-less and were not included as C or D turns. Neutral items, such as 'hello' or 'eh', were counted as C but when followed by a switch the next turn was D. When an L1 to L2 switch was followed by a repetition of the same switched utterance by the other speaker, the second of the two utterances was not considered as defection.

Turns broken up by long pauses within a turn, such that the first and second parts on the basis of content seemed, to the experimenter, to be unrelated were nevertheless counted as one turn for the purposes of marking code-defection. Similarly, long pauses between turns where the following turn seemed to be unconnected with the previous one posed a classification problem. At first, a pause of ten seconds was chosen as the cut-off point where the following turn could be considered to be unconnected with the previous one, and such a turn was not counted as either C or D. However there was no strong justification for choosing this figure and the classification led to problems in the case of null dyads with only a few utterances separated by long pauses, causing them to appear relatively turn-less. So, in the final analysis, the length of between-turn pauses was ignored.

Table 7;17 shows the number of C and D turns for each dyadic conversation. The number of consecutive code-defections are also listed for the actual r-times. The following table, 7;18 gives the C and D turns adjusted proportionally to an average recording time of 333 seconds and the percentages of C and D for each conversation.

7;2;2 Co-operation and content defection

Another type of defection seemed to be operating, aside from code-defection. This was shown in the content of the message and/or the voice quality. Listening to the tapes with the transcripts, the experimenter marked with a 'd' those turns in which one speaker said something which distanced him/her from the other party. The marking of the 'd' defections was more subjective than the classification of D (code-defections).

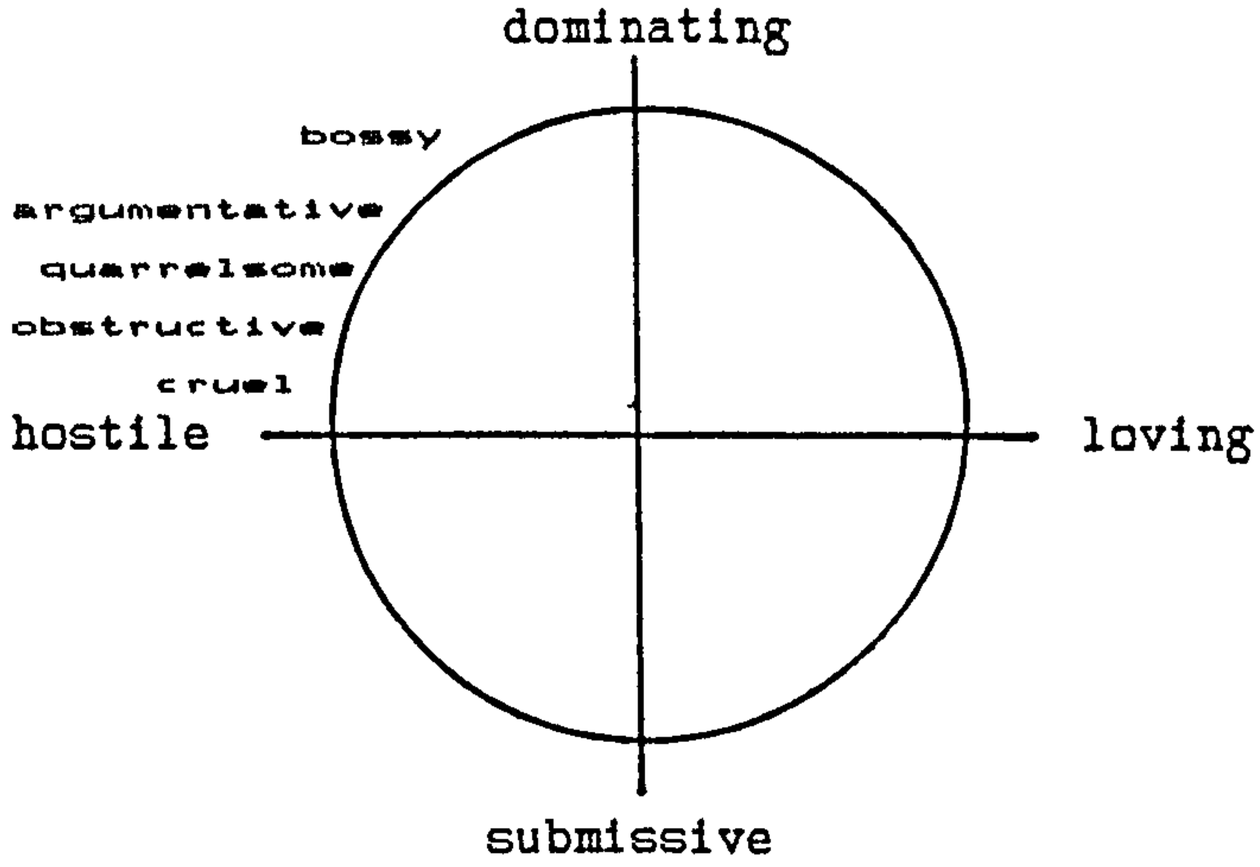
The reliability of the coding for 'd' defections was checked, for half of the dyadic conversations, by an independent judge who was

given written instructions. These are reprinted in Figure 7;4. The first and second judges reached 82% agreement on the *number of defections* in each of the fifteen conversations and in 13 out of 15 conversations the *areas of defection* coincided. The two sets of results are shown in Table 7;19. Turn-for-turn, however, there was some discrepancy between the two sets of 'd' markings. The judges discussed their decision procedures and two points emerged which could account for some discrepancies.

FIGURE 7;4 Instructions to second judge of 'd' defections

Conversational defection

Adjectives such as friendly, dominating, quarrelsome could be used to describe voice quality or content of a message. If an utterance can be described by the kind of adjectives falling into the quadrant between dominating and hostile in the diagram below then the utterance can be labelled as a conversational defection. The speaker is disaffiliating from the listener.



Listen to the conversations on tape and mark a conversational turn with a 'd' if you consider that the content of the message and/or the voice quality seem to distance the speaker from the hearer.
Each conversation has two participants, these are young children, aged about four, who may or may not know each other. They are seated near a live pet in a cage or box, and they have been given some food to give to the animal.

What is a 'd'?

1 Aggressive tones directed to the animal would not be 'd'.
2 Each conversation will have its own norms.

3 A role-play where one child acted out dominant behaviour towards the other might be 'd'.
4 A child might request the other to do something in an abrupt manner but this is not necessarily 'd'.
5 Bringing in a third party as a threat may well be 'd', e.g. "I'll tell X of you.""That X will bite you."
6 Some conversations may feature little or no 'd'. The speakers will seem to be co-operating in their conversation even though the turns may not be linked together into a recognizable sequence.

The first point was concerned with co-operation or dominance as a conceptual framework for decision-making. The second judge believed that children tried to establish a dominance relationship, so if the nature of their conversation indicated that they were already friends, then a show of dominance by one party was merely an expression of the norm. The first judge did not believe that establishment of dominance was a 'natural state' and so regarded a first dominant move as a defection. However, it was agreed that the start of a series of defections was not always clear-cut and there were cases of individual children who seemed more dominant than their peers, e.g. the subject in 5M, 5m and 5n.

The second point of discrepancy was over topic change. The second judge marked some 'assertive changes of topic' as defections. Although the first judge agreed that this was a type of conversational defection, she felt that it could not be considered as such for the data in question, since some null dyads failed to link-in their utterances with their partners and so were effectively changing the topic on every turn.

In the Appendix (section 10;2;1) the experimenter's judgment of content defection is marked in the transcript, with a 'd' immediately before the turn in which the defection/defections were judged to occur. These 'd' markings should be viewed as indicators of a stretch of conversation where defection is taking place. Any attempt to further standardize the procedure of 'd' marking and so reduce subjectivity would have to be the subject of a further study.

TABLE 7;17

Bilingual moves classified as co-operate (C) or defect (D), raw data

dyad	time (secs)	C	D	consecutive (D) defections x1	x2	x3	x4	x5
1M	575	113	2	2				
2M	450	85	0					
3M	375	65	0					
4M	321	62	2		1			
5M(a)	132	37	0					
5M(b)	315	59	0					
6M	318	68	0					
7M	324	38	0					
8M	*182*	*30*	*13*	*7*	*3*			
9M	294	35	14	6	4			
10M	329	59	0					
11M	312	62	0					
12M	*328*	*24*	*18*	*2*	*5*	*2*		
	-----							
mean	354.6							
1m(a)	195	25	2	2				
1m(b)	241	36	10	2	2	0	1	
2m	236	17	12	5	2	1		
3m	247	31	16	4	3	2		
4m	445	45	12	8	2			
5m	274	52	0					
6m	290	48	0					
7m	333	28	11	4	2	1		
8m	*357*	*26*	*19*	*2*	*2*	*1*	*0*	*2*
9m	274	45	5	1	2			
10m	396	72	0					
11m	346	43	0					
12m	*320*	*20*	*0*					
	-----							
mean	329.5							
1n	302	12	4	2	1			
2n	215	19	4	2	1			
3n	324	25	0					
4n	480	88	2	2				
5n	299	61	0					
6n	247	31	2	0	1			
7n	345	22	2		1			
8n	*295*	*41*	*0*					
9n	311	57	0					
10n	354	37	0					
11n	314	50	0					
12n	*306*	*26*	*17*	*9*	*2*	*0*	*1*	
	----							
mean	316							

overall mean = 333.4 secs

TABLE 7;18
Bilingual moves classified as co-operate (C) or defect (D) re-calculated proportionally for an average recording time of 333 secs.

dyad	C	D	%C	%D
1M	65.4	1.2	98.2	1.8
2M	62.9	0	100	0
3M	57.7	0	100	0
4M	64.3	2.1	96.8	3.2
5M	71.5	0	100	0
6M	71.2	0	100	0
7M	39.1	0	100	0
8M	*54.9*	*23.8*	*69.8*	*30.2*
9M	39.6	15.9	71.4	28.6
10M	59.7	0	100	0
11M	66.2	0	100	0
12M	*24.4*	*18.3*	*57.1*	*42.9*
means	59.8	1.9	96.6	3.4
1m	46.6	9.2	83.5	16.5
2m	24	16.9	58.7	41.3
3m	41.8	21.6	65.9	34.1
4m	33.7	9.0	78.9	21.1
5m	63.2	0	100	0
6m	55.1	0	100	0
7m	28	11	71.8	28.2
8m	*24.3*	*17.7*	*57.9*	*42.1*
9m	54.7	6.1	90	10
10m	60.5	0	100	0
11m	41.4	0	100	0
12m	*20.8*	*0*	*100*	*0*
means	44.9	7.4	84.9	15.1
1n	13.2	4.4	75	25
2n	29.4	6.2	82.6	17.4
3n	25.7	0	100	0
4n	61	1.4	97.8	2.2
5n	67.9	0	100	0
6n	41.8	2.7	93.9	6.1
7n	21.2	1.9	91.8	8.2
8n	*46.3*	*0*	*100*	*0*
9n	61.0	0	100	0
10n	34.8	0	100	0
11n	53.0	0	100	0
12n	*28.3*	*18.5*	*60.5*	*39.5*
means	40.9	1.7	94.1	5.9

TABLE 7;19

Reliability check on d-defections.

	Number of d-defections		
	1st judge	2nd judge	
1m(b)	6	5	
1M	0	0	
4m	0	0	
6m	7	9	*
1n	0	1	
11M	4	4	
5n	0	2	
6M	0	3	
5m	6	9	
6n	0	2	
5M(b)	4	6	
4n	22	24	*
11m	8	7	
11n	6	6	
4M	11	12	

* = discrepancy over areas of d defection

Table 7;20 gives the raw data for turns labelled C, D, and d, together with consecutive numbers of d defections. The figures adjusted to an average r-time of 333 seconds are reported in Table 7;21, where the relative distributions of the two types of defections (D and d in columns 3 and 4) can be compared. Percentages of C and D+d are given for each conversation.

It seemed likely that turns in overlap, shown in Table 7;20, may be another type of defection, but these are infrequent and no pattern emerged.

Tests of significance, correlated sample t-tests, were applied to the %D defections (Table 7;18) and %D+d defections (Table 7;21) for the three sets M, m, and n dyads. The results are given in Table 7;22. There is a greater incidence of %D (code-defection) for minor contacts than either Major or null contacts but the figures, whilst approaching significance at the 5% level, fail to reach significance. The figures for %(D+d), code and content defection, show that defection is greater, to a highly significant extent, between minor contacts than between either Major contacts or null contacts.

Code-defection (D) and content-defection (d) seemed to be in roughly complementary distribution; content-defection being a feature of monolingual stretches of conversation. The distributions of (D) and (d) for each dyadic conversation are plotted as bar graphs in Graphs 7;24 to 7;26.

TABLE 7;20 Number of conversational turns classified as co-operate (C), code-defect (D) or content-defect (d), number of turns in overlap (OL), raw data

				consecutive (d) defections								
dyads	C	D	d	x1	x2	x3	x4	x5	x6	x7	x8	OL
1M	113	2	0									1
2M	85	0	0									7
3M	54	0	11			1					1	8
4M	51	2	11	2		3						5
5M(a)	37	0	0									4
5M(b)	55	0	4	4								5
6M	68	0	0									7
7M	37	0	1	1								3
8M	*30*	*13*	*0*									*2*
9M	33	14	3	3								1
10M	55	0	4	2	1							3
11M	58	0	4		2							6
12M	*24*	*18*	*0*									*5*
1m(a)	18	2	7	1					1			5
1m(b)	30	10	6						1			5
2m	17	12	2		1							0
3m	31	16	1	1								3
4m	45	12	0									5
5m	46	0	6	6								8
6m	41	0	7				1	1				6
7m	20	11	7	7								0
8m	*26*	*19*	*0*									*0*
9m	31	5	14	2					2			2
10m	58	0	14	4	2	2						2
11m	35	0	8	4	2							4
12m	*17*	*0*	*3*				*1*					*1*
1n	12	4	0									0
2n	18	4	1	1								1
3n	25	0	0									0
4n	66	2	22	3	4	1					1	3
5n	61	0	0									6
6n	31	2	0									2
7n	22	2	0									2
8n	*41*	*0*	*0*									*2*
9n	55	0	2	2								2
10n	35	0	2	2								1
11n	44	0	6	1	1	1						2
12n	*23*	*17*	*4*	*4*								*1*

d coincides with D = 4
OL coincides with D or d = 2
d = defections classified by content of message and voice quality.
D = code-defections.
C = co-operative turns (less than those in Table 7;17 by d except when D=d)

TABLE 7;21

Bilingual moves classified as co-operate or defect (D+d) re-calculated proportionally for an average recording time of 333 secs.

dyad	co-operate	defect			%C	%(D+d)
		D	d	(D+d)		
1M	65.4	1.2	0	1.2	98.2	1.8
2M	62.9	0	0	0	100	0
3M	48	0	9.8	9.8	83	17
4M	52.9	2.1	11.4	13.5	79.7	20.3
5M	68.5	0	3.0	3.0	95.8	4.2
6M	71.2	0	0	0	100	0
7M	38.0	0	1.0	1.0	97.4	2.6
8M	*54.9*	*23.8*	*0*	*23.8*	*69.8*	*30.2*
9M	37.4	15.9	3.4	19.3	66	34
10M	55.7	0	4.0	4.0	93.3	6.7
11M	61.9	0	4.3	4.3	93.5	6.5
12M	*24.4*	*18.3*	*0*	*18.3*	*57.1*	*42.9*
means	56.2	1.9	3.7	5.6	90.7	9.3
1m	36.7	9.2	9.9	19.1	65.8	34.2
2m	22.6	16.9	2.8	19.7	53.4	46.6
3m	41.8	21.6	1.3	22.9	64.6	35.4
4m	33.7	9.0	0	9.0	78.9	21.1
5m	55.9	0	7.3	7.3	88.4	11.6
6m	47.1	0	8.0	8.0	85.5	14.5
7m	20	11	7.0	18.0	52.6	47.4
8m	*24.3*	*17.7*	*0*	*17.7*	*57.9*	*42.1*
9m	37.7	6.1	17.0	23.1	62	38
10m	48.8	0	11.8	11.8	80.5	19.5
11m	33.7	0	7.7	7.7	81.4	18.6
12m	*17.7*	*0*	*3.1*	*3.1*	*85.1*	*14.9*
means	37.8	7.4	7.3	14.7	71.3	28.7
1n	13.2	4.4	0	4.4	75	25
2n	27.9	6.2	1.5	7.7	78.4	21.6
3n	25.7	0	0	0	100	0
4n	45.8	1.4	15.3	16.7	73.3	26.7
5n	67.9	0	0	0	100	0
6n	41.8	2.7	0	2.7	93.9	6.1
7n	21.2	1.9	0	1.9	100	0
8n	*46.3*	*0*	*0*	*0*	*100*	*0*
9n	58.9	0	2.1	2.1	96.6	3.4
10n	32.9	0	1.9	1.9	94.5	5.5
11n	46.7	0	6.4	6.4	87.9	12.1
12n	*25.0*	*18.5*	*4.4*	*22.9*	*52.2*	*47.8*
means	38.2	1.7	2.7	4.4	90	10

TABLE 7;22

Comparison of means using correlated sample t-tests

		t	d.o.f.	p
%D	m and M	1.98	9	approaching sig.
%D	m and n	2.04	9	approaching sig.
%D	n and M	0.58	9	not significant
%(D+d)	m and M	3.75	9	1%
%(D+d)	m and n	3.61	9	1%
%(D+d)	n and M	0.14	9	not significant

7;3 CONVERSATION ACTS ANALYSIS

7;3;1 Coding

The motivation for the application of the conversation-acts analysis was that, during transcription, it seemed that conversations between Major contacts were qualitatively better. Utterances were coded in the transcription using the system developed by Dore et al. (1978) and reprinted in the Appendix (section 10;1). The 36 different types of conversation acts (C-acts) were totalled for each dyadic interaction. Subjects 8 and 12 have been omitted from the analysis. The results are shown in Table 7;23 for the Major dyads. Table 7;24 lists the figures for the minor dyads and Table 7;25 those for the null dyads. In the following three Tables, 7;26 to 7;28, the figures are given adjusted proportionally to an average r-time of 333 seconds and means of C-acts for the set of Major dyads, the set of minor dyads and the set of null dyads have been calculated. In order to compare the means, they were plotted on three bar graphs, Graphs 7;27 to 7;29, which were similar in shape indicating that the three conditions, Major, minor, and null, yielded comparable conversations in terms of the patterning of C-acts. Any differences found elsewhere between sets of M, m and n contacts can, thus, be seen as being acted out on the same stage.

The data from the groups-of-four was submitted to the same analysis of C-acts as the dyads. The results are shown in Table 7;29, for the raw data and Table 7;30 for figures adjusted to a recording time of 333 secs. This figure, which was actually the average

recording time for dyads, was not the average recording time of the set of group-of-four (382 seconds). The adjustment to 333 seconds was chosen so that the means for C-acts for groups-of-four could be compared in the form of a bar graph (in Graph 7;30) with those for means of C-acts in the sets of Major dyads and minor dyads, which had been plotted in Graphs 7;27 to 7;29.

Four of the conversations of null dyads (1n, 2n, 7n and 9n), which were distinguished from the others in the next analysis (7;3;2) by their low levels of sequenced turns, showed patternings of C-acts which differed from the mean for the set of null dyads and so, for purposes of comparison, their C-act patterns were plotted separately in Graphs 7;31 to 7;34. Dyad 1M, which was exceptional in that it included an adult and was the most well-sequenced conversation (see 7;3;2), was also plotted separately for C-act patterning in Graph 7;35.

7;3;2 Linking

Sequences were categorized using the guidelines suggested by Dore (1978 p. 403).

> A conversational sequence is a series of speaking turns which share a topic and a reciprocal illocutionary domain; the utterances in a sequence are related not only by content, but also in terms of illocutionary phenomena, such as expectation and fulfillment in the case of question-answer pairs. A speaker who initiates a sequence 'gets the floor', in that subsequent utterances orient to the initial one until the sequence changes. Any Requestive, Assertive, or Performative act which *extends* the topic of conversation counts as a bid for a new sequence, unless it occurs in a speaking turn begun by a Responsive. In the latter case, the Assertive or Performative will be taken as a support for the Responsive if it merely extends the topic, but if it totally *changes* the topic it begins a new sequence. Questions with any new information, in any speaking turn, initiate a new sequence. Thus the sequence-changing mechanism is determined by the type of C-act, the turn it is in, and the degree to which it varies the topic.

Using this prescription, utterances in the transcription were bracketed into sequences. Turns were then labelled as *linked* or *isolated*. A *linked* turn (L) was defined as one for which the whole or

part of the turn forms a sequence with the whole or part of the previous or subsequent turn. An *isolated* turn (I) is one for which no component utterance forms part of a sequence with the previous or subsequent turn. In this case the turn may be directed to an audience and yet not be linked-in to a sequence.

Some additional considerations in labelling turns were included. Attention getters (ODAG) or exclamations (EXCL) following each other were not counted as a sequence. Requests for clarification such as 'eh?' (ODCQ) were counted as linked turns only if the other party subsequently clarified the earlier remark, which in fact generally occurred. Repetitions (EXRP) which did not serve the function of acknowledgement were not counted as L turns.

TABLE 7;23

Conversation acts, raw data for Major dyads

dyads	1	2	3	4	5(a)	5(b)	6	7	9	10	11
r-time (secs.)	575	450	375	321	132	315	318	324	294	329	312
RQCH	22	13	6	2	2	10	7	5	7	1	7
RQPR	18	11	5	3	4	1	12	11	4	8	7
RQPC	3	1	0	0	1	0	1	1	1	5	2
RQAC	53	17	12	28	12	17	25	10	25	11	12
RQPM	0	0	0	2	0	0	0	0	0	0	1
RQSU	6	6	3	5	3	7	1	0	1	2	3
ASID	1	10	2	2	1	6	4	3	3	9	2
ASDC	22	6	36	14	3	10	22	2	14	8	16
ASIR	3	20	0	8	0	3	1	2	5	8	4
ASEV	1	2	0	0	0	0	0	0	0	2	1
ASAT	2	1	11	6	6	5	6	2	3	7	5
ASRU	0	0	0	4	0	0	0	0	0	0	0
ASEX	14	2	9	8	4	3	2	1	0	3	7
RSCH	13	6	0	2	1	5	0	2	1	0	3
RSPR	5	1	1	1	0	1	1	3	0	0	2
RSPC	3	0	0	0	0	0	0	0	0	2	0
RSCO	2	5	0	2	1	0	1	0	2	3	0
RSCL	2	0	2	0	0	0	1	0	0	3	3
RSQL	0	1	0	0	0	1	1	0	0	0	0
RSAG	0	0	8	1	2	6	0	0	2	1	0
RSAK	8	14	4	8	5	9	7	3	1	8	4
PFCL	0	0	0	0	0	0	0	0	0	2	0
PFJO	0	2	0	0	0	0	0	0	0	0	0
PFTE	0	0	0	1	0	0	0	0	0	0	3
PFPR	1	2	1	10	1	2	0	3	3	1	3
PFWA	0	0	1	1	1	0	3	0	0	6	1
ODAG	22	13	10	7	1	2	10	7	3	4	4
ODSS	0	0	0	0	0	0	0	0	0	0	0
ODRQ	0	0	1	1	0	1	0	0	0	0	0
ODCQ	5	0	3	2	1	0	6	4	3	2	1
ODBM	0	6	1	2	0	0	0	0	0	0	0
ODPM	0	1	0	1	0	0	0	0	0	0	0
EXCL	7	2	2	8	2	8	10	3	6	9	19
EXAC	0	3	0	1	6	3	4	1	0	0	4
EXRP	0	1	0	1	2	3	0	0	0	0	0
UNTP	3	10	5	3	4	13	5	4	12	11	5

r-time = recording time.

TABLE 7;24
Conversation acts, raw data for minor dyads

dyads	1(a)	1(b)	2	3	4	5	6	7	9	10	11
r-time (secs)	195	241	236	247	445	274	290	333	274	396	346
RQCH	6	3	2	4	5	8	3	2	4	0	1
RQPR	2	1	1	4	2	3	1	4	9	2	0
RQPC	0	1	0	0	0	0	0	1	0	1	1
RQAC	4	4	8	16	13	16	5	10	20	40	14
RQPM	1	1	2	0	0	1	0	0	0	0	0
RQSU	0	2	1	0	2	2	1	0	4	4	3
ASID	7	4	2	2	4	0	4	1	0	3	1
ASDC	2	6	9	21	13	12	12	10	9	17	7
ASIR	3	1	1	2	7	4	4	5	1	3	6
ASEV	1	1	1	0	0	6	1	1	4	1	9
ASAT	2	1	1	3	1	9	10	3	0	13	4
ASRU	1	0	0	0	0	2	1	0	0	0	1
ASEX	2	6	3	3	9	2	1	1	2	4	5
RSCH	1	2	1	2	1	2	1	0	0	1	0
RSPR	0	0	0	1	0	0	0	0	1	2	0
RSPC	0	0	0	0	0	0	0	0	0	0	0
RSCO	0	1	1	0	0	1	1	0	9	0	0
RSCL	0	1	0	0	0	2	0	0	1	4	0
RSQL	0	0	0	0	0	0	0	0	0	0	0
RSAG	0	2	0	2	2	3	5	0	1	0	3
RSAK	1	0	0	4	7	10	0	1	2	7	1
PFCL	5	0	0	0	0	0	0	0	0	0	0
PFJO	0	0	3	0	0	6	0	0	2	0	1
PFTE	0	2	0	0	0	0	0	0	0	0	0
PFPR	6	2	1	2	1	2	1	4	0	13	4
PFWA	0	1	0	0	0	3	1	0	0	0	0
ODAG	8	14	4	0	24	8	14	2	3	11	2
ODSS	0	0	0	0	0	0	0	0	0	0	0
ODRQ	0	0	0	0	0	0	2	0	0	0	0
ODCQ	0	2	3	5	1	1	0	2	1	1	1
ODBM	0	0	2	0	0	0	0	0	0	0	0
ODPM	0	0	0	0	0	0	0	0	0	0	0
EXCL	2	0	7	2	10	7	8	8	6	16	8
EXAC	0	10	4	1	2	3	5	4	2	8	1
EXRP	0	0	1	0	0	4	1	0	0	0	0
UNTP	2	6	4	8	5	5	7	12	6	17	12

TABLE 7;25
Conversation acts, raw data for null dyads

dyads	1	2	3	4	5	6	7	9	10	11
r-time (secs)	302	215	324	480	299	247	345	311	354	314
RQCH	2	4	2	1	11	7	1	4	4	8
RQPR	1	1	0	1	5	1	1	3	0	1
RQPC	0	1	0	3	1	0	1	0	9	1
RQAC	3	7	8	33	17	12	1	16	13	7
RQPM	0	0	3	0	0	0	0	1	1	0
RQSU	1	2	0	4	5	0	0	6	2	6
ASID	5	2	1	2	2	2	0	0	1	0
ASDC	10	4	16	18	18	17	2	16	11	15
ASIR	2	5	8	9	7	1	1	3	3	3
ASEV	1	0	1	3	4	2	0	2	0	0
ASAT	1	1	0	2	13	2	1	5	1	10
ASRU	0	0	1	0	2	1	0	1	0	2
ASEX	0	2	3	1	3	2	0	4	2	5
RSCH	0	1	0	1	3	0	0	1	1	3
RSPR	0	0	0	0	0	0	0	0	0	0
RSPC	0	0	0	2	1	0	0	0	0	0
RSCO	0	0	1	4	1	0	0	0	1	1
RSCL	0	0	0	2	0	1	0	1	2	4
RSQL	0	1	0	0	0	0	0	0	0	0
RSAG	0	0	0	2	9	1	0	0	0	3
RSAK	0	0	2	3	5	2	0	3	3	3
PFCL	0	0	0	0	0	0	0	0	1	0
PFJO	0	0	0	1	0	0	0	0	0	0
PFTE	0	1	0	0	0	0	0	0	0	0
PFPR	0	0	0	9	1	2	0	2	1	0
PFWA	0	1	0	0	1	1	0	1	1	1
ODAG	3	6	0	0	1	2	19	8	2	1
ODSS	0	0	0	0	0	0	0	0	0	0
ODRQ	0	0	2	0	0	0	0	0	0	0
ODCQ	0	0	0	8	0	2	0	1	3	7
ODBM	0	1	0	0	0	1	0	0	0	0
ODPM	0	0	0	4	1	0	0	0	0	0
EXCL	6	3	5	7	7	15	23	2	3	2
EXAC	5	0	0	20	6	0	0	15	4	1
EXRP	0	0	0	6	0	0	0	0	1	0
UNTP	2	6	6	8	6	6	2	14	7	6

TABLE 7;26

Conversation acts recalculated proportionally to an average recording time of 333 secs. for Major dyads

C-acts	dyads										means
	1	2	3	4	5	6	7	9	10	11	
RQCH	12.7	9.6	5.3	2.1	8.9	7.3	5.1	7.9	1.0	7.5	6.7
RQPR	10.4	8.1	4.4	3.1	3.7	12.6	11.3	4.5	8.1	7.5	7.4
RQPC	1.7	0.7	0	0	0.7	1.0	1.0	1.1	5.1	2.1	1.3
RQAC	30.7	12.6	10.6	29	21.6	26.2	10.3	28.3	11.1	12.8	19.3
RQPM	0	0	0	2.1	0	0	0	0	0	1.1	0.3
RQSU	3.5	4.4	2.7	5.2	7.4	1	0	1.1	2.0	3.2	3.1
ASID	0.6	7.4	1.8	2.1	5.2	4.2	3.1	3.4	9.1	2.1	3.9
ASDC	12.7	4.4	32	14.5	9.7	23.0	2.0	15.8	8.1	17.1	13.9
ASIR	1.7	14.8	0	8.3	2.2	1.0	2.0	5.7	8.1	4.3	4.8
ASEV	1	1.5	0	0	0	0	0	0	2.0	1.1	0.6
ASAT	1.2	0.7	9.8	6.2	8.2	6.3	2.0	3.4	7.1	5.3	5.0
ASRU	0	0	0	4.1	0	0	0	0	0	0	0.4
ASEX	8.1	1.5	8.0	8.3	5.2	2.1	1.0	0	3.0	7.5	4.5
RSCH	7.5	4.4	0	2.1	4.5	0	2.0	1.1	0	3.2	2.5
RSPR	2.9	0.7	0.9	1.0	0.7	1.0	3.1	0	0	2.1	1.2
RSPC	1.7	0	0	0	0	0	0	0	2.0	0	0.4
RSCO	1.1	3.7	0	2.1	0.7	1	0	2.3	3.0	0	1.4
RSCL	1.2	0	1.8	0	0	1.0	0	0	3.0	3.2	1.0
RSQL	0	0.7	0	0	0.7	1.0	0	0	0	0	0.2
RSAG	0	0	7.1	1.0	6.0	0	0	2.3	1.0	0	1.7
RSAK	4.6	10.3	3.5	8.3	10.4	7.3	3.1	1.1	8.1	4.3	6.1
PFCL	0	0	0	0	0	0	0	0	2	0	0.2
PFJO	0	1.5	0	0	0	0	0	0	0	0	0.1
PFTE	0	0	0	1	0	0	0	0	0	3.2	0.4
PFPR	0.6	1.5	0.9	10.4	2.2	0	3.1	3.4	1.0	3.2	2.6
PFWA	0	0	0.9	1.0	0.7	3.1	0	0	6.1	1.1	1.3
ODAG	12.7	9.6	8.9	7.3	2.2	10.5	7.2	3.4	4.0	4.3	7.0
ODSS	0	0	0	0	0	0	0	0	0	0	0
ODRQ	0	0	0.9	1.0	0.7	0	0	0	0	0	0.3
ODCQ	2.9	0	2.7	2.1	0.7	6.3	4.1	3.4	2.0	1.1	2.5
ODBM	0	4.4	0.9	2.1	0	0	0	0	0	0	0.7
ODPM	0	0.7	0	1.0	0	0	0	0	0	0	0.2
EXCL	4.0	1.5	1.8	8.3	7.4	10.5	3.1	6.8	9.1	20.3	7.3
EXAC	0	2.2	0	1.0	6.7	4.2	1.0	0	0	4.3	1.9
EXRP	0	0.7	0	1.0	3.7	0	0	0	0	0	0.5
UNTP	1.7	7.4	4.4	3.1	12.7	5.2	4.1	13.6	11.1	5.3	6.9
totals	125.2	115	109.3	138.8	132.8	135.8	68.6	108.6	117.1	127.2	117.8

TABLE 7;27

Conversation acts recalculated proportionally to an average recording time of 333 secs. for minor dyads

C-acts	dyads										means
	1	2	3	4	5	6	7	9	10	11	
RQCH	6.9	2.8	5.4	3.7	9.7	3.4	2	4.9	0	1.0	4.0
RQPR	2.3	1.4	5.4	1.5	3.6	1.1	4	10.9	1.7	0	3.2
RQPC	0.8	0	0	0	0	0	1	0	0.8	1.0	0.4
RQAC	6.1	11.3	21.6	9.7	19.4	5.7	10	24.3	33.6	13.5	15.5
RQPM	1.5	2.8	0	0	1.2	0	0	0	0	0	0.5
RQSU	1.5	1.4	0	1.5	2.4	1.1	0	4.9	3.4	2.9	1.9
ASID	8.4	2.8	2.7	3.0	0	4.6	1	0	2.5	1.0	2.6
ASDC	6.1	12.7	28.3	9.7	14.6	13.8	10	10.9	14.3	6.7	12.7
ASIR	3.0	1.4	2.7	5.2	4.9	4.6	5	1.2	2.5	5.8	3.6
ASEV	1.5	1.4	0	0	7.3	1.1	1	4.9	0.8	8.7	2.7
ASAT	2.3	1.4	4.0	0.7	10.9	11.5	3	0	10.9	3.8	4.9
ASRU	0.8	0	0	0	2.4	1.1	0	0	0	1.0	0.5
ASEX	6.1	4.2	4.0	6.7	2.4	1.1	1	2.4	3.4	4.8	3.6
RSCH	2.3	1.4	2.7	0.7	2.4	1.1	0	0	0.8	0	1.1
RSPR	0	0	1.3	0	0	0	0	1.2	1.7	0	0.4
RSPC	0	0	0	0	0	0	0	0	0	0	0
RSCO	0.8	1.4	0	0	1.2	1.1	0	10.9	0	0	1.5
RSCL	0.8	0	0	0	2.4	0	0	1.2	3.4	0	0.8
RSQL	0	0	0	0	0	0	0	0	0	0	0
RSAG	1.5	0	2.7	1.5	3.6	5.7	0	1.2	0	2.9	1.9
RSAK	0.8	0	5.4	5.2	12.1	0	1	2.4	5.9	1.0	3.4
PFCL	3.8	0	0	0	0	0	0	0	0	0	0.4
PFJO	0	4.2	0	0	7.3	0	0	2.4	0	1.0	1.5
PFTE	1.5	0	0	0	0	0	0	0	0	0	0.1
PFPR	6.1	1.4	2.7	0.7	2.4	1.1	4	0	10.9	3.8	3.3
PFWA	0.8	0	0	0	3.6	1.1	0	0	0	0	0.5
ODAG	16.8	5.6	0	17.9	9.7	16.1	2	3.6	9.2	1.9	8.3
ODSS	0	0	0	0	0	0	0	0	0	0	0
ODRQ	0	0	0	0	0	2.3	0	0	0	0	0.2
ODCQ	1.5	4.2	6.7	0.7	1.2	0	2	1.2	0.8	1.0	1.9
ODBM	0	2.8	0	0	0	0	0	0	0	0	0.3
ODPM	0	0	0	0	0	0	0	0	0	0	0
EXCL	1.5	9.9	2.7	7.5	8.5	9.2	8	7.3	13.4	7.7	7.6
EXAC	7.6	5.6	1.3	1.5	3.6	5.7	4	2.4	6.7	1.0	3.9
EXRP	0	1.4	0	0	4.9	1.1	0	0	0	0	0.7
UNTP	6.1	5.6	10.8	3.7	6.1	8.0	12	7.3	14.3	11.5	8.5
totals	99.2	87.1	110.4	81.1	147.8	101.6	70	105.5	141	82	102.6

TABLE 7;28

Conversation acts recalculated proportionally to an average recording time of 333 secs. for null dyads

C-acts	dyads										means
	1	2	3	4	5	6	7	9	10	11	
RQCH	2.2	6.2	2.0	0.7	12.2	9.4	1	4.3	3.8	8.5	5.0
RQPR	1.1	1.5	0	0.7	5.6	1.3	1	3.2	0	1.1	1.5
RQPC	0	1.5	0	2.1	1.1	0	1	0	8.5	1.1	1.5
RQAC	3.3	10.8	8.2	22.9	18.9	16.2	1	17	12.2	7.4	11.8
RQPM	0	0	3.1	0	0	0	0	1.1	0.9	0	0.5
RQSU	1.1	3.1	0	2.8	5.6	0	0	6.4	1.9	6.4	2.7
ASID	5.5	3.1	1.0	1.4	2.2	2.7	0	0	0.9	0	1.7
ASDC	11	6.2	16.4	12.5	20	22.9	1.9	17.1	10.3	15.9	13.4
ASIR	2.2	7.7	8.2	6.2	7.8	1.3	1	3.2	2.8	3.2	4.4
ASEV	1.1	0	1.0	2.1	4.4	2.7	0	2.1	0	0	1.3
ASAT	1.1	1.5	0	1.4	14.5	2.7	1	5.3	0.9	10.6	3.9
ASRU	0	0	1	0	2.2	1.3	0	1.1	0	2.1	0.8
ASEX	0	3.1	3.1	0.7	3.3	2.7	0	4.3	1.9	5.3	2.4
RSCH	0	1.5	0	0.7	3.3	0	0	1.1	0.9	3.2	1.1
RSPR	0	0	0	0	0	0	0	0	0	0	0
RSPC	0	0	0	1.4	1.1	0	0	0	0	0	0.2
RSCO	0	0	1	2.8	1.1	0	0	0	0.9	1.1	0.7
RSCL	0	0	0	1.4	0	1.3	0	1.1	1.9	4.2	1.0
RSQL	0	1.5	0	0	0	0	0	0	0	0	0.1
RSAG	0	0	0	1.4	10	1.3	0	0	0	3.2	1.6
RSAK	0	0	2	2.1	5.6	2.7	0	3.2	2.8	3.2	2.2
PFCL	0	0	0	0	0	0	0	0	0.9	0	0.1
PFJO	0	0	0	0.7	0	0	0	0	0	0	0.1
PFTE	0	1.5	0	0	0	0	0	0	0	0	0.1
PFPR	0	0	0	6.2	1.1	2.7	0	2.1	0.9	0	1.3
PFWA	0	1.5	0	0	1.1	1.3	0	1.1	0.9	1.1	0.7
ODAG	3.3	9.3	0	0	1.1	2.7	18.3	8.6	1.9	1.1	4.6
ODSS	0	0	0	0	0	0	0	0	0	0	0
ODRQ	0	0	2	0	0	0	0	0	0	0	0.2
ODCQ	0	0	0	5.5	0	2.7	0	1.1	2.8	7.4	1.9
ODBM	0	1.5	0	0	0	1.3	0	0	0	0	0.3
ODPM	0	0	0	2.8	1.1	0	0	0	0	0	0.4
EXCL	6.6	4.6	5.1	4.8	7.8	20.2	22.2	2.1	2.8	2.1	7.8
EXAC	5.5	0	0	13.9	6.7	0	0	16.1	3.8	1.1	4.7
EXRP	0	0	0	4.2	0	0	0	0	0.9	0	0.5
UNTP	2.2	9.3	6.2	5.5	6.7	8.1	1.9	15	6.6	6.4	6.8
totals	46.2	75.4	60.3	106.9	144.5	107.5	50.3	116.6	72.1	95.7	87.5

TABLE 7;29
Conversation acts for groups-of-four, raw data

groups	A	B	C	D	E	F	G	H
r-time secs.	470	381	281	356	548	298	300	424
RQCH	4	4	2	8	9	13	6	6
RQPR	1	6	0	2	9	7	6	9
RQPC	1	0	5	1	0	1	1	0
RQAC	21	20	8	14	22	21	23	19
RQPM	0	1	1	0	2	0	0	1
RQSU	3	3	1	1	12	7	7	3
ASID	0	2	2	0	0	0	3	2
ASDC	13	22	10	50	16	25	30	23
ASIR	7	8	4	14	9	11	4	9
ASEV	0	1	1	7	3	1	4	2
ASAT	2	8	1	4	7	6	5	1
ASRU	2	0	3	0	4	0	1	0
ASEX	2	3	2	3	4	3	1	2
RSCH	1	1	0	4	3	3	2	1
RSPR	0	1	0	0	7	0	0	2
RSPC	1	0	3	0	0	0	0	0
RSCO	0	2	2	0	6	1	0	2
RSCL	0	2	2	5	0	1	2	3
RSQL	0	0	0	0	1	0	0	0
RSAG	0	1	0	0	1	0	5	1
RSAK	2	0	1	7	10	2	5	3
PFCL	0	1	0	0	0	0	0	0
PFJO	0	0	0	4	1	1	0	1
PFTE	0	0	1	0	0	0	0	0
PFPR	3	13	6	0	5	2	1	4
PFWA	2	2	2	0	0	0	4	2
ODAG	13	13	12	14	21	3	18	16
ODSS	0	0	0	0	0	0	0	0
ODRQ	0	0	0	0	0	0	0	0
ODCQ	3	4	3	6	3	2	4	5
ODBM	0	0	0	0	0	0	0	0
ODPM	1	0	0	0	0	0	0	1
EXCL	12	13	15	4	15	6	12	12
EXAC	0	11	6	2	4	0	1	1
EXRP	0	1	0	3	1	4	1	0
UNTP	15	24	10	15	15	11	9	19

TABLE 7;30

Conversation acts for groups-of-four, figures recalculated proportionally to a recording time of 333 secs.

	A	B	C	D	E	F	G	H	means
RQCH	2.8	3.5	2.4	7.5	5.5	14.5	6.7	4.7	6.0
RQPR	0.7	5.2	0	1.9	5.5	7.8	6.7	7.1	4.4
RQPC	0.7	0	5.9	0.9	0	1.1	1.1	0	1.2
RQAC	14.9	17.5	9.5	13.1	13.4	23.5	25.5	15.0	16.6
RQPM	0	0.9	1.2	0	1.2	0	0	0.8	0.5
RQSU	2.1	2.6	1.2	0.9	7.3	7.8	7.8	2.4	4.0
ASID	0	1.7	2.4	0	0	0	3.3	1.6	1.1
ASDC	9.2	19.2	11.9	47.8	9.7	27.9	33.3	18.1	22.1
ASIR	5.0	7.0	4.7	13.1	5.5	12.3	4.4	7.1	7.4
ASEV	0	0.9	1.2	6.5	1.8	1.1	4.4	1.6	2.2
ASAT	1.4	7.0	1.2	3.7	4.3	6.7	5.5	0.8	3.8
ASRU	1.4	0	3.6	0	2.4	0	1.1	0	1.1
ASEX	1.4	2.6	2.4	2.8	2.4	3.4	1.1	1.6	2.2
RSCH	0.7	0.9	0	3.7	1.8	3.4	2.2	0.8	1.7
RSPR	0	0.9	0	0	4.3	0	0	1.6	0.8
RSPC	0.7	0	3.6	0	0	0	0	0	0.5
RSCO	0	1.7	2.4	0	3.6	1.1	0	1.6	1.3
RSCL	0	1.7	2.4	4.7	0	1.1	2.2	2.4	1.8
RSQL	0	0	0	0	0.6	0	0	0	0.1
RSAG	0	0.9	0	0	0.6	0	5.5	0.8	1.0
RSAK	1.4	0	1.2	6.5	6.1	2.2	5.5	2.4	3.2
PFCL	0	0.9	0	0	0	0	0	0	0.1
PFJO	0	0	0	3.7	0.6	1.1	0	0.8	0.8
PFTE	0	0	1.2	0	0	0	0	0	0.1
PFPR	2.1	11.4	7.1	0	3.0	2.2	1.1	3.1	3.7
PFWA	1.4	1.7	2.4	0	0	0	4.4	1.6	1.4
ODAG	9.2	11.4	14.2	13.1	12.8	3.4	20.0	12.6	12.1
ODSS	0	0	0	0	0	0	0	0	0
ODRQ	0	0	0	0	0	0	0	0	0
ODCQ	2.1	3.5	3.6	5.6	1.8	2.2	4.4	3.9	3.4
ODBM	0	0	0	0	0	0	0	0	0
ODPM	0.7	0	0	0	0	0	0	0.8	0.2
EXCL	8.5	11.4	17.8	3.7	9.1	6.7	13.3	9.4	10.0
EXAC	0	9.6	7.1	1.9	2.4	0	1.1	0.8	2.9
EXRP	0	0.9	0	2.8	0.6	4.5	1.1	0	1.2
UNTP	10.6	21.0	11.9	14.0	9.1	12.3	10.0	15.0	13
totals	77	146	122.5	157.9	115.4	146.3	171.7	118.4	131.9

TABLE 7;31

Linked (L) and isolated (I) turns, longest sequence in each conversation (LS), percentage of linked turns (%L) and percentage of isolated turns (%I), for dyads

dyad	r-time	L	I	LS	dyad	%L	%I
1M	575	88	36	16	1M	71.0	29.0
2M	450	63	34	6	2M	64.9	35.1
3M	375	35	35	9	3M	50	50
4M	321	43	32	8	4M	57.3	42.7
5M(a)	132	28	13	7	5M	51.7	48.3
5M(b)	315	34	45	8			
6M	318	41	32	7	6M	56.2	43.8
7M	324	26	16	8	7M	61.9	38.1
9M	294	25	32	6	9M	43.9	56.1
10M	329	46	28	7	10M	62.2	37.8
11M	312	48	25	9	11M	65.8	34.2
						58.5	41.5
1m(a)	195	17	15	7	1m	45.0	55.0
1m(b)	241	19	29	7			
2m	236	11	25	5	2m	30.6	69.4
3m	247	21	28	7	3m	42.9	57.1
4m	445	36	41	12	4m	46.8	53.2
5m	274	35	32	6	5m	52.2	47.8
6m	290	18	37	4	6m	32.7	67.3
7m	333	13	28	3	7m	31.7	68.3
9m	274	29	28	6	9m	50.9	49.1
10m	396	36	45	6	10m	44.4	55.6
11m	346	25	22	6	11m	53.2	46.8
						43.0	57.0
1n	302	0	24	0	1n	0	100
2n	215	4	27	2	2n	12.9	87.1
3n	324	16	18	3	3n	47.1	52.9
4n	480	40	59	6	4n	40.4	59.6
5n	299	36	33	6	5n	52.2	47.8
6n	247	13	31	3	6n	29.5	70.5
7n	345	2	46	2	7n	4.2	95.8
9n	311	12	51	3	9n	19.0	81.0
10n	354	17	24	7	10n	41.5	58.5
11n	314	36	16	6	11n	69.2	30.8
						31.6	68.4

t-test results.

		t	df	p
%L	M and m	3.6	9	1%
%L	m and n	1.9	9	n.s.
%L	M and n	3.3	9	1%

The results of the sequencing analysis are shown in Table 7;31 where figures for L and I are given for the actual recording times and then percentages of linked and isolated turns have been calculated. The longest sequence, by number of component turns (LS), in each dyadic conversation is recorded. Significance tests were run (t-tests) between the %L turns for Major/minor/null sets and the results are shown in the same table.

Major contacts can be seen to link-in their conversations more than minor or null contacts to a highly significant extent. Minor contacts and null contacts do not significantly differ in their linking behaviour but a closer look at the figures in Table 7;31 reveals that cases of very low linking occur only at null contact level; in the cases of 1n, 2n, 7n and 9n.

Numbers of linked and isolated turns and their percentages for the conversations of the eight groups-of-four are reported in Table 7;32, together with the longest sequence in each group conversation.

TABLE 7;32

Linked (L) and isolated (I) turns, longest sequence for each conversation (LS), percentage linked (%L) and percentage isolated (%I) turns, for groups-of-four

	r-time	L	I	LS		%L	%I
A	470	22	42	4		34.4	65.6
B	381	37	64	4		36.6	63.4
C	281	39	35	10		52.7	47.3
D	356	80	49	12		62.0	38.0
E	548	67	55	6		54.9	45.1
F	298	51	35	5		59.3	40.7
G	300	54	33	6		62.1	38.0
H	424	34	70	5		32.7	67.3
						----	----
					means	49.3	50.7

The groups-of-four conversations were further examined to find whether the linking of turns into sequences involved all four possible speakers or whether, as seemed to be the case, most sequences were between two of the four. Table 7;33 records the numbers of sequences which incorporated 2, 3 and 4 speakers. The large majority of sequences, 85.2%, were composed of two-speaker turns, whilst 14.1% of sequences involved three speakers and only

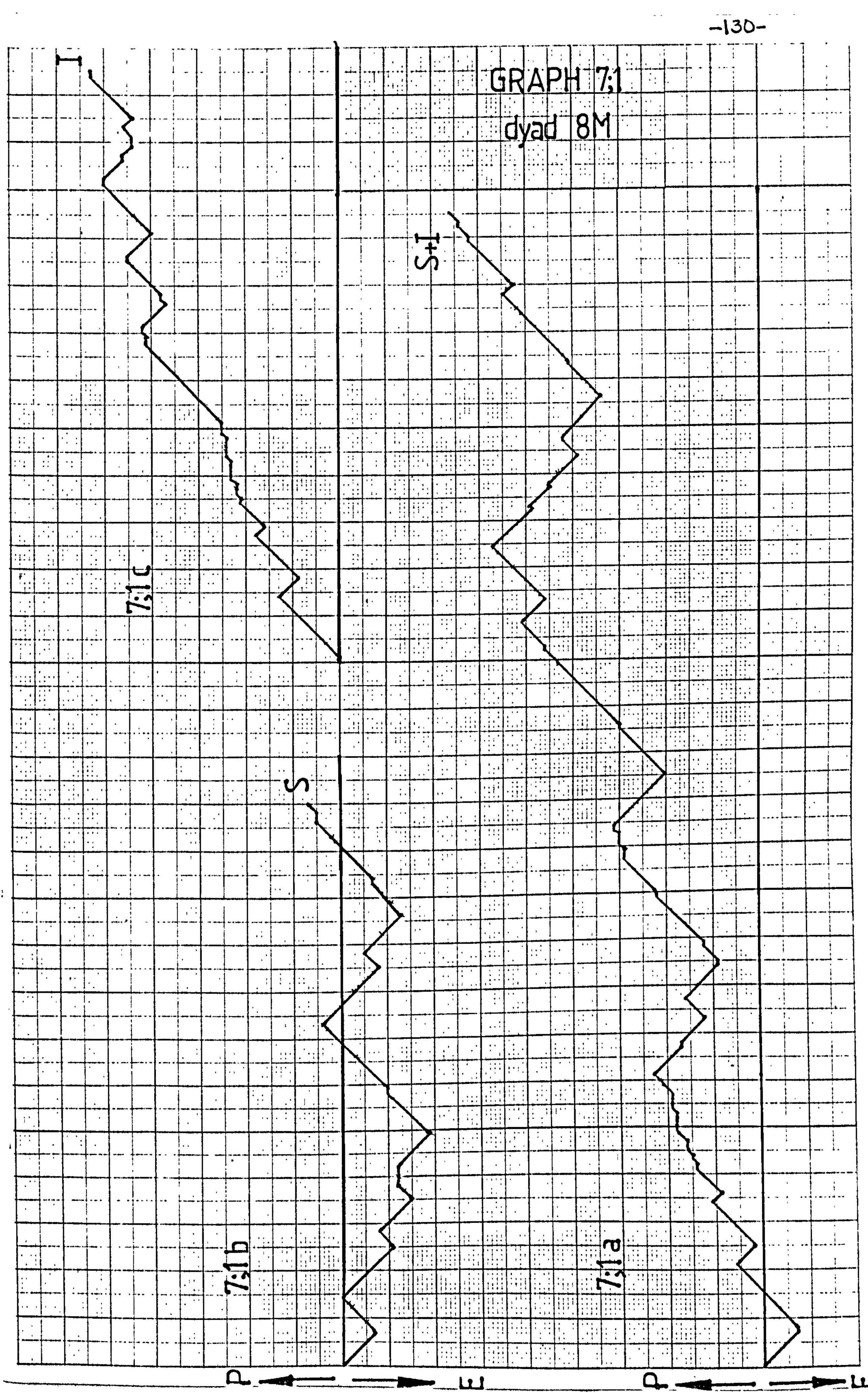
0.7% (one sequence of group D) included utterances from all four group members.

TABLE 7;33
Numbers of speakers participating in conversational sequences in groups-of-four

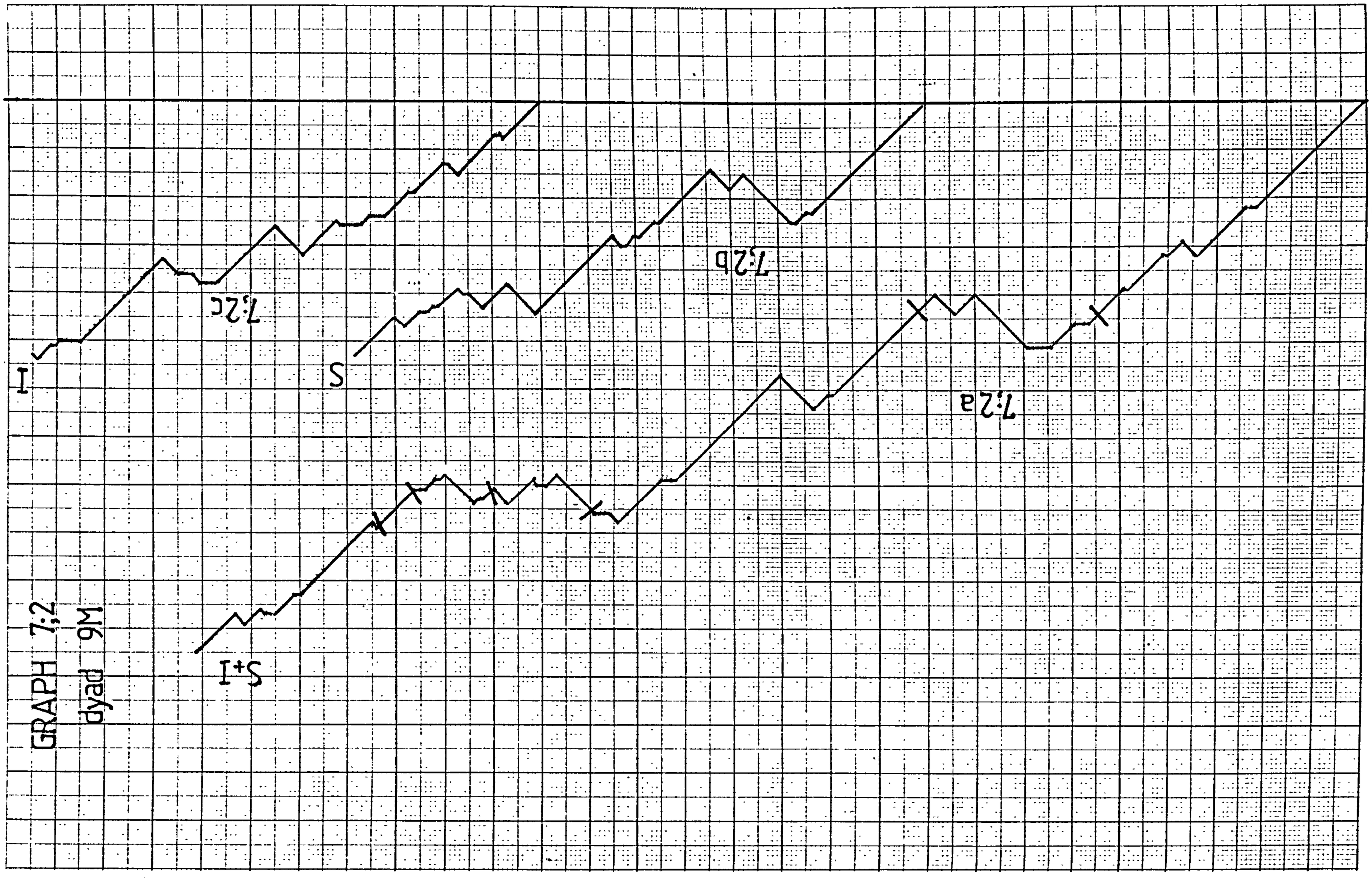
groups	number of speakers per sequence		
	x2	x3	x4
A	6	2	0
B	15	0	0
C	11	1	0
D	17	6	1
E	20	5	0
F	14	3	0
G	21	1	0
H	11	1	0
totals	115	19	1
%	85.2	14.1	0.7

GRAPH 7;1

dyad 8M

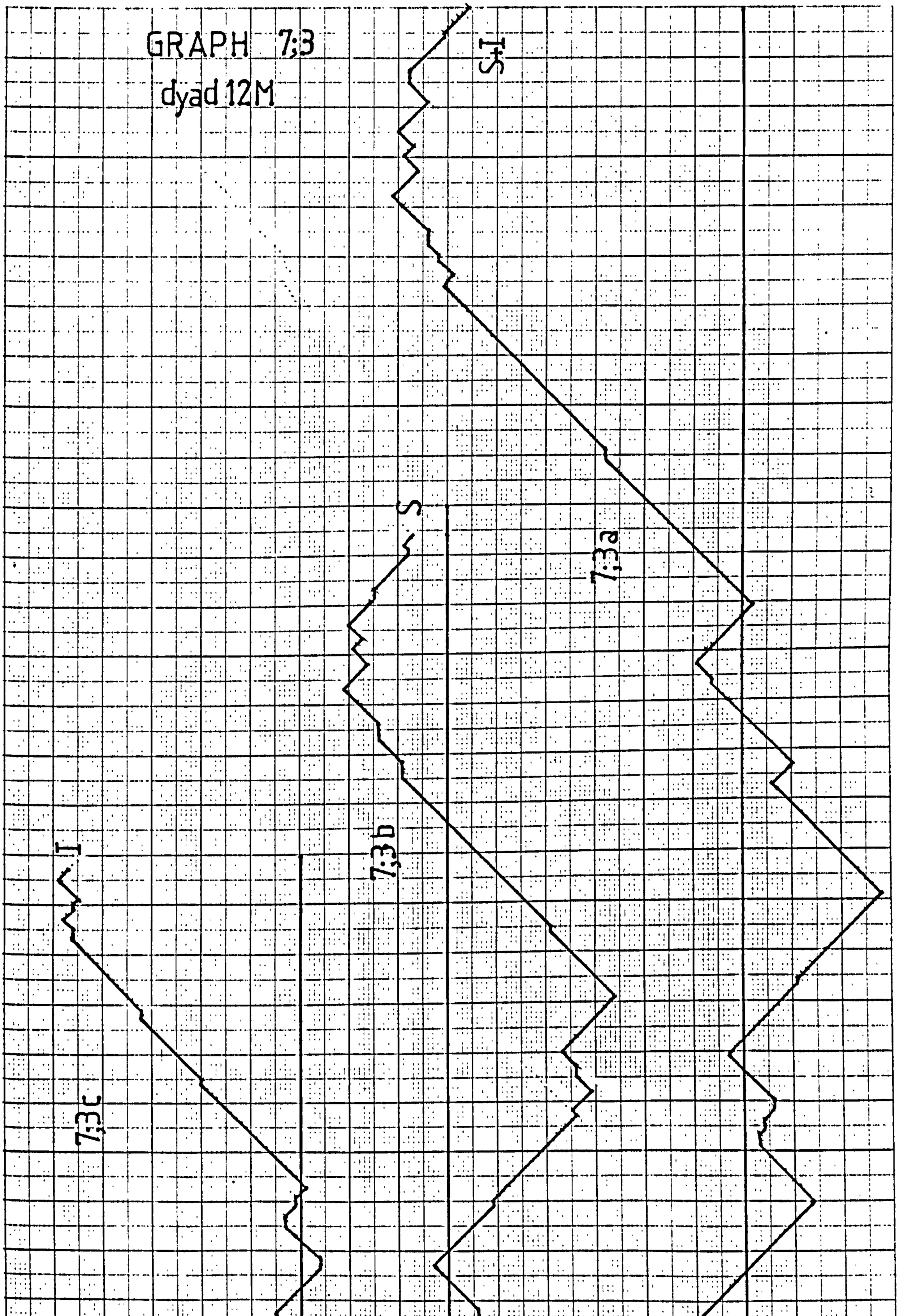


GRAPH 7:2
dyad 9M

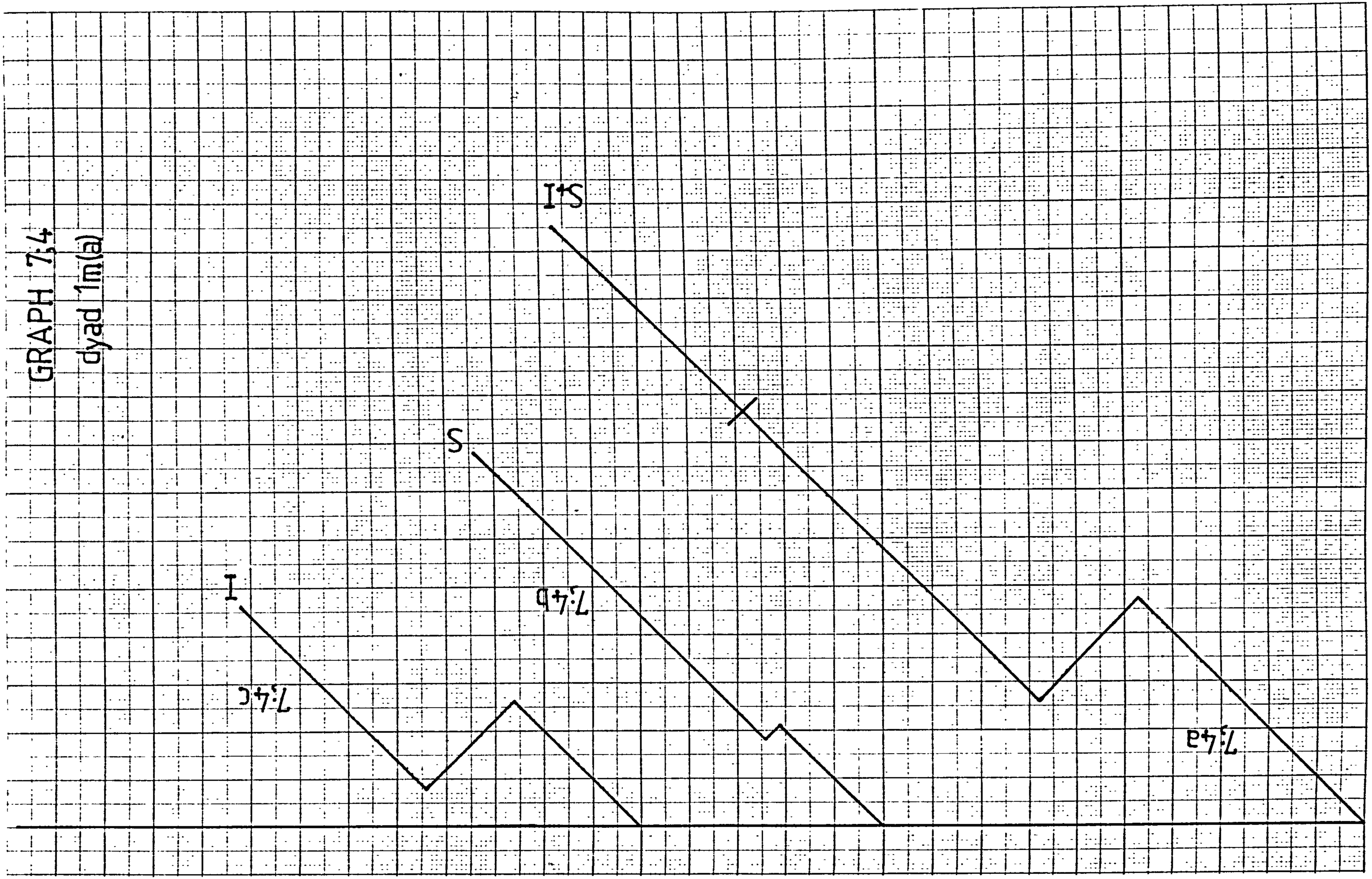


GRAPH 7;3

dyad 12M



GRAPH 7:4
dyad 1m(a)



GRAPH 7;5
dyad 1m(b)

I+S

I

S

7;5c

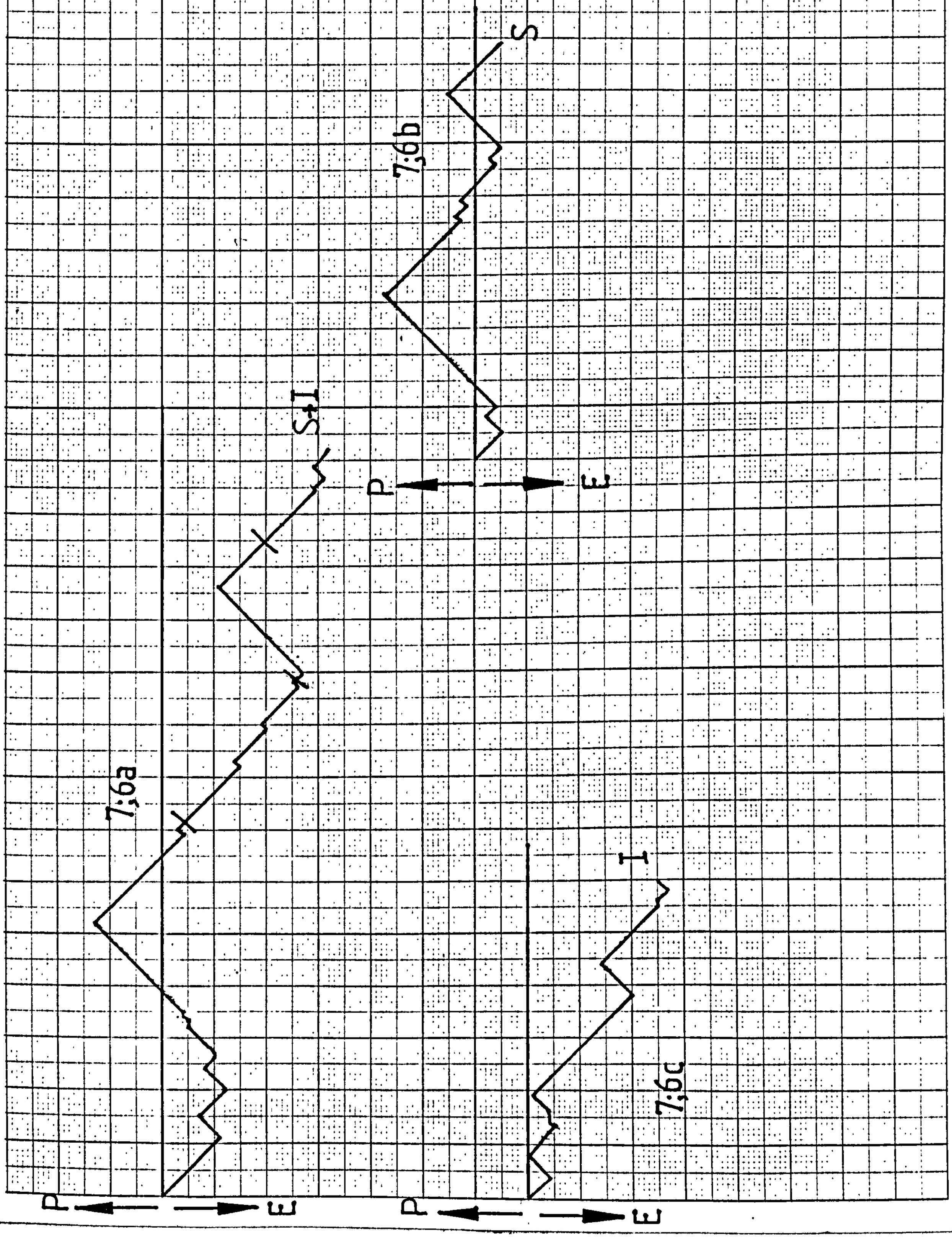
7;5b

7;5a

E

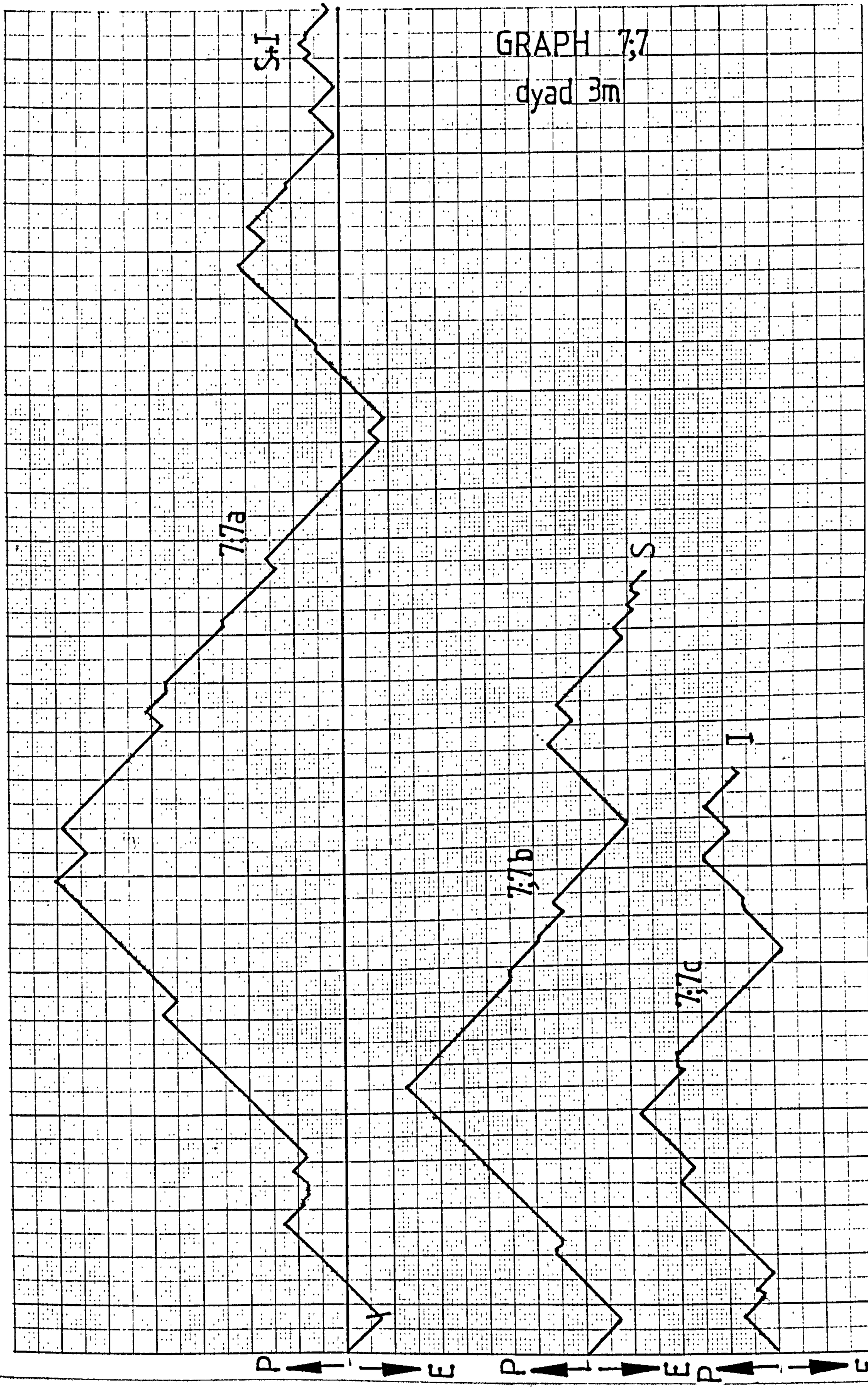
GRAPH 7;6

dyad 2m



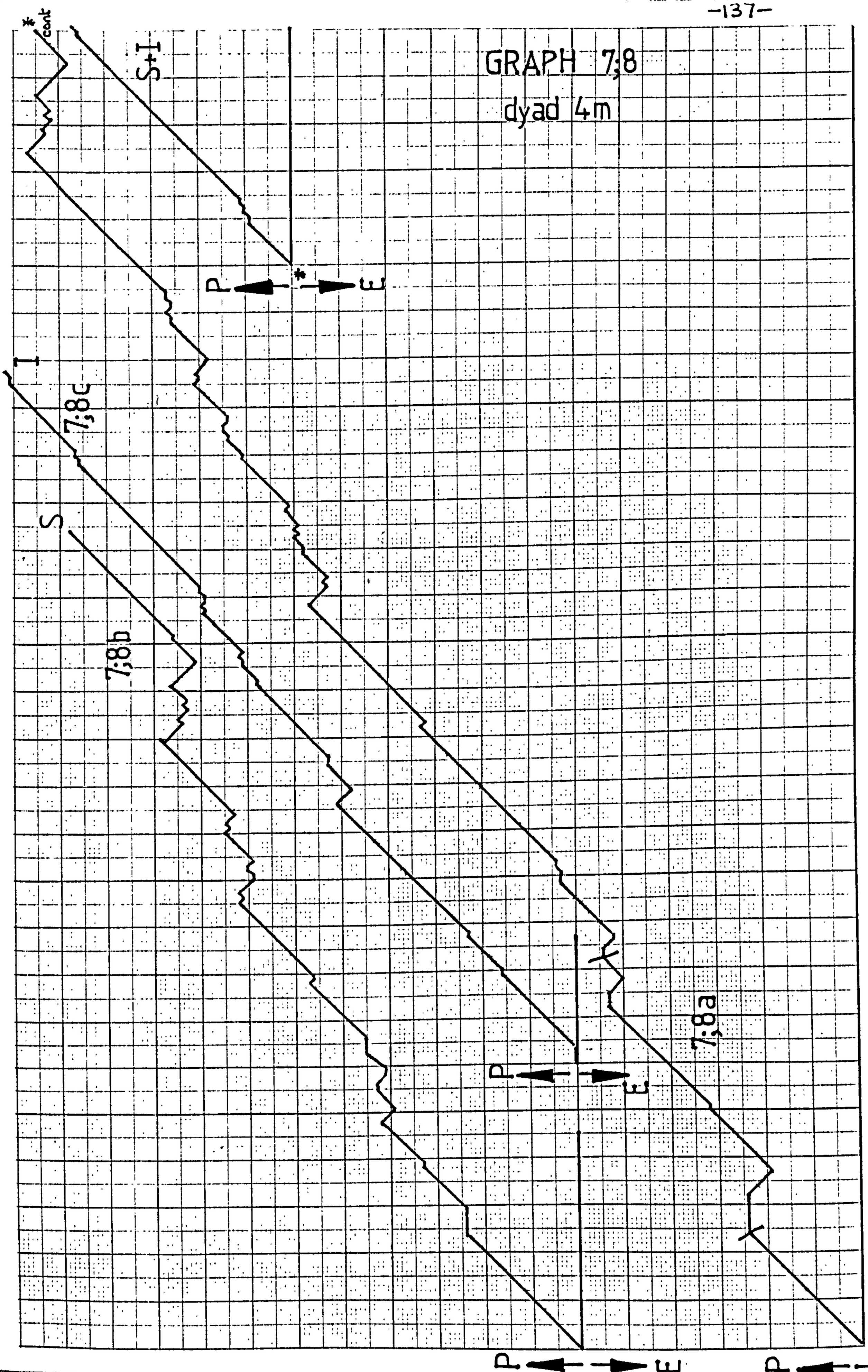
GRAPH 7;7

dyad 3m



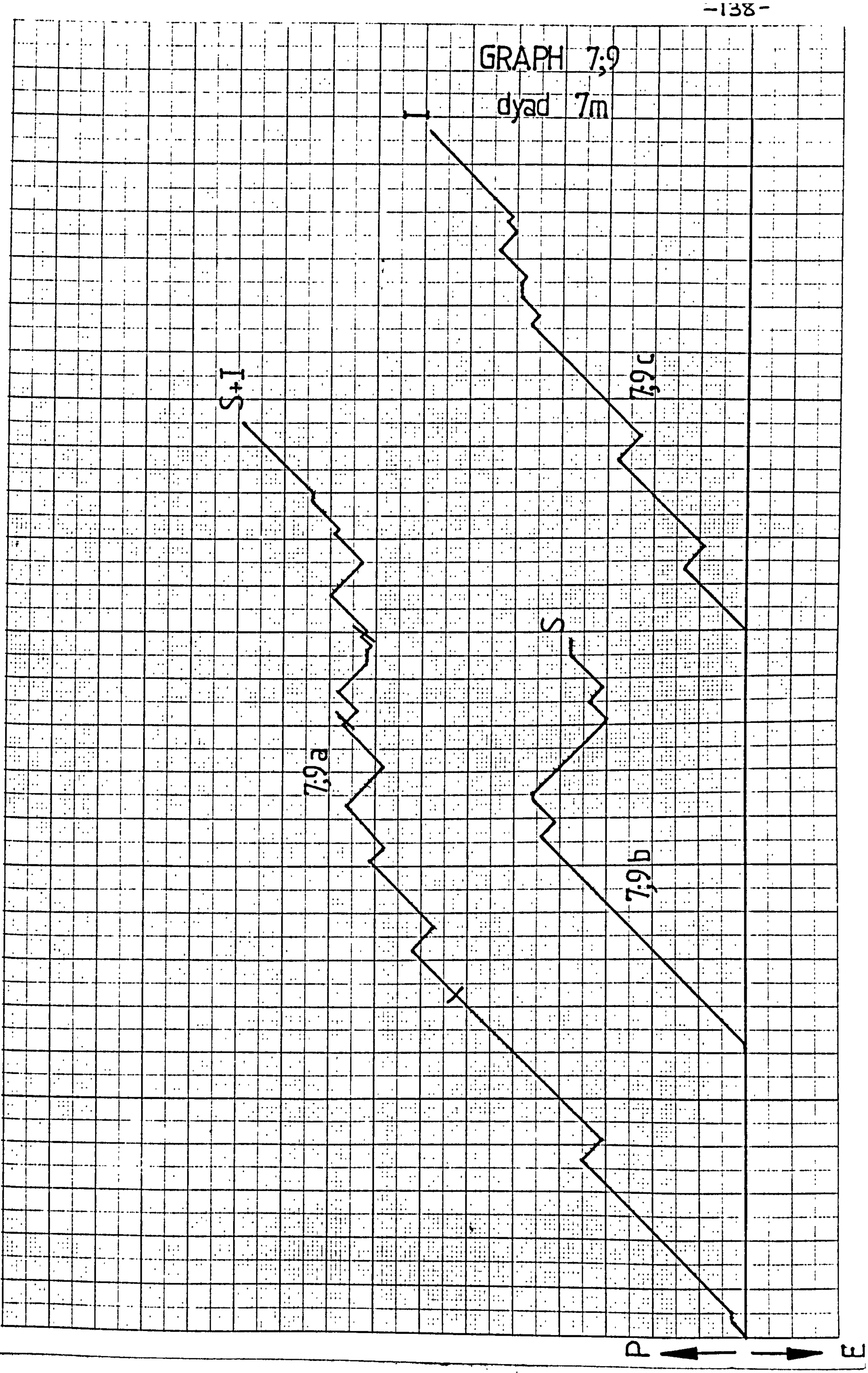
GRAPH 7;8

dyad 4m



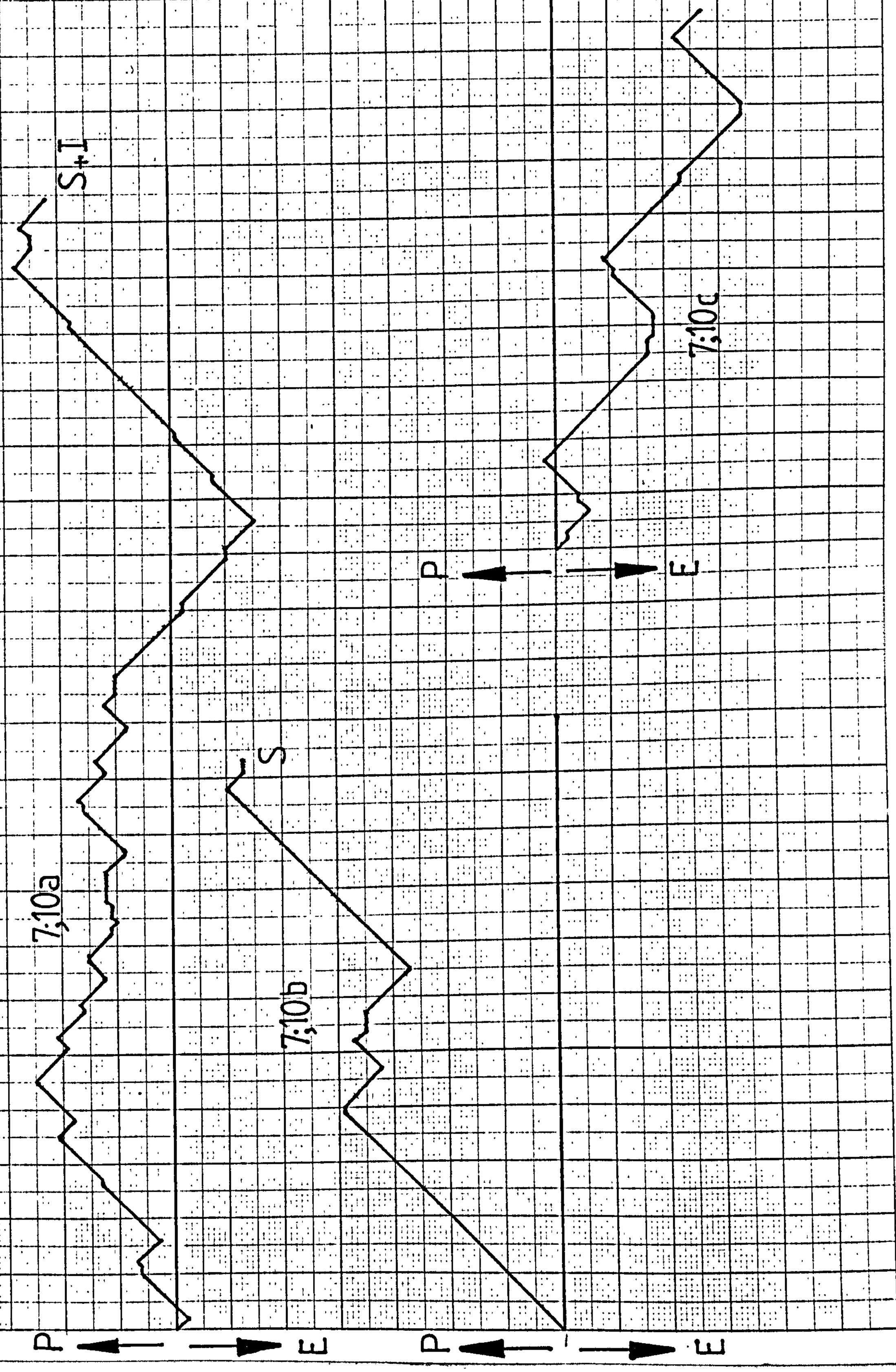
GRAPH 7;9

dyad 7m



GRAPH 7;10

dyad 8m



P

E

7;11a

7;11b

7;11c

GRAPH 7;11

dyad 9m

contd. in E

S

I

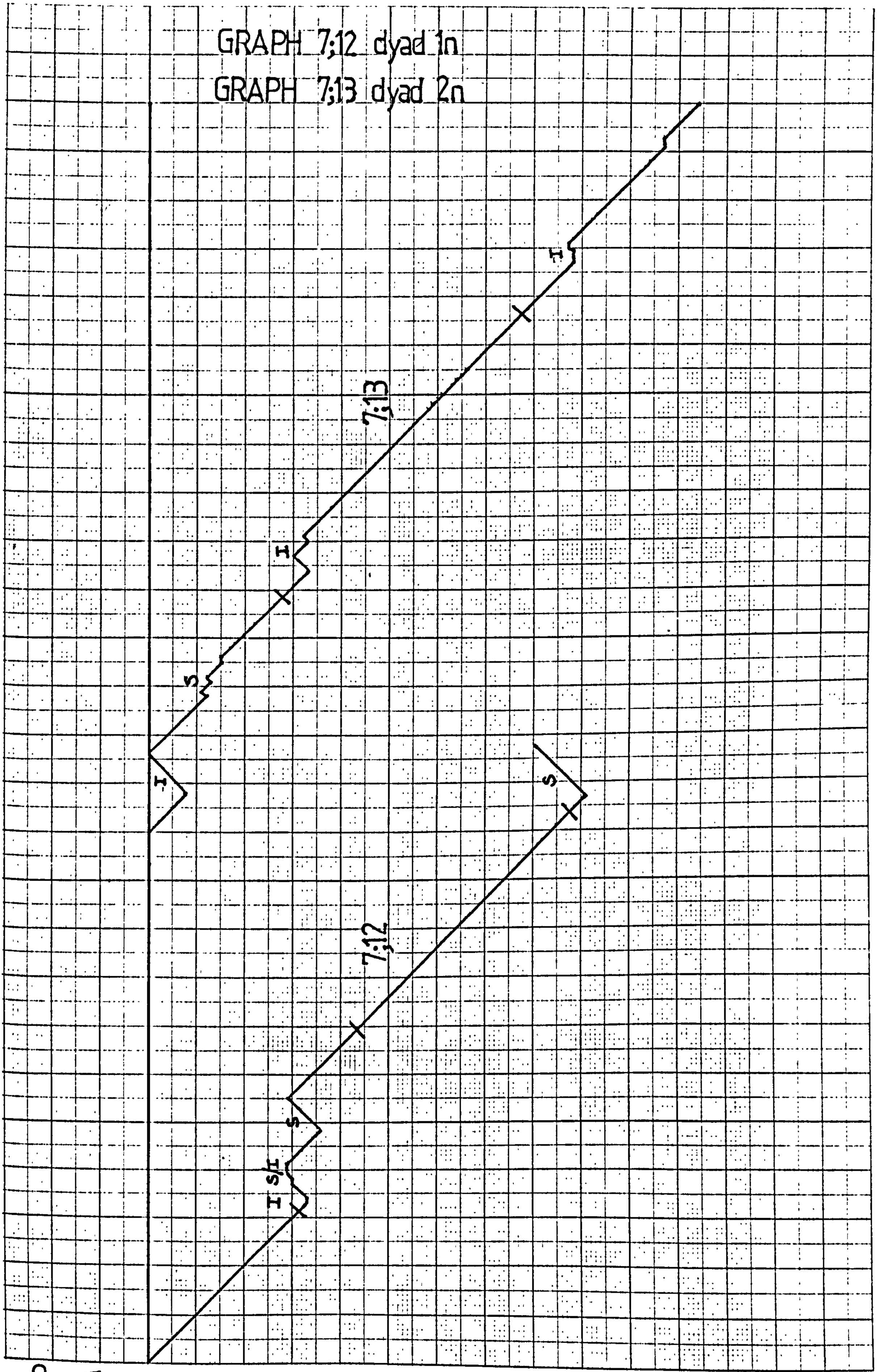
S+I

contd. in E

-110-

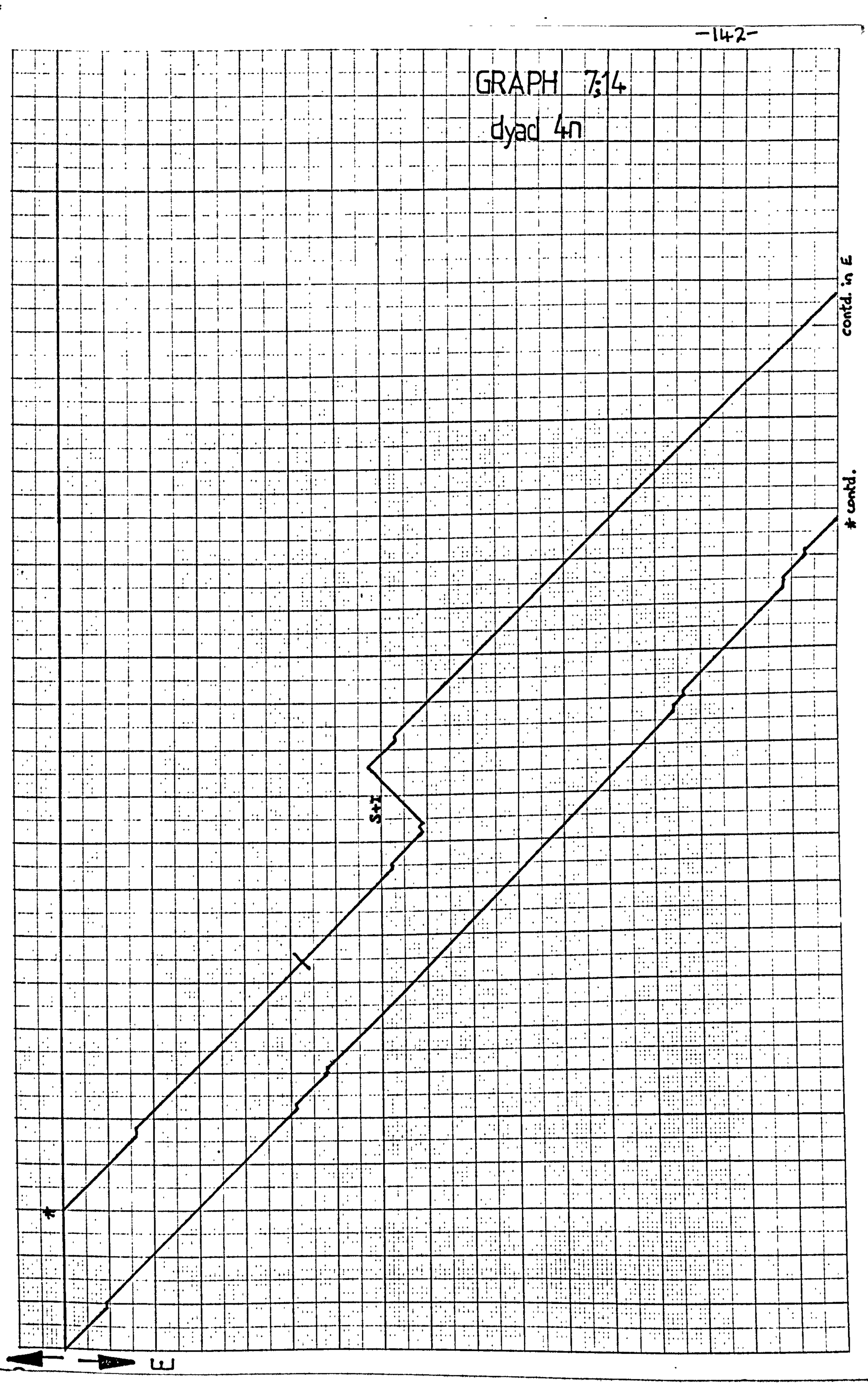
GRAPH 7;12 dyad 1n

GRAPH 7;13 dyad 2n



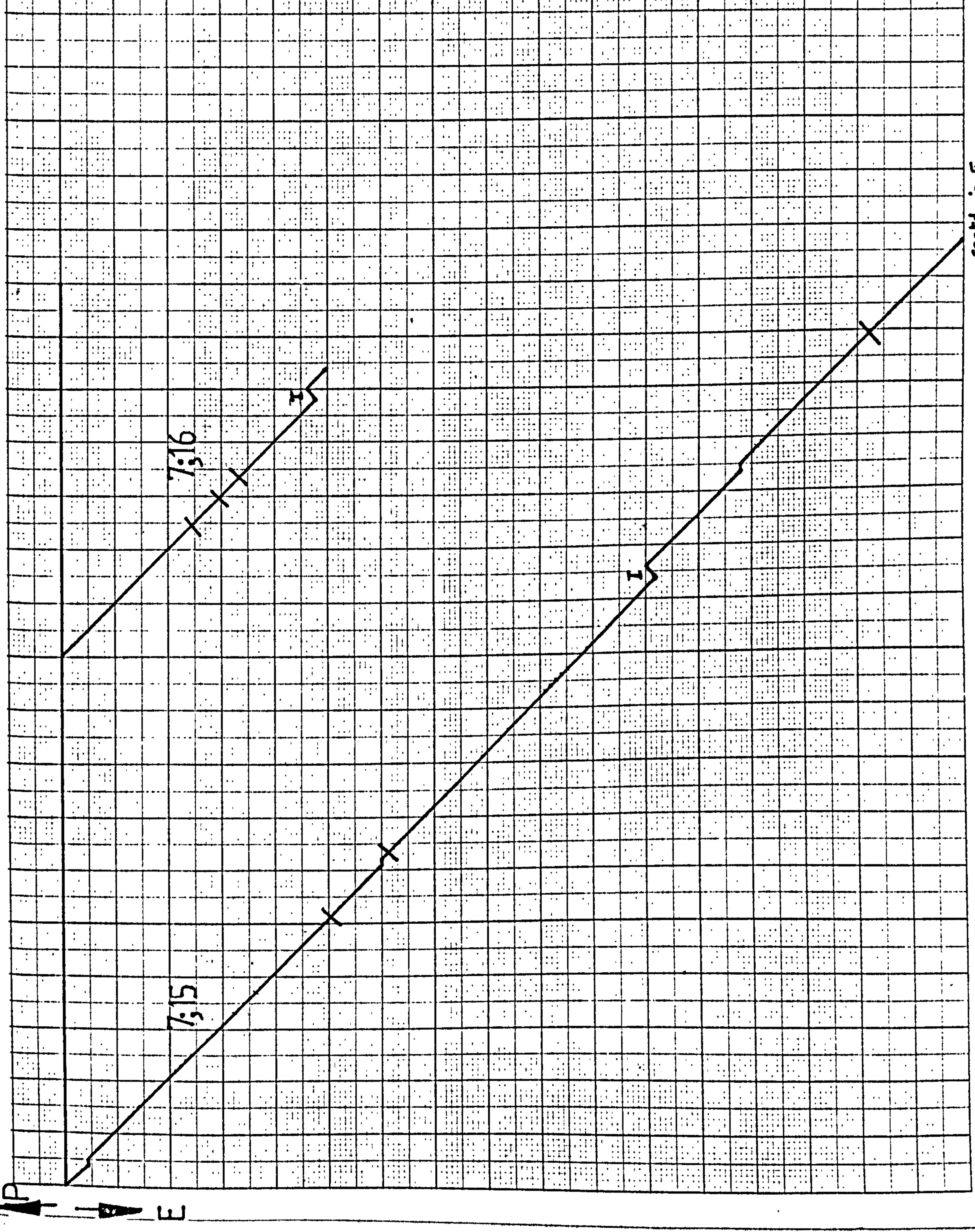
GRAPH 7:14

dyad 4n

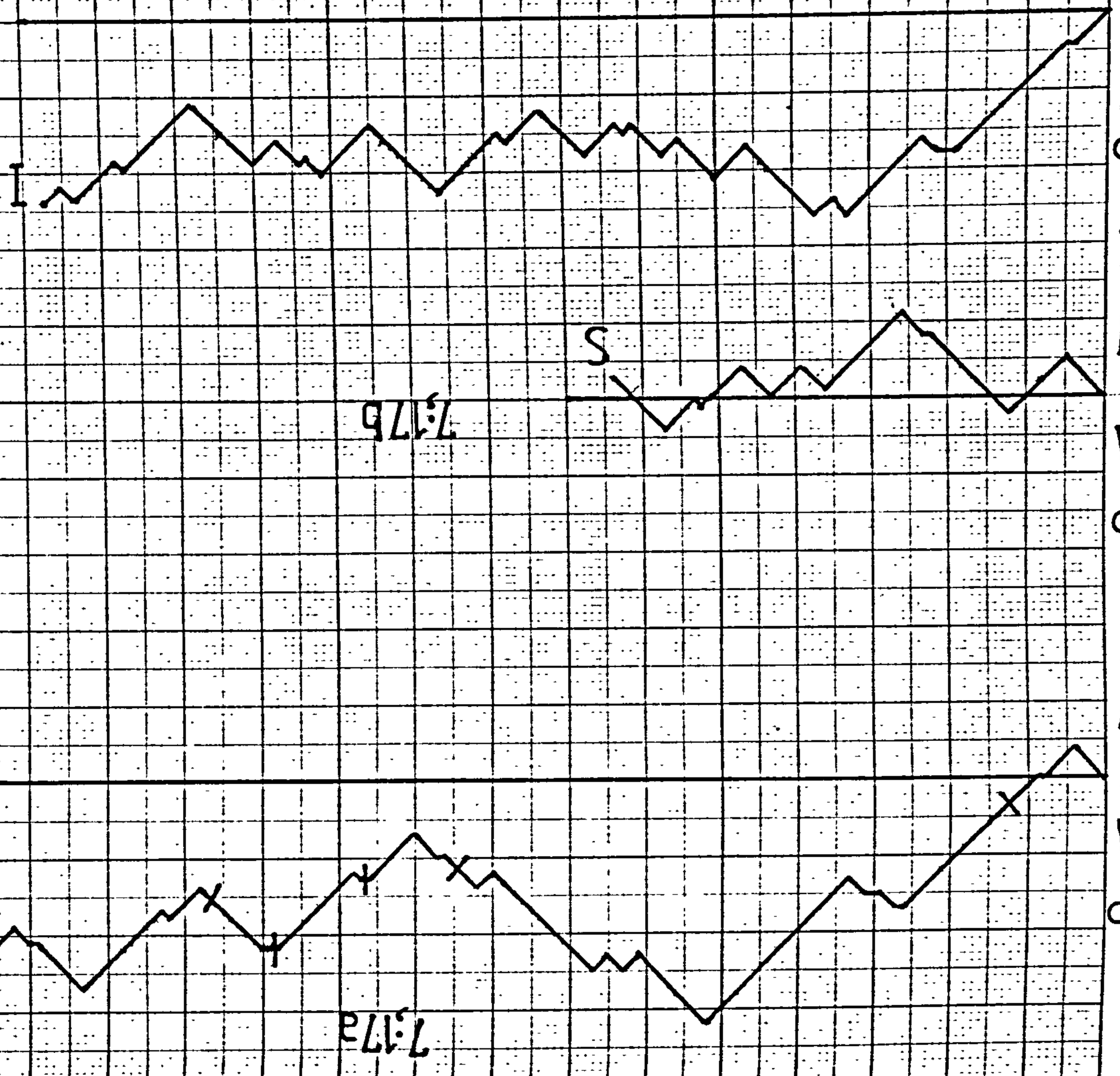


GRAPH 7;15 dyad 6n

GRAPH 7;16 dyad 7n



GRAPH 7;17
dyad 12n



GRAPH 7;18a

group A

GRAPHS 7;18(b-e)

group A

1,2 are M contacts

3,4 are M contacts

7;18b

7;18c

7;18d

7;18e

GRAPH 7;19a

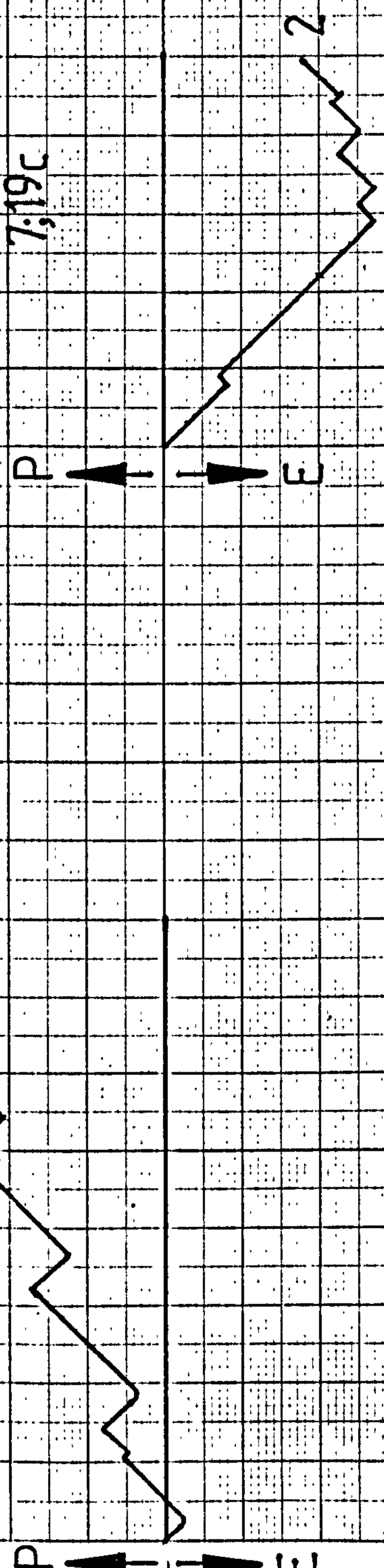
group B

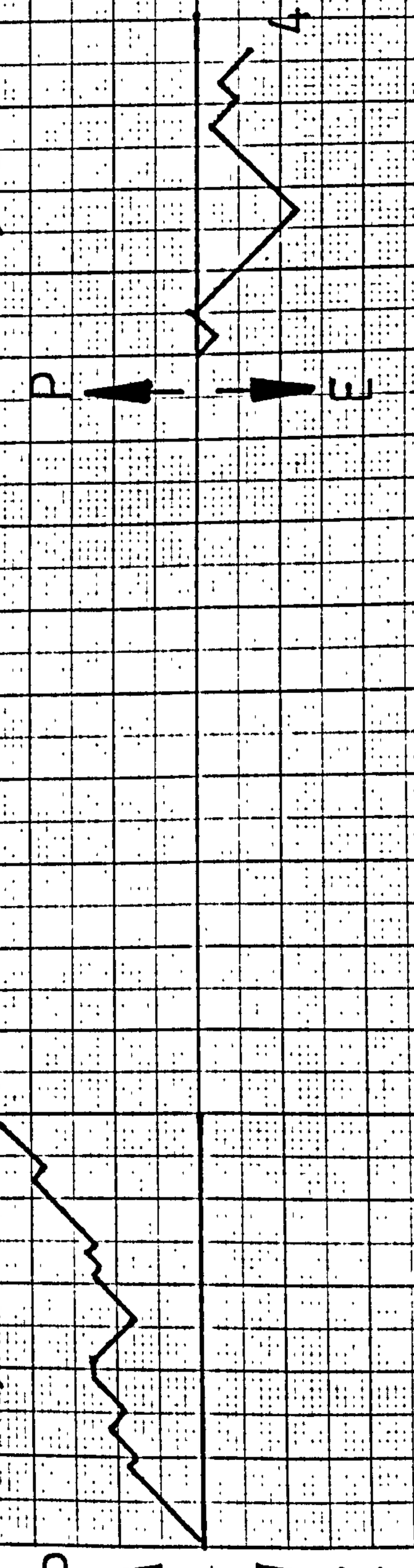
GRAPHS 7;19(b-e)

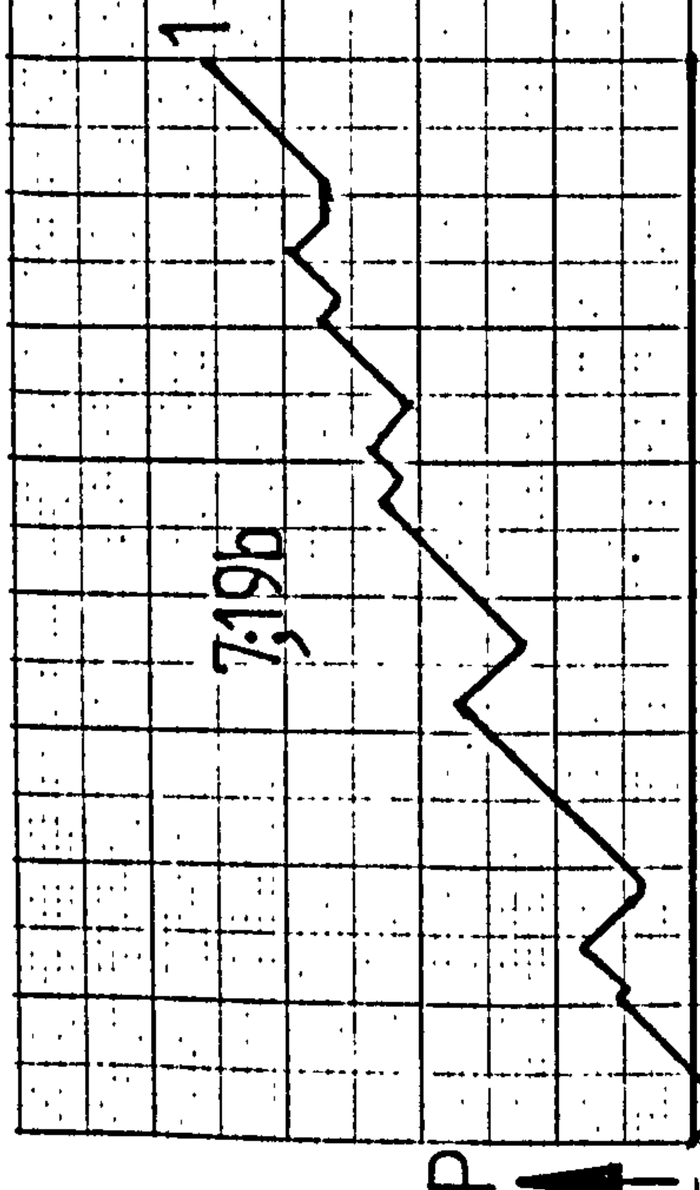
group B

1,3 are M contacts

2,4 are m contacts of 1,3 resp.







GRAPH 7.20(a)

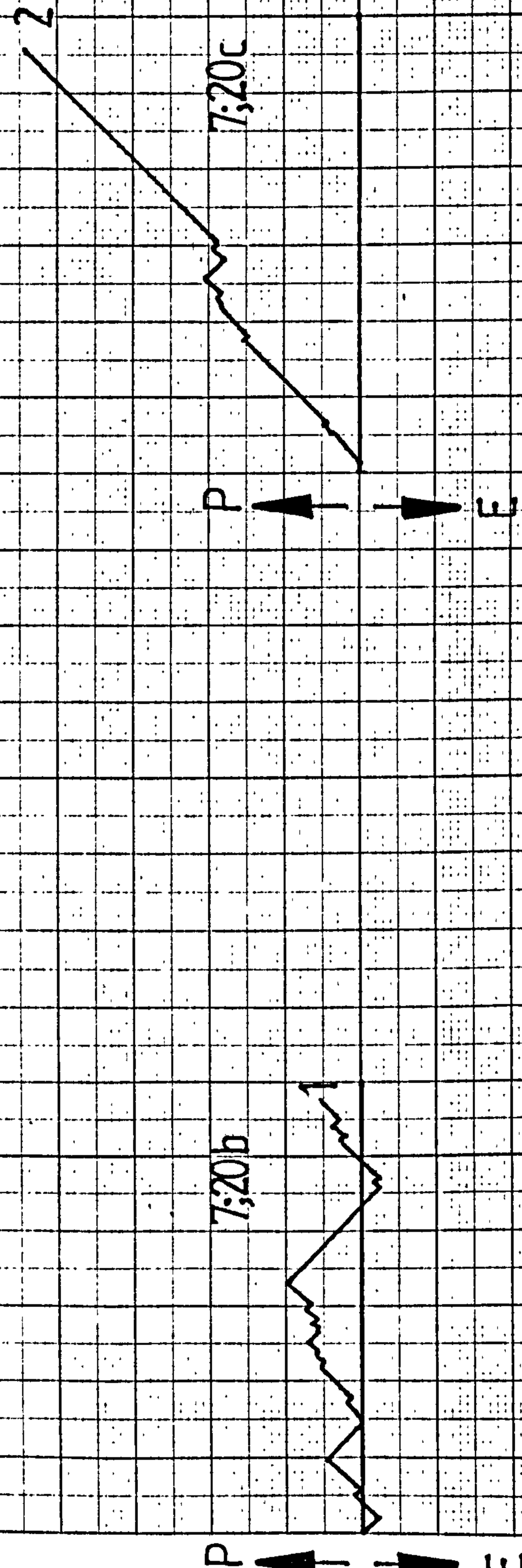
group D

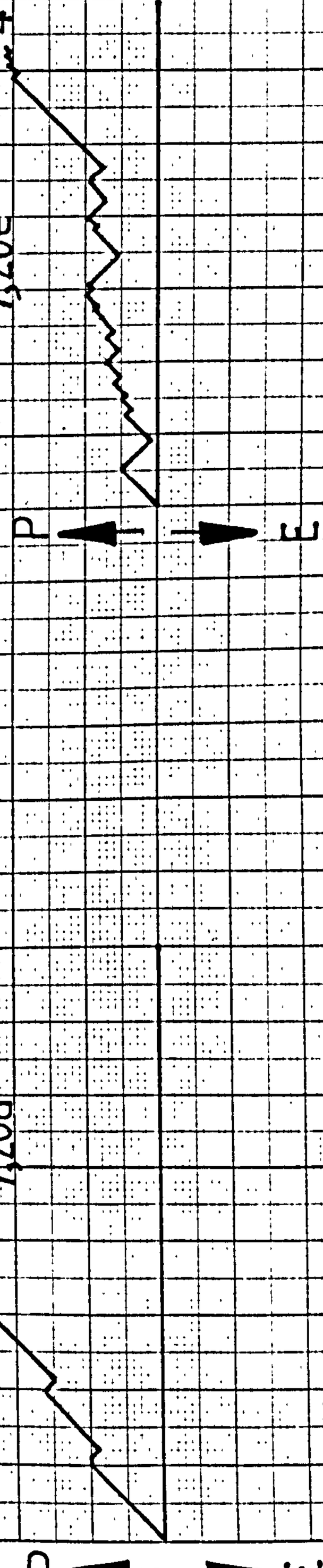
GRAPHS 7;20(b-e)

group D

2,4 are M contacts

3,1 are m contacts of 2,4 resp.





GRAPH 7;21(a)

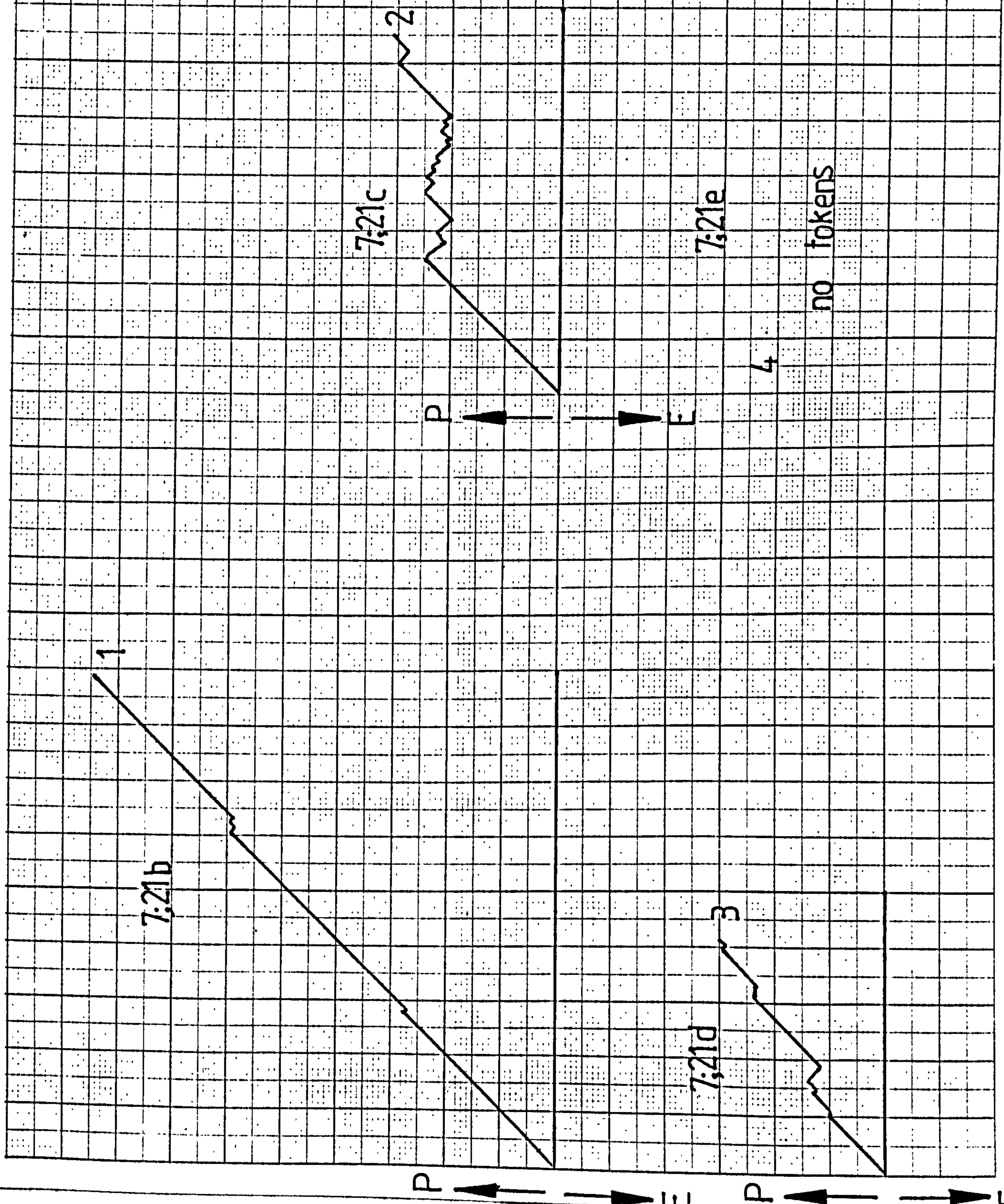
group F

GRAPHS 7;21 (b-e)

group F

1,2 are M contacts

3,4 are m contacts of 1,2 resp.



GRAPH 7;22(a)

group G

P

H

GRAPHS 7;22(b-e)

group G

all m contacts

7;22c

2

P ← → E

7;22a

4

no tokens

3

7;22d

7;22b

1

P ← → E

P ← → E

GRAPH 7;23(a)

group H

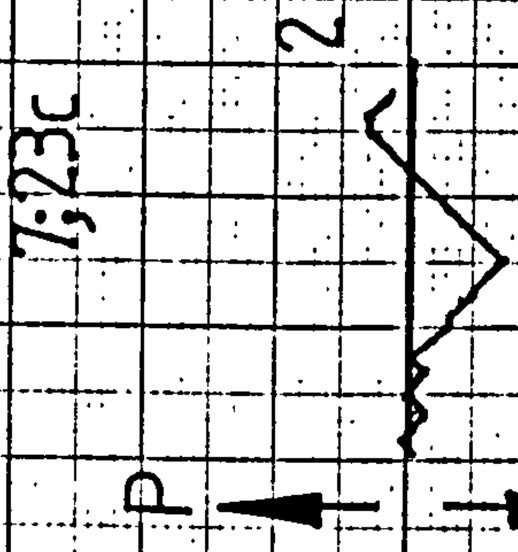
GRAPHS 7;23(b-e)

group H

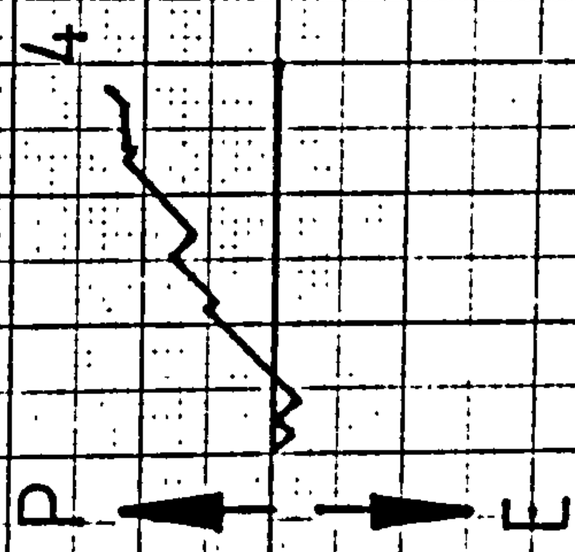
3,4 are M contacts

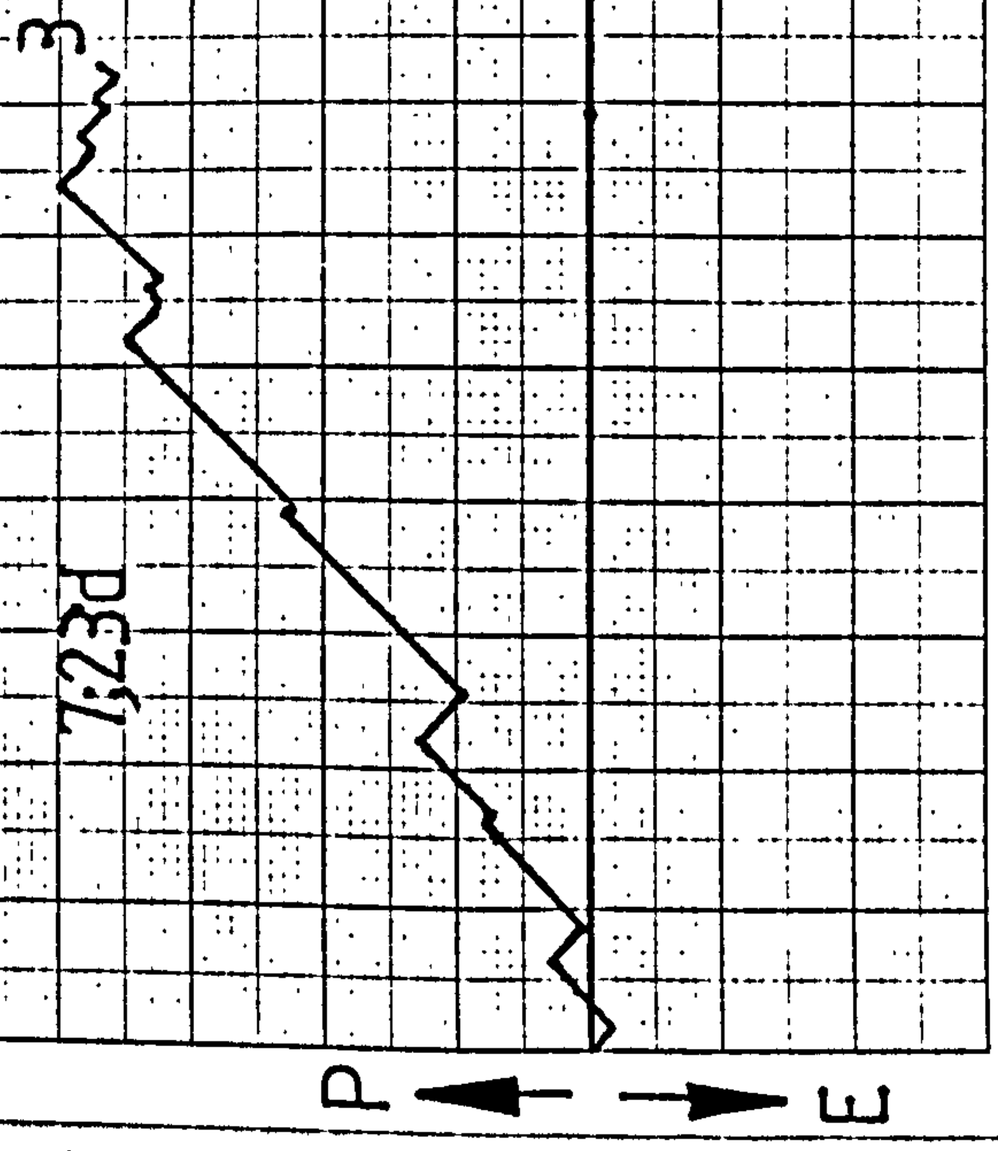
1,2 are m contacts of 3,4 resp.

7;23c

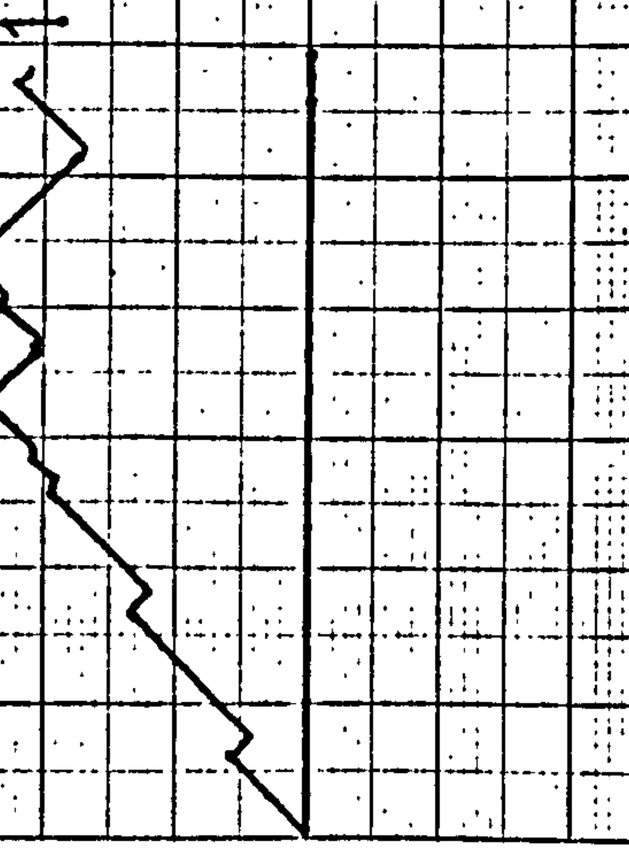


7;23e





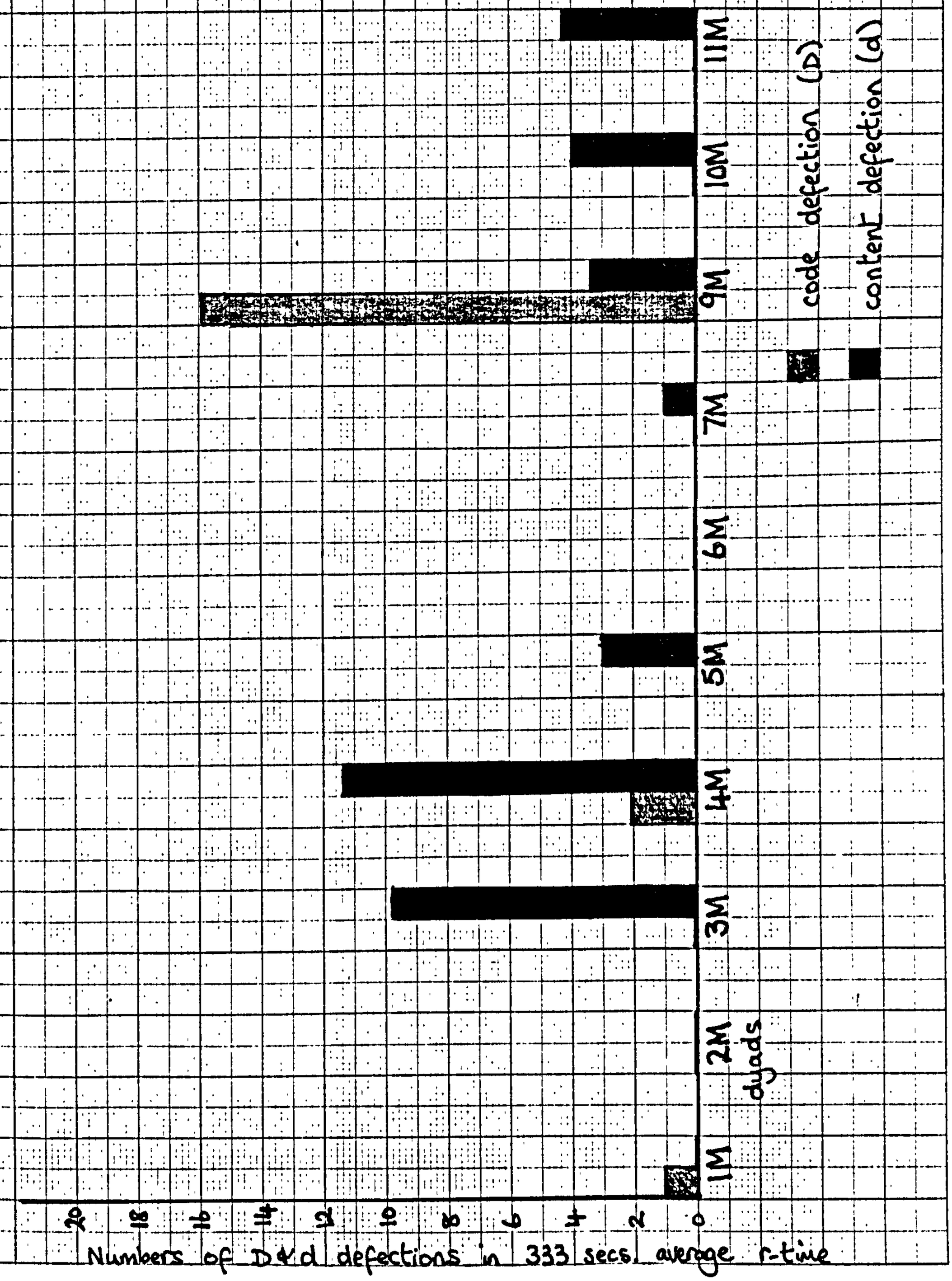
7;23b



7;23d

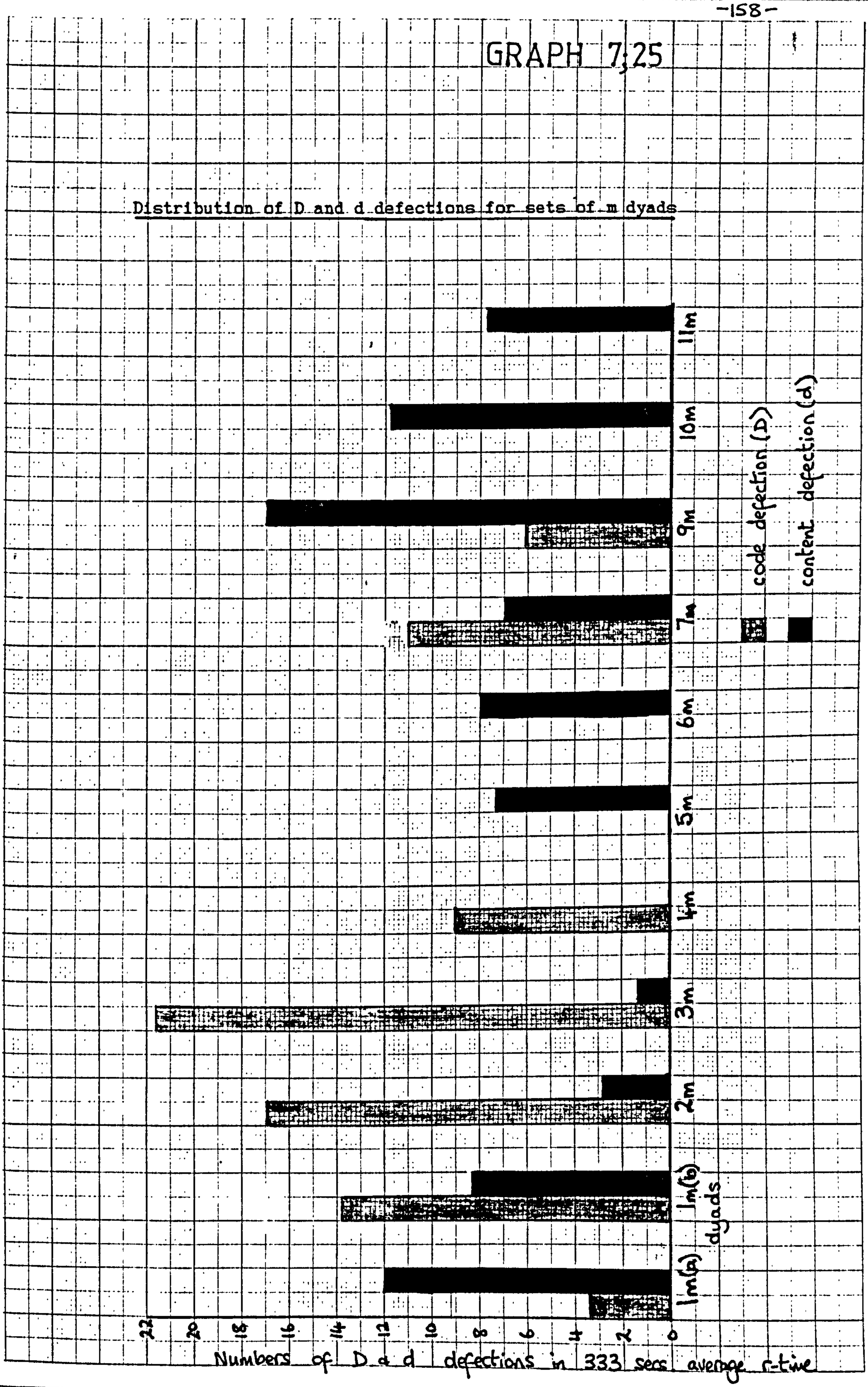
GRAPH 7.24

Distribution of D and d defections for sets of M dyads



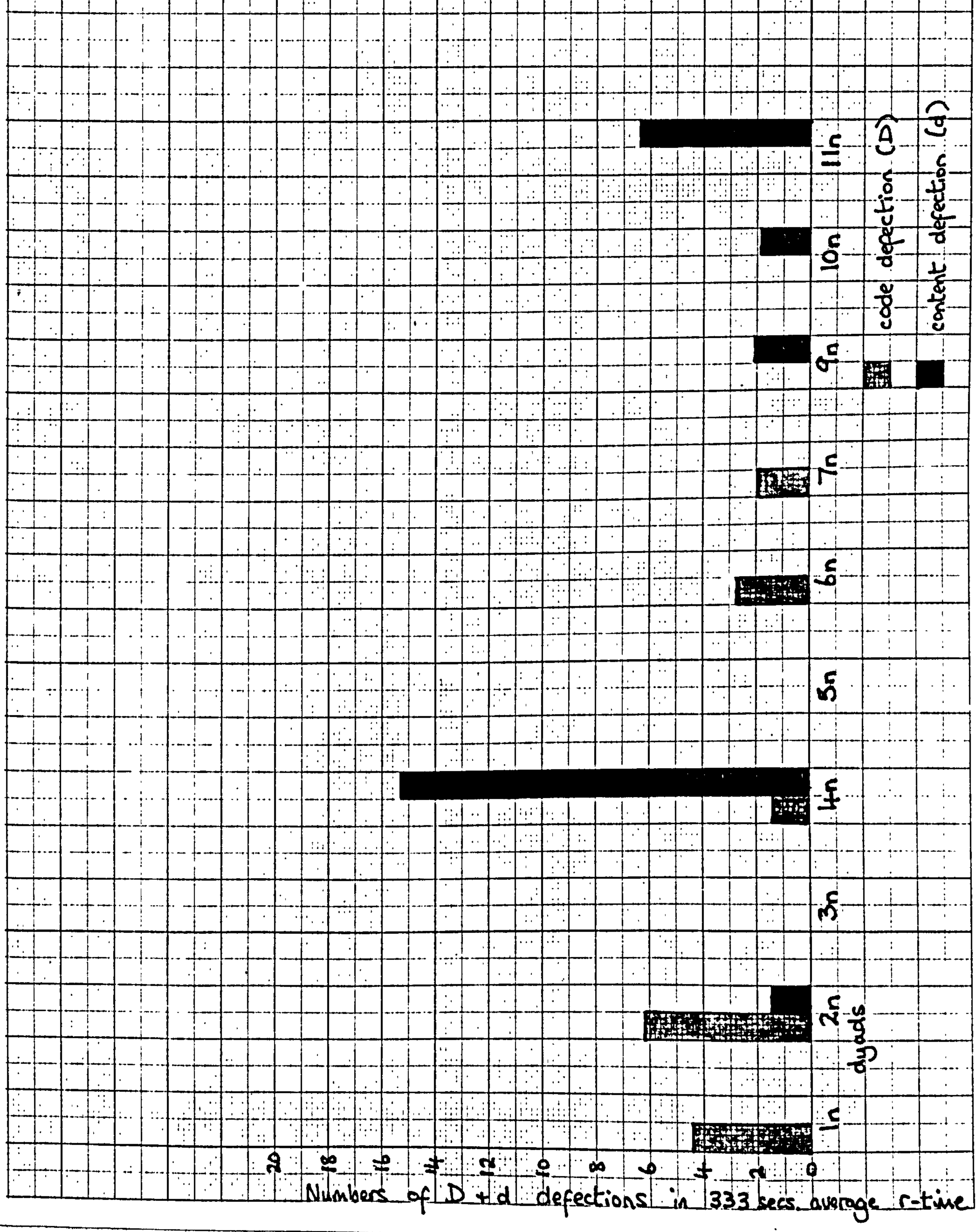
GRAPH 7.25

Distribution of D and d defections for sets of m dyads

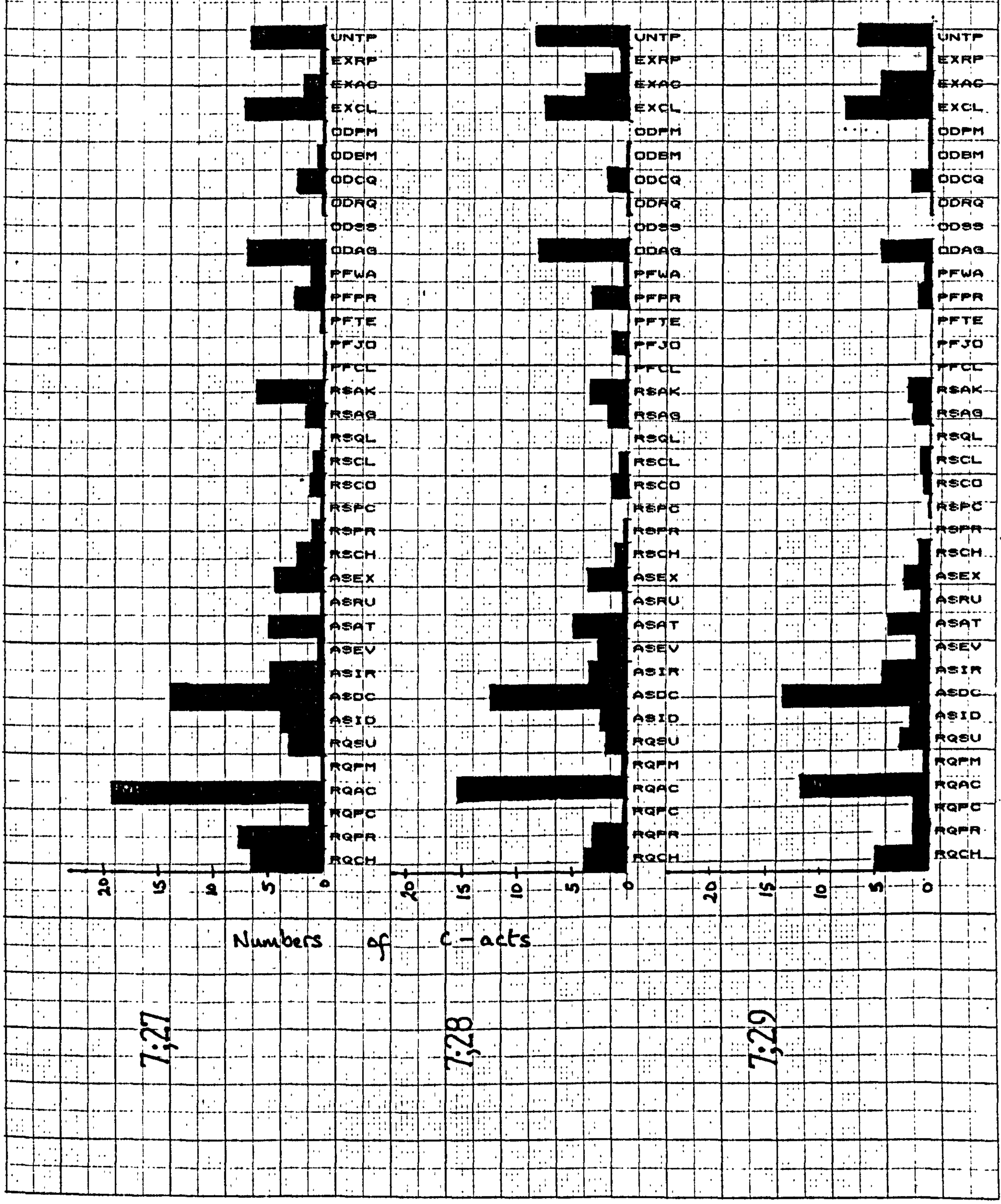


GRAPH 7;26

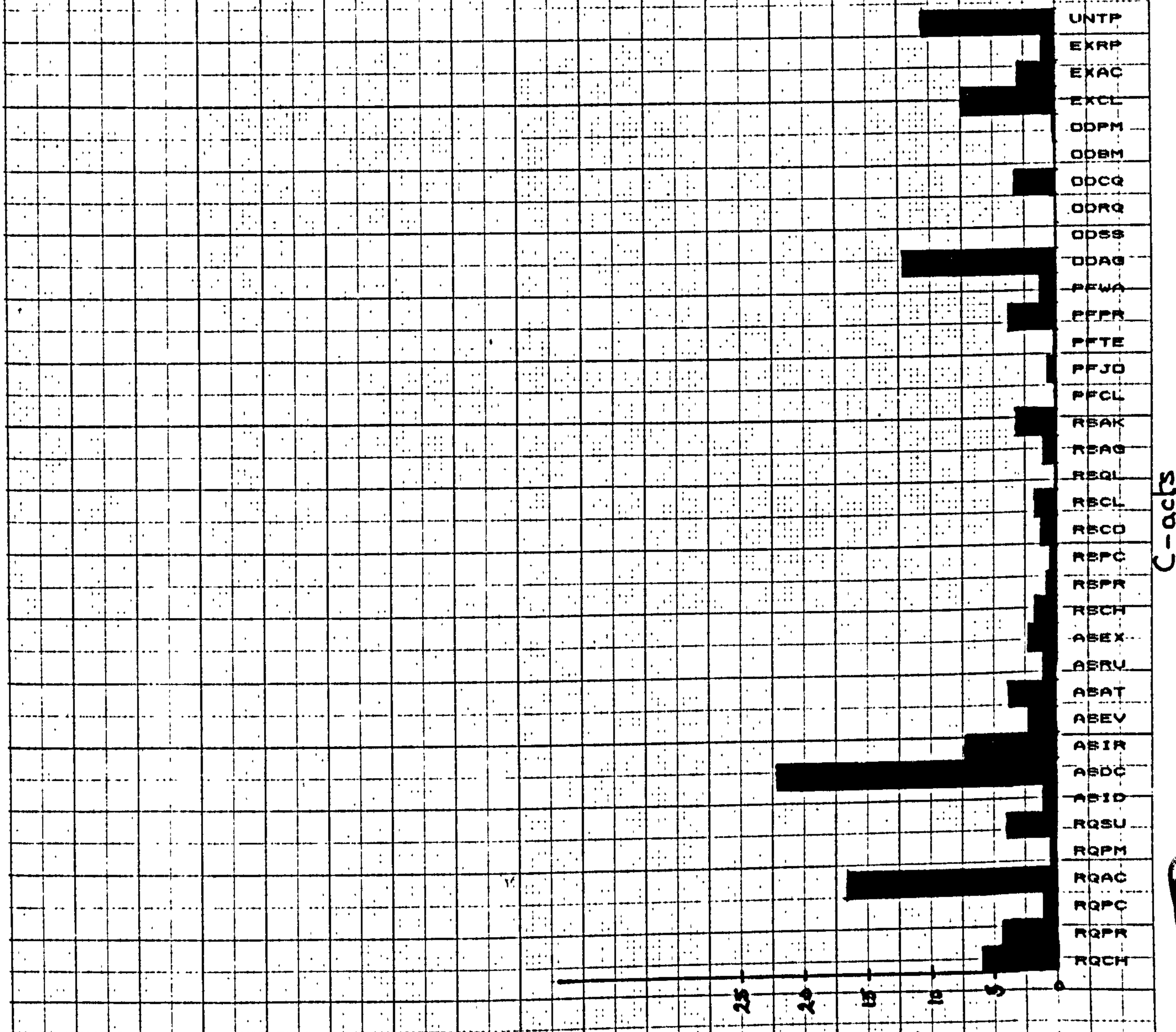
Distribution of D and d defections for sets of n dyads



Graph 7;27
Patterning of C-acts, means for the set of Major dyads 1-7 and 9-11
Graph 7;28
Patterning of C-acts, means for the set of minor dyads 1-7 and 9-11
Graph 7;29
Patterning of C-acts, means for the set of null dyads 1-7 and 9-11

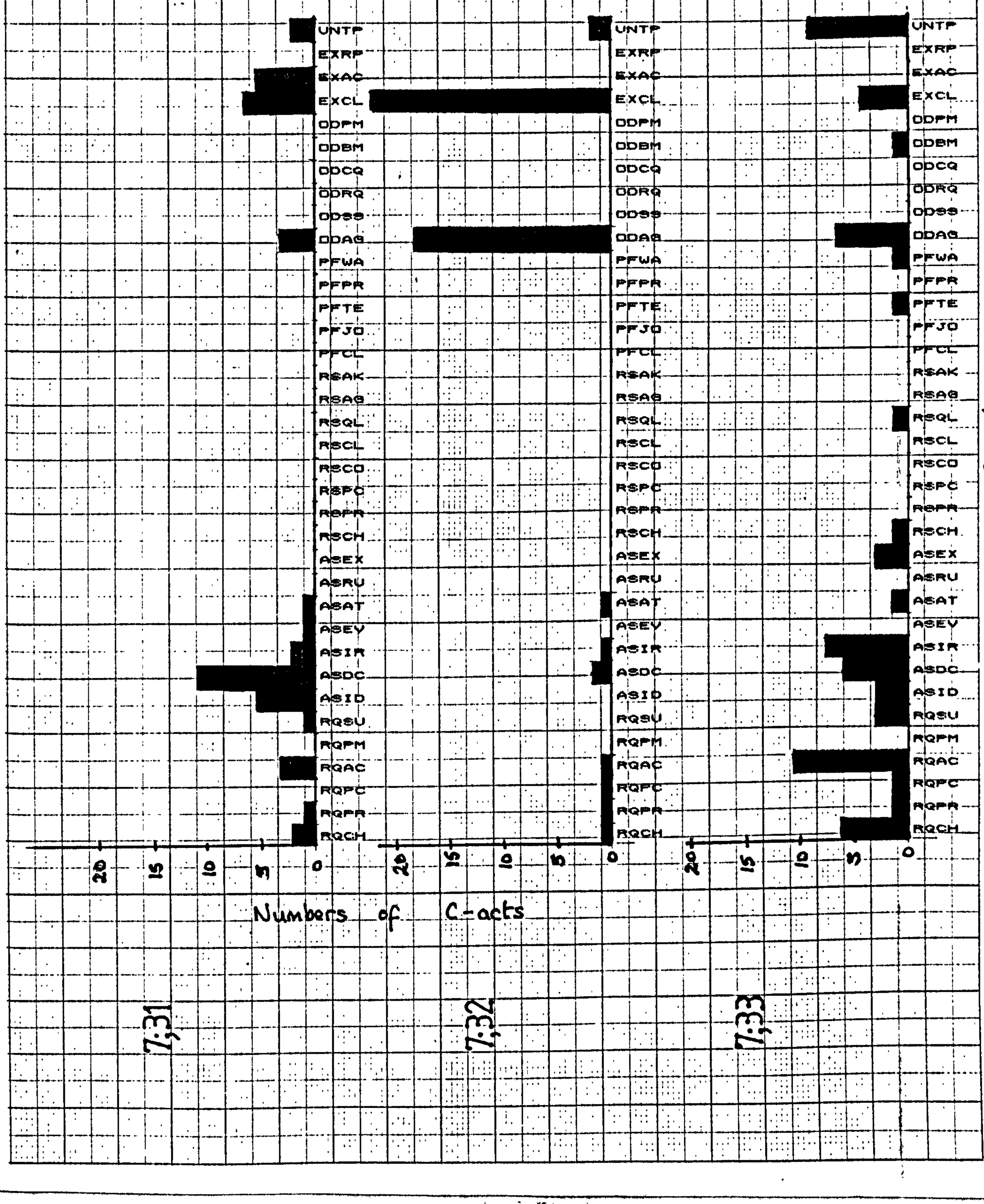


Graph 7;30
Patterning of C-acts, means for the set of groups-of-four

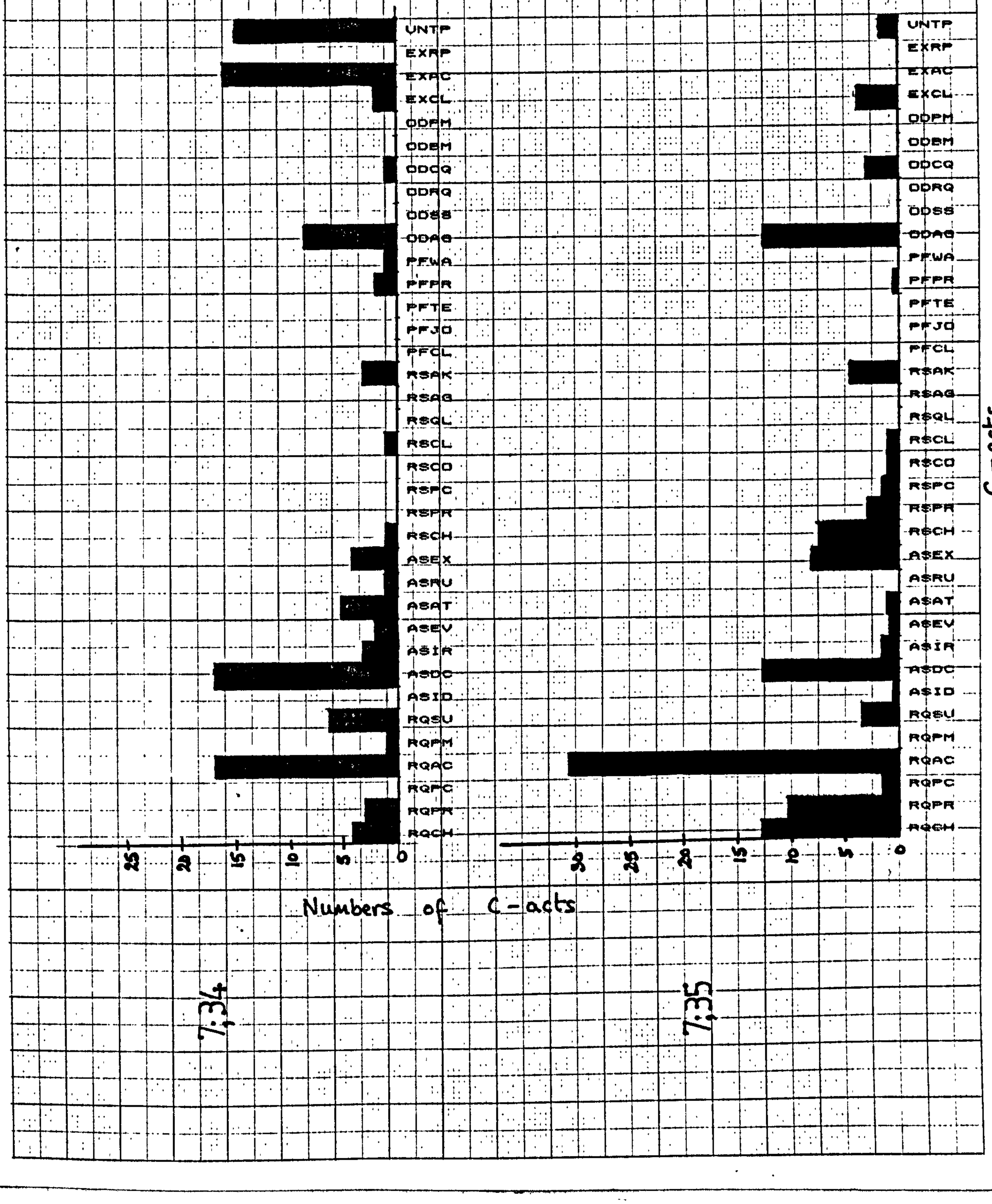


7;30

Graph 7;31 Patterning of C-acts, dyad 1n, 0% linked
Graph 7;32 Patterning of C-acts, dyad 7n, 4% linked
Graph 7;33 Patterning of C-acts, dyad 2n, 13% linked



Graph 7;34 Patterning of C-acts, dyad 9n, 19% linked
Graph 7;35 Patterning of C-acts, dyad 1M, 70% linked



7;34 7;35

CHAPTER 8
DISCUSSION

The largest part of the present chapter (sections 8;1 and 8;2) interprets the findings, reported in Chapter 7, in the framework of game theory which was proposed in Chapter 5. In the first analysis, with particular reference to the conversation profiles (Graphs 7;1 to 7;23), languages are considered as players in the game. The dyadic data is discussed first, with differences between sets of Majors, minors and nulls, followed by the groups-of-four data. Then the overall pattern is summarized in section 8;1;6. The second analysis considers people as players and is based on the conversation mapping technique with turns marked as co-operation or defection. Section 8;3 examines some specific examples of switches, firstly those which demonstrate metalinguistic awareness and a preference for language homogeneity. Then some examples are given of an emerging ability to use code-switching to show an understanding of both cultures which the languages represent (conversational code-switching). The measures of pausing and laughter are briefly interpreted. Finally, in section 8;5, the patterning of C-acts and linking of conversational turns into sequences are discussed.

8;1 GAME THEORY, FIRST ANALYSIS - LANGUAGES AS PLAYERS

8;1;1 Dyads

The bilingual game matrix (Fig. 5;2) makes predictions about a 'depersonalized' playoff between languages, as has been described in section 5;1;2. The *joint conversation profiles*, which were introduced in section 7;1;3, represent this playoff in graphic form. When the tokens plotted on the profile form an uninterrupted diagonal line this represents use of one code by both participants and hence total co-operation. A conversation consisting of all Punjabi tokens would be represented in profile as a line leading to the top right as in Figure 8;1(a). A 100% English conversation, a line leading to the bottom right, is shown in profile in Figure 8;1(b). On the other

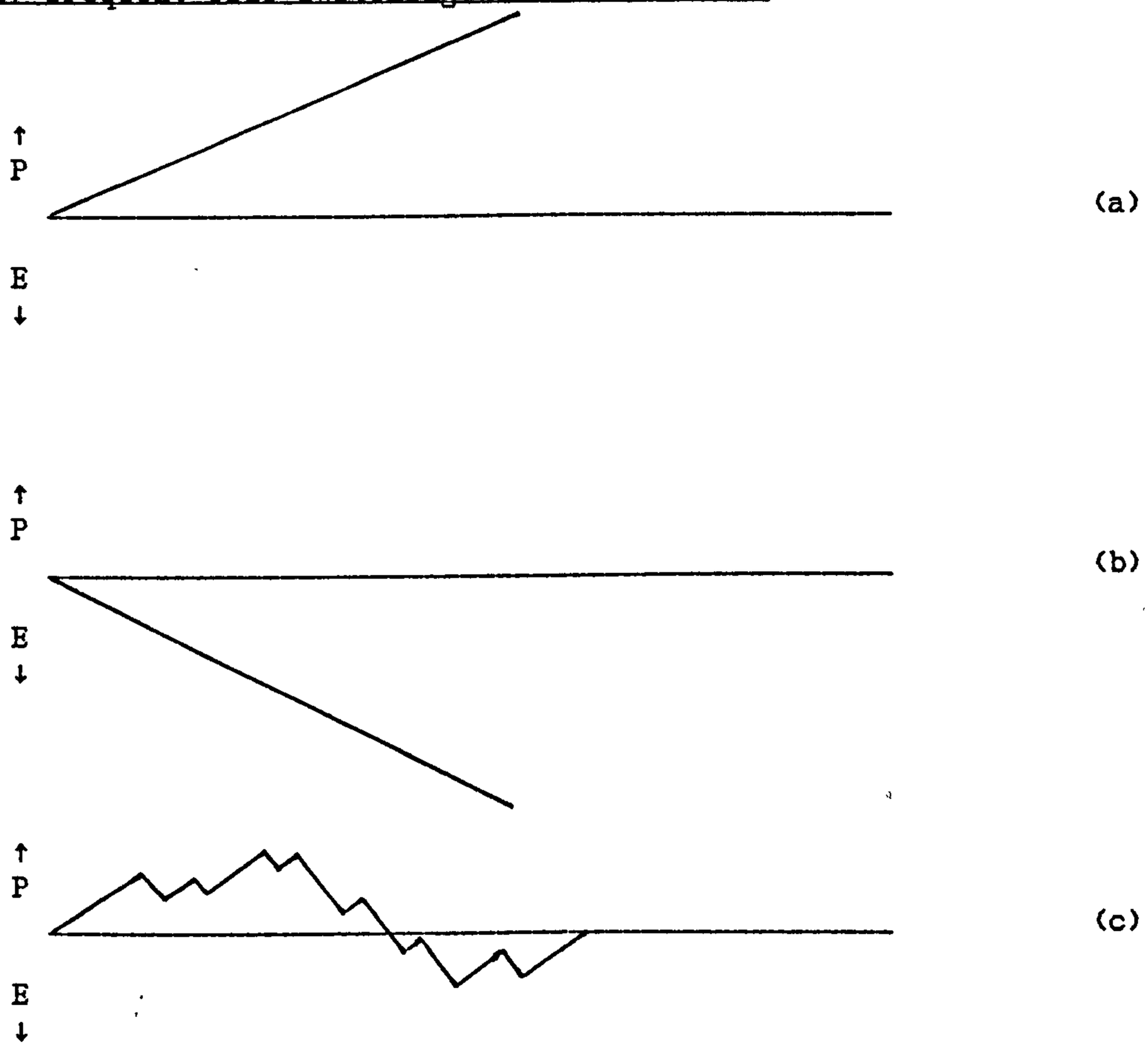
hand, a graph which fluctuates about the x axis, such as that shown in Figure 8;1(c), represents frequent code switches, which may be taken as symptomatic of a failure to achieve a co-operative one-language solution. Such a graph would be predicted from a playoff between languages in the bilingual game where, theoretically-speaking, the psychological states of co-operation and conflict are absent or applied haphazardly. I will use *code-switching* as a superordinate term to include *code-mixing* since in the conversation profiles the tokens are regarded as items existing apart from the structures (e.g. phrases, sentences) into which they enter.

Profiles have not been drawn for all the dyads. The following dyads showed no code-switching, except for odd tokens which filled a lexical gap: 2M, 3M, 5M, 6M, 7M, 10M, 11M, 5m, 6m, 10m, 11m, 12m, 3n, 5n, 8n, 9n, 10n, and 11n, so it was not necessary to draw their profiles, since they all fall on the diagonal. The profile for 1M, with an adult interlocutor, has not been included. This conversation featured an early switch of one conversational turn to Punjabi and its repetition, but it is otherwise English. The profile for 4M has likewise not been included, but there was a one-turn switch to Punjabi midway through the conversation following a series of content defections. These cases can be further examined in the appendix, and in the conversation mapping (Graphs 10;1 & 10;32).

Profiles for the individual participants are presented alongside the joint dyadic conversation profiles in Graphs 7;1 to 7;17 (with the exception of some null dyads whose data is compounded in one joint profile). The longer profile is the joint one, labelled (a). The individual profiles are the two shorter ones, labelled (b) for the subject and (c) for the interlocutor. The arrangement of the three graphs on one page is dictated purely by the best way to fit them onto the paper. They do not all begin at the extreme left of the x axis, where graphs traditionally start, since for the convenience of layout some graphs share an x axis. Consequently, zero on the x axis is defined as the point where a profile begins.

FIGURE 8;1

Examples of conversation profiles (a) 100% P tokens (b) 100% E tokens (c) frequent code switching with 50% E/50% P



8;1;2 Asymmetric trends in dyads

Referring to the first four columns of Table 7;2, some of the dyadic conversations are in one language and some are code-switched. The dyads which did not switch exhibit the totally co-operative solution to the two-language dilemma. Considering the switched language dyads, those which are plotted in profiles (Graphs 7;1 to 7;17), the majority of joint profiles (labelled (a)) finish with a solution of higher proportions of one language than the other, i.e. the psychological state of co-operation, expressed in stretches of one language, outweighs the effects of defection which would cause the graph to fluctuate about the x axis. This is portrayed in the movement of the profile away from the x axis. There are joint

profiles which finish on or near the x axis and this would show that, in those particular conversations, the language playoff had reached deadlock or had come close to doing so (zero-sum in the game-theory terminology of section 5;1;2, with 50% of one language and 50% of the other. The dyads illustrating this situation are; 3m in Graph 7;7(a), 8m in Graph 7;10(a), 12n in Graph 7;17(a), and to a lesser extent 2m in Graph 7;6(a).

There are asymmetric trends in the dyadic data as a whole, apart from the phenomenon of individual conversations being resolved in higher proportions of one language than the other. Thirty out of thirty six (83%) of the dyadic conversations, which were recorded in Leeds nursery schools, were resolved in higher proportions of English than Punjabi.

The attempt to find more Punjabi-speaking Major contacts by selecting good friends, or relatives, from the community was successful in that two of the four Major dyads recorded, in Leeds, in the second phase of data collection, resolved their conversations in higher proportions of Punjabi than English (compared with one out of eight Major contact conversations resolved in Punjabi in the first part of the study).

8;1;3 Joint and individual profiles compared, languages as players and participant contributions

The conversation profile technique highlights the progress of a bilingual conversation as one language displaces the other but one drawback is that since the number of tokens per conversational turn varies, comparisons of individual profiles at equidistant points along their length cannot be made. The profiles are best grasped as wholes. So, for instance, in the case of 2m in Graph 7;6, the individual profiles (b and c) seem to be rather different, especially in their positions relative to the x axis, but they can both be seen wholistically as following the same fluctuations as the joint profile (a). In overview, rather than in detail, they could be described as 'scaled down' models of the joint profile. The profiles for 3m (Graph 7;7) illustrate this point most effectively. It seems to be the

general rule that individual profiles for a dyad follow the same pattern as each other. There are exceptions, however. The profiles for 12M (Graph 7;3) show what happens to the joint profile when the contributions from the speakers are out of step with each other. The joint profile, at least for the first half, shows an apparently random switching, yielding a 50% Punjabi/50% English bilingual mix.

8;1;4 Differences between sets, Majors, minors and nulls

Results of t-tests and χ^2 tests for type and token counts (7;1;1) showed that code-switching was more prevalent within dyads at an intermediate state of familiarity. Some subjects never switched at any level of familiarity. Between comparative strangers (null contacts) and good friends (Major contacts) there was less switching.

(a) Major contacts

For Major contacts there were three dyads which exhibited switching. In dyad 9M (Graph 7;2), the profiles for the two speakers follow a similar path to each other. Dyads 8M (Graph 7;1) and 12M (Graph 7;3) are exceptional (see section 7;0;1). In Graph 7;1 subject 8, speaking a different dialect of Punjabi, has an individual profile (b) which differs from that of her Major contact (c). However, the two profiles are a better match than those for the minor contacts, 8m in Graph 7;10 (b and c). This might be expected since, although subject 8's language poses a comprehension problem for the interlocutors in dyads 8M and 8m, we would expect Major contacts to accommodate to each other better than minor contacts, on the basis of observations of the other dyads; that preferred interlocutors co-operate in using increasing proportions of one code.

The participants in 12M were twin sisters. Their special circumstances are outlined in section 7;0;1. The two individual profiles (Graph 7;3, b and c) appear to be completely out of phase with each other, certainly for the first half of the conversation. However, the individual contributions to the joint profile (a) are of rather different proportions and comparing the latter part of these with the latter part of the joint profile, where it rises up from the x axis and levels out, shows that there is more accommodation to the

other party towards the end of the conversation. Whereas subject 12 failed to 'phase in' with her sister in 12M, she managed to accommodate well to another partner, the subject, in 9M (Graph 7;2(c), as can be seen in a comparison of Graphs 7;2 (b) and (c). The subject of 12M was the twin who had stayed in Leeds whilst her sister, the interlocutor in 12M, had been to India. From Table 7;2 it can be seen that the subject used 69 tokens of English and 92 tokens of Punjabi in conversation with her twin sister, but (as interlocutor) she altered the language mix to 20 tokens of English and 68 tokens of Punjabi in conversation with a best friend in 9M. Although it is impossible to draw definite conclusions on the basis of one example, the reason that the subject of 12M used such a large proportion of English in 12M can most likely be explained in terms of her desire to establish her 'Englishness' in relation to her sister.

The general preference for one language use at Major contact level is supported by Grosjean's (1982 p.136) observation that most bilinguals have an agreed-on language for use with friends and relatives.

(b) <u>minor contacts</u>

At minor contact level code-switching is most evident (Graphs 7;4 to 7;11). In all but one of the switched minor dyad conversations the code choices of one participant followed that of the other. 3m in Graph 7;7 is a good example to illustrate the point that the speakers are monitoring the code choice of the other and accommodating to the pattern which they are *jointly creating*. So, although there are defections (code-switches), in a very general sense speakers are co-operating in making defections from a one language co-operative solution; they are expressing *conflict with co-operation*. The exceptional case, Graph 7;10 for 8m, shows two speakers making code choices which are completely at odds with each other, which could be described as *conflict without co-operation*. This was the case where the subject spoke a dialect of Punjabi which the interlocutor had difficulty in understanding (see section 7;0;1).

In an analysis of adult Spanish/English alternation, Valdés Fallis (1976) refers to 'symmetrical switches' in segments of three conversations, where the switching patterns of one participant seem

to reflect the blend and proportion of those used by the other speaker. This 'imitative' switching, which is regarded as one of twelve principal types of adult switching (Valdés Fallis 1976 p.58), appears to be similar to the *conflict with co-operation* occurring so frequently between young bilinguals at an intermediate stage of familiarity.

The switching displayed by dyads 9M and 9m differs from the general trend in that the conversation of the Major dyad, on the basis of the token figures from Table 7;4, is more switched (25% English and 75% Punjabi) than that of the minor dyad (83% English and 17% Punjabi). The conversation profiles (Graphs 7;2 and 7;11) show quite different processes in operation. The speech of dyad 9M is predominantly Punjabi with English intrusions. There was also a problem of six interruptions during the recording when one of the children repeatedly opened the door, which inevitably introduced an 'English' element, as the experimenter was standing outside. There is no clear relation between the 'door opening' and a subsequent stretch of English speech, but the first, third, fourth and sixth interruptions in Graph 7;2 are shortly followed by English intrusions and it seems likely that the contact with 'English' had some influence.

Dyad 9m on the basis of percentages of the two languages seems to be less mixed than 9M, but Graph 7;11 shows more of the 'game' typical of minor contacts, in an initial stretch of Punjabi with English intrusions, then a switch to English speech giving a zero-sum game at one point (where the profile crosses the x axis, about a third of the way along).

(c) <u>null contacts</u>

In general, children could be interpreted as 'playing safe' at null contact level, by staying in one code. Graphs 7;12 to 7;16 show that where there are defections these are spasmodic intrusions into the other code. Dyads 1n, 2n and 4n (Graphs 7;12, 7;13 and 7;14) all include a defection by one participant shortly followed by a code-defection in the same direction by the other participant. Dyads 6n and 7n (Graphs 7;15 and 7;16) both feature only one defection each. Dyad 12n (Graph 17;17) is the profile which most nearly fits the

description of 'frequent and random mixing where the mean payoff is zero' predicted by the bilingual game matrix in Figure 5;2, depicted in graphic form in Figure 8;1 (c), and indicating a very limited display of co-operation. This dyad was the one mentioned as being exceptional (section 7;0;1) in that the children were of the opposite sex and did not want to stay together, as evidenced by seven interruptions in 306 seconds recording time.

The general pattern of limited switching between strangers has been described by Gumperz for adult bilinguals (1982 p.69):

> Bilinguals, in fact, ordinarily do not use code-switching styles in their contact with other bilinguals before they know something about the listener's background and attitudes. To do otherwise would be to risk serious misunderstanding.

The process in children would have to be interpreted in terms of a more general tendency to respond co-operatively, such as a strategy of:- try one language and if you get a same-code reply continue in the same way.

We can conclude that young bilingual children prefer the use of one language since they engage in long stretches of one language use with their most preferred interlocutor (Major contact), which can be interpreted as co-operative behaviour in the game-theoretic model developed here. At null contact level, perhaps the situation (room in an English medium school) and the tendency to respond co-operatively, dictates the cautious and co-operative strategy, which is 'use English with probes into the alternative code'.

(d) Summary of differences

Most of the switching takes place at minor contact level. Applying the first game-theoretic analysis (section 5;1;2), leads to the conclusion that it is *normal to introduce linguistic conflict at an intermediate state of familiarity (as a psychological 'state' - see Chapter 4)*, since it is at this stage of friendship that profiles take on the appearance of 'frequent and random switching' which is predicted in a playoff between the two languages of the bilingual in the 2 X 2 bilingual game in section 5;1;2. This *linguistic conflict*

co-exists with co-operation when speakers are able to understand each other because profiles for individual participants in a dyad match each other. The 8m dyad shows what happens when speakers have comprehension difficulties, their language behaviour displays *conflict without co-operation*. The 8M dyad, whose members also have comprehension problems, displays less co-operation than would normally be expected, from the other Major dyad results. The twins in dyad 12M display conflict without co-operation which may not be typical of their general behaviour but it is interesting to see that interlocutors, if they wish to, can produce mirror images of each other's choices of code.

8;1;5 Groups-of-four

The groups-of-four data was collected to test a hypothesis that four children, mixed Major and minor contacts, would have more difficulty in resolving the problem of each having two languages available to them and additionally being relatively unfamiliar with some members of the group. The conditions were designed to maximise the possible incidence of switching. If the experimenter had wanted to contrive a situation in which bilingual children were more likely to use only one of their two languages then a group of Major contacts would have been chosen. Graphs 7;18 to 7;23 show the group profiles for the six substantially code-switched conversations, five out of the six were resolved in higher proportions of Punjabi than English. The hypothesis was not supported; an asymmetric trend towards language homogeneity for individual conversations is operating for the groups-of-four in the same way as for the dyads, except that it is more frequently in the opposite direction, towards Punjabi, which must be attributable to the language of the background culture in the community (Southall as opposed to Leeds).

The children are better than the experimenter predicted in resolving their dilemmas. This finding is particularly surprising considering the results in Table 7;33, that most of the sequences in groups-of-four are between two speakers. The implication is that speakers and non-speakers alike are monitoring language use and

adjusting their language preference to meet a developing group norm. The joint group profiles for the code-switched groups-of-four are, on the whole, more irregular than the joint profiles for code-switched dyads because there is a greater potentiality for switching with four participants. Two general points are that the individual profiles do not match each other to the same extent as in the case of the dyads and there are disproportionate contributions from different members of the group. In two groups one of the members remained silent. These were group F (Graph 7;21 (e)) and group G (Graph 7;22 (e)), and in group A (Graph 7;18 (b)), one participant spoke minimally. Groups C and E, using mostly English with small proportions of Punjabi (3% and 1%), have not been plotted as profiles.

The profile for group B in Graph 7;19 (a) appears to be a conversation of 'random and frequent' mixing but an examination of its four component individual profiles shows the two Major contacts (Graphs 7;19 (b) and (d)) accommodating to each other, in increasing proportions of Punjabi. The minor contacts (Graphs 7;19 (c) and (e)) begin with larger proportions of English but their profiles turn, to fall into phase with the two Major contacts, giving a cumulative effect of raising the joint profile away from the x axis in higher proportions of Punjabi towards the end of the conversation.

Group D is another case where the joint profile (Graph 7;20 (a)), shows frequent and random mixing and overall rises slowly from the x axis, with evidence of accommodation to Punjabi in the final quarter. In this case the individual profiles for two of the participants (Graphs 7;20 (c) and (d)) are in phase but the two other children, whose contributions are shown in Graphs 7;20 (b) and (e), seem to be undecided about the code to settle for until the end when all four are in phase.

8;1;6 The overall pattern for dyads and groups-of-four

In the bilingual conversations of the young children reported here the general trend is for code-switched conversations to be resolved in higher proportions of one language than the other. However, at minor contact level for dyads, the movement towards a

joint solution of language homogeneity in one of the bilinguals' codes is most often reached after a period of fluctuation between the two codes. This period of indecision I have described as conflict with co-operation. In some cases the resolution in one language is not achieved, for example when the outcome, in game theoretic terminology, is zero-sum, e.g. dyad 3m in Graph 7;7. In exceptional cases the code-choice of the participants exhibits conflict without co-operation (dyads 8m and 12M). The overall pattern, particularly that shown as children move from minor to Major contact levels of friendship, could be seen as a telescopic view of Le Page's (1985 p.181) description of *diffusion* and *focussing* where a speaker is seen as modifying his behaviour through reinforcement and feedback to accommodate to others, in a group (in this case consisting of two or four members) with which he wishes to be identified. Fluctuations in dyadic and group profiles reported here would represent *diffusion*, whereas the movement towards language homogeneity, shown when joint dyadic and group profiles rise or fall away from the x axis, depict the phenomenon of *focussing*. The exceptional data of dyads 12M and 8m could be explained in terms of the participants expressing a desire to distance themselves from each other.

There is a much higher proportion of Punjabi overall in the Southall recordings than in the Leeds recordings. Five out of the total of eight groups in Southall nurseries (63%) resolved their conversations in higher proportions of Punjabi, compared with 17% resolved in Punjabi in Leeds. So, in the small number of recordings made in Southall compared with Leeds, there is an asymmetric trend towards a preference for Punjabi even in a setting (nursery school) where an observer might have expected to find English. These findings were predicted in the game theoretic framework of asymmetric contests, section 5;3, where an asymmetric cue could settle a contest leading to use of increasing proportions of the language of the background culture.

8;2 GAME THEORY, SECOND ANALYSIS - PEOPLE AS PLAYERS (DYADS ONLY)

The second game theoretic analysis is based on the iterated version of the Prisoner's Dilemma game where the *collective rationality* prescribes that players both choose the co-operative move (C). This is described in section 5;1;3. From section 5;2;4 the notion of TIT FOR TAT (TFT) is adopted as the most successful strategy to solve the Prisoner's Dilemma, which dictates that a player co-operates on the first move and then does whatever the other does on subsequent moves. In the bilingual setting a co-operative move would be staying in the same code and a defection would be a code switch. Elaboration of the procedure for classifying the conversational turns as co-operative moves (C) or defections (D), is explained in section 7;2;1. C and D moves are marked on the conversation mapping in Graphs 10;1 to 10;32. The other type of defection described in 7;2;2, content defection, has been coded 'd' on the same graphs. This analysis was only done for the dyads, since comparisons of the behaviour of the three sets, Majors, minors and nulls, were of most interest.

8;2;1 Code-defections

There were overwhelmingly more co-operative moves than defections at all levels of familiarity (see the final two columns of Table 7;21). There was a higher percentage of D moves for minor contacts than for either null contacts or Major contacts but although the figures approached significance at the 5% level, they were not significant (Table 7;22). The fact that not all dyads code-switched contributes most to the failure for t-tests to reach significance (for the same reason, some of the token %lhi and type %lhi t-test results reported in Table 7;7 were of reduced significance). The small numbers of code-defections for individual dyads in the three familiarity conditions meant that the the criteria for the application of the $\chi 2$ test could not always be met. There was no difference between sets of null contacts and sets of Major contacts in the percentage of defections. The data in Table 7;17 shows that,

excluding dyads for subjects 8 and 12, the longest sequence of D defections was 4, but most D sequences consisted of single or double defections (60% and 33% respectively) and sequences of more than two D's occurred only at minor contact level. These results are in line with the TFT model which dictates a strategy of:- co-operate on the first move and then do whatever the opponent does, always being prepared to return to co-operation. Since the reciprocated defections (40%) are considerably less than the single defections (60%), the implication is that young bilinguals naturally use the solution of *collective rationality* which prescribes C. They are quite willing to play C after D and hardly ever become involved in long sequences of presumably stressful code-defections. At an intermediate stage of friendship the overall quantity of defection reaches a peak and two or three consecutive defections are more likely than at null contact level. Defections decreasingly occur as the level of friendship increases, i.e. as participants in the bilingual game interact more, which would be predicted from an iterated version of the Prisoner's Dilemma. This behaviour could be described as another form of 'sociocentrism' (Chapter 3 part 3), since it is an adaptation of speech to the listener's needs.

8;2;2 Content defections

A pattern was noticed during transcription that minor contacts, who did not code-switch seemed to be displaying conflict in the content of the message. Content defections 'd' tended to occur amongst non-switchers or in monolingual stretches of bilinguals' conversations at intermediate friendship level. As in the case of code defections, most of the 'd' sequences were fairly short. The figures for 'd' defections are reported in Table 7;20. 61% of sequences were single 'd's, 17% were double and 12% were treble. There were, however, some longer sequences; four 'd' sequences of six turns long and two of eight turns. These results can again be interpreted as a general tendency for children to return to co-operation after a defection, without becoming involved in long series of 'd' defections.

The categorization of a 'd' defection leads to speculation about the nature of single 'd' defections. As these were not taken up by the other party were they subjective adult judgements of how children ought not to speak to each other? Does a defection have to be challenged before it can be known to be a defection by an outside observer? A working definition of interpersonal conflict among children has been proposed by Shantz & Shantz (1985), where conflict is defined as any sequence in which Child A tried to influence B's behaviour, B resisted it, and A persisted. This definition, however, fails to account for the single defections found in this study. There is some support for the occurrence of unopposed defections in Maynard (1985 p.3) where the term 'arguable' utterance or action is suggested, to describe the objectionable features of an utterance or action which could, if contradicted, become part of a dispute. The opposition which would normally be the second move in a dispute may work to forestall an argument and in the terminology of the present study this second move would not be a 'd'. A large proportion of content defections were classified by the judges in this study as single 'd' defections (see Table 7;20), hence 'arguable' but unopposed. Further support for the existence of single content defections can be drawn from the parallel case of single D defections (Table 7;17) which are so frequent.

8;2;3 Code and content defections

The fact that not all of the minor dyads were code-switchers contributes most to the lowering of t-statistics for code-defections (D) when the set of minor contacts are compared with the other two sets, Majors and nulls. However, content-defection 'd' usually occurred in monolingual stretches of the bilingual's speech, that is, in the absence of code-switching. The addition of code-defection and content defection (D+d in Table 7;21) yielded a highly significant result of more defection at an intermediate state of familiarity than at either null or Major contact level (Table 7;22). The distribution of code and content defection is compared in bar graphs (Graphs 7;24 to 7;26). Code defection and content defection are in roughly

complementary distribution, but one type does not exclude the other. In Graph 7;25 there are five dyads, 1m(a) & (b), 2m, 3m, 7m and 9m which include both types of defection but in each case where D is high, d is low and vice versa (1m(a) and (b) have been plotted separately in the graph since their relative D and d distributions differed). The complementary distributions of D and d are more obvious for Major dyads 4M and 9M in Graph 7;24 and for dyads 2n and 4n in Graph 7;26. The conversation for dyad 4M includes an interesting example of a series of content-defections (d) followed by a code-defection (D) when the 'd' series seems, from an observer's point of view, to be inconclusive (see 4M turns 46-52 in the appendix, section 10;2;1). There were only four instances, in the data as a whole, of content defection and code defection occurring simultaneously in the same utterance. The distribution of content defection in relation to code defection gives further support to the notion that the type of code-switching used by the young bilinguals in this study, most obviously at an intermediate state of friendship, is accurately described as conflict. Code-switching could be viewed as a 'game-playing' expression of conflict, which is an extra resource available to bilinguals in their conversations with each other.

The earlier conclusion could now be elaborated. It is normal to introduce linguistic conflict at an intermediate stage of friendship, either by code-switching or defection expressed by the content of a message. Young bilingual children engage in TFT behaviour which leads to acceptance of the collectively rational solution of increasing the proportions of C following CC moves as their conversations and friendships progress, i.e. as they interact more. In section 5;2;5 it was proposed (Maynard-Smith 1982 p.171) that learning would not provide an explanation for the development of TFT. Since the young children in this study overwhelmingly respond to C moves with C moves at null and Major contact level and they display limited defection at minor contact level, avoiding involvement in long series of code or content defections, they are 'nice, provokable and forgiving' (see 5;2;4). This pattern leads to a conclusion that TFT is apparently an ESS (in addition to being a collectively rational strategy) which has

been genetically programmed in human behaviour and which is nurtured in the nursery school environment and presumably in the homes and community of the bilingual children in this study.

8;3 HOMOGENEITY OR HETEROGENEITY, SOME EXAMPLES OF SWITCHING EXAMINED

8;3;1 Homogeneity, the collective rationality

As well as a collective movement towards one language use as shown in the conversation profiles (Graphs 7;1 to 7;23), there is one example in the transcription of children instructing each other towards the solution of language homogeneity, this is the translation of the lexical item 'birds' to *cɪɾiaŋ* in Group G turns 24-29:

3 *səmose* birds *khande hʊndi a, səmose*
SAMOSAS EATING AUX SAMOSAS

2 *ha*
YES

1 *cɪɾiaŋ*, birds *nəi a, cɪɾiaŋ a*
BIRDS NOT ARE BIRDS ARE

3 birds *nəi a cɪɾiaŋ a*
NOT ARE BIRDS ARE

1 *haŋ cɪɾiaŋ*
YES BIRDS

3 *cɪɾiaŋ hana hana cɪɾiaŋ a*
BIRDS Qtag Qtag BIRDS ARE

It appears here that child 1 is instructing child 3 that the 'correct' form to use in a Punjabi sentence is *cɪɾiaŋ* rather than 'birds', child 3 repeats this information, child 1 acknowledges that child 3 has used the right form, then finally child 3 confirms the 'correctness' of the Punjabi equivalent.

There is one instance of a request for a translation, an identification or an equivalent when a child in Group B Turn 83 asks:

cini cini ki hʊnda a?
SUGAR SUGAR WHAT IS

Although *cini* is a standard form, ʃəkkər is more common in Southall.

As an example of a game-playing switch, the speaker creates a word of mixed morphology (Group G Turn 56):

hello *cɪɾɨs*
BIRDS

Here the English plural suffix is added to the Punjabi word for bird, this occurred after the same child had used the adult form of the plural, *cɪɾɨaŋ* as well as 'birds'.

From the Leeds data, the children show a metalinguistic awareness in the following example, dyad 4m Turns 37-47:

J *jɪste tũ kəl kɪa siga* (laugh=1) hello // @
LIKE YOU YESTERDAY SAID PAST AUX(em)
SAY IT LIKE YOU SAID IT BEFORE

I *rabiʈa*
RABBIT

J *nəi*
NO

I rabbit

Then eventually the required name:

J hello kəɾcɪra (laugh=3.5)
NAME

There is an interesting switch in dyad 1n Turn 10, where G, who has been speaking English in a series of isolated turns with his null interlocutor, obviously recalls happier times (his earlier conversation with Mampreet in 1m) and says into the microphone:

...hello(.) hello (1) *tũ ki kərda va, tũ Mampreet, hah?*
YOU WHAT DOING AUX YOU MAMPREET

The previous conversations (1m(a) and 1m(b)) with Mampreet had been code-switched but there was a preference for English speech with that interlocutor (84% E tokens) so the above example which is the first switch by G from English into Punjabi (Turn 10 of the 1n conversation) is best interpreted as distancing from the present interlocutor.

8;3;2 Heterogeneity, the dynamic collective rationality

An important point in the second game theoretic analysis (section 5;1;3 is that adults have the option of operating a 'rationality' which overrides a preference for language homogeneity. Within the child code-switching which has, so far, been treated as 'game-playing conflict', there is also evidence of the emerging ability to exhibit the other solution of dynamic collective rationality by utilizing code-switching as a device for demonstrating an understanding of both cultures. From Gumperz's preliminary typology of six conversational functions of code-switching, four types can be found in the child data reported here, (i) quotations, (ii) addressee specification, (iii) interjections and (iv) reiteration.

(i) Quotation

In the absence of the speakers' intuitions, I suggest that the following quotations, in English, embedded in otherwise Punjabi speech are instances of 'speakers and listeners subconsciously utilizing internalized social and grammatical knowledge' (Gumperz 1982 p.64).

In Group H Turn 100:

o kəɪndi can you put it down (6) *fer kəɪndi* can you put down (2)
SHE SAID THEN SAID

In Group G Turn 42 there is an instruction translated into the code of the intended receiver:

onu dəsi pəɪla /asi / can we 'ave some more
TO-HIM/HER TELL FIRST /ASK @ maybe/

This is followed by the expected reply from the teacher:

... *jədoŋ o hωndi si kəɪndi* you can have some more...
WHEN SHE WAS AUX(PAST) SAID

(ii) Reiteration for emphasis

In the following examples the repetitions serve to clarify or emphasize the message.

Group A Turn 2:

's not eating anything
khande nɔi hʊndi khande
EATING NOT AUX EATING

Group B Turn 76:

mɔinu vi dena
TO-ME ALSO GIVE
gi' me another

Group G Turn 85:

khande
EATING (pl)
he eatin'

Group H Turn 103:

ethe rɔkhdo
HERE PUT
put it in

1m(b) Turn 45:

nothing
kʊc nɔi @ kʊc nɔi @
NOTHING NOTHING

(iii) Interjections/sentence fillers

There is one example which matches an instance quoted by Gumperz (1982 p.78).

3m Turn 49:

you you know *ʊsde cʊte kɪnne @ @*
HIS ON-THE-SWINGS HOW-MANY

There are three examples of the Punjabi question-tag 'hana' added onto English utterances which probably fit the category of sentence-filler:

Group A, Turn 21:
I gonna take all fo' us (.) *hana*?
Group G, Turn 18:
I like small birds not big birds *hana*?
9M, Turn 47:
I've got a sweet *hana?*

The English equivalents for *hana* which would be required in these sentences are: 'aren't I', 'don't I' and 'haven't I' respectively. So the single Punjabi tag is more 'economical', but in all three cases the addition of the appropriate English tags would produce utterances which seem slightly unusual in this context.

(iv) <u>Addressee specification</u>

All of the following examples are taken from recordings when the experimenter interrupted the conversation by entering the room. Generally these short passages (not transcribed in the appendix) were initiated by a query from the experimenter (E), but in some cases one of the children was speaking in Punjabi to a peer and switched to English to address the experimenter.

In dyad 7m, following Turn 24, speaker D who has been using Punjabi with G runs out to get the experimenter and says:

D we gonna wash 'im

In 9M, following turn 17, T who has been using Punjabi with S, opens the door and says to the experimenter (E):

T come 'ere
E what is it?
T you got another one rabbit?

In dyad 1n following Turn 24, at the end of the conversation, G has been speaking Punjabi but when the experimenter enters, he says:

G he got it over that side hisself

There is a fairly long English interchange in Group G when the experimenter enters following Turn 85. The conversation up to that point has featured increasing proportions of Punjabi as the profile in Graph 7;22(a) shows. Following the experimenter's intervention, after the bird cage had slipped to the edge of the table and finally fallen on the floor, the group conversation continues in Punjabi. I quote the English passage which is not reported in the appendix (between Turns 85 and 86):

E oh dear, poor little birds
3 fallen down
E oh, let's pick it up
3 I haven't finished
E you finished?
3 I wanna do some more
E there are a lot of little bits on the table, can you pick them up?
3 look, dat's fall
E yes, I'll put that back later.
can you put these little bits in?
1 hey, let me get the things
3 I wanna do some more
1 hey, let me get these @ @
E no you stay there dear// * just a few more minutes and talk to them and then you can come and get your things alright?
3 I want*
oh

In a discussion of conversational code-switching, Gumperz (1982 p.66) refers to the switcher's two codes as 'we' and 'they' codes, where the minority language becomes associated with in-group and infomal activities and the majority language is associated with more formal, stiffer and less personal out-group relations. This does not seem to be the case for the child language data presented here. McClure (1981) confirms that amongst child subjects (whose systems are not fully developed) the we/they distinction does not hold.

Another interpretation of the examples given in 8;3;2 (following the game theoretic analysis developed at the end of 5;1;3) is that the children switch between the two languages to demonstrate their understanding of, and affiliation to both cultures. They wish to identify with both.

Two out of the six conversational functions of code-switching described by Gumperz, message qualification and personalization versus objectivization, are not manifested in the child data. In the first type, message qualification, the main message is given in one code with a qualifying construction in the other code. It seems unlikely that four year olds have the necessary elaboration of syntax to employ this kind of switching but perhaps it would be the next to develop. The second type, personalization versus objectivization, probably requires more experience of the 'talk environment' than young children could be expected to have had. Gumperz describes this large category of switches as follows (Gumperz 1982 p. 80):

> The code contrast... seems to relate to such things as: the distinction between talk about action and talk as action, the degree of speaker involvement in, or distance from, a message, whether a statement reflects personal opinion or knowledge, whether it refers to specific instances or has the authority of generally known fact.

8;4 OTHER MEASURES

8;4;1 Pauses

The total amount of time spent in pausing (Table 7;5) was greater for null contacts than minor contacts and greater for minor contacts than Majors but only means for the sets of nulls and Majors differed, at the 1% level (Table 7;7), showing that conversations between Major contacts are qualitatively better in that they are more cohesive. This could be seen as another form of co-operative behaviour developing between interlocutors as they interact more. The increased fluency of conversations between Major contacts was not accompanied by a significant increase in the number of turns in overlap (shown in

Table 7;20 but not recalculated proportionally to an average recording time). Overlaps were relatively infrequent at all levels of familiarity. These findings confirm Ervin-Tripp's claim (1979) that participants neither display random gaps nor speak in overlap because they are interested in the speech of others. A corollary of the decreased pausing between Major contacts was that there were significantly more (E+P) tokens for sets of Major contacts than for sets of null contacts.

8;4;2 Laughter

The means for the total amount of time spent in laughter and laughter & noises denoting a playful attitude between sets of Majors, minors and nulls were compared. The figures are given in the last two columns of Table 7;5. Laughter and laughter & noises were less prevalent between minor contacts, i.e. the stage at which conflict is maximised, but the differences between minor sets and Majors or nulls was not significant. An examination of the conversation mapping graphs (Graphs 10;1 to 10;32) shows that when laughter appears in conversations between minor contacts, it generally falls in the first part of the conversation, perhaps before the participants are aware of the conflict which they are jointly creating in the encounter, supporting a notion that something mildly stressful is occurring at an intermediate stage of friendship. This observation, which I feel is important, can, however, only be regarded as speculative since differences failed to reach significance in t-tests.

8;5 CONVERSATION ACTS

8;5;1 Patterning

The results of counts for (E+P) tokens showed that Major contacts used significantly more tokens in their conversations than null contacts (Table 7;7). The examination of patterning of C-acts would, it was hoped, show whether these quantitative differences were accompanied by qualitative ones. Conversation acts for sets of Major,

minor and null dyads and groups-of-four were totalled and the means (from Tables 7;26, 7;27, 7;28 and 7;30) were plotted on bar graphs (Graphs 7;27 to 7;30). Surprisingly, the graphs were very similar in overall pattern and the C-act analysis rather than exposing differences between familiarity levels and numbers of participants (dyads or groups-of-four) provided confirmation that a constancy had been maintained over recordings.

Action Requests (RQAC) and Descriptions (ASDC) were the most well represented categories of C-acts, these were followed by Attention Getters (ODAG) and Exclamations (EXCL) (The coding scheme is given in the first appendix, 10;1). The mean totals of C-acts (taken from Tables 7;26 to 7;28) increased with familiarity between dyad members. The figures are: Majors 118, minors 103 and nulls 88. These differences are reflected in a general lowering of the columns moving from Graph 7;27 to 7;28 to 7;29. There is one noticeable trend of a reduction in the category of C-acts with the prefix RS (Responses) as the level of familiarity decreases. This is another manifestation of the results on the 'linking' of conversational turns for dyads, reported in Table 7;31, where Major contacts are seen to be more highly 'linked' than either minor or null contacts to a highly significant extent. One of the most obvious ways of linking conversational turns is by providing a Response (RS) to a Requestive (RQ), so the more 'linked' conversations between Major contacts would be expected to feature more C-acts with RS prefixes.

The mean total of C-acts for the groups-of-four (132 C-acts) was greater than those of any set of dyads. Although the graph for the groups-of-four mean C-acts (Graph 7;30) is similar to those for the dyads (Graphs 7;27 to 7;29) there are some differences reflecting the larger proportion of total C-acts. This is shown in the relatively higher columns for Descriptions (ASDC), Attention Getters (ODAG) and Exclamations (EXCL). The percentage of linked turns for groups-of-four (49%) was quite high and this is reflected in the columns for prefix RS C-acts which are comparable to the equivalent ones (Graph 7;28) for minor dyads, which showed a similar degree of linking (43%).

The patterning of C-acts for conversations with very low levels of linking (1n, 2n, 7n and 9n) was examined in bar graphs plotted for these dyads separately in Graphs 7;31 to 7;34. The conversation of dyad 7n was atypical in that it consisted mainly of Attention Getters (ODAG) and Exclamations (EXCL). The conversations of 1n, 2n and 9n (Graphs 7;31,7;33 and 7;34) seem to show a trend of increasing range of C-acts with increased linking, such that with as little as 19% linking (Graph 7;34 for 9n) the C-act patterning is basically similar to that for the means of C-acts for the set of nulls plotted in Graph 7;29, with three out of four of the characteristic peaks, for Action Requests (RQAC), Descriptions (ASDC), and Attention Getters. The conversation for dyad 1n (0% linked, Graph 7;31) consists of Requestives which receive no Response, Assertives, Attention Getters and Exclamations. With 13% linking (2n Graph 7;33) there is the familiar high proportion of Action Requests (RQAC), together with some Responses (RSCH and RSQL) and some Performatives (PFTE and PFWA).

The C-act patterning for dyad 1M was plotted separately in Graph 7;35, since this dyad was the most highly sequenced conversation (70% linked) and one of the participants was an adult. The pattern was similar to the graph for the means of C-acts for Major contacts (Graph 7;27) but the C-acts with the prefix RS (Responses) were higher, as would be expected with more linking. Another noticeably higher column was the category ASEX for Explanations. This finding could have been predicted, as an adult participant is more likely to provide explanations to a young child than one of his peers.

At all levels of familiarity children used speech acts which guided peer behaviour (cf. Pelligrini 1982 in Chapter 3, Part 3).

8;5;2 Linking

Major contacts displayed more linking of conversational turns than either minor or null contacts (1% levels of significance, Table 7;31), even though the frequency distribution of C-acts was similar for all three sets. Linking could be equated with sociocentric behaviour whereas isolated turns would represent egocentric speech.

The data confirms the suggestion by Dore (1978 p.383), quoted in Chapter 3, part 3, that talk between nursery-age peers 'may be a flow of collective or private monologue interspersed with genuinely communicative exchanges', but additionally the results of 'linking' show that the proportion of communicative exchange (linked turns) to collective monologue (isolated turns) varies with the degree of familiarity of the conversationalists.

An intermediate state of familiarity seems to be the 'watershed' where conflict in terms of code switching and content defection are acted out before speakers increasingly link-in their conversational turns and move towards other forms of co-operation including language homogeneity and reduced content defection. These observations support Piaget's notion of sociocentrism emerging when egocentric problem-solving strategies are challenged by a peer.

Linking in the groups-of-four was 49.3%, a value between that for minor dyads (43%) and Major dyads (58.5%). The groups-of-four, which were composed of Major and minor contacts, thus appear to have no more difficulty than dyads in sequencing their turns. However, an examination of the numbers of speakers participating in sequences in the groups-of-four conversations (Table 7;33) showed that sequences are generally between two speakers (85.2%) or less frequently three speakers (14.1%). There was only one instance of a four-person sequence. Further support for the number of children who can apparently normally manage to interact in this sort of situation being 2/3 comes from the token data in Table 7;13. In four out of the eight groups-of-four (groups A, C, F and G), one child remained silent or spoke minimally, so the group effectively formed itself into a triad.

The data for the longest sequences in each conversation (Tables 7;31 and 7;32) compared well with the findings of Garvey and Hogan (1973) reported in Chapter 3, Part 3. The longest sequence between peers was 12 turns long, although one sequence of 16 turns was recorded between a child and adult in 1M.

CHAPTER 9
CONCLUSIONS

Code-switching can be interpreted differently, in a game theoretic framework, depending on whether the co-operative strategy is seen as a preference for language homogeneity, or whether it is regarded as a higher order of *dynamic collective rationality* where speakers can demonstrate their co-operativeness by switching between the codes which represent the social groups to which they feel affiliated (Chapter 5).

It is normal to introduce linguistic conflict at an intermediate stage of familiarity (4;4, 8;1;4, 8;2;3).

This conflict co-exists with co-operation as long as speakers can understand each other (8;1;4).

Some individuals may not exhibit conflict by switching codes, but rather through the content of the message, while remaining in one code (7;2;2), 8;2;2), 8;2;3).

Four-year olds show the beginnings of an appreciation of the use of 'conversational' code-switching (Gumperz 1982 p.75-84) to demonstrate a social knowledge of language use (8;3;2). Four of Gumperz' conversational functions of code-switching are manifested in the data.

Most of the children's bilingual conversations are resolved asymmetrically, in higher proportions of one code than the other, i.e. in favour of language homogeneity (7;1;3, Graphs 7;1-7;23, 8;1;2, 8;1;5, 8;1;6).

Young bilinguals engage in TIT FOR TAT behaviour, which employs a collectively rational solution to the two language dilemma, leading

to increasing proportions of co-operative behaviour as participants interact more (5;2;4, 8;2;1, 8;2;2, 8;2;3).

TFT is apparently an evolutionarily stable strategy which has been genetically programmed in human behaviour (5;2;5, 8;2;3).

Young children increasingly link-in their conversational turns with their interlocutors as they interact more (i.e. along the null-minor-Major familiarity scale). They move from a relatively *egocentric* to a more *sociocentric* state. This transition is most marked between children at an intermediate stage of familiarity (minor contacts) and good friends (Major contacts) i.e. having worked through the period of linguistic conflict (7;3;2, 8;5;2).

A controlled setting, topic, and task calls up a relatively stable pattern of conversation-acts, regardless of the number of participants (dyads or groups-of-four) or their familiarity with each other (7;3;1, Graphs 7;27 to 7;30, 8;5;1).

As the degree of familiarity increases, conversations between interlocutors become more fluent in that pausing is reduced (7;1;1, 8;4;1).

Groups-of-four are able to organize their conversations to solve the two-language dilemma and to produce sequences of turns as effectively as dyads but most sequences involve two (85%) or three (14%) speakers (7;1;2), Graphs 7;18-7;23, 7;3;2, 8;5;2).

10;1 TRANSCRIPTION CONVENTIONS

The conversational notation system is adapted from Levinson (1983 p.369)

// current utterance is overlapped by that below.

* alignment of points where overlap ceases (only one* or none marked when overlaps terminate at utterance endings)

(0.0) pauses or gaps, correct to 0.5 sec. End of turn pauses marked for

> 1 sec.

(.) micropause

: or :: lengthened syllables

- glottal stop self-editing marker. Used when a word is started and abandoned.

= latched utterances without a gap

? a rising intonation contour

(hh) audible out-breath

(.hh) an in-breath

(.hh) a gasp

/ / contain a broad phonemic transcription for an audible but incomprehensible utterance. Degrees of comprehensibility are marked in the gloss underneath, with decreasing degrees of certainty as:

HE GIMME, prob.HE GIMME, maybe HE GIMME, maybe HE GIMME.

@ unintelligible syllable, an interpretation of unintelligible syllables may be attempted on the basis of the intonation pattern. <EST 2WP> or <EST 2WE> in the gloss means two words of Punjabi/ English estimated for unintelligible syllables.

_____

_____ across the page means that the conversation was interrupted by someone entering the room.

.....

..... across the page and bracketed together block off sequences of turns which are linked (see section 7;3;2 for an explanation).

[ ] observations by transcriber

English utterances are written in standard orthography adapted to some extent to be more representative of child speech and to show some features of the local dialect e.g. dat (=that), gonna, wanna 'e's (=he's). Items are written in broad phonemic transcription between / / when this orthographic representation is likely to be misleading about the pronunciation.

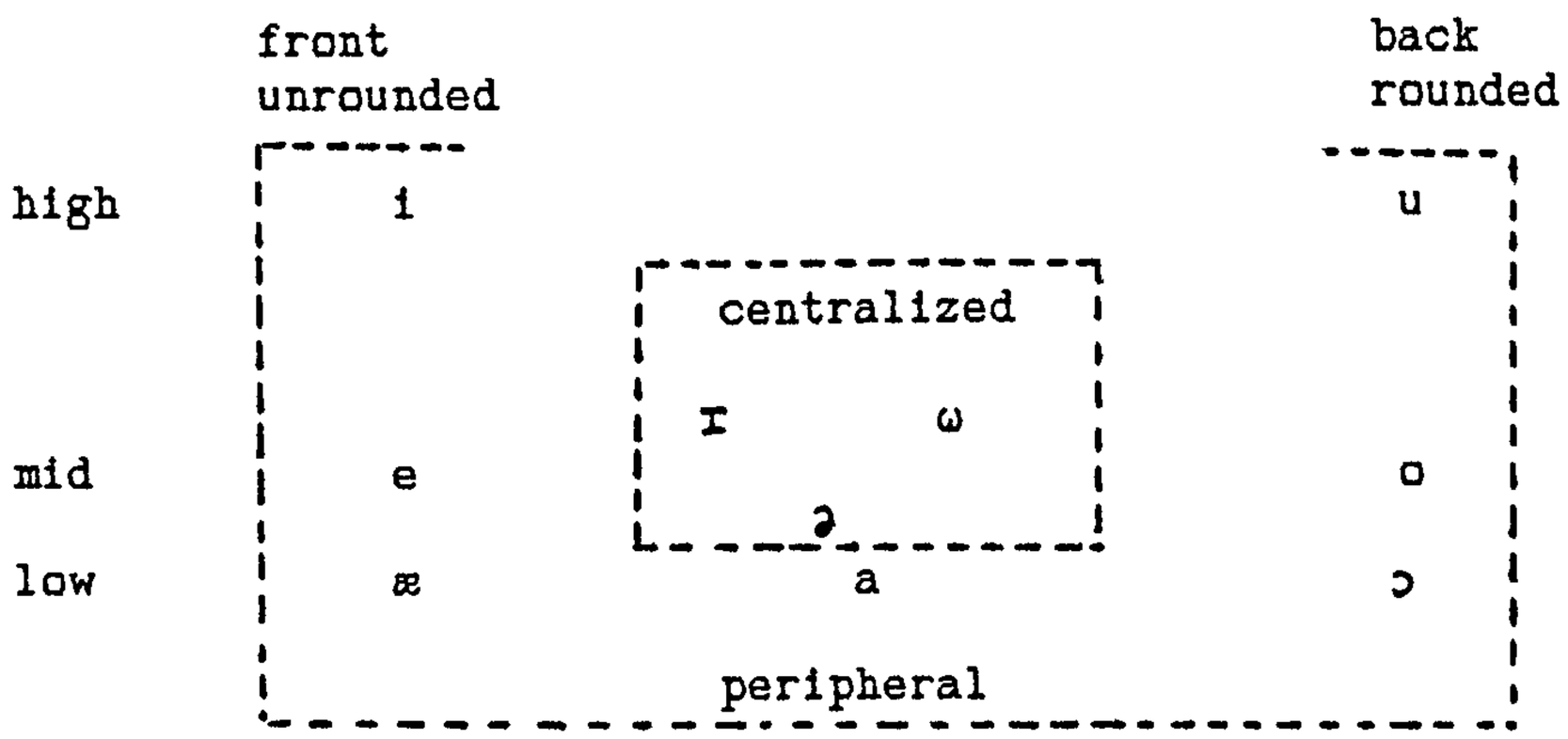
Punjabi utterances are in broad phonemic transcription. They are printed in italics and given word-for-word glosses in half height capitals underneath. A second free translation is given if the meaning of the first gloss is unclear.

The transcription used is basically that given in Gill and Gleason (1963).

Tone

Tone is distinctive in Punjabi. All Punjabi words have high, low or in most cases, neutral tone. For the purposes of this study, tone is only marked in the transcription where two words in the children's speech, having the same phonemic shape, are contrasted by tone.

Punjabi vowels:



Quality and duration of vowels are affected by accompanying tone. In general they are laxer with high tone and tenser with low. They are shorter with high tone and longer with low tone. Centralized vowels are associated with laxer articulation. Centralized vowels are

sometimes referred to as 'short' in contrast to 'long', following tradition in the description of Indian languages, but this distinction has no phonetic significance (Gill & Gleason 1963).

Punjabi consonants

/t/ and /d/ are dental.
/c/ and /j/ are affricates.
When transcribed with a following /h/, /p, t, ṭ, c, k/ are aspirated. Otherwise they are unaspirated.
/r/ is a flap.
/v/ = a voiced labio-dental approximant.
/ṭ, ṭh, ḍ, n, r, l,/ are retroflex.
/kh/ is a guttural sound, a velar fricative typically used in Urdu.
Double consonants in the transcription are held significantly longer.

Punjabi sections of the tape-recorded conversations were transcribed and glossed with the help of native speakers. These were school children, eleven in all, between the ages of 12 and 15 years. At least two native speakers of Punjabi contributed to the transcription of each of the Punjabi utterances.

Conversation-acts

Utterances were coded in the transcription using the conversation-acts classification developed by Dore et al (1978), and reprinted on the following pages.

CODES, DEFINITIONS AND EXAMPLES OF CONVERSATIONAL ACTS (from Dore et al 1978)

Requestives solicit information or actions.

RQCH **Choice questions** seek either/or judgments relative to propositions: "Is this an apple?"; "Is it red or green?"; "Okay?"; "Right?"

RQPR **Product questions** seek information relative to most 'WH' interrogative pronouns: "Where's John?"; "What happened?" "Who?"; "When?"

RQPC **Process Questions** seek extended descriptions or explanations: "Why did he go?"; "How did it happen?"; "What about him?"

RQAC **Action Requests** seek the performance of an action by hearer: "Give me it!"; "Put the toy down!"

RQPM **Permission Requests** seek permission to perform an action: "May I go?"

RQSU **Suggestions** recommend the performance of an action by hearer or speaker or both: "Let's do it?"; "Why don't you do it?"; "You should do it".

Assertives report facts, state rules, convey attitudes, etc.

ASID **Identifications** label objects, events, people, etc.: "That's a car."; "I'm Robin."; "We have a boat."

ASDC **Descriptions** predicate events, properties, locations, etc. of objects or people: "The car is red."; "It fell on the floor."; "We did it."

ASIR **Internal Reports** express emotions, sensations, intents and other mental events: "I like it."; "It hurts."; "I'll do it."; "I know."

ASEV **Evaluations** express personal judgments or attitudes: "That's good."

ASAT **Attributions** report beliefs about another's internal state: "He does not know the answer."; "He wants to."; "He can't do it."

ASRU **Rules** state procedures, definitions, "social rules," etc.: "It goes in here."; "We don't fight in school."; "That happens later."

ASEX **Explanations** state reasons, causes, justifications, and predictions: "I did it because it's fun."; "It won't stay up there."

Performatives accomplish acts (and establish facts) by being said

PFCL **Claims** establish rights for speaker: "That's mine."; "I'm first."

PFJO **Jokes** cause humorous effect by stating incongruous information, usually patently false: "We throwed the soup in the ceiling."

PFTE **Teases** annoy, taunt or playfully provoke a hearer: "You can't get me."

PFPR **Protests** express objections to hearer's behaviour: "Stop!"; "No!"

PFWA **Warnings** alert hearer of impending harm: "Watch out!"; "Be careful!"

Responsives supply solicited information or acknowledge remarks

RSCH **Choice Answers** provide solicited judgments of propositions: "Yes."

RSPR **Product Answers** provide Wh-information: "John's here."; "It fell."

RSPC **Process Answers** provide solicited explanations, etc.: "I wanted to."

RSCO **Compliances** express acceptance, denial, or acknowledgement of requests: "Okay."; "Yes."; "I'll do it."

RSCL **Clarification Responses** provide solicited confirmations: "I said no."

RSQL **Qualifications** provide unsolicited information to requestive: "But I didn't do it."; "This is not an apple."

RSAG **Agreements** agree or disagree with prior non-requestive act: "No, it is not."; "I don't think you are right."

RSAK **Acknowledgements** recognise prior non-requestives: "Oh."; "yeah."

Regulatives control personal contact and conversational flow.

ODAG **Attention-Getters** solicit attention: "Hey!"; "John!"; "Look!"

ODSS **Speaker Selections** label speaker of next turn: "John"; "You"

ODRQ **Rhetorical Questions** seek acknowledgment to continue: "Know what?"

ODCQ **Clarification Questions** seek clarification of prior remark: "What?"

ODBM **Boundary Markers** indicate openings, closings and shifts in the conversation: "Hi!"; "Bye!"; "Okay"; "Alright"; "By the way"

ODPM **Politeness Markers** indicate ostensible politeness: "Please"; "Thank you"

Expressives non-propositionally convey attitudes or repeat others

EXCL **Exclamations** express surprise, delight or other attitudes: "Oh!"; "Wow"

EXAC **Accompaniments** maintain contact by supplying information redundant with respect to some contextual feature: "Here you are"; "There you go"

EXRP **Repetitions** repeat prior utterances.

Miscellaneous Codes

UNTP **Uninterpretables** for uncodable utterances.

10;2 TRANSCRIPTS
10;2;1 Dyads (Leeds 1)

G and A (adult) / 1M / hamster

Tn	Sp	Utterance	C-act
1	A	come on (5)	RQAC
		where you going? (1)	RQPR
		come on (4)	RQAC
2	G	he's coming out other side (9)	ASDC
3	A	over here darlin' (2)	RQAC
		oops!	EXCL
4	G	(laugh=2) owh!	EXCL
5	A	oops,	EXCL
		come on,	RQAC
		bite this @ (.)	RQAC
		and he'll play (1)	ASEX
		talk to him (.)	RQAC
		come on	RQAC
		talk to him	RQAC
6	G	Dan:dy:: (3)	ODAG
		wanna pick him up	ASIR
7	A	um?	RSAK
		come on	RQAC
		sit down then (.)	RQAC
		pick him up (10)	RQAC
8	G	(laugh=1.5) he gets off	ASDC
		d'n't he?	RQCH
9	A	he does	RSCH
		come on (3)	RQAC
10	G	get 'im back in it (10)	RQAC
		(laugh= 1) (4) put 'im on the floor	RQAC
		= can ger it	ASEX
11	A	sit there	RQAC
		sit there (6)	RQAC
12	G	err(=1.5) he @	ASDC
		NOISE	
		d'n't he? (4)	RQCH
13	A	go on (1)	RQAC
		d'you want to fee-//	RQCH
14	G	Dandy*	ODAG
		(4) (laugh=2) /rəwndə/ (1) oh:: /kəw/	EXCL
15	A	d'you want to feed him?	RQCH
16	G	yeah (3.5)	RSCH
		what's dis here? (12)	RQPR
		[crackling paper]	

17	A	put it on there (.)	RQAC
		put it on	RQAC
18	G	where?	RQPR
19	A	on here (6)	RSPR
	G	(laugh=1.5)	
20	A	*tere kər vɪ hæga?* (1) eh? =	RQCH
		YOUR HOUSE em IS(em)	
		IS THERE ONE (PET) AT YOUR HOUSE	
21	G	eh?	ODCQ
22	A	*tere kər hæga?* (3.5)	RQCH
		YOUR HOUSE IS(em)	
		IS THERE ONE AT YOUR HOUSE	
		eh? (1.5)	RQCH
		hæga ko? (2)	RQCH
		IS(em) ANY	
23	G	'e eat it	ASDC
24	A	umh? (2)	ODCQ
		have you got a pet at home	RQCH
		um:: (1) Gurvinder?	ODAG
25	G	no	RSCH
26	A	have you got a cat (1) or a dog?	RQCH
27	G	no	RSCH
		our cat's died	ASEX
28	A	aaah:: (5)	EXCL
		give him some of this	RQAC
		come on (2)	RQAC
29	G	what's @ @ goin' to do?	RQPR
30	A	@ @, over here Manu- er::m (1) Gurvinder	ODAG
31	G	@ @ dis (2)	UNTP
32	A	Gurvinder (3)	ODAG
33	G	lift up (5)	RQAC
34	A	go	RQAC
35	G	bring it here	RQAC
36	A	go on (2)	RQAC
37	G	Ran:dy: Ran:dy: (.)	ODAG
		here: foo: (19) (laugh=3.5)	ASID
38	A	what's he doing?	RQPR
39	G	how d'you ger 'im? (2)	RQPR
40	A	what's he doing? (2)	RQPR
41	G	he's a /bɔwt/ (2)	RSPR
		↑ ABOUT (as in 'running about' maybe)	
42	A	what's he playing at? (2)	RQPR
	G	[bang//ing]*	
43	A	what's he @* (2)	RQPR
		catch him	RQAC
44	G	eh?	ODCQ

45	A	catch him over by that @ (.)	RQAC
		hold him (.)	RQAC
		let's get him	RQSU
46	G	has he got stuck?	RQCH
47	A	no: (8)	RSCH
		(laughter=1.5) (6)	
48	A	Gurvin:der: over he:re	ODAG
49	G	what?	ODCQ
50	A	look	ODAG
		he's coming	ASDC
51	G	where?	RQPR
		(laughter=2) eat your food (2)	RQAC
		he's goin' over there (3.5)	ASDC
52	A	don't let him go now	RQAC
		(1) bring him back	RQAC
53	G	he's @ing	ASDC
54	A	no (1)	PFPR
		bring him back	RQAC
		otherwise he'll @ @ (9)	ASEX
55	G	hey: (4)	ODAG
56	A	catch him	RQAC
		(5) he's hiding	ASDC
		(.) he's playing hide and seek	ASDC
		(1) look,	ODAG
		look where he's goin'	RQAC
		(3) shall I put him back in the cage?	RQSU
		(1.5) um? (3.5)	RQCH
57	G	yeah:: (3)	RSCH
58	A	put him back in the cage	RSAK
59	G	what's the time? (4)	RQPR
60	A	he'll come @ @	ASAT
		(1) hey look	ODAG
		he's gone back in now (8)	ASDC
		[pouring out food]	
61	A	call him	RQAC
		(2) go on,	RQAC
		play with him	RQAC
62	G/A	ooh!	EXCL
		look what he's doin' (2) [knock knock]	RQAC
63	G	what is this for?	RQPR
64	A	it's to-(1.5) put on the cage to hold it (4)	RSPR
65	G	like this	RQCH
66	A	yeah	RSCH
		(1) like it is on the other side	ASEX

67	G	how is it? (11)	RQPR
68	A	what's all this? (1.5) umh?	RQPR
69	G	ler 'im come out again (3.5)	RQSU
70	A	O.K. then	RSCO
		let him (noise=2.5) just le- lift it	RQSU
		then it'll all come out	ASEX
		(5) watch	ODAG
		he's coming @ @ @ (1) there (7)	ASEX
71	G/A	I'll hold @ 'im	RQSU
72	G	(laughter=2)(4) 'e's scared (2.5)	ASAT
73	A	is he scared?	RQCH
		(1) why is he scared?	RQPC
74	G	because I am throwin' the @ at it	RSPC
75	A	it's only little	ASDC
		isn't it? eh?	RQCH
		(1) it's only little	ASDC
76	G	is he playing hide and seek: again?	RQCH
77	A	he is, yeah	RSCH
		are you going to play with him? (2)	RQCH
78	G	yeah	RSCH
79	A	where's he gone?	RQPR
		= ah	EXCL
		come on	RQAC
		come back	RQAC
		(2.5) find him	RQAC
80	G	there 'e: is	ASDC
		(3) there: you: are:	ASDC
		(2) is this yours?	RQCH
81	A	yes (15)	RSCH
		he's coming (2.5)	ASDC
		he's coming now	ASDC
		(1) look	ODAG
		(8) Gurvin:der	ODAG
82	G	wha'?	ODCQ
83	A	find Sandy	RQAC
84	G	no	RSCH
		(1) where is he?	RQPR
85	A	under there	RSPR
		= see if you can find him	RQSU
		(5) can you see him?	RQCH
86	G	no	RSCH
87	A	he's going @ @ @ @	ASDC
		(1) look (.)	ODAG

		look	ODAG
88	G	where?	RQPR
89	A	@ @ @ @ @ @	UNTP
90	G	der 'e is	RSPR
91	A	where?	RQPR
92	G	der	RSCL
93	A	can't see him (2)	ASIR
94	G	der	RSCL
95	A	is he coming?	RQCH
96	A/G	can't see 'im	ASIR
97	G	(3) Dan:dy:	ODAG
98	A	tell him to come out	RQAC
99	G	come out	RQAC
		(1) come out	RQAC
100	A	play with me	RQAC
101	G	come out	RQAC
		and play wi' me	RQAC
102	A	oh look	ODAG
		he's comin'	ASDC
103	G	move dis bag fo' me [moving noise]	RQAC
104	A	yeah:	RSCO
		move it so that he'll come (1) there	ASEX
105	G	Dandy	ODAG
		come out	RQAC
106	A	that's right (.)	ASEV
		pull that @	RQAC
		look	ODAG
		he's come	ASDC
		= no don't move that darlin'	RQAC
107	G	can he get out?	RQCH
108	A	look	ODAG
		there he is	ASDC
109	G	I know	RSAK
110	A	he can get out, up here	ASEX
		(3) come here	RQAC
111	G	I'm talking in there	ASDC
112	A	are you?	RSAK
113	G	yeah	RSAK
114	A	that's your @ @	UNTP
115	G	hello?	ODAG
116	A	I don't think it'll talk to you	ASEX
117	G	why?	RQPC
118	A	because there isn't anybody inside, is the'	RSPC
		it's just something to talk into (.)	ASEX

		it's taping your voice (3)	ASEX
119	G	why doesn't somebody go in it	RQPC
120	A	because some'- it's too small	RSPC
		and it's not made for people to go in it	ASEX
		it's only made for our voices to go into it (4)	ASEX
		your daddy's got one of those	ASDC
		hasn't he?	RQCH
121	G	my Dad?	RSAK
122	A	um	RSAK
123	G	he has	RSCH
124	A	has he?	RSAK

G & M / 1m(a) / guinea pig.

Tn		Sp	Utterance	C-act
1		M	Ru::pert:	ODAG
2		G	Ru::pert::	ODAG
3		M	Ru::/pert::	ODAG
4		G	pert::	ODAG
5		M	(.hh) Ru:=	ODAG
			I play wi' 'im	PFCL
			(laughter=4)	
6	d	G	oh::	EXCL
			I wanna stroke // 'im	PFPR
7	d	M	I:: // I str'*	PFCL
8	d	G	I wanna* // stroke 'im	PFPR
9	d	M	stroke 'im =	PFCL
10	d	G	@ @ you won't let me	PFPR
			(crying=2) =	
11	d	M	@ @ @ stroke 'im (.hh)	PFPR
			↑ [cry with rhythm of 'I wanna']	
			I wanna stroke 'im (.hh) (3)	PFPR
			//oh* (əw bɑw) (2)	EXCL
			↑ [maybe 'both']	
12		G	oh my*	PFCL
			Ruperts's mummy (.)	ASID
			dis Ruperts's mummy. (laugh=1)	ASID
13		M	it's Rupert's mummy (laugh=1)	ASID
			dey all - Ru::pert::	ASID
			lɔit te mɔi onu dekhɔdi? (2)	RQCH
			LIGHT em NOT HE SEE	
			CAN'T HE SEE THE LIGHT?	
			onu marna tere (laughter=2)	ASAT
			HE HIT(ʔut.)YOURS	
			mɔinu pɔta nɔi	ASIR
			TO-ME KNOWN NOT	
			I DON'T KNOW	

14	G	*mæ onu cəkuŋga* (laughter=2) I HE WILL-PICK-UP I'M GONNA PICK HIM UP	ASIR
15	M	*onu ene marna khɪch kɪ* HE- HE- HIT PULLING ◉m FAR NEAR HE'S GONNA HIT YOU VERY HARD	ASAT
	G	(laughter=2) (3) // (laughter=2)	
16	M	*ki @?* (2) Q	RQPR
17	G	go bathroom (2)?	RQCH
18	M	I - I got taken	ASEX
19	G	we got /lɔk/ one = we got one of them at home (2) big wheel round it	ASID ASDC ASDC
20	M	can't see it :: (1)	ASIR
		Rupert, mmh mmh	ODAG
21	G	r'mber when we saw it on dat day? (3) it's good i'n't it?	RQCH ASEV RQCH
22	M	yeah:	RSCH
		I /z/ look (7) you wet your hands? (2) not play /k/ him WITH	UNTP RQCH RQAC
23	M/G	no	RSAK
24	M	Ru::pert::	ODAG
25	G	Ru::pert::	ODAG
26	M	go bathroom (2) go bathroom (6) go bathroom: (2) [G goes to door]	RQAC RQAC RQAC

27	G	I have to look after 'im and stroke 'im =	ASRU reports E
28 d	M	no I looking him (1) O.K.? (3)	PFPR PFCL RQCH
29	G	can I just see all the books? (3)	RQPM
30	M	that's she book (3) my books (3)	ASID ASID
31	G	/ə tru/ (33)	UNTP
32	G	might fall off from der (1) dis t'ing (13) what ya got? (9)	ASEX RQPR
[T comes in]			

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lm(b) / rabbit

Tn	Sp	Utterance	C-act
1	G	here (1.5)	EXAC
2	M	here y'are (2)	EXAC
3	G	here *b>ra* // (laugh=2)	EXAC/ODAG
		MAD (A NAME)	
4	M	(laugh=1)* here *b>ra*	EXAC/ODAG
5	G	here *b>ra*	EXAC/ODAG
6	M	(laugh=1)	
7	G	here *b>ra*	EXAC/ODAG
8	M	(laugh=1) (.) he got (1) (laugh=1) (2.5)	UNTP
9	G	here *b>ra::::* (2)	EXAC/ODAG
		here rabbit (2)	EXAC
		here (13)	EXAC
		b>ra: (6)	ODAG
		I jus' (.)	UNTP false start
		shall I jus' shove it in?	RQPM
10	M	no:: (1.5)	RSCO negative
		I'll get it 'gain (2.5)	ASIR
11	G	he'll ger it back out (2.5)	ASEX
12 d	M	I tell 'er (.hh)	PFWA
		who come back here (1.5)	ASEX
13 d	G	no don't (1) // don't* (1) don't	PFPR
14	M	get up*	RQAC
15 d	G	no (1)	PFPR
		you fall de down der (2)	ASEX
16 d	M	no (.) I not falling down (1)	RSAG disagree
17 d	G	you kissin' your girlfriend	PFTE
18 d	M	I /ə ɔ/ cut your hair	PFTE
		GONNA	
19	G	is it a girl?	RQCH
20	M	no (2)	RSCH
		a box (1)	ASID
		a father christmas /skwrt/ father // chris-	ASID
		SKIRT	
21	G	he go* down the chimney (laugh=1) (2)	ASEX
22	M	and here's (1) father christ (1) mas=	ASDC
23	G	has 'e came here	RQCH
24	M	huh? (2) =	ODCQ
25	G	father christmas	RSCL
26	M	yeah (.hh)	RSCH

		/ə/ɪk (.) e nɪkəl janda e (4) ONE IT GETS OUT AUX	ASDC
27	G	father (.5) /rɪpinət/	ASID
28	M	*thik e* FINE	ASEV
		uh? (3)	ODCQ
29	G/M	@ @ @ @ (2)	UNTP
30	G	press the button (1)	RQAC to self
		press the knob (4)	RQAC to self
		[T comes in]	

31	M	'e throw the /bəwn bɪts/ = DOWN BITS	ASDC
32	G	hello rabbit	ODAG
33	M	hello rabbit	ODAG
34	G	hello rabbit	ODAG
35	M	hello rabbit	ODAG
36	G	hello rabbit	ODAG
37	M	hello rabbit	ODAG
38	G	hello rabbit	ODAG
		hello speak an' spell rabbit (23)	ODAG
		e kɪddər ləida Mampreet? (11) THIS WHERE-TO PUT MAMPREET	RQPC
39	M	here (.) *ɪda* (1) LIKE-THIS	EXAC
		rahnde LEAVE	RQAC
40	G	@ *nəi ho gi* NOT HAPPENING IT'S NOT RIGHT	RSAG disagree
41	M	hello rabbit	ODAG
		hello *rabiṭa* (2)	ODAG
42	G	'e // can* eat your finger (.5)	ASAT
		den (.) you //see:	ASEX
43	M	@*	UNTP
		/wəlɪə * tət ir /? (1) /wə?ɪə tət ir/? WHY DON'T YOU PUT IT HERE x 2 maybe	UNTP
		den can't eat it (2)	ASEX
		no // @	UNTP
44	G	*tũ ki kərda?* = YOU WHAT DOING	RQPR
45	M	*ethe hətth ləunda,* HERE HAND PUT	RQSU
		ede ωppωr (8.5) HIS OVER	RQSU
		nothing	ASDC
		kωc nəi @ kωc nəi @ (1) NOTHING NOTHING	ASDC
		/bənda/? (2) MADE	RQCH

46	G	*me- meri təta lɔunda* (laugh=1) (3) MY ? PUT	ASDC
47	M	hello (1.5)	ODAG
		hello rabbit	ODAG
48	G	hello rabbit (2)	ODAG
49	M	father: christma'	ASID
		[T comes in]	

G & R / 1n / guinea pig 2

Tn	Sp	Utterance	C-act
1	R	here Rupert	EXAC
2	G	Rupert (.5) Rupert (.5) Rupert (.)	
		Rupert (.) Rupert (3)	ODAG
		'ere's some more apple (3)	EXAC+ASID
3	R	'ere's some more apple (1.5)	EXAC+ASID
4	G	see that (4)	RQCH
		I won't throw dat in the cage (3)	ASIR
5	R	I need some more (5)	ASIR
		[T comes in]	

6	G	ah (2)	EXCL
		der (3.5)	EXAC
7	R	apple (.5)	ASID
		apple *lɔke dedo* (15) HAVING-TAKEN GIVE	RQAC
8	G/R	huh (4)	EXCL
		apple @ @ *khani* EAT	ASDC
		@ @ @ @ (28) (blowing=4) (5)	UNTP
9	R	pu' it back (5)	RQAC
10	G	hello, hello: (1.5) hello (.) hello (1)	ODAG
		tũ ki kɔrda va, tũ Mampreet hah? (3.5) YOU WHAT DOING AUX YOU MAMPREET	RQPR
11	R	got some more apples now (1.5)	ASDC
12	G	/ə/ some crisps, snaps (6) GOT maybe	ASDC
		here	EXAC
		ea' a bi' /tʃi/ NAME OF CRISPS	RQAC
		[T comes in]	

13	G	/ʔ/ 'e runs away	ASDC
		don't he? (2) (noise=2) (12)	RQCH
14	G/R	oh ah! (6.5)	EXCL
15	R	shall we lift the paint off it? (23.5)	RQSU
16	G	'e won't ea' it	ASAT
		ah (laugh=1) (4.5) (sneeze) (8)	EXCL

17	G	's is your little house: (3) THIS	ASID
		's is your little box in house (8.5) THIS	ASDC
18	R	oeh!(=.5) (8)	EXCL
19	G	'n house:, in house:. (.hh)	ASDC
		in your little house:::sie (=2)	ASDC
		uh!	EXCL
		you silly (9)	ASEV
20	R	a people (8)	ASID
21	G	peoples (3) peoples (2) [T comes in]	ASID

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		(6)	
22	G	s'more SOME	UNTP
		eh	ODAG
		new p-pen (6)	ASID
23	R	(laugh=2) (3) (laugh=1) [kick] (1) [kick kick] (laugh=2)	
24	G	*læ gɪa pəre* (4) (laugh=1) (2) TOOK AWAY BEYOND	ASDC
		o læ gɪa pəre PN. TOOK AWAY BEYOND	ASDC
		Rupert *dɪggɪa*. Rupert *dɪggɪa*. (5)	ASDC
		FELL FELL	

J & N / 2M / hamster

Tn	Sp	Utterance	C-act
1	J	hello	ODAG
2	N	hello (1)	ODAG
		how are you?	RQPR
		are you fine?	RQCH
3	J	no (3)	RSCH
4	N	are you /ə/ well?	RQCH
5	J	no	RSCH
		(quiet laughter=5)	
6	N	talk properly now	RQAC
		right	RQCH
7	J	no, no, no	RSCH
8	N	O.K.	RSAK
		I'll stop pl-	ASIR
		[T comes in]	
9	N	hello,	ODAG
		how are you (.hh)	RQPR
		I'll gi' you something	ASIR
10	J	erah erah erah erah erah(=1.5)	
		(laugh=2) (.hh) car	ASID
		look	ODAG
		car	ASID
11	N	cars?	RQCH
12	J	yes	RSCH
13	N	where?	RQPR
14	J	/ə/ look (1)	ODAG
		a railway is it?	RQCH
		(laughter=1.5)	
15	J	got some jigsaw?	RQCH
16	N	der	ASID
17	J	eh nah?	ODAG
		it is	RSAK
18	N	jigsees	RSAK
19	J	@ // car	ASID
		[T comes in]	
20	N	'e's come down (7)	ASDC
		hello, hello, hello,	ODAG
		why did you come? (2)	RQPR
		why d'you come?	RQPR
		come upstairs (.hh) /w/ in your bedroom (1)	RQAC
		'f you don't come when yer upstairs,	

		you won't have something to eat (2)	ASEX
		to eat	EXRP
21	J	yeah:	RSAK
		please:	ODPM
		/pli dəl ə dəɪ/ (laughter=3) (2.5)	
		NONSENSE (=1)	
22	N	/i/ something to eat	UNTP
23	J	no @ @ @ @ @	UNTP
		NONSENSE (=1)	
		(laughter=2)	
24	N	eat some	RQAC
25	J	@ @ @ @ @	
		NONSENSE (=1)	
26	N	/tə/ eat (.)	RQAC
		eat it	RQAC
27	J	no no no no (24)	RSCO neg.
28	N	who's this?	RQPR
29	J	/tu marnie/	
		NONSENSE	
30	N	(laugh=2) ee oh!	EXCL
		I know:: (1)	ASIR
		don't be mad (.hh)	ASEV
		dis is a Tufty book	ASID
31	J	umm // * /wətə/	UNTP
32	N	'ere y'are*	EXAC
		[giggles/whispers =6] [whistle=4]	
33	N	you got a stink?	RQCH
		/ə/ you ha' @ @ @	UNTP
		you got a stink /bəŋk/?	RQCH
		BOMB	
34	J	yeah	RSCH
35	N	[laugh=1] you got @ @	UNTP
36	J	/tə kɔn ə dən/ (7)	
		NONSENSE	
		quack (1) quack quack (laugh=4) (3)	
		quack quack (laugh=3)	PFJO
37	N	don't make a joke	PFPR
		let's talk to him (1)	RQSU
		d'you want to go upstairs (.) or not?	RQCH
38	J	(laugh=1.5) upstairs or not?	RSAK
39	N	*/nənrɪt:sər:/* (1)	ODAG
		drink:	RQAC
40	J	*/kw:kol:er::/* (2)	ODAG
		drink	RQAC
41	N	drink	RQAC
42	J	drink = drink (2)	RQAC

43	N	wake up (2)	RQAC
		@ @ (2)	
		SNORTING NOISES	
44	J	//qua' qua'*	
		NOISES	
45	N	show me Nicki's	RQAC
		show me Nick- @ show me Nicki's bed (.)	RQAC
		scared	ASIR
46	J	no /bə bə/ (6)	RSCO
		NOISES	
47	N	what we gonna do:? (3)	RQPR
48	J	wanna go to toilet (3)	ASIR
49	N	I know (2)	ASIR
50	J	wanna go to toilet now (7)	ASIR
		/də də/ knock /nək/ (2)	UNTP
		hello: hello: hello: hello: (1)	ODAG
		how are you? (1)	RQPR
		bye bye Jhangir:	ODBM
51	N	bye bye Jhangir:	ODBM
52	J	bye bye Jhangir:	ODBM
53	N	bye bye Jhangir:	ODBM
		bye::	ODBM
		goin: (3.5)	ASIR
54	J	(.hh) wanna toilet now	ASIR
55	N	I wanna go /ə/ toilet (5)	ASIR
56	J	shall we get up?	RQSU
57	N	yeah (3)	RSCO
58	J	go now (2)	RQSU
59	N	down again	RQAC
60	J	no	RSCO
61	N	well, I'm g'- I'm sitting down (2)	ASIR
		I want t' /əndə/ dis	ASIR
		UNDER maybe	
62	J	/nidə/ (1.5)	UNTP
		(hh) /kəʊzʃiə/ behind us (1.5)	ASDC
		heh?	RQCH
63	J	I'm gonna toilet now (1.5)	ASIR
64	N	don't be cheeky (2)	PFPR
		on the top (4) shall I? (3)	RQSU
65	J	fly: (laughter=4)	UNTP
66	N	he won't fly	ASAT
		good dog	ASEV

67	J	/gɔ-ɔplɔi/ on the dog A FLY maybe	ASDC
68	N	eh	ODAG
		you /wɔ-/ want that jigsaw?	RQCH
		can't see //pli	ASIR
69	J	@	UNTP
70	N	yeah	RSAK
		jigsaw puzzle, (.hh)	ASID
		puzzles (.) // puzzles	ASID
71	J	@ wanna* go toilet	ASIR
72	N	I want to 'z well (4)	ASIR
73	N/J	(.hh) toilet go	ASIR
74	J	I'm going to toilet	ASIR

[J to door]

75	N	he's moving (3)	ASDC
		shall I put him inside now? (2)	RQSU
76	J	yeah	RSCO
77	N	O.K. (4)	RSAK
		/kɔ-kɔ kɔri/ I can't CAN'T CARRY maybe	ASIR
78	J	can you? (2)	RQCH
79	N	can't (1) //kɔ̃-/	RSCH
80	J	/kɔ-/(4)	UNTP
81	N	what should I do? (3)	RQPC
		ope- open that	RQAC
82	J	rabbit (.) here den (2)	EXAC
83	N	aaah yah	EXCL
84	J	close / /	RQAC
85	N	here you are (3) piece	EXAC
		'e put 'im inside:	ASDC
		because he=he=he's got some /teilz/ in there (2)	ASEX
		hey (.)	ODAG
		shall we? (.) shall we? (2)	RQSU
		look at (.) that bear	RQAC
		can you see?	RQCH
		// cro*cidile	ASID
86	J	yes (1) bear	RSAK
87	N	crocidile (.hh) (1)	RSQL
		// I got a jigsaw	ASID
88	J	/ / there* @ he // h-he-*here crack a jack man	ASID
89	N	night, night den /dzɔngɔ/	ODBM
		where crackyjack?	RQPR
90	J	der	RSPR
91	N	dat crocodile one?	RSAK

92	J	yeah	RSAK
93	N	which (.hh) dat one /brin wɔn/ der?	RSAK
		GREEN ONE	
94	J	no dat (.)	RSAK
		yeah dat// der	RSAK
	N	(laugh//*ter=7) (2)	
	J	jacka man*	RSAK
95	N	/ʃu pɷti na pɷti (1) //* na pɷte/(2)	
		NONSENSE	
	J	(laugh=1)	
	N	how long are we goin' to stay? (3) eh? (2)	RQPR
		h-how long are we gonna stay?	RQPR
96	J	I goin' to toilet=	ASIR
97	N	two hours and five million grams (laugh=1) (2)	PFJO
		(noises=1)	
		oh look	ODAG
		he's come out (5)	ASDC
		get up	RQAC

<u>J & K / 2m / guinea pig 2</u>

Tn	Sp	Utterance	C-act
(2)			
1	K	eat it	RQAC
		(1) eat him (1.5)	RQAC
2	J	eat the (1) apple (.5)	RQAC
		eat it	RQAC
3	K	apple /tit/ (1)	RQAC
		EAT	
		(laugh=.5) (1.5)	
4	J	ah ho ho	EXCL
5	K	ahh (2)	EXCL
		erh	EXCL
6	J	erh=	EXCL
7	K	eh (.5)	EXCL
		kɔ?(.5) kɔ? (2)	ODCQ
		WHAT WHAT	
		bɔcci e (.hh)	ASID
		BABY (?) IS	
		do not @ @ @ @ @	RQAC
8	J	*tũ ki kat̪?*	RQCH
		YOU Q CUT	
9	K	*kɔ?*	ODCQ
		WHAT	
10	J	he dinner	ASDC
11	K	eh?	ODCQ
12	J	*ɔgɔr koi kat̪de na // @ @ ?*	RQCH
		IF SOMEONE CUT Qtag	

13	K	@ *kɔ* number? WHAT	RQPR
14	J	*aho* YES	RSCH
		/mɔ ali nal/ kol book *e* (1) BESIDE IS	ASDC
		kati e nɔi HAVE-CUT NOT	ASDC
		/vo tue mɔ pəin:n ʉttɔ mərit/ = 6 WORDS PUNJABI	UNTP
15	K	thik (1.5) RIGHT	ODBM
16	J	now close book (4)	RQSU
17	K	eee(=1) hello	ODAG
18	J	(.hh) na (.hh) na	PFPR
		he naughty (1)	ASEV
		but we are (1.5)	ASEX
19	K	hello:: (.5)	ODAG
		your apple (4) apple	EXAC
20	J	/kəl im/ (7.5) CALL HIM maybe	UNTP
21	J/K	*thik* RIGHT	ODBM
22	K	/æbi/ (5) BABY	ODAG
		[T comes in]	

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(9)

23	K	let me giv' 'im	RQPM
		/læ/ cut a piece LET ME	RQPM
24 d	J	no (4)	RSCO
		/læ/ *kali* dolly dolly /tɔ/ BLACK	PFJO
25 d	K	you you can' cut (4)	ASAT
26	J	*kali* dolly dolly /ɔ/ BLACK	PFJO
		take a bath in me *coli* (laugh=.5) (3) LAP	PFJO

27	J	eat it (12)	RQAC
		gɔrmi e: (8) HOT IS	ASDC
28	K	heater *nɔi e* NOT IS	ASEX
		mera @ @ e (3) MY (nɔvɔ=NEW maybe) IS	UNTP
29	J	heater *nɔi e* (.) NOT IS	ASDC

		gərmi e (laugh=1) (2) HOT IS	ASEX
30	K	oh /əcu əcu a /(=4) (1.5) SNEEZE NOISES	EXCL
31	J	*cɪtti e* WHITE IS	ASDC
		errr(=1)	EXCL
		cɪtti (12.5) WHITE	EXRP
		gi' it me	RQAC
32	K	here y'are (6.5)	EXAC
		there (1)	EXAC
		loo' (7)	ODAG
33	K	apple (1) apple /kræn/ (1.5) CREAM	ASID
34	J	/fæwə/ he's gone	ASDC
35	K	/ir/ apple (2) he' (12) HERE HERE	EXAC
		@ @ (7)	UNTP
		like her (7)	ASIR
		apple *dɪggni* FALL	ASDC
36	J	no more (3) apple	ASDC

J & S / 2n / rabbit

Tn	Sp	Utterance	C-act
1	S	what /dip/? THIS	RQPR
		(laugh=.5)	
		/dipt/ 'im back Jhangir (laugh=1.5) (3) PUT	RQAC
2	J	come on	RQAC
3	S	*roʃ nəi khata /l /* (laugh=1) (6) (*khargo* = RABBIT) NOT EAT	ASDC
		apple *kha tu kha* EAT YOU EAT	RQAC
		how /di/ gonna eat dis one? IS HE	RQPC
4	J	no (.) dat's- (1)	
		/idə / *dal:* (1) EAT THE dal= LENTIL DISH	RSQL
		gonna eat *dal* (1.5) /kaɪs/ CAKES	ASAT

		/ədə aik/	UNTP
		? ENGLISH	
5	S	ssh	
6	J	/ɪtəbal/	UNTP
7	S	ssh	
8	J	/ə/ what? (7)	UNTP
9	S	Jhangir (10)	ODAG
10	J	I'm goin' /ə/ toilet (3.5)	
		I'm goin' toilet	ASIR

11	S	that's big	ASDC
		i'n't it	RQCH
		ki ʃəl padi? (9)	RQCH
		Q COVER PUT-ON	
		that's 'is /*kha*lit/ (laugh=1) (1)	ASDC
		(kha=EAT+EAT maybe)	
		hello, 'lo (2)	ODAG
		eats you (laugh=1)	PFTE
		ooh ooh ooh (=2) (laugh=1) (2)	
		ooh ooh eh	
		heh (=2)	EXCL
		elo lələlələləl)	
12	J	ələlə) laughs & noises (=8)	
13	S	ələlə (laugh=2))	
14	J	ələlə (3))	
15 d	S	/dũ/ do dis	RQAC
		DON'T	
		because no (1.5)	ASEX
16	J	ello:: /bi da:ki/ (1)	ODAG
		ooh ooh (=2) (1.5)	EXCL
17	S	you go-// you go shout a' the rabbit 'ere?	RQCH
18	J	ooh*	EXCL
		I go /ric kəw əvə @ @ / (2)	ASIR
		REACH CAR OVER THERE maybe	
19	S	I know @ @ @ (1) cars (2)	ASIR
		WHERE THEY PUT maybe	
		play wi' car (1)	RQSU
		look	ODAG
		car (.5)	ASID
		/ədə/ car=	ASID
		THAT'S A	
20	J	comin' (5)	PFWA

21	S	we goin' reach /blə cals/	ASIR
		BLACK CARS	
22	J	don' shut 'im back	RQAC
		O.K.?	ODBM
23	S	/təjo ai/*ana*	UNTP
		COME	
24	J	/pɪʃəla/ (8)	UNTP
		'ook (11)	ODAG

25	S	Jhangir (1)	ODAG
		you /kəwfi/ car (10)	RQSU
		push (2)	RQAC
		go to toilet?	RQCH
26	J	yeah (8)	RSCH
27	S	/bitən/ dat's why	ASEX
		EATEN or BEATEN	
28	J	I can' see you (3)	
		I can' (3)	ASIR
29	J/S	/ʃək/ @ @ (6)	UNTP
30	S	dis not a gir' (3)	ASDC
31	J	look at /ə peal/	RQAC
		APPLE	

L & A / 3M / rabbit

Tn	Sp	Utterance	C-act
(2)			
1	L	that's it	ODBM
2	A	eh?	ODCQ
3	L	I seed your /suws/ dolly today=	ASDC
		SHOES or SUSIE	
4	A	these are my new shoes (.)	ASDC
		I bought them from town	ASDC
5	L	look (.)	ODAG
		I got my new shoes: (.) from town =	ASDC
6	A	shoes and a /pok (.) pok/ (2.5)	ASDC
		FROCK FROCK	
7	L	d'you // think it's* broken?	RQCH
8	A	(laugh=1)* just // strokin' it	ASDC
9	L	broken?	RQCH
10	A	m-// my mummy* get this @	ASDC
11	L	I just strokin'*	ASDC
12	A	what are ya doin' @? =	RQPR
13	L	his eyes are big	ASDC
14	A	yeah (1.5)	RSAK
15	L	jus' stroke// 'im	ASDC
16	A	he's* lookin' a' me (1.5)	ASDC
17	L	he's talkin' at ya =	ASDC
18	A/L	me (2)	
19	L	he's talkin' to you =	ASDC
20	A	helloo: (6)	ODAG
21	L	there's a water (.5)	ASDC
		look (.)	ODAG
		let's /t~~ə~~w/ in wa-t-er	RQSU
		THROW	
22	A	I know (.)	RSAK
		there's a doll (4)	ASDC
23	L	where's the dol-ly (.5)	RQPR
		he's kick-in (8.5)	ASDC
24	A	gimme (.5) rabbit (.) lil' bit	RQAC
		(laugh =2.5)	
	A	yours fell down	ASDC
	A & L	(lau//ghter =12) (1) (laugh=3) (2)	
25	A	@ @ @ @ @	UNTP
		HE IS GONNA EAT IT maybe	
		'e's goin' to eat it (.)	ASAT
		he's goin' to eat him up	ASAT
	A & L	(laughter & squeals=10)	

26	d	L	/dəwn ki/ dat /bo/ DON'T KICK THAT BOX	RQAC	
			(laugh=3) (1) (laugh=2) (2) (laugh=3) (1) /elo/ (.5) (laugh=1) (1)		
		L	I said don't do it (.)		
			don't do it again (3)	RSCL	
27		A	(squeal=1) /bəz adzə/ (1.5) (laugh=1)		
	d	A	he- dis /hadzə na/ (2) HARDER NOW	UNTP	
			'e's goin' to eat you up (.5)	ASAT	
			dat rabbit (.) 'e's goin' to eat you up	ASAT	
28	d	L	'ere don't do /dəwti dəwti/ NAUGHTY NAUGHTY	RQAC	
29		A	eh?	ODCQ	
			(2) /kə/(.) (laugh=1.5) don't give 'im it	RQAC	
		L & A	(laugh=4)		
30		L	I didn't touch his ear wi' (.) dis	ASDC	
31		A	my mummy cooks the carrot at home	ASDC	
32		L	we do as well (1)	ASDC	
			we cook apples as well (.)		
			and tomatoes (1) in a pan	ASDC	
			(.5) make a dinner /ə/	ASEX	
			roti and *cəpati* (.5)		
			not *roti* I mean *cəpati* (5) (roti and c pati are types of bread)	ASEX	
			dat means it talks	ASEX	
			doe'n't it (4.5)	RQCH	
33	d	A	he'll eat you up (.) /lin/ LENA	ASAT	
			you know dat rabbit	ODRQ	
			it'll eat you up	ASAT	
34	d	L	beat you up	ASAT	
35	d	A	no (.)	RSAG	disagree
			when 'e comes to me (.)		
			'e'll eat you up then 'e comes to you and		
			eat you- eats you up	ASEX	
36	d	L	no he beats you up (.)	RSAG	disagree
			not eat you up (2)	RSAG	disagree
37	d	A	'e beats me up (.)		
			an' 'e beats you up (1)	ASEX	
			eat	RQSU	
38	d	L	not eat you up (.) beat you up	RSAG	disagree
39	d	A	beat <u>you</u> up	RSAG	disagree
40	d	L	an' 'e'll beat you up	ASAT	
41		A	no: 'e don't beat me up and //		
			'e don't eat me	RSAG	disagree
42		L	that's grass * ya know	ASID	
43		A	yes (3)	RSAK	
44		L	needs more grass // on	RQSU	

45	A	look* (.hh) (1)	ODAG
		rabbit's got a- (.5) a gun=	ASDC
46	L	there's an apple in there	ASDC
47	A	yeah (1)	RSAK
		look	ODAG
		there it is next to:	ASDC
		- no don't /bə/	RQAC
		// next to	UNTP
48	L	there might* be a little un:	ASEX
		won't there?	RQCH
49	A	look,	ODAG
		there was a water here	ASDC
		//* there /kənt ə/water (.)	UNTP
		leave it here	RQAC
50	L	// haah (laugh=.5)*	EXCL
		I /ə̃ ə̃/ touched it if you do that (2.5)	ASEX
		NEVER maybe	
		pu' it back here	RQAC
51	A	there's a water (.5)	ASDC
		no, @ @	PFPR
52	L	she's comin' in,	PFWA
		she @ a /vizətə/	ASDC
		GOT A VISITOR maybe	
		[T comes in]	

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(4)			
53	L	ooh:	EXCL
		there's M's Johnso' /sus/	ASDC
		SHOES	
		an:swer: an:swer:	RQAC
54	A	eh?	ODCQ
55	L	there's Ms Johnso' /sus/ (.5)	
		Ms Johnso' /sus/	ASDC
56	A	look at 'im (.5) (laugh=2)	ODAG
57	L	'e's gone to sleep (.)	ASAT
		i'n't 'e,	RQCH
		'e's gone to sleep now	ASAT
58	A	he haven't	RSAG disagree
		because 'e's opened 'is eyes so 'e 'aven't	ASEX
59	L	no (1)	RSAG disagree
		he's opened his eyes (.)	ASDC
		now he's goin' to sleep	ASAT
60	L/A	'e's goin' t' get hit	ASEX
61	L	/kə/ carefully (1)	RQAC
		GO maybe	
		(laugh + whh whh = 2) (3)	
62	A	rabbit (.5)	ODAG

		sta' still (2) (laugh=.5)	RQAC
63	L	don't hit 'im (.)	RQAC/PFPR
		don't hit 'is box	RQAC/PFPR
		/iz siz/ a rabbit (1)	ASID
		THIS IS	
		[SONG →] his box is a rabbit	ASDC
		'is box is closen	ASDC
		/her/ was a box (.) closed:	ASDC
		(lau//gh=4)	
64	A	look	ODAG
		she* comin' now (.)	ASDC
		she /gə/ (.hh) back in (.) der	ASDC
		GONE	
		(laugh=2) (4.5) (laugh=9)	
		I brokes my eyes like dat down (.)	ASDC
		/dəsn/ I?	RQCH
		DOESN'T	
		(laugh=1) (2.5) (laugh=2)	
65	L	look (4)	ODAG
		/etən dɪnh/ yesterday?	UNTP
		EATEN DINNER	
66	A	what was it?	RQPR
67	L	here	RSPR
68	A	what was it?	RQPR
69	L	it was a apple broken from up (.) top 'ere (2)	RSCL
70	A	where ya goin' now? (3)	RQPR

L & N / 3m / hamster

Tn	Sp	Utterance	C-act
1	L	/na/ through (4.5)	UNTP
		he's not eatin' apple (7)	ASDC
		WHISPERED CONVERSATION FOR 36 SECS	
2	L	*ethe vɪc* hand *pake* (.5)	ASDC
		HERE IN HAVING-PUT	
		pani pina	RQAC
		WATER DRINK	
3	N	*kwj nəi kəla @ cə* baby *e* =	ASDC
		SOMETHING NOT ALONE IN IS	
4	L	*k-ki mæ /pasa/ (1) ki ?*	RQCH
		Q I SIDE maybe Q	
		kwj nəi pindi	ASDC
		ANYTHING NOT DRINK	
		SHE'S NOT DRINKING ANYHNG	
5	N	in my hand @ @	ASDC
6	L	/əjɚ/ tickle /əjəs/	UNTP

7	N	eh?	ODCQ
8	L	*pa:ɲi pi:na* WATER DRINK	RQAC
9	N	oh! (3.5)	EXCL
		/twa/ dat's yours YOURS	ASDC
10	L	*kɪdẽ /de/ vɪc* (1) HOW OF IN HOW DID HE GET IN?	RQPR
		o jana HE GO	ASDC
11	N	*enu nəi marna* HIM NOT HIT	RQAC
	L/N	@ @ @ @ (1.5) NOISES (=2) LIKE kwci kwci ku for tickling	
12	N	*nɪkka jiə* baby (.5) LITTLE =m	ASID
		nɪkka jiə baby *vɪc jandi pæ::* (2.5) LITTLE =m IN GOING AUX	ASDC
13	L	*mɪkəl: Ia: (6)* (IT'S) COME OUT	ASDC
		kɪtthũ (.) kɪtthũ bar ja? (7) WHERE-YOU WHERE-YOU OUTSIDE GO (k t.thə tu = k t.thu)	RQPR
14	N	*kɪtthũ (.hh) bar?* WHERE-YOU OUT	RSAK
		tũ bar mɪkəl Ia /hə hə/ (3.5) YOU OUT HAS-COME-OUT	RSPR
		dhək slide (1) slide apple (.hh) *lae gɪa* PUSH TOOK-AWAY	ASDC
		(laughter=4) oh (2)	EXCL
15	L	@ @ @ @ @ (est=4WP)	UNTP
16	N	@ @ @ @ @ (est=4WP) (32)	UNTP
17	N	@ @ @ (est=2WP) *kɪtthũ bar ja?* T(apne=OWN maybe) WHERE-YOU OUT GO	RQPR
18	L	*pəta nəi @ @ @ @* (est=4WP) KNOWN NOT	ASIR
		tũ apni @ kholo (3) YOU SELF OPEN	RQAC
19	N	I've only got three things=	ASDC
20 d	L	*baŋh na khɪcho bar nɪkəl* ARM NOT PULL OUT COME	RQAC/PFPR
		jus' stop it	PFPR
21	N	only got these=	ASDC
22	L	he took the /klo/ just (1)	ASDC
		he's @ @ (est=2WE) te te te one two three	ASDC
		talk to // me	RQAC
23	N	tũ* @ @ //@ @ YOU	UNTP
24	L	@ @ @ leave it* /hir kɔsana/	RQAC UNTP
		talk to little bunny just now=	RQAC

25	N	he's not gonna hear:: ya	ASAT
26	L	um? (1)	ODCQ
		this /kɔlɔ / he hears me=	ASAT
27	N	he's not gonna hear ya	ASAT
28	L	*nɔi* (.)	RSAG
		NO	
		aho (.5)	RSAG
		YES	
		dat's n- (2) dat's not my /fɔ / can't hear=	ASEX
		FAULT	
29	N	@ @ @ @ (est=2WE) can't hear ya (2)	ASEX?
30	L	(blowing=1) take 'im (6)	RQAC
		no:: (2)	PFPR
31	N	are you getting better? (1)	RQCH
		mæ denæ (1.5)	ASIR
		I GIVE	
32	L	go out naughty	RQAC
33	N	@ @ @ @ @ (est=3WP) *tũ bar jao* (2)	RQAC
		YOU OUTSIDE GO	
34	L	@ @ @ (est=2WP) *bar jao:* (6) @ @ (est=1WP)	RQAC
		OUTSIDE GO	
		vɪc bɔɾi gɪa=	ASDC
		IN A-LOT WENT	
35	N	um?=	ODCQ
36	L	@ @ *vɪc bɔɾi gɪa=*	ASDC
		IN A-LOT WENT	
37	N	hah?=	ODCQ
		slide *vɪc bɔɾi bɔɾi gɪa*	ASDC
		IN A-LOT-OF (TIMES) WENT	
38	L	umm car *vɪc bɔɾi gɪa*	RSAK
		IN A-LOT WENT	
39	N	car *nɔi*, slide::	RSAK
		NOT (actually a treadmill/roundabout)	
40	L	umm slide (1)	RSAK
		this mus' slide *lɪkti e na (2)*	ASEX
		WRITE AUX Qtag	
		dis @ @ @ @ @ @ (est 3WE)	UNTP
		TLITTLE maybe	
		here	EXAC
		hold that rest	RQAC
41	N	um?	ODCQ
42	L	hold that	RQAC
43	N	hold this (.) here (.)	RQAC
		dat (.) there	ASID
44	L	go back there (2)	RQAC
45	N	*odɔr nɔi gɪa* (1)	ASDC
		TO-THERE NOT WENT	
		odɔr vɪc (1)	ASDC
		TO-THERE IN	

		I'm over there @ @ =	UNTP
46	L	*odɔr dhɔkia (1)* TO-THERE PUSHED	ASDC
		ya know my bi: cycle *dhɔkia* PUSHED	ASDC
		ya know *odɔr* // @ @? THERE	RQCH
47	N	I know	RSCH
48	L	you know bi cycle=	RQCH
49	N	*aho* YES	RSCH
		you you know *ωsde cωɪe kɪnne @ @?* (4) HIS ON-THE-SWINGS HOW-MANY	RQPR

L & N /3n / guinea pig

Tn	Sp	Utterance		C-act
(18)				
1	L/N	yeah	)	UNTP
2	L/N	happy birthday (10)	)	ASDC
3	L/N	don't like him, do you (4)	) all whispered	RQCH
		@ @ @ @ (15)	) for 1m 27 secs	UNTP
4	L/N	sit down	) from beginning.	RQAC
5	L/N	apple fall down (14)	)	ASDC
6	L	eeeh(=2)		EXCL
		'e's runnin' away (2)		ASDC
7	N	/ɔf ɔv ɔm ɔ rə / (4) HALF OF 'EM ARE RED maybe		UNTP
		(laugh=3) (2) (laugh=3.5)		
	N	let me some apple (.hh)		RQPM
		put on, on his head (.) /fir b nd/		ASEX
8	L	/los/ don't eat it (2)		ASDC
		[bang]		
	L	ooh(=1)		EXCL
		you clo' CLOT		ASEV
9	N	/ɔ/ him (2) AT		UNTP
10	L	you-		UNTP
		laugh)		
	L	eeeh!) (laughs & noises = 8)		EXCL
		laugh)		
	L	eeeh!)		EXCL
11	L/N	/oiwnd/ (laugh=4) (2) (laugh=14) =		
12	L	's not for you (1)		ASRU
		you know that girl		
		dat's /@ @/ you know dat (.) girl		ODRQ
		(.)s that (.) Mary girl (1.5)		ASID

13	N	teacher name (3)	RSAK
14	L	you know dat (1) dat other one teacher	ODRQ
		(1) dat (.5) p-girl (.)	ASEX
		she's got /ɪrn/ (2)	ASDC
		ONE maybe	
		ow! (5)	EXCL
		I want to go to toil et (4)	ASIR
		you know I wan' to go to toil et (2)	ASIR
15	N	go now (1.5)	RQAC
16	L	I'm goin' to go (2)	ASIR
		the door's closed (1) @ (5)	ASDC
17	N	@ put it inside,	RQAC
		it's a little @ @ @ @ (1)	ASDC
		I'm givin' this to 'im (2)	ASDC
18	L	give it to him	RQAC
19	N	's in there	ASDC
		IT'S	
		/ən əl trɪt/ (5)	ASIR
		AND I'LL THROW IT	
20	L	open it	RQAC
21	N	no	RSCO negative
22	L	when I /t trɪt/ dis apple to /ə mam/	ASEX
		THROW IT	
23	N	/hələ́w prɪ/	ASIR
		I'LL THROW IT	
		/wəhə́w phɪ/	RQAC
		YOU THROW IT prob	
24	L	shall I /trɪt/	RQPM
		THROW IT	
		[plop] (9)	
25	L/N	@ @ @ (9)	UNTP
26	L	I want to go to toilet	ASIR
		ow! (laugh=1) ow! (laugh=2) ow! (laugh) ow! (laugh=4) ow! (laugh=2) ow! (laugh=2) aah! (laugh=3) {laughs & noises total=19}	
27	N	he's @ @ when he eat it (3.5)	ASDC
28	L	der 'e eatin'	ASDC
29	L	give it to 'im	RQAC
30	N	I give it to 'im.	RSAK
		are ya givin' it some? (4)	RQCH
		/ə/ gotta get mine out (.hh) and get out	ASIR
31	L	I gi' it t' 'im (6)	ASDC
		I give it to 'im (1)	ASDC

		'e don't gettin' some more (4)	ASDC
32	N	I wan' @ (2)	ASIR
33	L	uganda /fɪ/ your food (3) NAME? EAT	RQAC
		I'm not tellin' for 'im (3)	ASDC
34	N	@ shall /ɔ/ tell 'im? (2)	RQPM
		I @ @, I put dat in der for 'im	ASDC

I & A / 4M / guinea pig

Tn	Sp	Utterance	C-act
1	I/A	/bə bə bəw / (4) PUT SOME MORE prob	RQAC
2 d	A	don't give 'im (1)	RQAC/PFPR
		//* don't now (.)	RQAC/PFPR
		no: (.5) no (.5)	PFPR
		don't hit 'im* (1)	RQAC/PFPR
		don't (.) don't (1)	PFPR
		'e /pəw/ was (.)	ASAT
		dat's dead	ASDC
		no don't /fək/ (4)	PFPR
3 d	I	@ @ * (noises=4) dat not for eatin' (.)	ASDC
		dat for him	ASDC
4 d	A	get /əw/ OFF	RQAC
		no=	PFPR
		give 'im @	RQAC
		can't eat dis	ASAT
		'e 'ave to give it	ASEX
5	I	'e's gone in (1.5) /k / (2)	ASDC
6 d	A	don't touch 'im	RQAC
7 d	I	touch 'im	RSCO negative
8 d	A	don't @	RQAC
		e'll // get out	ASAT
		[kick kick]*	
		don't kick 'im	RQAC/PFPR
		//[kick kick]	
		don't kick 'im (2)	RQAC/PFPR
		we'll 'ave to see 'im (2)	RQSU
		hello: (.) hello:	ODAG
9	I	hello (2)	ODAG
10	A	'is // apple's there,	
		'is apple's* there, 'is apple	ASDC
11	I	hello, hello	ODAG
		/p/eat your apple /bəp bəp (=1)/	RQAC
12	A	/pli/ PLEASE	ODPM
		don't do it	RQAC/PFPR
13	I	are you my friend?	RQCH
14	A	yeah	RSCH
15	I	are ya?	RQCH
16	A	yeah	RSCH
17	I	oh yeah,	ODBM
		can't get that police car (.5)	ASEX

		oh yeah, can't get it (3)	EXRP
		somebody can ger it (1)	ASEX
		can't get the car	ASEX
18	A	ya 'ave to get it down the street (1)	RQSU
		ah	EXCL
19	I	wh- wh- wh- whi-	
		which shop you bought it?= which shop?	RQPR
20	A	down dat shop,	RSPR
		ya know dat /ma' pri/	ASEX
21	I	yeah	RSAK
22	A	eh?	ODCQ
23	I	yeah	RSAK
24	A	there	RSAK
25	I	der	RSAK
26	A	my brother /əʔ i/ for two cars	ASEX
		GOT IT	
27	I	I'll /ə v fɔ/ get one	ASIR
		HAVE FOR	
28	A	I lost // 'em	ASDC
29	I	I'm* gonna tell (.hh) I'm gonna tell	
		my (.hh) Dad get me one (1) (.hh)	ASIR
		de- den I'm gonna go to /pətsɔn/	ASIR
		ya you /mipɔw pəwt/	ODRQ
		MICHAEL POTT maybe	
		I'm gonna give /ʔ tə/ him	ASIR
		IT TO	
30	A	look	ODAG
		he's bitin'	ASDC
31	I	/wə bɒ bɔ bə bə bə bə bə bə/ (=3)	
32	A	le' 'im come out (1)	RQSU
		goin' the /waz/ go bite me up	ASAT
33	I	bite me up (.5)	RQAC
		I'll kill ya	ASIR
34	A	no	PFPR
		ya 'ave t' give 'im dis (6)	RQSU
35	I/A	eh (5)	EXCL
36	I	/taik/ (1) look at these (.)	RQAC
		key (.) key	ASID
37	A	eh?	ODCQ
		/wəhe ɪəw/? where d'your (2)	RQPR
		WHERE YOUR IS	
38	I	/ə/ dat key (1) key (.5)	ASID
		LOOK AT maybe	
		window open	ASDC
39	A	oh, yea'	ODBM
		'e eat it (2)	ASDC

40	I	/ mɔ,məp (.) mə (.) mə mə mə		
		//mɔ* mə mə (=3.5)/		
41	A	do it*	RQAC	
		(.) up /təw i ə poi/	UNTP	
		THROW YOUR APPLE IN maybe		
42	I	shall I put apple (.) in	RQPM	
43	A	yeah, we'd 'ave to	RSAK	
44	I	come on (.) come on	RQAC	
45	A	no	RSCO	negative
		you first	RQSU	
46 d	I	you first (.hh)	RSAG	disagree
		you cheatin'	PFPR	
		eh up!	EXCL	
		cheatin'	PFPR	
		come on put yours in	RQAC	
47 d	A	you 'urtin him	PFPR	
		HURTING		
48 d	I	put yours in, put yours in. (2)	RQAC	
49	A	ah:	EXCL	
		no, 'e can't talk first (.hh)	ASRU	
		first let (.) teacher come in	ASRU	
		and then we 'ave t'	ASRU	
50 d	I	gimme that apple, gimme that apple	RQAC	
		[apple drops]		
		nah, n' n' n' (6)	PFTE	
		NO NO NO		
51	A	throw your:s in (1.5)	RQAC	
		'e's go bite yours (5)	ASAT	
52	I	mæ təinu maruŋga, food *khale*	PFWA+ASEX	
		I TO-YOU WILL-HIT EAT		
		I'M GONNA HIT YOU IF YOU DON'T EAT THE FOOD		
53	A	hey (1)	ODAG	
		I touch 'im (3)	ASDC	
		aah! (7)	EXCL	
		it's stuck (1.5)	ASDC	
		come out, come out	RQAC	
		/kəwerk/ (1.5)	UNTP	
		GO WORK maybe		
		comin' out, it's comin' (6.5)	ASDC	
54	I	sit down:	RQAC	
55	A	aah! (.5)	EXCL	
		can't see	ASIR	
56	I	come on: (1)	RQAC	
		sit down	RQAC	
		look at me (.)	RQAC	
		I'm sit down der	ASDC	
57	A	get stuck	ASEX	
		no can't /swej/	ASIR	
		SQUEEZE maybe		
		can't see (1) d'end @	ASIR	
58 d	I	sit down	RQAC	

59	A	I have to close/dɪn/ it, ↑ A PARTICIPLE prob	
		close it (1) /ded/ @	ASRU
		there you are	EXAC
60	I	pip pip peu-u-//u)	
61	A	pɪ*e-e-er oh) (=4)	
62	I	wait took it	RQAC+ASDC
63	A	let's see	RQPM
64	I	//don't*	PFPR
		when 'e's scared	ASEX
65	A	@* 'e's scared?	RSAK
66	I	yeah (2.5)	RSAK
		touch 'im	RQAC
67	A	's not /sk-/ (5)	ASAT
68	I	hello	ODAG
		where /eh wow/ (=2)	UNTP
69	A	why you scared?	RQPR
70	I	/səw/ you scared	RSAK
71	I/A	/təp! (.) dəp/ (1) STOP THAT prob	
		/təp dət/= /təp (.5) dət/ STOP THAT STOP THAT	PFPR
72	A	look (.) there	ODAG
73	I	aah (3)	EXCL
74	A/I	/həp/ 'e's there	ASDC
		[animal scuttering noises]	
75	A/I	urrrh @ @ (10)	EXCL

I & J / 4m / rabbit

Tn	Sp	Utterance	C-act
1	I	*kel/ pa vi (2) /kel/ pa vi: (7) pa vi: (4)* ? PUT ALSO ? PUT ALSO PUT ALSO	RQAC
		khol man *khol (22)* OPEN OPEN	RQAC
		/tol/ twtte de passe pa, @ passe pa ? BROKEN OF SIDES PUT SIDES PUT	RQAC
		meri nal pa MY NEAR PUT	RQAC
		ethe *na?* HERE Q tag	EXAC
2	I	hello: (1.5)	ODAG
3	J	hello (3) hello: (2)	ODAG
4	I	hello:=	ODAG

5	J	hello:=	ODAG
6	I	hello: (6) hello (9) h e l l o (=2.5) (12.5) v. SOFT v.v. SOFT	ODAG
7	J/I	now @ we cover @ (43)	RQSU
8	I	oh (4)	EXCL
		mera friend *e*? friend / / *mæ*? (1.5) MY IS I	RQCH
		Mampreet mera friend *a* (2) MY IS	ASDC
9	J	*Mampreet mera* friend *a* MY IS	ASDC
10	I	um?=	ODCQ
11	J	*Mampreet mera* friend *a* MY IS	ASDC
		*oth*ə *mera* friend *koi vi nə*ɪ *hæ* (3) THERE MY NO-ONE em NOT IS	ASDC
12	I	*mera* bə- friend *bə*ɹ *g*ɪ*a (3)* MY BECAME	ASDC/PFCL
		HE'S BECOME MY FRIEND	
		Mampreet mera friend *e* (2) MY IS	ASDC/PFCL
13	J	haʃ YES	RSAK
		@ @ @ @ @ @ (3.5)	UNTP
14	I	/əɪ əɪ əɪ/(=1.5) (7) ho're you (6) HOW ARE	RQPR
		/tɪk/ (.) *en*ã *b*ə*ɾa food e? (6.5)* SO-MUCH VERY IS	RQCH
		/tɪk/ (4) tɪk x 9 (=5.5) (5)	

15	I	hello	ODAG
16	J	hello (2.5)	ODAG
17	I	come on	RQAC
		hello @ @ @ @ @ SILLY VOICE	ODAG
	J	(laugh=3)	
18	I	@ @ @ @ @ @ @ @ *maruŋga t*ə*imu* SILLY VOICE WILL-HIT TO-YOU	ASIR
	J	(laugh=2)	
19	I	//le / *k*ə*r* DO	UNTP
20	J	@ @ * @ @ @ @ @ @ @ *v c k r tu=* IN DO YOU	UNTP
21	I	hello (.5) hello	ODAG
22	J	hello */k*ə*rtɪra/* (BECOMES A NAME FOR RABBIT)	ODAG
23	I	hello (1) /kəl (.) ho (.) kɪal(=2))	
24	J	/korene/)playing with sounds	
25	I	/korene məm (.5) m' cət (=2)/)	

26	J	*mæ mæ muŋ, mæ* mouth *thoɾi thoɾi lake,* I I MOUTH I HAMMER HAMMER HAVING-BROUGHT	ASEX
		mekh vi ləduŋga NAIL em WILL-PUT-TOGETHER (h *thoɾi* = hammer)	ASIR
27	I	*haŋ* YES	RSAG
		mæ thoɾi /ma ma/ lake, I HAMMER ? ? HAVING-BROUGHT	ASEX
		kʊttuŋ- kʊttuŋga HIT WILL-HIT	ASIR
28	J	*@ @ @ muŋ mekh lake thoɾi //na @ @* MOUTH NAIL HAVING-BROUGHT HAMMER NO	ASEX
29	I	*na* NO	RSAG disagree
		mæ paɳi I WATER	UNTP interrupted
		nəi, nəi# nəi, wait (.hh) NO NO NO	PFPR
		mæ paɳi vali gun *lake,* I WATER-KIND-OF-GUN HAVING-BROUGHT	ASEX
		paɳi vɪc pake phn! phn! kəruŋ:ga::= WATER IN HAVING-PUT BANG BANG WILL-DO	ASIR
30	J	*mæ (.hh) mæ (.hh) sui cupni* I I NEEDLE SUCK	
		fer paɳi nɪkəl aɪa THEN WATER CAME-OUT	ASDC
31	I	*mæ (.hh) mæ sui lake (.hh)* I I NEEDLE HAVING-BROUGHT	ASEX
		paɳi mikəluŋga (.) kunga unga WATER WILL-COME-OUT (SOUNDS)	ASEX
		[sui is probably the nozzle on the drinking bottle]	
	J/I	(laugh=1) (4)	
32		/ɔ/ slowly	ASDC
33	J	/ɔ/ lowly (5.5)	RSAK
34	I	/welo ɔ pelo ɔ pelo ɔ pe/(=5) (2) NONSENSE	
35	J	oh! no g'	EXCL
36	I	*bɪlli* (1.5) rabbit= CAT	ODAG
37	J	*jɪste tũ kəl kɪa siga* LIKE YOU YESTERDAY SAID PAST-AUX(em) SAY IT LIKE YOU SAID IT BEFORE	RQAC
		(laugh=1) hello // @	ODAG
38	I	*rabiṭa=* RABBIT	ASID
39	J	*nəi=* NO	RSAK negative
40	I	rabbit=	ASID
41	J	*nəi=* NO	RSAK negative

42	I	rabbit	ASID
43	J	*nəi// nəi nəi*	RSAK negative
44	I	rabbit*	ASID
45	J	*nəi nəi*	RSAK negative
		NO NO	
		tũ kiss *kər enu tũ enu* kiss *kər*	
		YOU KISS DO TO-HIM YOU TO-HIM KISS DO	
		hello *kərcɪra ɪdã kae*	RQSU
		NAME THIS DO	
		(laugh=1)	
46	I	hello: /mərapwtapata/ (.hh)	
		hello rabbit	ODAG
47	J	hello, *kərcɪra* (laugh =3.5)	ODAG
48	I	*a dekh (.) a dekh (.) a dekh (.)*	ODAG
		THIS LOOK THIS LOOK THIS LOOK	
		go *na?*	RQAC
		Q-tag	
49	J	'ere?	RQPR
		WHERE?	
50	I	go on	RQAC
51	J	*enu marda*	ASDC
		HIM HIT	
		ahh!	EXCL
		/t̲oli/ ho gi (4)	UNTP
		? HAPPENING	
52	J/I	/b:: a:: u:: h::/(=4.5) ui	
53	J	*məinu dəndi vad̲dhe=*	ASDC
		TO-ME TEETH HIT	
		HE BIT ME	
54	I	oohi (2.5)	EXCL
55	J	hello // *kərcɪra*	ODAG
56	I	oohi* oohi ooh oh (=4)	EXCL
57	J	started (3)	ASDC
58	I	oohi oohi (=2)	EXCL
59	J	hello *kərcɪra* (laugh=2)	ODAG
60	J/I	oohi x 7 (=5)	EXCL
61	J	hello *kərcɪra*	ODAG
		ha bəωt vəd̲di ha:	ASDC
		OH VERY BIG IS	
		ed̲a bəωt: vəd̲di / æa/	ASDC
		THIS-MUCH A-LOT BIG IS ↑ hmga=AUXam	
62	I	*e sanu mar səkdi hæ?*	RQCH
		IT US HIT ABLE-TO IS	
		nəi (.)	RSCH
		NO	
		əsɪ̃ done vəd̲de	ASEX
		WE BOTH BIG (p)	
		mæ (.hh) mæ vəd̲de shoe *pae ədẽ (1.5)*	ASEX
		I I BIG(p) WORE LIKE-THIS	

63	J	*tere vədde sigĩa? (2)*	RQCH
		YOUR BIG WERE (PAST AUX=m)	
		WERE YOUR SHOES BIG	
		tere ede vədde sige? (2)	RQCH
		YOUR THIS-MUCH BIG WAS (=m) [showing with hands]	
64	I	he might bite (.) and *Ik* size	
		ONE	
		AND ONE SIZE	
		(.) and *Ik* size (.) *ədê ωppωr e (2)*	ASAT
		ONE LIKE-THIS ABOVE IS	
		AND ONE SIZE ON TOP OF THAT [DEMONSTRATING]	
		oop!	EXCL
65	J	oopa! um (.)	EXCL
		here //here	EXAC
66	I	I * wanna put it in=	ASIR
67	J	*onu meri thori nal*	
		TO-HIM MY HAMMER WITH	
		mar dena muŋ phən dena Is tərã	ASIR
		HIT GIVE MOUTH SMASH-UP JUST-LIKE-THIS	
68	I	*hã, thori vi nal (.) muŋ*	RSAK
		YES HAMMER =m WITH MOUTH	
		/pph mwg da/ (=3) (11)	EXCL
		(LOUD NOISES)	
69	J	hello *kəcIra*	ODAG
70	I	hello *kəkIra @ @ @ @ @ @ @ //*	ODAG
		NONSENSE=3	
71	J	hello *kəcIra* (1) (laugh=2)	ODAG
72	I	*mæ maruŋga, mæ maruŋga*	ASIR
		I WILL-HIT I WILL-HIT	
		kəcIra: kəc:I:ra!	ODAG
73	J	*kəcIra enu mar kəcIra, məinu mar kəcIra*	RQAC
		TO-HIM HIT TO-ME HIT	
74	I	*kəkIra məinu na mari*	RQAC
		TO-ME NOT HIT	
		mæ nice *ẽ* (.hh)	ASEX
		I AUX	
		enu mari	RQAC
		TO-HIM HIT	
75	J	*kəcIra kIse nu nəi mari,*	RQAC
		TO NO-ONE NOT HIT	
		kəcIra	ODAG
76	I	*kIse nu, enu mari, enu mari*	RQAC
		TO NO-ONE TO-HIM HIT TO-HIM HIT	
77	J	hello *kəcIra*	ODAG

I & S /4n / hamster

Tn	Sp	Utterance	C-act
1	S	y'av 'im YOU HAVE HIM	RQSU
2	S/I	'ere	EXAC
3	I	no eatin' (.5)	ASDC
		dat /mɔn fri @/ ↑ FRIGHTENED maybe	UNTP
4	S	eh?	ODCQ
5	I	ho!	EXCL
6	S	here (.) here (3)	EXAC
	I&S	(laugh=2.5)	
7	S	give 'im it (1) give 'im it: (1)	RQAC
		go on (.)	RQAC
		give 'im it (.) give 'im it	RQAC
		crying (2.5)	ASEV
		'ere	EXAC
		(laugh=2) (3) (laugh=2)	
	S	'e's a bit (.) /ru/ RUDE	ASEV
		(laugh=3)	
8	I	eh!	EXCL
9	S	you hit with dat ha-hand (1)	ASDC
		here (.5) here (.5) here	EXAC
10	I	no don't: (1) don't (2)	PFPR
		he::re (=1)	EXAC
11	S	(laugh=2) here (3)	EXAC
		you 'ave it now (2)	RQSU
12	I	/səhtil/ (1)	UNTP
		oh no	EXCL
		I'm not goin' (2)	ASIR
13	S	quack! (2)	PFJO
14	I	eh?	ODCQ
		/sɔ silz/	UNTP
15	S	dat scared o' me (.)	ASAT
		here (2)	EXAC
16	I	(laugh=1) go' /ə/ lil' /vit/ GOT A LITTLE BIT	ASDC
17	S	here (.5)	EXAC
		eat your grass	RQAC
18	I	I'm not goin'	ASIR
19 d	S	why? (3)	RQPC
		(licking lips//noises =10)	
	S	here	EXAC
		he go' a big bi' (1) GOT BIT	ASDC
		/pidu/ give 'im it (.) give 'im it = PLEASE YOU or DO	ODPM+RQAC
20 d	I	alrigh' (4.5)	RSCO

		ah you! [plop] (2)	PFPR
21	S	/ku bə/ GOOD BOY or GO BACK	UNTP
22 d	I	you give 'im (.)	RQAC
		you 'aven't gi:m any (1.5) GIVEN HIM	ASDC/PFPR
23	S	here (.) here (.) here (.) here (3 noises with lips=2)	EXAC
24	I	I like de wheel, wheel	ASIR
		[singing→] turning of the: whee:l	ASDC
25 d	S	dat not wheel	RSAK neg.
26 d	I	yeah	RSAG disagree
		[singing→] wheel /ɔndəbɔs/ ON THE BUS	
		go round and //round	ASDC
27	S	here* (2 noises with lips =1) (5) here (5 noises with lips =2.5) (5) here (1 noise)=	EXAC
28	I	oh!	EXCL
		big long	ASDC
29	S	eh?	ODCQ
30	I	big long	ASDC
31	S	eh?	ODCQ
	I&S	(laugh=3)	
32	S	he run round	ASDC
33	I	round and round (3)	EXRP
		he got big ball thing	ASDC
34	S	hmm yeah	RSAG
		(7 noises with lips=4.5)	
	S	don't you do it	RQAC
		(.) here (.5) here (6 noises=2.5) (2)	EXAC
		(5 noises=3) (9)	
35	I	it's a wheel (2)	ASID
36	S	/hɔn dɔzəl/ (3.5)	UNTP
		eat it (.) all (.) eat it	RQAC
37	I	eh?	ODCQ
38	S	eat it	RQAC
39	I	no: I don't [plop]	RSCO negative
40	S	here (3 noises=2) (1) here (4)	EXAC
41	S/I	don't want it	ASAT
42	I	don't want it	EXRP
		shall we /trɔw/ it in de bin? (2) THROW	RQSU

43	S	eh? (.5) eh?	ODCQ
44	I	shall we /trəw/ it in de bin?	RQSU
		THROW	
45	S	which bin?	RQPC
46	I	bin	RSCL
47	S	no (2)	RSCH
		/kωtəz/ riding (16) (noise with//lips =4)	UNTP
		QUICK HE'S maybe	
48	I	come on	RQAC
		where's -*	UNTP
		eat it!	RQAC
49	S	eat it!*	EXRP
50	I	eat!=	RQAC
51	S	eat!	EXRP
52 d	I	ger off!	RQAC
53 d	S	ger off! (4)	EXRP
		he eat mine	ASDC/ASAT
		/kə ʃə kəp kəs kəs kəs/ (2) (laugh=2)	
		NOISES (= 4.5)	
54	I	eat it! eat it!	RQAC

55	S	here,	EXAC
		big /fωn/ (.hh) dis	RQAC
		FULL	
		here (.5)	EXAC
		full dis	RQAC
56	I	I've fulled dis (.)	ASDC
		dis full	ASDC
57	S	owhi	EXCL
		yeah full (9)	RSAK
		/də/ full as dis one	ASDC
58	I	eh?	ODCQ
59	S	/də/ finished it (3)	ASDC
60	I	come on:	RQAC
61	S	come on *bàrə*	RQAC
		BROTHER	
62	I	come *bàrə pi pi*	RQAC
		BROTHER DRINK DRINK	
		bàrə //kha kha	RQAC
		BROTHER EAT EAT	
63	S	*kha kha# kha*	RQAC
		EAT EAT EAT	
64	I	*bàrə pi pi (2)*	RQAC
		BROTHER DRINK DRINK	
		I don't like 'im /miə/	ASEV masc.
65	S	eh?	ODCQ
66	I	no I don't like it /miə/	RSCL neut.
67	S	why?	RQPC
68	I	no good (1) /ʃɪp/ (2)	RSPC

69	S	she /ə/	UNTP	
		- give 'er er apple	RQAC	fem.
70	I	apple (4 noises with lips=2) (16)	EXRP	
		(laugh=4) (1 noise) (2)		
d	I	get off	PFPR	
71 d	S	ger off	PFPR	
72 d	I	I'm not your friend now	ASIR	
73	S	please?	ODPM/RQAC	
74 d	I	no	RSCO	
75	S	please?	ODPM/RQAC	
76 d	I	no	RSCO	
77 d	S	please? (5)	ODPM/RQAC	
		I won't be your friend den (3)	ASIR	
		(laugh=2.5) (4)		
78 d	I	ger off! (.)	PFPR	
		you finish /əl/ (.)	ASDC	
		aren't you? (7)	RQCH	
79 d	S	ger off	PFPR	
80 d	I	ger off	PFPR	
		// not* your friend	ASIR	
81 d	S	ger off	PFPR	
		go on,	RQAC	
		bite /ə/ (.) bite /ə/ (.) friend		
		(.5) bite your friend	RQAC	
82 d	I	I'm not your friend	ASIR	
83 d	S	bite your friend	RQAC	
		(.5) here (3 noises with lips=1.5)	EXAC	
84	I	pussy cat (9.5)	ASID	
85	S	here	EXAC	
86 d	I	no (.)	PFPR	
		it's my side (4)	ASDC	
87 d	S	I'm gonna tell of you now	ASIR	
88	I	who?	RQPR	
89 d	S	Mrs Johnson (2) Miss /terwəl/		
		I'm goin' t' (2)	RSPC	
90	I	(hh) alright	RSAK	
		give it food den (.) give 'im food	RQAC	
91	S	here (2 noises with lips=1)		
		(2.5) here (.) here (2.5)	EXAC	
92	I	food (.) food (.)		
		eat your food (.) eat your food,		
		eat your food (1) eat your food	RQAC	
93	S	eat your food (2)	RQAC	
		(laugh=2) (5)		
94	I	here (2)	EXAC	
95	S	oooh(=1) (2)	EXCL	
		/ə/ want to stay here (1)	ASIR	
		DON'T		
		nobody gonna come (2)	ASEX	
		oooh(=1) (3) oooh (=1) (4)		

96	I	hhhh SIGH	EXCL
97	S	here y'are (2 noises with lips=2) (2.5)	EXAC
		come on (7.5)	RQAC
98	I	come on (.)	RQAC
		eat it (.) eat it	RQAC
99	S	eat it (6)	RQAC

N & E / 5M(a) / rabbit

Tn	Sp	Utterance	C-act
1	N	dəh little (1)	ASID
		pick up da' (.)	RQAC
		rabbit	ODAG
2	E	'e jus' bites @	ASAT
3	N	let's get some food for him	RQSU
4	E	dis (.) here	EXAC
5	N	dis (1.5) here (.5)	
		here (1)// dis	EXRP
6	E	@	UNTP
7	N	no don't put it there (.5)	PFPR
		get that out (4)	RQAC
8	E	here	EXAC
9	N	get that out (.5)	RQAC
		he eats something (3.5)	ASDC
		come on, come on (3)	RQAC
		eat // something	RQAC
10	E	come on	RSAK
11	N	come on (.5)	RSAK
		'ere	EXAC
		get some food @ for 'im	RQAC
		put it here	RQAC
12	E	where?	RQPR
13	N	come on, come on (1)	RQAC
		some @ @ @ @ (.5)	UNTP
14	E	one piece	RSAK of Exptr.
15	N	why one piece?	RQPC
16	E	one piece (.) one piece	RSAK
17	N	this (.) there	EXAC
18	E	eh?	ODCQ
19	N	no more, no more,	RQAC
		only one (.) piece	ASEX
20	E	/hə(.) dəh (.) kəh (.) heh (.)nəh/	
		NONSENSE TO RABBIT	
21	N	one piece	RSAK
22	E	nəw (.) wes (.) @ @ (.)	
		kər (.)// @ @ @ @ @	
		[knocked microphone]*	
23	N	shall we close it?	RQSU
		(1) close it @ (.) so 'e can't get in	ASEX
24	E	dəh (1.5)	EXAC

		come on (3)	RQAC
		[bangs cage]	
25	N	bites (2.5)	PFWA
		goin' bite /ɔ/	ASAT
26	E	(laugh=1) (1) (laugh=1) (2.5)	
		is- is 'e eatin'?	RQCH
27	N	no 'e isn't (.5)	RSCH
		it opens	ASDC
		you put (.) you put your hand in there	RQSU
28	E	where?	RQPR
29	N	you put it // in, you put it in*	RQAC
30	E	where (.) where = where*	RQPR
		nah	RSCO negative
31	N	are you scared? (1)	RQCH
		'e won't bite yer (1.5)	ASAT
32	E	@ bites	RSAG disagree
33	N	won't be able to bite yer	RSAG disagree
		(.) it's only a lil' rabbit (1)	ASEX
		der	EXAC
34	E	it's @ now	ASDC
35	N	he won't bite (.) he won't bite /ɔli/ REALLY	ASAT
		(.) he's @ bite (1)	ASAT
		sit // here	RQAC
36	E	@	UNTP
37	N	here	EXRP
38	E	where?	RQPR
		eh!	EXCL
39	N	he ca- he won't bite (.)	ASAT
		he's only a little rabbit	ASEX
40	E	/ɔh ɔh/	UNTP
41	N	ssh!	EXCL

[sound quality deteriorates]

<u>N & E / 5M(b) / hamster 2</u>

Tn	Sp	Utterance	C-act
1	N	@ /ɔ/ bit (2)	UNTP
2	E	hah!	EXCL
		my scared den	ASIR
3	N	I not scared (5)	ASIR

		dis cup		ASID
4	E	you my (.) @		UNTP
5	N	I put yours here		RQSU
		eat yours (3)		RQAC
		(laugh=2)		
6	E	'e's scared		ASAT
7	N	@ my mum		UNTP
8	E	your mum /kəpi/		UNTP
9	N	@ @ @ @ @ @ @ eeh!	)	
10	E	/ɪs fəh ih ih ih ih /	) NONSENSE TO HAMSTER (=7)	
11	N	@ @ 'e all gobbled it all up		ASDC
12	E	/əwh/		
		NOISE		
13	N	he won't eat /ɪə əwl / (3)		ASAT
		IT ALL		
		@ @ a big box		ASID
14	E	it's a big bos=		RSAK
15	N	box, a pretty big // box=		RSAK+ASDC
		[corrects pronunciation]		
16	E	los'* I /nəws kə/ (1.5)		UNTP
		LOST NO CARE maybe		
17	N	birthday cake		ASID
18	E	don't (.) /mə/		PFPR
		(4 claps=2) (2)		
19	N	a birthday cake (.5)		
		a birthday cake der		ASID
20	E	/pi- su/		ASID
		PIECES (TO ANIMAL)		
21	N	you pu' it in for yourself (.)		RQAC
		hey? (1.5)		ODAG
22	E	/pəm um um /(=1)		

23	N	I'll pu' it in fo' 'im		RQSU
24	E	owh!		EXCL
25	N	he won't hear (.)		ASAT
		put it in like this (.5)		RQAC
		put it in there		RQAC
26	E	der (lau//gh=2)		EXRP
27	N	@ @ @ @ @ * over there		UNTP
	E	(la//ughter=11)*		
28	N	what's this @		RQPR
		(2) (laughter)* (2)		
29	E	pussy cat (laugh=2)		RSPR
30	N	pussy cat (3)		EXRP
31	E	'ssy cat		EXRP
32	N	/ʃwəngi wəngi/	)	
33	E	/ʃwi/	) (NONSENSE=8)	
34	N	/wəngi swəngiswəngi // swəngi	)	
35	E	/swəngi/ (1.5)	)	

		will you turn that about?	RQAC
36	N	I'll turn it round for you	RQSU
		(nois//es=5)	
37	E	yeah!	RSAK
		* yeah into your house	ASDC
38	N	yes /kwlɘke/ (.) you do it.	RSAK+RQAC
		GO LIKE THAT	
		round and round the /sɪr/	ASEX
		CIRCLE	
		/ɘs bi x 10 / (=3) dow you do it (.)	
		NOW	
		you do it (1)	RQAC
		let's do that (.)	RQSU
		put 'ere left hand (.) there (.5)	RQAC
		won't eat ya'	ASAT
39	E	'e /midzɘ/ (5)	UNTP
40	N/E	no (.5) don't go @ it, rabbit (6)	RQSU
41	N	oh (1)	EXCL
		ya' eaten all your food?	RQCH
		have ya?	RQCH
		oh (.)	EXCL
		I'll tell ya where's your food (.)	ASEX
		open it up (1.5)	RQAC
		there's your food (.5)	ASDC
		pu' it over there	RQAC
		@ @ @ @ (=2) (7)	UNTP
42	E	@ @ @ @ @ @ @	EXAC
		HERE Y'ARE PUSSY CAT prob	
43	N	he's not a pussy cat (1)	RSAG
		can you draw a rabbit?	RQCH
44	E	//no	RSCH
45	N	I'll* tell you where to st'	RQSU
		START	
46	E	@ @ rabbit (2)	UNTP
47	N	he's not	UNTP
		(whispering=6)	
48	E	@ it to you (1)	UNTP
		give it to me back (.) gi' me dat	RQAC
		huh!	EXCL
		you're my friend?	RQCH
49	N	yeah (1) I your friend (4)	RSCH
		//(laugh=1)	
50	E	/ro::bit/ rabbit, rabbit	ODAG
51	N	'e's not a rabbit	ASDC
52	E	come on (2)	RQAC
		pick it up (1)	RQAC

		'ere ya'are	EXAC	
		owh:!	EXCL	
53	N	won't eat ya	ASAT	
54	E	(laugh=1.5) 'e eat it (1)	ASDC	
		a::h!(1)	EXCL	
		'e's ɛ /twd/	UNTP	
	E/N	(laugh=3)		
55 d	N	I'm @ your @ (.) I'm not your friend	ASIR	
56	E	yeah	RSAG	disagree
57 d	N	no::	RSAG	disagree
58	E	are you friend (.) @ rabbit?	RQCH	
		(1) no friend? (.5)	RQCH	
		oh::=		
59	N	sit down (2.5)	RQAC	
		let's go to sleep	RQSU	
		eh? (.5) eh?	RQCH	
60	E	yes (2)	RSCH	
	N/E	(snoring noises=5)		
61	N	'ere rabbit (.) go to sleep	RQAC	
		(snoring noises=6)		
62 d	N/E	shut up (4.5)	PFPR	
63	N	once upon a time (1)	ASDC	
		right?	ODRQ	
64	E	wwh!	EXCL	
65	N	once upon a time der's three /dw /		
		and you /ɘv/ to up to /lidɘ sɘnd (.)	ASDC	
		ɪ ɔr/ are you /lida/?	RQCH	
		LEADER		
66	E	no (.) yeah	RSCH	
67	N	're ya in there	EXAC	
		come on	RQAC	
		get leader /tw x 7/ =2.5)	RQAC	
		're you leader?	RQCH	
68	E	yeah!	RSCH	
69 d	N	no	RSAG	disagree
		you're No:reen	RSQL	
70	E	yeah::	RSAK	
71	N	you're Noreen /d -dɘli/	RSAK	
		REALLY		
		aren't ya?	RQCH	
72	E	yeah (1) (noise=1)	RSAK	
		/nɘh jɘ sw kum/ pumps (.) it true	ASDC	
73	N	no	RSAG	disagree
		they're not pumps // they're shoes	ASEX	
74	E	I got @*	UNTP	

		/ziz/ shoes, it is <u>pumps</u> STRESSED 1st part of sentence negative	RSAG disagree
75	N	/ponc/? PUMPS	RSAK
76	E	/pɔwnc/ PUMPS	RSAK
77	N	/ə tru cuj / NONSENSE (=2.5)	
78.	E	I got // some pumps at home*	ASDC
79	N	/pom pom twj cuj/ (=2.5)(=4)* NONSENSE	

<u>**N & A / 5m / guinea pig**</u>

Tn	Sp	Utterance	C-act
1	N	hello rabbit	ODAG
		/dɪs ir/ THIS HERE	EXAC
2	A	he's dat nice one (1.5)	ASDC
		he got black (.hh)	ASDC
		and (.5) he likes me	ASAT
		he got // black and-	ASDC
3 d	N	he saw me*(.hh)	ASDC
		he'll he'll get ya	PFWA
		he saw me (.hh)	ASDC
		he's not frightened of me (.)	ASAT
		he's frightened of you	ASAT
		(.hh) look	ODAG
		a lil' bit /ə/ water OF	EXAC
4	A	don't	PFPR
5	N	little bit /ə/ water (.)	EXAC
		little rabbit (.hh)	ODAG
		I saw him	ASDC
		he's [knocks microphone 4 secs unintelligible]	
6 d	N	/dənt/ matter Asha (1.5) DOESN'T	ASEV
7	A	are you like it?	RQCH
		some grass in there	ASDC
8 d	N	I know (.5) some grass (.)	RSAK
		it /dənt/ matter Asha (2) DOESN'T	ASEV
9	A	will I take thi' grass out (.) there (12)	RQPM
10 d	N	he's frightened of you // Asha	ASAT

11	A	who /ʃot/* that dolly	RQPR
		SHOT may mean BROKE	
12	N	I know (.) I looked a' it (1)	RSAK
		I'm wishin' my // nice rabbit	ASIR
13	A	who /ʃot/ that* dolly	RQPR
14	N	I know (1) I looked at it	RSAK
		(1.5) oh, look at dem cri'ps	RQAC
15	A	eh?	ODCQ
16	N	look at dem cri'ps(.)	RSCL
		can ya see 'em?	RQCH
17	A	yeah	RSCH
18	N	I could (.5)	RSAG
		come on (.)	RQAC
		rabbit nice (.) chuckie	ODAG+ASDC
19	A	ah!	EXCL
		where 'as 'e gone?	RQPR
20	N	oh oh oh /əm/ ah ah oh oh (=4)	EXCL
21	A	he went in that box	ASDC
22 d	N	ah /ə tʃə w/ better.	UNTP
		I SAW maybe	
		ow	EXCL
		'e's frightened of me as well (.)	ASAT
		he thinks I'm Asha (.5)	ASEX
		come on (.) get on rabbit (.5)	RQAC
		don't be silly (3)	ASEV/PFPR
		(noise=1) (1)	
		is he scared of you Asha?	RQCH
23	A	no:	RSCH
24	N	oh (.)	EXCL
		come on (laugh=.5)	RQAC
		oh! it /kos tɪu trɪ ta=2/	EXCL
		PLAYING ANGRY	
		get off this	RQAC
		(.hh) nessy (.) messy, not a good boy	ASEV
		(.hh) are ya? (1.5)	RQCH
		nessy boy (3)	ASEV
		you (.) are bad @ @	ASEV
25	A	don't put the *pətta* (.5) back in	RQAC
		LEAF	
26	N	he's sorry (1)	ASAT
		oh	EXCL
		your ribbon's comed off /enri/	ASDC
27 d	A	you can't do it	ASAT
28	N	I could	RSAG disagree
29	A	you?	RSAK
30	N	yeah // @	RSAK
31	A	yes*	RSAK

		I could do my /brəwtʃ ə əuk/ (3)	ASIR
		BROOCH prob.	
32	N	/me/ my ball (.hh) my bubble's come off,	ASEX
		WHEN	
		I'll do it myself	ASIR
		(.5) you you like do your birthday?	RQCH
		(.hh) Asha	ODAG
		/əl/ I do your birthday?=	RQSU
33	A	no	RSCO negative
		shall I do yours?	RQSU
		(laugh=1) (1) /ə/ get	
		/fəwlɪn dək (.5) bɪtə/ (2)	
		FALLING maybe	
		/kəkɪlɪa/ //(laugh=1)	UNTP
34	N	happy birth /du/ to Asha=	PFJO
35	A	happy birthday to rabbit (laugh=2)	
		happy // birthday to* /dəbɪt/	PFJO
		RABBIT	
36	N	birthday to* (laugh=1.5)	EXRP
37	A	to rabbit	EXRP
38	N	//happy birthday to rabbit*	EXRP
39	A	happy birthday to rabbit*	EXRP
		(not synchronized)	
40	N	happy birthday to you (.) and you (.hh)	PFJO
		happy birthday to Andrew (.hh)	
		happy birthday to Andrew	PFJO
41	A	//@ @	UNTP
42	N	happy* birthday (1) to /əndzen/ (.hh)	PFJO
43	A	to Angela	RSAK
44	N	(.hh) no Andrew (2)	RSAG disagree
45	A	/ə ə/ her real name? (2)	RQCH
		IS THAT	
46	A/N	/andzə/ (.) she called (.) /andzɪn/	RSCL
		NAME NAME	
47	N/A	no (1) and /ə ə ə ə/(=2)	RSAK negative
48	N	/ə ə (=.5) (1) o o (=.5)/	UNTP
49	A	when /ə/ d'your birthda' get tha'	ASRU ref. to cake
		(.hh) and do de happy birthday	ASRU
		d'you wanna sharpen @ @	RQCH
50	N	oh ah (=2)	EXCL
		come on get out (.) rabbit (.5) /pəbɪt/	RQAC
51	A	/pobɪt pobɪt pəbɪt pobat / (laugh=2)	PFJO
52	N	/misti/	UNTP
	A	(laugh=1)	
53	N	go on (.) that grass (1)	RQAC
		get off /ə/	RQAC
		get /jʊsti/(1) /jʊsti: (1) /jʊsti:/	RQAC
54	A	jʊɜt 'ad that @ @ (1)	ASDC
		WATER prob	

		oh she's coming	PFWA
55	N	(laugh=1) (.hh) ge' ger up	RQAC
56	N	hello // guinea pig	ODAG
57	A	hello	ODAG
		(laugh=1) [clucking noises=3]	
58	N	care:ful: (1) careful guinea pig=	PFWA
59	A	careful guinea pig	RSAK
60	N	/ɔ ə ə/ tell miss	ASIR
		I GONNA	
61	A	/ə/ tell miss	RSAK
62	N	/ə/ d'you tell miss as well	ASDC
63	A	get o' (noises=2)	RQAC
		OFF	
64	N	pu' it there (1.5) pu' it there	RQAC
		(1.5) don't go then guinea pig	RQAC
		ah rabbit:	ODAG
		don't be too silly	RQAC/ASEV
		(.hh) will you?	RQCH
		(laugh=2) (coughs & noises=3)	
65	N	don't//	PFPR
66	A	'e's goin' t' eat it (.5)	ASAT
		get on	RQAC
		(laugh=2)	
67	A	he won't hurt (.) he won't hurt	
		(.5) he won't hurt you (noises=2)	ASAT

N & T / 5n / rabbit

Tn	Sp	Utterance	C-act
1	N	he can't get /mə/- his milk	ASAT
		MY	
2	T	oh (7)	EXCL
3	N/T	/fər/	
4	N	/nəʊti rəb/ milk (2)	ASDC
		NAUGHTY RABBIT	
5	T	wha' dat? wha' dat? (2)	RQPR
6	N	/əv/ you bite your finger?	RQCH
		HAVE (PASSIVE MEANING; FINGER BEEN BITTEN)	
7	T	no	RSCH
8	N	you do it (.)	RQAC
		'e won't bite your finger (.5)	ASAT
		will he? (1)	RQCH
		/ə ləi pə ɪf ə ɪm/	UNTP

		SHALL I PUT IT FOR HIM maybe	
		you mustn't do that (2)	ASRU
		eat it now (2)	RQAC
		don't give 'im no more (.hh)	RQAC
		give 'im a big bi-	RQAC
		you can take it	ASAT
		no	RSAG disagree
		let 'im 'ave it (3)	RQSU
9	T	ahh:	EXCL
		'e's onl-	UNTP
		I'll do dat (1.5)	ASIR
10	N	take it	RQAC
11	T	there's talk and (.5)	ASID
		yeah (.hh) // he* likes talk	ASAT
12	N	you* you /s/ talk an' me as well (.)	RQSU
		// we both talk	RQSU
13	T	I'm not* talkin'	ASIR
		'cause 'e (.hh) er.. 'e don't like me	ASEX
14	N	he does	RSAG
15	T	he /dənt/	RSAG negative
		DOESN'T	
16	N	he /dɪs/	RSAG
		DOES	
17	T	/dənt/	RSAG
		DOESN'T	
18	N	he does (1)	RSAG
		it don't matter	ASEV
		it's a nice rabbit (.hh)	ASEV
		we saw dis rabbit befo' (.5)	ASDC
		stroke 'im	RQAC
		'e won't /hiət/ ya (.) won't /hiət/ ya	ASAT
		EAT prob EAT prob	
		I stroked 'im (.)	ASDC
		didn't I?	RQCH
		's a nice rabbit (.)	ASEV
		isn't it?	RQCH
19	T	/pli/ sit down	ODPM/RQAC
		PLEASE	
20	N	no	RSCO negative
		stand up (1)	RQAC
		no:(=1) (.) don't (2)	PFPR
		a little piece of /pəl/? (2.5)	RQCH
		APPLE	
		der (1)	EXAC
		come 'ere (3)	RQAC
		'ere milk	ASID
21	T	's /ə/ stuck (6)	ASDC
		GOT	
		don't @ @ @ @	UNTP

		(2) here	EXAC
		(2) 'e don't want any	ASAT
		does 'e?	RQCH
22	N	no	RSCH
23	T	'e likes me	ASAT
24	N	'e likes me	ASAT
25	T	yeah	RSAK
		/dənt/ like me	ASAT
		DOESN'T	
26	N	'e do (1)	RSAG disagree
		'e won't /hi t/ ya (1)	ASAT
		EAT	
		's only little (.5) rabbit (5.5)	ASEX
27	T	you gi' to 'im	RQAC
28	N	no don't /t/ worry	ASEV/ASAT
		ge' it back (1) get it back (4)	RQAC
29	T	eeee(=1.5) get what?	RQPR
30	N	like 'im?	RQCH
31	T	/ret (.) ə/ (1.5)?	UNTP
32	N	owh	EXCL
		I like 'im	ASIR
33	T	yeah	RSAK
34	N	why did you give 'im it? (1.5)	RQPC
35	T	in der (.5)	
		I give 'im (.hh)/wə dət lə/ (2)	RSPC
		WHAT/ONE THAT LIKE prob	
36	N	dis 'en?= like dat (.)	RQCH
		THIS ONE	
37	T	I 'ave	ASDC
		oops	EXCL
		what dat?	RQPR
38	N	hey!	EXCL
		/ə̀s ɪt/ eaten it all?	RQCH
		HAS IT	
		let's see? (.5)	RQSU
		's eaten it all now (.5)	ASDC
		'e's eaten all yours (2)	ASDC
39	T	look at 'im (.) look	RQAC
40	N/T	a little bit more (.) yours	ASDC
41	N	come 'ere /pwhh/(=1) (5)	RQAC
42	T	@ @ @ @ @	UNTP
43	N	'e's comin' na' (5)	ASDC
		'e won't come 'ere (6)	ASAT
		/wə i/ she di- (.hh) didn't bite n it yet	ASDC
		A PARTICIPLE	
		(1) didn't bite dis apple (.)	ASDC

		I didn't	ASDC
		did I?	RQCH
44	T	no	RSCH
45	N	I didn't /ə/ bite /ə/ i' up (1.5)	ASDC
46	T	I like to sit here	ASIR
47	N	dat fo' a ca'?	RQCH
		FOR A CAT	
48	N/T	I do (2)	RSAG
49	T	/ə/ is same as your /jwmpə/ =	ASDC
		JUMPER	
50	N	yeah=	RSAK
51	T	my my mummy's got m-dat	ASDC
52	N	baby?	RSAK
53	T	yeah	RSAK
54	N	my mummy's got a /bakɪn/ one	ASDC
		BAKING	
55	T	I'm stroke 'im	ASDC
		an' 'e don't like me	ASAT
56	N	he do:	RSAG disagree
		come on (.) you come 'ere (.)	RQAC
		// you can do dat	ASAT
		get your other apple*	RQAC
57	T	I never @ @ gettin' one*	ASIR
		here ya // are	EXAC
58	N	you* get your other apple (.)	
		get your other apple (.)	
		get your other apple=	RQAC
59	T	here y'are	EXAC
		you put this on 'im	RQAC
60	N	der (.5)	EXAC
		shall we put @ @ there	RQSU
		it won't be too much @ (3)	ASEX
61	T	what's dis? (5)	RQPR
62	N	don't know dis?	ASIR
		(2) I // don't @ dis	ASIR
63	T	what is dis?*	RQPR
64	N	oop!	EXCL
		careful (3)	PFWA
		there:	EXAC
65	T	@ @ @ @ box	UNTP
66	N	/hai/	
		NOISE	
67	T	oh	EXCL
		fell down again	ASDC

		(laughter) /ii/ (=3)	
68	N	dust it up (.5)	RQAC
		I /ɔ ɔ/ do it	ASRU
		HAVE TO	
69	N/T	hello hello (6)	ODAG

M & A / 6M / hamster

Tn	Sp	Utterance	C-act
1	M	you (1.5) away // @ @	UNTP
2	A	@ @ he's* eatin'	ASDC
3	M	what?	ODCQ
4	A	he's eatin' one of them (1.5)	ASDC
		oh!	EXCL
		he gets some there	ASDC
5	M	oh gawd!	EXCL
6	A	he's he's eatin' /wi nəw /	ASDC
		WE KNOW maybe	
		/wək wɔk / look look /lʊk/ look	ODAG
		he's eatin' dat (1.5)	ASDC
7	M	/ɔp ə məŋ dæk /	UNTP
		they'll eat 'im	ASDC
		won't they (.5)	RQCH
		put' 'im there (.)	RQAC
		'ello (1)	ODAG
8	M/A	see /ɪ dɔ/ (3.5)	UNTP
9	A	oi!	EXCL
		don't throw it at it (2.5)	RQAC
		come on (3)	RQAC
10	M	look (.5)	ODAG
		a mouse /dɔ/ (3)	ASID
		THERE or MOUSEDA (see later)	
11	A	eh? (2)	ODCQ
12	M	are you here? (5)	RQCH
13	M	'ere 'ere:: /e e/	
		'ere 'ere 'ere 'ere 'ere	EXAC
14	A	oh: look	ODAG
		he's eatin' it (.)	ASDC
		/a /	UNTP
		HERE Y'ARE maybe	
		you give it to 'im?	RQCH
15	M	he won't bite	ASAT
16	A	'e won't	RSAK
17	M	'e won't (3)	RSAK
18	A	open it (2.5)	RQAC
19	M	big	ASDC
20	A	get that out	RQAC
21	M	where? (3.5)	RQPR
22	A	will ya stroke 'im (5) stroke 'im	
		(.) faster (.)	RQSU
		d-don't stroke 'im	RQAC
		he'll bite (4)	ASEX
23	M	what is it? (8)	RQPR

		O.K. (1) (hh .hh) (9)	RSAK
24	A	'ey loo' (.5)	ODAG
		HEY LOOK	
		(laugh=.5) 'e's goin' into there	ASDC
		(.) oh loo',	ODAG
		'e's gone.	ASDC
		there 'e is (.5) (laugh=2)	ASID
		'e's near the paper (.)	ASDC
		my water's gettin'	ASDC
25	M	'e's bitin' it (1)	ASDC
		aah(=1) /sə p/ (2)	EXCL
26	A	let ya walk	RQCH
		// hello (1.5)	ODAG
27	M	@* look	ODAG
28	A	open de doo' @ @	RQAC
		how is?	RQPR
29	M	not yet (6)	RSQL
		look someone coming (1)	ASDC
		I go (.5)	ASIR
		ahhh	EXCL
30	A	where?= where?	RQPR
		(2) @ @ (1) ahh	EXCL
31	M	what's dat?	RQPR
32	A	eh?	ODCQ
33	M	what's dat?	RQPR
34	A	which?	ODCQ
35	M	look (1)	ODAG
		what is (.) what is it? what's dat?	RQPR
36	A	eh?	ODCQ
		a /məstə/	ASID
		MOUSETER(cross between mouse & hamster)	
37	M	a /məstə/	RSAK
38	A	'e bites	ASAT
39	M	@ 'e talk (3.5)	RQCH
		(whispering=3) (8)	
40	M	there's a cup	ASID
41	A	where?	RQPR
42	M	there's a cup	RSCL
43	A	there's cups	RSAK
44	M	/wə/ //cups?	RQPR
45	A	cups (1)	RSAK
		get in trouble (5)	PFWA
46	M/A	/di/ (1) (laugh=1) (2)	

47	A	(laugh=1) 'e got it	ASDC
48	M	gi' me it (2)	RQAC
		der ya are=	EXAC
		der 'e is (.)	ASDC
		'e won't bite.	ASAT
		/ge/ it yours	RQAC
		GIVE	
		/ɔri up/	RQAC
		HURRY	
49	A	why?	RQPC
50	M	'e might be ea' it (1) today	ASEX
		(laugh=1) 'ello (1)	ODAG
		'e might be ea' /mɔid/	ASAT
		MINE	
		(.) won't ya? (2)	RQCH
51	A	/i mi/ (1) // take * a-another one	ASAT
		HE MIGHT	
52	M	open that*	RQAC
		look (.) look (2)	RQAC
		your carrot there	ASDC
53	A	ah! (.)	EXCL
		he eat it all=	ASDC
54	M	awh gawd (.) oh (.) (.hh)	EXCL
		'e's come back there.	ASDC
		oh you! (.5) @ @ =	EXCL
55	A	/ɔ ɔ/ where's 'is carrot?	RQPR
56	M	here's my (.)	ASDC
		there's /m i-t/ carrot,	
		MINE	
		there's my // carrot	ASDC
57	A	wait* (.)	RQAC
		where's my carrot? where's my carrot?	RQPR
		(2) (laugh=.5) (4) rock 'im	RQAC
		(laugh=1)	
58	M	gimme /fers/	RQAC
		PIECE or FACE	
		I hit 'im on it (laugh=2) (2)	ASDC
59	A	break a bit	RQAC
60	M	O.K.	RSCO
		here	EXAC
61	A	O.K. (2)	RSAK
		wake 'im	RQAC
		// * go on (.) (hh) go on	RQAC
	M	(laugh=1)* (laugh=2)	

62	A	'er THERE	EXAC
63	M	//ger 'im	RQAC
64	A	oowi (=.5) (2)	EXCL
65	M	g-get the carrot	RQAC
		hurry up	RQAC
66	A	// where?*	RQPR
67	M	@ @ * der (2.5)	RSPR
		ger it?	RQCH
68	A	/wə e/ will bites /ə/	UNTP
		/i/ (.) go in there HERE	RQAC
		won't le' me stroke (1.5)	ASAT
69	M	(.hh:) ger out (.) // ger out	RQAC
70	A	kill 'im* kill 'im (5)	RQAC
71	M	you's kill 'im	PFWA
72	A	eh?	ODCQ
73	M	you's kill 'im.	PFWA
		don't kill 'im really (3)	RQAC

<u>M and D / 6m / rabbit</u>

Tn	Sp	Utterance	C-act
1	D	'lo	ODAG
2	M	hello (2)	ODAG
3	D	here(3)	EXAC
		ya like that (.)	ASAT
		'ere (2)	EXAC
		'e's tellin' me bite (.)	ASAT
		look	ODAG
4	M	no (3)	RSAG
		talk	RQAC
5	D	it a rabbit	ASID
6 d	M	no (.)	PFPR
		don't open it	RQAC
		(.) bite ya (1) bite ya	PFWA
7 d	D	you know?	RQCH
8 d	M	no (.hh)	RSAG disagree
		it's onl' lil' one (.) it won't -	ASEX
		ya 'av to stroke a lil' one (.hh)	ASRU
		you /dəwn/ big one? eh? KNOW	ODRQ
		he bites (1)	ASAT
		he /d̃ot/ bites 's one (3) DON'T THIS	ASAT

9 d	D	labbit	ODAG
10	M	rabbit	ODAG
11	D	//rabbit* (.5) look (1) look (8)	ODAG
12	M	//tk tk	
13	D	/dək dɔk/ (1.5)	
14	M	'e in /bɔf/ (laugh=1) BATH	ASDC
15	D	he bitin'	ASDC
16	M	ooh: (1)	EXCL
		'e's coming (1)	ASDC
		ooh	EXCL
		gone	ASDC
		d'you know dat one (.) eh? (.hh)	ODRQ
17	D	dat's a dog	ASID
18	M	no(.)	RSAG disagree
		look=	ODAG
19 d	D	yeah	RSAG disagree
20 d	M	look (.5)	ODAG
		he bites (.hh) when 'e come (1.5)	ASAT
		he bites us (1)	ASAT
		he bite //me	ASAT
21 d	D	'ere (2) 'ere labbit (2) 'ere rabbit (3)	EXAC
22	M	owh: (3) owh: (2)	EXCL
23	D	alright now (.)	ASEV
		i'n it? (12)	RQCH
24	M	ooh: (.) eh: (.)	EXCL
		look (.) look 't dat	RQAC
25	D	labbit (.5) labbit (.5) rabbit	
		(1) labbit	ODAG
		(1) /kən tsi təti lit/ (6) ENGLISH but incomp.	UNTP
		look (.5) rabbit (2)	ODAG
		small piece /ɔ dət/ (7.5) OF THAT	ASDC
26	M	gimme that one (11.5)	RQAC
27	D	won't bite (2)	ASAT
		he's only me bite	ASAT
28	M	no (7)	RSAG disagree
29	D	it's coming (.5)	ASDC
		it's a rabbit.	ASID
		he got de /bət/ BATH	ASDC
30	M	/bəf/ (1.5) BATH	EXRP
31	D	wwh, he said wwh (15)	ASDC
		he made go to toilet (10)	ASDC
32	M	he bite me last night	ASDC

33	D	he never bite me (2)	ASDC
34	M	he // bite me	ASDC/PFCL
35	D	he @ @ der	UNTP
36	M	he gonna bite me (.) mi' be (2) MIGHT	ASAT
37	D	me @ dat table @ (1)	UNTP
		// we ca'	UNTP
38	M	can you open it?	RQCH
39	D	we /kəˈtəˈtɪtir/ (3) CAN or CAN'T PUT IT THERE maybe	UNTP
		hello (1)	ODAG
		wh! wh! ooh! (=3)	EXCL
40	M/D	carrot (8)	ASID
41	M	'ere y'are, 'ere y'are (2)	EXAC
42	D	y'are (8)	EXAC
		rabbit (1) // rabbit (1) r'	ODAG
43	M	come here come* here=	RQAC
44	D	awh! (2)	EXCL
		/də hir/	UNTP
45	M	(.hh) @ @	UNTP
46	D	no	RSCH
47	M	do d'you go /rəɪ a/? LIKE THAT	RQSU
48	D	no	RSCO
49	M	/i/ go to // toilet ME	ASIR
50	D	rabbit* (.) rabbit (1) rabbit (.) rabbit	ODAG
51	M	owh	EXCL
52	D	rabbit rabbit (7)	ODAG
53	M	ahh:	EXCL
		I'm gonna tell 'er (.5)	ASIR
		tell 'er (.5) teacher	ASIR
54	D	where? (11)	RQPR
55	M	I'm goin' fo' some water	ASIR

M & B / 6n / guinea pig

Tn	Sp	Utterance	C-act
1	M	gone (.) gone	ASDC
2	B	go on /kωli/	RQAC
		ta ta (2 shouts=1) GOODBYE prob	ODBM
		(4) come on (1.5)	RQAC
		he's gone	ASDC

3	M	oowh (=.5)	EXCL
	B	(squeal=1)	
4	M	'e (.) 'e comin' eat it (.)	ASAT
		HE'S COMING TO EAT IT	
		d'ya want some? (1)	RQCH
		are ya gettin' some? (.5)	RQCH
		get some (3)	RQAC
		won' bite (2 squeals & laugh=2) (3.5)	ASAT
5	B	is a // @ @	UNTP
6	M	ooh	EXCL
		e* got got // @ @	UNTP
	B	(la*ugh=1)	
7	M	I stand up (1) (noise & squeal=2)	ASIR
	B	(laugh=1)	
8	M	stand up (4.5)	RQAC
9	B	woooh (1.5)	EXCL
		/kws/ bitin' (1.5)	ASDC
		LOOK WHO'S or WHO 'E'S	
		yeah	RSAK
10	M	'e's bitin' apple	ASDC
11	B	wwh! wwh! (=1.5) (5) @ @	EXCL
12	M	'e's eatin' // 'em	ASDC
	B	(sq*ueal=1 squeal=2) (3.5) erh=	
13	M	big coffee (.)	ASDC
		big cup /ə/ coffee	ASDC
14	B	eh?	ODCQ
15	M	coffee	RSCL
(4)			
16	B	back, get /əwəs/ back (3)	RQAC
		AWAY	
17	M	don't touch now (1)	RQAC
		can' touch now	ASRU
18	B	O.K.	RSAK
		'e's gone back in? (2)	RQCH
19	M	hello	ODAG
20	B	hello	ODAG
		you done it?	RQCH
21	M	eeeh(=1) (1)	EXCL
		didn't bite	ASDC
22	B	no /ɔp/	UNTP
23	M	/jwn gɔ vəla/ (2.5)	UNTP
		DO YOU WANNA GO LIKE THAT maybe	
		[animal scutters=1]	
		saw it ? (1)	RQCH
		/də/ it's nice	ASEV
		[blowing=1]	

24	B	go on	RQAC
		[blowing=2]	
		there's who (3)	ASID
25	M	oh	EXCL
		'e's lovely	ASEV
		i'n' he? (17)	RQCH
26	B	*kɪddər gəẽ* (6)	RQPR
		WHERE TO WENT	
27	M	don't touch now (.)	RQAC
		'e's dead now (2)	ASEX
28	B	owh	EXCL
		's gone (1)	ASDC
		ghost i'n 'e? (3)	ASEX+RQCH
		ISN'T HE	
29	M	der's some more	ASDC
30	B	eh? (16)	ODCQ
		/bi dɪs ʃəd ɾuk/ 'e's bitin'	ASDC
		BY THIS SIDE LOOK maybe	
31	M	oh	EXCL
		come on, come on	RQAC
		'e's bitin' (16)	ASDC
32	B	'e's /ə/ bitin' (.) me	ASDC
33	M	no, 'e's not bitin' (5)	RSAG disagree
34	B/I	get dis one @ @ @ @ (2)	RQAC
		IF YOU CAN maybe	
35	B	'e's there	ASDC
36	M	wwh! wwh! (=1) (2) wwh! wwh! (=1)	
		ooh (=.5) (squeal=2)	EXCL
37	B	comin' out	ASDC
38	M	wwh (=.5) (squeal=1) wwh wwh(=1)	EXCL
39	B	wwh	EXCL
		'e's // comin'	ASDC
40	M	ooh(=1)	EXCL
41	B	no	PFPR
		come on	RQAC
		no (1)	PFPR
		no @ @ (2)	
42	M	ooh (2)	EXCL
		you do it	RQAC
43	B	@ @ @ @	UNTP
44	M	wwh wwh wwh (=1)	EXCL
		he's comin' /ə khə/ [bang]	ASDC
		NOISE=1	
		ooh owh eh (=2.5)	EXCL
		God! ger away, ger away (6)	PFWA
		/hə hə/ it's coffee (3)	ASID

G & A / 7M / hamster 2

Tn	Sp	Utterance	C-act
1	A	what 'e's doin'? (2)	RQPR
2	G	look (2)	ODAG
3	A	'ere (.5)	EXAC
		here you open that (2)	
		here open that	RQAC
4	G	can't pu' it in	ASIR
5	A	ah?	ODCQ
6	G	can't pu' it	ASIR
7	A	'e's a girl	ASID
8	G	he? (1)	RSAK
		'at's a girl? (2) 'at's a //girl?	RSAK
9	A	eh?	ODCQ
10	G	/ə/ go like 'at (1)	RQAC
		JUST THAT	
		look (.hh)	ODAG
		what she doin'? (2)	RQPR
11	G/A	@ @ @ (5) /his/ (noise=1) (3)	UNTP
12	G	hee (noise=.5)	
13	A	wha' you doin'? (5.5)	RQPR
14	A/G	hey hey (1.5)	ODAG
		ya open up der	RQAC
		hoi (.) /p s n/ (.hh)	ODAG
		where are ya goin'? (20)	RQPR
15	G	'e gonna 'ave little arms	ASEX
16	A	yeah	RSAK
		look (.5) what 'e's doin'? (.5)	RQAC
		aah(=1)	EXCL
17	G	(laugh=1.5) (2) (laugh=.5) (58)	
18	A	can ya see a blue ball?	RQCH
19	G	hey	ODAG
20	A	what?(2)	ODCQ
21	G	I- I'm /ə fa/	ASDC
		FOUR	
22	A	where's /fa/?	RQPR
		FOUR	
		[looking at number line prob.]	
23	G	don't know	RSPR
24	A	where's nine? (2)	RQPR
		where's //six? (2.5)	RQPR
25	G	@ @	UNTP
26	A	and where's: (1) where's eight? (2)	RQPR
27	G	don't know (2.5)	RSPR
		five (2)	ASID

28	A	what's that number?	RQPR
29	A	will 'e bite? (2.5)	RQCH
		oh: 'e's goin /ə/ bite (.5) TO	ASAT
		look (.5)	ODAG
		he's climbing (6.5)	ASDC
30	G	come on (.)	RQAC
		don't do dat	RQAC
31	A	@ can we stop 'im? (.5) HOW maybe	RQPC
		does it (.) stop 'im (1) does it? (4)	RQCH
		(laugh=1) (4)	
32 d	G	/h / 'im hit no (.)	RQAC
		no don't (1.5) don't do it (22)	PFPR
		wai' (1.5) wai' WAIT WAIT	RQAC
		stop it (2.5) (laugh=.5)	PFPR
		wai' (.) WAIT	RQAC
		you stop (1) (laugh=.5) (7)	PFPR
		/dəω ka ðis/ (2) EYES maybe	UNTP
33	A	(.hh) (1) get back (2)	RQAC
		ah! (6)	EXCL
		d'ya pu' it like dat? (2) [knocks micro.]	RQCH
34	A	dat's /səpɔdəi/ show. Saturday show (1) SATURDAY	
		Saturday show dat (1)	ASID
		/dɔ ðn ə də/ (noises=2)=	
35	G	look der (2) (.hh) (2)	ODAG
36	A	what 'e's doin'?	RQPR
37	G	eh?	ODCQ
38	A	what 'e's doin'?	RQPR
39	G	she's cleanin' 'er (.5) a /məp/ (2)	RSPR
40	A	she's bathin'?	RQCH
		// oh	EXCL
41	G	yeah* (1)	RSCH
		she's bathin' (6)	RSCH
42	A	(laugh=1) (.) 'e don't likes dat (2)	ASAT
		(nonsense=4) (3.5) /rə w wiðdrink (3.5) ROUND WITH maybe	UNTP
		(blowing =5) (2)	

G & D / 7m / rabbit

Tn	Sp	Utterance	C-act
1	D	*ethe na rəkh* HERE NO PLACE	RQAC
2	G	@ @ @	UNTP
3	D	wwsh!	
		bite nɔi kərta məinu nəi bite (2) bite nəi (4) BITE NOT DO TO-ME NOT BITE BITE NOT	RQAC
		eeh! (11.5)	EXCL
4	G	*o nɪkkə si hɷn vəddə* (7) HE SMALL WAS NOW BIG	ASDC
		eh:: (2)	EXCL
		(hh) *tũ ki kərdi a?* YOU WHAT DOING AUX	RQPR
5	D	*othe dekhna* OVER-THERE LOOK	ASIR
		(from intonation; I WANT TO LOOK OVER THERE)	
6 d	G	*nɔi* (.5) NO	PFPR
		tũ crisps *læne ode* (1) YOU TAKE HIS	ASAT
		e na crisps? PN. qtag YOU WANT THE CRISPS DON'T YOU	RQCH
7	D	/krip/ (2) CRISPS	RSAK
8 d	G	*tũ nəi læne* (2) crisps YOU NOT TAKE	RQAC
9	D	@ @ @ @ (1) WHAT D'YOU MAKE maybe	UNTP
		mæ @ @ ẽ (.5) um (2) I IS	UNTP
10	G	/l p/ (2.5) *pətta nɔi @ (.) pətta nɔi (2)* LEAF NOT LEAF NOT	RQAC
		(blowing=2)	
	G	*o mera khalɷga* (10) HE MINE WILL-EAT	ASAT
11	D	*ki @ @ @* (.hh) Q (othe tɔk =HERE UP TO maybe)	RQCH
		eeh	EXCL
		kere WHAT	ODCQ
		eeh	EXCL
		/ɔɪ gə rə/ [background noise and straying from mic]	
12	G	*/tiha/?* SO	ODCQ

13	D	*khəlatə (6)* MESS	ASID
14	G	*kɪddɔr / da khada le/* (3) TO-WHERE	RQPC
		@ @ @ @ @ @ a EST 4WP	UNTP
15	D	@ @ @ @ @ @ (2) ↑mm bwlə ndi=I CALLING maybe (EST 3WP)	UNTP
		ah (.) ah (.) eeh: *tũ bwlɔndi ã (2)* YOU CALLING AUX	EXCL ASDC
16	G	*mæ mæ enu pələ̃ hwn* I I TO-HIM WILL-CAUSE-TO-DRINK NOW	ASIR
17 d	D	*nəi (.) nəi* NO NO	PFPR
		mæ hwn pəlũ (3.5) I NOW WILL-CAUSE-TO-DRINK	ASIR
		@ @ (.) @ @ @ (3) IS SIT I NO LIKE maybe	UNTP
		eeh (6)	EXCL
		mæ kɪa ethe rəkhde I SAID HERE PUT	RQAC
18 d	G	*nəi (2)*	PFPR
19	D	*bəccɪəŋ nu dede (.)* CHILDREN TO(pp) GIVE	RQAC
		enu pətte dene (1) enu pətte dene TO-HIM LEAVES GIVE TO-HIM LEAVES GIVE	RQAC
20	G	here (.) here rabbit (26)	EXAC
21	D	*mæ bəŋdə kərta* I CLOSE DO	ASIR
22 d	G	*nəi* NO	PFPR
		khwlla rəhnde (1) OPEN REMAIN	RQAC
		o /rovga/= HE WILL CRY	ASAT
		(noise=.5) (1) // (noise=1)	
23	G	@ @ (5) /ɪə nəw i ðə ka/ (2) YOU KNOW @ THAT CAR maybe	UNTP
		/əvəs kənd/ (1) over= OVER GROUND maybe	UNTP
24	D	*hə tũ enu gilla kərta (3)* OH YOU TO-HIM WET DO	ASDC
		mæ enu kɪtthe rəkh- I HIM WHERE PUT	RQPR

		(5)	
25	D	'ere (1) 'ere	EXAC
26	G	hello (3)	ODAG
27	D	*/a/ dekh 'ne ki kita (2)* AH LOOK HIM WHAT DID	RQAC+ASDC
28	G	too late to stayin' in bed	ASEV
29	D	/e bɘk ɪ ɔn/ der	UNTP
30	G	eh: (7)	EXCL
31	D	*mæ othe (5)* I THERE [moving away]	ASIR

		(2.5)	
32 d	G	bitin' (4)	ASDC
		ɪda na karo onu (1.5) LIKE-THAT NOT DO TO-HIM	RQAC
33	D	*meithõ* telly *nɘi kɘrdi* (3) ME-FROM NOT DO	UNTP
		/dɔ dɘ dɘ/(=2) (3.5) NOISES	
34	G	/tek/ @ @ (7) TAKE HIM HOME maybe	UNTP
35	D	'ere y'are (12)	EXAC
		'ere (2) (.hh)	EXAC
		ki lɪkhɪa WHAT WROTE	RQPR
36	G	*khol (1.5)* OPEN	ASDC
		kɔn /ωda/ gɪa? WHO OVER THERE WENT	RQPR
37	D	eh eh /lɘbit /(.hh) RABBIT	ODAG
38	G	*e khã̆ lɘggɪa* (.hh) (.5) (.hh) @ @ (6) HE EAT BEGAN	ASDC
39	D	@ *othe rɘkhde* THERE PUT	ASDC
40	G	@ @ @ (4)	UNTP
41 d	D	*@ @ na @ @ (8)* Qtag	
		tũ̆ othe rɘkhde na si ethe (2) YOU THERE PUT Qtag WAS HERE YOU SHOULD HAVE LEFT IT THERE	ASEX
		uhh! uuh(=1) (.)	EXCL
		bite kɘr lIe (1.5) BITE DO (ie compound suggesting completness)	ASDC
		bite kɘr legg - lɘgga hhm (9) BITE DO BEGIN	ASDC

G & S / 7n / guinea pig

Tn	Sp	Utterance	C-act
1	G	ɔp! (1) bɔp! (1) ɔw! (1) (laugh=1)	EXCL
	S	(laugh=.5) (2)	
	G	t eeee (noises=2)	
	S	(laugh=1)	
	G	// (laugh=2)	
	S	(laugh)	
2	G	ɔw (.) i (.) ɔw eh! eh!	EXCL
	S	(laugh=2)	
3	G	b (.) eh!	EXCL
	S	(laugh)	
4	G	eh!	EXCL
	S	(laugh=1)	
5	G	oooh! oooh!	EXCL
	S	(laugh)	
6	G	ooh!	EXCL
7	S	(laugh) /ɔz ə kɔw/	UNTP
	G/S	(laugh)	
8	S	(laugh=2) (4) owh!	EXCL
9	G	wɔh! (1) ssss! (3)	EXCL
10	S	hello:	ODAG
11	G	hello:	ODAG
12	S	hello:=	ODAG
13	G	hello:	ODAG
14	S	//hello	ODAG
15	G	hello* hello hello hello	ODAG
16	S	hello: (1) hello: hello:=	ODAG
17	G	hello	ODAG
18	S	(laugh=2) (3) hello:	ODAG
19	G	hello (blowing)	ODAG
20	S	(laugh=8) can't eat it (3)	ASAT
21	G	why?	RQPC
	S	(laugh=2) (6)	
22	G	oh! (4)	EXCL
23	S	I I /itə/ hello (2)	ASDC
		WRITED maybe	
		[S goes to door]	
24	S	hello	ODAG
25	G	hello (2) [blowing noises=3] (3.5)	ODAG
26	S	hello:	ODAG
27	G	hello: (2) 'ello (3)	ODAG
28	S&G	whhh(=2)	EXCL
		(laugh=3) (3)	
	G	(laugh=2) (3)	
29	G/S	ewh! (5.5)	EXCL

	G&S	(laugh=3)	
		(laugh=2) (4)	
30	G	'ello (4)	ODAG
31	S	hello:	ODAG
32	G	//hello:	ODAG
33	S	hello* (laugh=1) (6) (laugh=3)	ODAG
		ooh ooh(=2) (1.5)	EXCL
34	G	/təp!/ (2) /bəp!/ (5)	EXCL
35	G/S	wooh! (8)	EXCL
36	G	/kəwk/ (2)	UNTP
37	S	where he go den?	RQPR
		I can't see 'er (4)	ASIR
38	S/G	aah (5) (laugh=1) (2) wh (3.5) wh (1)	
		wh:: (6) (laugh=2) (2)	EXCL
39	G	dat move (4)	ASDC
40	S	ooh ooh (=2) (3.5) ewh! (2) ooh! (4)	EXCL
41	G	uh! (33) oh! (2) (laugh=2) (4) ooh	EXCL
42	S	aah (5)	EXCL
43	G	can ya' 'ear somethin' ? (HEAR)	RQCH
	S	(laugh=1)	
44	G	owh!	EXCL
	S	(laugh=1)	
	G	ahh	EXCL
45	S	(laugh=1) (2) *dekh dekh!* (LOOK LOOK)	ODAG
46	G	*vo* ooh (2) (OH)	EXCL
		/ə tɪk @/ (2) /ə tɪk a kəw/ (3.5) /oi kəkə/ (NONSENSE (=.5) (=1) (=1.5))	
	S	(laugh=2)	
47	G	aah(=1) (2)	EXCL
		/kəkəkəld /(=1) (4)	
		ooh(=1)	EXCL
	S	(laugh=5) (10) (noise=2) (3)	
48	G	give 'er it (2) pəp! pəp! (3)	RQAC

(Leeds 2)
T & S / 9M / rabbit

Tn	Sp	Utterance	C-act
1	T	dinner *tũ de onu* YOU GIVE TO-HIM	RQAC
2	S	*mæ nɔ̀i den'* I NOT GIVE	RSCO negative
3	T	*tũ* book *dekhla fer* YOU BOOK LOOK AGAIN	RQAC
4	S	*meri ghɔ̀ri dekhla* MY WATCH LOOK	RQAC
5	T	*ki? (4.5)* WHAT	ODCQ
6	S	*ai* HEY	ODAG
		swtto THROW	RQAC
7	T	*e tũ- tɔinu khan lɔ̀ggda si* HE YOU TO-YOU EAT ABOUT-TO WAS	ASAT
8	S	eh (3)	EXCL
		@ @ @ @ *onu pani dedeti?* TO-HIM WATER GIVE DID YOU GIVE HIM WATER	RQCH
9	T	*kIoɲi pina?* WHY DRINK	RQPC
10	S	*ja en' 'ωch khalia /hɔ̀/ (9)* OR HE SOMETHING HAS-EATEN COULD HE HAVE EATEN SOMETHING	RQCH
		/ɔ̀ Im ɔt it/ (8.5) HIM ATE IT prob	ASDC
11	T	*hωn mæ drɔ̀ŋgi (3)* NOW I WILL-GIVE	ASIR
12	S	@ *eda na ki a? (2.5)* HIS NAME WHAT IS	RQPR
		eda rahnde (4) HIS LEAVE	RQAC
13	T/S	ahh (=.5) (2)	EXCL
14	T	*bɔ̀cca* LITTLE-BOY	ASID
15	S	*/ɔ̀lo/ mæ dɔ̀rdi ã̃ (2)* I SCARED AM	ASIR
16	T	*eda kɔ̀r* HIS DO	RQAC
		(coughing =4)	
17	S	ah! (9)	EXCL
18	S	*pani pina /fə̀ də̀ tu/* WATER DRINK	RQAC

19	T	@ @ *deda deda* GIVING GIVING	UNTP
20	S	/na die/	UNTP
21	T	um?	ODCQ
22	S	@ @ @ @ @ @ @	UNTP
23	T	eat your dinner (.5)	RQAC
		he wants 'is dinner	ASAT
24	S	eat	RQAC
25	T	come on	RQAC
		dinner	ODAG
		pila pila pi DRINK DRINK DRINK	RQAC
26	S	*pi* DRINK	RQAC
27	T	dinner (.5)	ODAG
		eat it	RQAC
		no	PFPR
28	S	oh	EXCL
		/s/ dinner *nəi khanda (2)* NOT EATING	ASDC
29	S/T	@ @ @ @ @ @ @ (6)	UNTP
30	T	*ʧɔɪɲ t gəi* TOILET SHE-HAS-GONE	ASDC
31	S	*ʧɔɪləta kɪtthe e?* TOILET WHERE IS	RQPR
32	T	oh	EXCL
		təinu nəi pəta? TO-YOU NOT KNOWN	RQCH
		twsiŋ kərna? YOU DO	RQCH
		nəi NO	RSCH
		mæ nɪkki kərni @ @ I SMALL DO	ASDC
		tu̇ nəi kərna YOU NOT DO	ASAT
		pph @ @ nɪkki // nɪkki @# SMALL SMALL	UNTP
33	S	@ @ @ # @ @ @ @ (2) GO TOILET GO TO TOILET	ASIR
34	T	eat it	RQAC
35	S	*na (1) /nɔkɔ/* NO (na kha= NOT EAT)	RSCO negative
36	T	apple *dwd* MILK	ASID
37	S	*o pinda nəi* HE DRINKING NOT	ASDC

		ki kərda e? (1.5) WHAT DOING(m) AUX	RQPR
		/jɪəpə/ pi pi APPLE DRINK DRINK	RQAC
	S/T	*mæ dendi ã̃ (.)* I GIVING AUX	ASDC
38	T	*ləɪ ləɪ,* TAKE TAKE	RQAC
		/ɪe/ khanda hɷnda THIS EAT (habitual) THIS IS WHAT HE EATS	ASDC
		/ə ə::k/ (shout) (7)	
39	S	@ @ @ @ @ (13)	UNTP
40	T	*hɷn /vɷh/ khanda* NOW HE EATING	ASDC
		/ɪe/ nəi pani @ pina PN. NOT WATER DRINK	ASDC
		/rəhde/ (4) (rahnde= LEAVE IT prob)	RQAC
41	S	not dis /d k l (.) mani c ɷ/ (2)	UNTP
42 d	T	kickin' (2)	ASDC
		keep ya feet der (2.5)	RQAC
43	S	you do it (8.5)	RQAC
		mæ- mæ /bɷgi təstəiə/ I I ?	UNTP ODCQ
44	T	no (.hh) (2)	PFPR
		o khan' /ləgbi a/ hana HE EAT HAS-STARTED-TO Qtag	ASDC+RQCH
		/ʃə dəw/ (2) SHALL I DO maybe	UNTP
45	T/S	ah ah (3)	EXCL
46	S	*mæ dəsdia @ pani* I TELL WATER SHALL I TELL HER ABOUT THE WATER	RQCH
47	T/S	@ I've got a sweet *hana* . Qtag	ASDC+RQCH
		@ desk *cə* @ @ @ IN	ASDC
		(5)	
48	T/S	@ @ @ @ (laugh=3) (4) (laugh=1)	UNTP
		e tõ ajanda (6) IT FROM COME IT COMES FROM HERE	ASDC
49	S	@ @ @ (cəlie 'jinder=LET'S GO TAJINDER prob)	RQSU
50	T	/ci/ (1.5) NOISE	

51	S	*ethe aja (6)* HERE COME	RQAC

52	T	*/kɯkola/* baby NAME	ASID
	S	(laugh=2)	
53	T	*hɯn apaŋ ki kərie* NOW WE WHAT DO NOW WHAT SHALL WE DO	RQPR
54	S	*mæ paɲi deda (.5)* I WATER GIVE	ASIR
		dede GIVE IT	RQAC
		mæ @ @ @ (.) @ @ @ (.) mæ @ @ I I	UNTP
55	T	@ @	UNTP
56 d	S	um (2)	RSAK
		mæ de paɲi I GIVE WATER	ASIR
57 d	T	*na* (3) NO	RSAG disagree
		@ @ @	
58	S	no ~	RSAG disagree
59	T	e to phər IT FROM HOLD	RQAC
		eat it	RQAC
		nəi NO	PFPR
		paɲi de ɯnu (3) WATER GIVE TO-HIM	RQAC
		de, təinu hətth tera GIVE TO-YOU HAND YOUR	RQAC

T & M / 9m / guinea pig

Tn	Sp	Utterance	C-act
1	M	*ethe* HERE	EXAC
2	T	*kɪtthe?* WHERE	RQPR
3	M	*ethe* (2.5) HERE	EXAC
		(laugh=17)	
	M	@ @ @// @ WHERE DOES HE @ prob	RQPR

		(la*ugh=3.5)	
	M	@ @ // (laughter=19)*	UNTP
		IS SCARED maybe	
4	T	*aja (2) aja (6)*	RQAC
		COME COME	
		a le	RQAC
		IT TAKE	
		mæ pani padi hɯn ede (1)	
		I WATER PUTTING NOW (on) HIM	
		hɯn ede /pətenɪ/ (1)	ASDC
		NOW (on) HIM ?	
		a le	RQAC
		IT TAKE	
		hor padi e (1)	ASDC
		MORE PUTTING AUX	
		hor nəi (2)*	RQAC
		MORE NO	
		e paie?	RQSU
		THIS SHALL-WE-PUT	
5	T/M	ah (1.5)	EXCL
6	T	// come 'ere */ə/** (.)	RQAC
		(laugh=1.5)*	
		rabbit (6.5)	ODAG
		// ah (7)	EXCL
		/ai/ aja (2)	RQAC
		COME	
7	M	*mardi e**	ASDC
		HITTING AUX	
		SHE IS HITTING	
		(laugh=17)*	
8	T	*dekh dekh*	ODAG
		LOOK LOOK	
9	M	*apaŋ dekhie* book */əji/*	RQSU
		WE LET'S-SEE	
10	T	*nəi*	RSCO negative
		NO	
		/di/ book */eɪa/* @	UNTP
		IS-THIS	
11	M	*/ɪani tea ani/ tũ kədoŋ jaungi?*	RQPR
		? YOU WHEN WILL-GO	
12	T	*ja bɯdde* (1.5)	PFJO
		GO OLD-MAN	
13	M	na // cukoo	PFJO
14	T	*/bà/* come si' down (1)	
		SISTER	
		sit down girl (1) sit down Manjeet	RQAC
	T/M	uh	
		NOISE	
	T	sit down der (1)	RQAC
		now d'you want tea? (2) @	RQCH
15	M	I bought dat story	ASDC
		it- it's called de birthda'	ASDC

	M/T	I took @ @ (7)	UNTP
	M	where's the dinner?	RQPR
16	T	ye::s (2)	RSAK
17	M	// @ @ @	UNTP
		CAN HAVE IT prob	
18	T	look in der, can we? (3)	RQCH
19	M	it's more (.) it's it's /skəɔnd/	ASDC
		CANNED	
20	T	ahhh(=2.5)	EXCL
21	M	and you can open dat other one (5)	RQSU
22	T	ahhh (=1.5) //@ @ ah*hh(=1.5)	EXCL
23	M	I got a /lelestɔ/ (1.5)	ASDC
24	T	ohh(=1) (.5)	EXCL
		where is dat dog? (.5) dog	RQPR
25	M	look (.)	ODAG
		you 'ave some, some some *pani*	RQSU
		WATER	
26	T	he he hide der (1) he hide der	ASDC
27	M	yeah	RSAK
		I put some (.5)	ASDC
		I put dat on 'im so 'e can't // come out	ASEX
28 d	T	/ɔ sɔr/* naughty girl	ASEV
29	M	ehh(=1)	EXCL
30 d	T	sit down now (4)	RQAC
31	M	where've I seen dis one?	RQPR
		I put a=	UNTP
32 d	T	sit down on your bottom (1)	
		like dat (4)	RQAC
		now do dat (2)	RQAC
33 d	M	/ke/	RSCO
		CAN'T	
34 d	T	eat it	RQAC
35 d	M	no (4.5)	RSCO
36 d	T	are ya 'eatin' it (.)	RQCH
		/ɔ/ eat it	RQAC
37 d	M	no (5.5)	RSCO
		what is s- (1.5) what is dis room?	RQPR
38	T	I don't know (3)	RSPR
39	M	I think it's (.) when ya have your (.) tea	ASEX
		(1) I want tea=	ASIR
40	T	I no like de tea	ASEV
41	M	I don't (1.5)	RSAG
		where's dat girl?	RQPR
42	T	what?	ODCQ
43	M	where's dat girl? (4)	RSCL

44	T	(hh) come 'ere (3)	RQAC
45	M	no	RSCO negative
46 d	T	sit down /en/ der THEN or IN	RQAC
47 d	M	no (2)	RSCO negative
		I /ɔnesli kəmə ker/ HONESTLY COULDN'T CARE prob	ASEV
48 d	T	@ stand up	RQAC
49 d	M	no	RSCO negative
50 d	T	stand up	RQAC
51 d	M	no (4)	RSCO negative
52	T	/pələ s/ (.) pick /ə/ up (1)	RQAC
		good boy (5)	ASEV
		come now, sit down	RQAC
53	M	no	RSCO
54	T	sit down der den (4)	RQAC
		did you really come in all these	
		/ɛɔre::::r/ (=2)	RQCH
		(.5) what you lookin' ? (4)	RQPR
55	T/M	what's a @ @ @ @ @ @ @ @ @ (=6) (7)	UNTP

T & H / 9n / birds

Tn	Sp	Utterance	C-act
1	T	/ fərs/ do that,	RQAC
		you first now	ASEX
		eat (.) dem (1)	UNTP
		can eat your finger	ASAT
2	H	they got enough times /təkəw/	ASDC
		here y'are /təkəl/ here y'are bi'=	EXAC
3	T	come on, come on (2) come on /swer/ (.hh) SWEET maybe	RQAC
		he can come out there (2)	ASEX
		he can poke /ə ə/	ASEX
		here y'are (.5) here y'are (.) here dinner	EXAC
4	H	/ə/ dinner	EXAC
5	T	here dinner	ODAG
6	H	dinner	ODAG
7 d	T	he can eat it.	ASAT
		put it in there back first (.hh)	RQAC
		don't (.)	PFPR
		/fɔ də pə də / back (.) put it back there FIRST @ PUT @ prob	RQAC

		he's eats then (9)	ASEX
8	H	dat's mine (1)	ASDC
		they are mine	ASDC
9	T	yeah (2.5)	RSAK
		here y'are (1) here y'are	
		d'your dinner (2) here y'are	EXAC
10	H	let's go (1) let's go	RQSU
11	T	eh?	ODCQ
12	H	let's go	RSCL
13	T	here y'are (.) dinner	EXAC+ODAG
14	H	let's go	RQSU
	H/T	@ @ @ @ @	UNTP
		↑ GOIN prob	
15	T	dinner (1)	ODAG
		eat dinner (2)	RQAC
		dinner (4)	ODAG
		here y'are (3)	EXAC
16	H	/kəm/ go there (2.5)	ASAT
		COME or CAN	
17	T	//here	EXAC
18	H	here y'are*	EXAC
19	T	here y'are	EXAC
20	H	here y'are (1) /dəkəl/	EXAC
21	T	here you //here y'are	EXAC
22	H	here y'are*	EXAC
23	T	dinner	ODAG
24	H	dinner	ODAG
	T/H	/pi/	UNTP
25	H	go outside	RQSU
26	T	/wət ə dəiɪə tə/(3)	ASIR
		WANT TO TOILET	
27	H	havin' dinner	ASDC
28	T	here @ (4)	EXAC
		naughty girl	ASEV
		come on (.hh)	RQAC
		eat dinner (.) and /wətcə/ (2)	RQAC
		WATER prob	
		come on (1)	RQAC
		pu' it da back (2)	RQAC
29	H	/wəh/ (3)	UNTP
30	T	come the /fɔk/ der	RQAC
		FORK maybe	
31	H	/əf/ to make these /de/	ASRU
		I HAVE	
32	H/T	oh	EXCL
		/əv/ come (2)	UNTP
33	T/H	'e hittin' /ə/ me (2)	ASDC
34	T	don't,	PFPR
		do it over /fə/ (1.5)	RQAC
		FIRST	

35	H	I'll 'ave it	RQSU
36	T	@ @ gimme /bepəl/ (.5)	RQAC
		COME ON APPLE prob	
		put it in der /bəp/	RQAC
		APPLE prob	
		they're small	ASDC
37	H	/ə ɔ stəb/ (3)	UNTP
		AH I STOPPED maybe	
38	H	what to do /əs kən fɔl/? (2.5)	UNTP
39	T	hello	ODAG
		my dinner goin' downstairs (3)	ASDC
40	H	what ya doin' now?	RQPR
		tell teacher	PFWA
41	H/T	/iɔ/ (1) /kəwl/	UNTP
42	T	/pəz/	UNTP
43	H	you can eat it now	RQSU
44	T	have you seen that? (1) and some more?	RQCH
		(2) @ @ (1) @ @ (2.5)	
		SOME MORE maybe	
		some more (1.5)	RQSU
45 d	H	put it (4)	RQAC
		ss it's stuck (4)	ASDC
		I'll pick up	ASIR
		no g-	UNTP
		I'm goin' put in (2.5)	ASIR
		he can eat it	ASAT
46	T	eating now (.5)	ASDC
		ain't ya?	RQCH
47	H	yeah	RSCH
48	T	go back	RQAC
		he go	ASDC
49	H	der (16)	EXAC
50	T	dat much (3)	ASDC
51	H	that's a good one	ASEV
52	T	yeah?	RSAK
53	H	that's a good one (1.5)	RSAK
54	H/T	/iəs/ (5)	UNTP
		YOURS maybe	
		they're eatin' /əwt/ (5)	ASDC
55	H	/wəl e Is/	UNTP
		WHAT IS THIS maybe	

56	H	he doin' it (4)	ASDC
57	T	where's the fruit?	RQPR
58	H	'ere y'are	EXAC
59	T	where's fruit? (1)	RQPR
		@ fruit (5)	ASAT
		WANTS	
60	H	/ə/ we read /di/ books (1.5)	RQPM
		CAN THESE	
		eh? (1)	RQCH
		/əm ənz/ leave de book	UNTP
	T/H	it's a happy birthday @ (2)	ASDC
61	T	don't /fil əm/ (3.5)	RQAC
62	H	wwh (=.5) (.)	EXCL
		go for a /wəiwəi/ (5)	UNTP
		RIDE RIDE maybe .	
		he go fast now	ASDC
63	T	he go' all (.5)	ASDC
		want some fruits (3)	RQCH

A & J / 10M / guinea pig

Tn	Sp	Utterance	C-act
1	J	eh (3)	EXCL
2	A	/əw di bəwtz/? (10) WHOSE ARE THESE BOOTS prob.	RQPR
3	J	ah (1)	EXCL
		I go sit 'ere (5)	ASIR
4	A/J	oww (=1) (2)	EXCL
5	J	ssh (=1)	EXCL
		you're gonna drop it	PFWA
6	A	what's /ə/ (1) THAT or UP	RQPR
		[clap clap] (laugh=1) /bə ə wə/ (=.5)(1.5) NOISES	
7	J	wha' ya /wə / (1.5) WANT	RQPR
8	A	my god	EXCL
9	J	ohh(=1) (.5)	EXCL
		she's gone to sleep	ASAT
		owh(=1)	EXCL
		doesn't want the crips	ASAT
10	A	put 'em in (1)	RQAC
		/bəi/ your friend now I'M	ASIR
11	J	@ @ @ @ @	UNTP
12	A	go like dis den	RQAC
13	J	no	RSCO
		why @ @ @	UNTP
		she might bite my finger (1)	ASAT
		jus' a little bit /ə/ THEN	RQSU
		yeah	RSAK
		go on, go on, go //@	RQAC
14	A	go* on (5)	RQAC
15	J	why? (1)	RQPC
		@ @ @ @ @ @ (1) LOOK THEY BEEN EATING CRIPS	ODAG+ASDC
		@ @ @ @ @ (.5) @ @ @ @ mines in. ↑EATING maybe	UNTP
		put yours in	RQAC
16	A/J	yeah (X7)	RSCO
		apple	ASID
		(6) (laugh=1) (.) (laugh=3) (.5) (laugh=1) (5) [clap clap] (1) (noise=.5)	
		[clap clap] oh [clapping=5)	EXCL
17	A	ssh ssh	PFWA

		she's comin' /tə bəw/	ASAT
		JUMP OUT maybe	
18	J	oh	RSAK
19	A	she might 'ear and jump out	ASAT
		HEAR	
20	J	oh	RSAK
21	A	@ @ jump out @ @	ASAT
		THAT ONE	
		go on @ @ @	UNTP
		(1.5) /təin/	UNTP
22	A/J	(whispering=5)	
23	A	/pə ʃəm/ (.)	RQAC
		PUSH HIM	
		missed	ASEV
24	J	yeah?	RSAK
25	A	no	RSAK
		/pə ə drə ɔf/ get in car (1)	UNTP
		10p look at /ət/	RQAC
26	J	yeah	RSCO
27	A	/ə shəw tə den/ (2)	UNTP
		and she's comin'	ASDC
28	J	I /wə/ to come on	ASIR
		WANT	
		I wanna @. I wanna go in the corner	ASIR
		I wanna go back in the /cɪldənz rəum/	ASIR
		CHILDREN'S ROOM	
		I'm - in' @ @ @	UNTP
		no no @ @ @ @	PFPR
29	A	ssh ssh (2)	PFWA
		shu' up (7)	RQAC
		[clap clap] (3) [clap clap] (.5)	
		[clap clap] (2) [claps x 4] (7)	
		ssh @	PFWA
		come give us it (3)	RQAC
30	J	eh up	ODAG
		he's coming	ASDC
31	A	no	RSAG disagree
		she's coming	ASDC
32	J	where dat cover /de/	RQPR
		THEN	
		he coming now	ASEX
		what's dis?	RQPR
33	A	what?	ODCQ
34	J	'ook	ODAG
35	A	it's (1) s(.)pider	ASID
		(laugh=1)	

36	J/A	@	UNTP
37	A	ssh (1.5)	PFWA
38	J/A	/pəidə/ (3) SPIDER	ASID
39 d	J	I'll tell teacher of you	PFWA
40	A	why? (4)	RQPC
41	J	/ə wəi də/ (6) I MIGHT DO IT	RSPC
		she (2) [clapping=1.5] @ @ @	UNTP
42	A	yeah (5)	RSAK
43	J	/ode pədək/)	
44	A	O.K. /bəngu/) PLAYING WITH SOUNDS	
		(laugh=2) (laugh=10)	
45	J	@ @ was easy (1.5) @ @ (5.5) THAT ONE maybe	ASEV
		(noise=2) (laugh=2.5)	
	J	'e /i/ more EAT	ASDC
46	A	she might jump out	ASAT
47	J	why?	RQPC
48	A	she'll jump out /ənfrə ɔ/ me (2) AND FOLLOW	RSPC
49	J	/wəi əp/	UNTP
50	A	whose are those boots?	RQPR
51	J	eh?	ODCQ
52	A	whose are those boots?	RSCL
53	J	oi /rɔpə/ they're pushin' off the thing	ASDC
54	A	whose are these?	RQPR
55	J	might be get // ɔst/ (2) @ @ @ @ LOST maybe	ASEX
56	A	if I put my hand in der she might bit my hand	ASEX
57	J	where's she?	RQPR
58	J/A	she /əbinə/ RABINA	ASID
59	J	let's sit on 'ere (4)	RQSU
60	A	a map, a map	ASID
61	J	yeah (.)	RSAK
		here	ASID
62 d	A	I'm n'your friend now	ASIR
63	J	why?	RQPC
64	A	no	RSCL

65	J	why?	RQPC
66	A	no	RSCL
67	A/J	see a map? (4)	RQCH
68	J	here's Leeds (1.5)	ASID
69	A	// I go'* go London	ASIR
70	J	Leeds ee ee Leeds is der	ASID
71	A	and dat's London	ASID
72	J	/a/ London	RSAK
73 d	A	I wanna go (noise=.5)	ASIR
		look	ODAG
		you got 'em (.hh)	ASDC
		you got my /bəndəs/ (.5)	PFCL
		that's my // @ @ @*	PFCL
74 d	J	@ @ @ @	RQAC
		@ GET AWAY FROM ME prob	
		hey	EXCL
		Rabina's coming	ASDC
		come on boy	RQAC

A & I / 10m / rabbit

Tn	Sp	Utterance	C-act
1	I	you gonna talk to 'im first	RQSU
		you talk first	RQAC
2	A	hello	ODAG
	A/I	hmm	
3	I	@ @ @ @ @ @ @	UNTP
		I WANNA HAVE A BIRTHDAY maybe	
	I/A	@ (3)	UNTP
		HOW or NOW	
4	I	'e's scared	ASAT
		@ @ @ @ @ @ @ @ (1.5)	
		I WOULDN'T DARE DO IT TO YOU maybe	
5	A	'e's goin' bite us	ASAT
6	I	yeah	RSAK
		you talk	RQAC
		he'll bite us (1)	ASAT
		shur up (3)	RQAC
		hey	ODAG
		gimme some food	RQAC
7	A	dis way?	RSAK
8	I	yeah (.) yeah yeah (.5)	
		yeah yeah yeah	RSAK
9	I/A	gimme dat:: (6)	RQAC

10	I	no (.) I didn't	RSCH
		@ @ dis.	UNTP
		SHOW 'IM maybe	
		do it like dat: (7)	
		do it like dat (2)	RQAC
11	A	give it to me eh? (2)	RQAC
		drink water (.) water	RQAC
12	I	ah:	EXCL
		do it like dis @ @	RQAC
13	A	/ʃəw/ it out (2) /ʃəw/ it out (3.5)	RQAC
		THROW THROW	
14	I	no (3.5) no	PFPR
		he doesn't like	ASAT
15	A	he come /bəwf/ (2)	ASDC
		OUT	
		wanna come out (1.5)	ASAT
16	I	open /t/ (3.5)	RQAC
		IT	
17 d	A	give dis (1) a drink /ə/ water (4)	RQAC
		OF	
		no	PFPR
		like dis (2)	RQAC
	A/I	eh eh /kiki/ (banging=4.5)	EXCL
		NOISE	
18	I	/nə gə tə/ (1.5)	RQAC
		LOOK AT THAT	
19	A	dat's it (.5)	ASID
		goin' drink 'ere	ASAT
20	I	@ /gəz əwt/ (3.5)	RQAC
		LOOK AT THAT prob	
		yeah we /bəwt/ (1.5) @ @	UNTP
21	A	what's dis?	RQPR
22	I	those are crips	RSPR
23	A	eh?	ODCQ
24 d	I	crips and don't chuck it	RSCL+RQAC
25	A	why?	RQPC
26	I	no /ə ə ə/	RSCL
		eat and eat erm: dat to /wir/	UNTP
27	A	dis?	RSAK
28	I	no	RSAK negative
		eat dat to /wir/	RSCL
29	A	'e's comin' out (2.5)	ASDC
		/pəs dat pəʊn/ see dat /pəʊn dat pəʊn/	UNTP
		WHAT or ONE HAPPENED maybe	
30	I	yesterday jump (1) ow	ASDC+EXCL
		I'll see dat on TV. (.) relax (.) oh	ASDC+EXCL
		I' seen it on TV. (.)	ASDC
		ah (.)	EXCL
		//dzəmɔ/ T.V.*	ASEX
		CHILDREN	
31	A	@ @ @ eh	UNTP

32	I	I' seen on-	ASDC
33	A	oh	EXCL
		comin' out	ASDC
34	I	no (1)	PFPR
		/təsə/ him	UNTP
35	A	'e's comin' now	ASDC
36	I	'e can /dəw/ down	ASAT
37 d	A	look (.)	ODAG
		der's some water der (4)	ASDC
		no	PFPR
		like dis (.) like dis	RQSU
38	I	oh:: (.)	EXCL
		can't	ASIR
39	A	ək	ODAG
		LOOK	
		like dis	RQSU
40	I	oh dear (.) /kɪk əwdz/ (3)	EXCL
		OH DEAR	
		little piece	EXAC
		come here	RQAC
41	I/A	owh	EXCL
42	I	/ə məwt/ (2) not der	UNTP
43	A	it was m' birthday	ASDC
43	I	was @ was /kəitin/	UNTP
44	A	it's my birthday	ASDC
45	I	@ (.5) oh	EXCL
		'e's tired baby now	ASAT
46	A	could be /əw/ goin' bite us (1.5)	ASAT
		NOW	
47	I	yes:: @	RSAK
48	A	I'll get out (3)	RQSU
		der look	ODAG
		der lights (2.5)	ASID
		ah	EXCL
		it's comin' out (3)	ASDC
49	I	uh	EXCL
		ger down	RQAC
50	A	/də də/ water goin' eat /i ə/ (4)	ASAT
		THAT'S THE IT ALL	
		go on (7)	RQAC
		gi' /ə/ some (3)	RQAC
51	I/A	wh(=1)	EXCL
		/ri/ (4)	UNTP
		ALRIGHT maybe	
52	A	I said (.) gi' /ə/ some (.)	RSCL
		I give /ə/ some	ASDC
		give /ə/ some	RQAC

		/əfə/ no NOISE	RSAK negative
53	I	no, I can't /iə :/ (.5) HEAR maybe	ASIR
		/iə:/ (.) open de door (.5) HERE maybe	RQAC
		speaking thing (.) a speaking thing (1)	ASID
		eh	EXCL
		/ə/ can fall IT	ASEX
54	A	'ook	ODAG
		he's /ə/ goin'	ASDC
		look look look	ODAG
		see what he doin'	RQAC
		look watch watch (.5) watch (2)	ODAG
55	I	/etu/	UNTP
56	A	watch watch	ODAG
		go on then	RQAC
		watch=	ODAG
57	I	where? (1.5)	RQPR
58	A	/hi/ (2) HERE	RSPR
	A/I	(.hh) (2)	
59	A	gi' me some like dis	RQAC
		/ləw/ heard (1) HELLO	UNTP
		forward	RQAC
60	I	shut it (1) ahh(=1) ah	RQAC+EXCL
		I can't do it @ @ @	ASIR
61	A/I	/gə ʃə və də wə lə ʃə və/ SHOVE IT SHOVE IT maybe	UNTP
62 d	A	/irs/ gimme some dis	RQAC
63 d	I	no no	PFPR
		don't give 'im anymore	RQAC
		he's got /pɪs/ (.) already (1.5) PIECE	ASEX
64	A	eat some	RQAC
65	I	'e eat some	ASDC
66	A	pu' dis down here	RQAC
67 d	I	/ʔi na ho/	PFPR
		leave it der, will you?	RQAC
		no (1) don't /nəh/	PFPR
		don't do it like dat	PFPR
		'e's eating it	ASDC
		like dis	RQAC
		/sɪtə nə// here boy * here boy, here,	

			here boy (.) here y'are	EXAC
68		A	here /kərəj/*	EXAC
69	d	I	hey	ODAG
			'e's /məwə/ we scared him	ASAT/ASEV
70	d	A	put dat jug /ə/ water /ədə də/	RQAC
			OVER THERE	
71	d	I	no	PFPR
			you scared him	ASAT
			no, no,	PFPR
			you scared him now	ASAT
			/əh/ here boy, here	EXAC
72		A	here boy, here boy	EXAC
73	d	I	no, you don't	PFPR
			I /dəwən/	UNTP
			DO IT maybe	
			here boy, here boy (.5)	EXAC
			eating (1.5)	ASDC
74	d	A	/səw div də / water /mə/	RQAC
			DRINK THE prob MAN prob	
75	d	I	/həw nəw/	UNTP
76		A	here /səp/	EXAC
			SOUP maybe	
77	d	I	no no::	PFPR
			ger it out	RQAC
			no,	PFPR
			ger it (1)	RQAC
			ah	EXCL
			don't do it like dat	RQAC/PFPR
			look /ew/ water is out	ASEX
			HOW maybe	
78	d	A	/stə/ (1) /stəl ə/ ger out	RQAC
			come on, be full (.5)	RQAC
			/sitə/ good boy	ASEV
79		I	here boy, here boy, here @	EXAC
80		A	/sitek/ let /ʔ kərəj/	UNTP

A & S / 10n / guinea pig

Tn (6)	Sp	Utterance	C-act
1	S	go to de b- room	ASIR
2	A	@ @ @ @	UNTP
3	S	eh?	ODCQ
4	A	I /dəw/	RSAK
		KNOW	
5	S	eh?	ODCQ
6	A	we /kən/ he's dead	ASEX
		CAN or CAN'T	

7	S	yeah (30)	RSAK
		eatin' it (3)	ASDC
		look at 'im	RQAC
8	A	why we come @	
		why we come here?	RQPC
9	S	yeah	RSAK
		why de /odə/ lady come (.) why? (2)	RQPC
		OTHER	
10	A	@ @ poke (laugh=.5) (5)	UNTP
11	S	@ @ put dat up	UNTP
		I put two in der (2)	ASDC
		'e could go @	ASAT
		UP maybe	
		hey (.) hey(.) hey	ODAG
		le' it go	RQSU
12	A	le' go (1.5)	EXRP
13	S	d'you want t' go up? (2)	RQCH
14	A	why we @ @ @ (1) (whispering =3)	RQPC
		ohh [plop] (5)	EXCL
15	A/S	wh- (12)	
		keep dat door open (3)	RQAC
		(whispering=2) (34)	
16	A	why dat lady come? (3)	RQPC
		I @ @	UNTP
		DON'T KNOW or WANNA GO HOME	
		why dat lady come? (8)	
		lady come? (.) here.	
		dat lady come? (.) here (5)	RQPC
		she comin' now (4.5)	PFWA
		hide	RQAC
17	S	baby (1.5)	
		you got a baby (.) baby? (6)	RQCH
		's a baby (whispering=5) (4)	ASID
		THIS IS	
18	A	why d' we come? (3)	RQPC
		why's it out 'ere? (2)	RQPC
19	S	we don't /erk::/ (7)	ASDC
		WORK	
		she come (2)	ASDC
20	S	are we @ @ // * go home late	RQCH
21	A	oh oh*	EXCL
		does 'e do it?	RQCH
22	S	/na ə dɔw/ (nonsense=5) (3)	RSCH+RQAC
		NO YOU DO prob	
		ya /wət/ 'ere	ASDC
		WEREN'T	
		eat=	RQAC

23 d	A	eat (.)	RQAC
		don't gi' /m/ half (2) HIM	RQAC
		no don't	PFPR
		gi' 'im one half piece (4)	RQAC
24	S	/ɪz/ a lot	ASDC
25	A	I can	ASIR
26	S	'ere	EXAC
27	A	how?	RQPC
28	S	gi' /ə/ dat (1)	RQAC
		/əl/ it out (1.5) PULL	RQAC
29	A	how?	RQPC
30	S	ya pull it (.) den /dɪsen/ (.) LISTEN maybe	RSCL
		h'are (3)	EXAC
		it's here den (1.5)	ASDC
		done it	ASDC
31	A	/təl/ do it 'gain SHALL I	RQPM
32	S	yes (2)	RSCO
33	A	/ti dω i/ (3) (plop) SHALL I DO IT maybe	UNTP
		I hit (6)	ASDC
34	S	here y'are go' it	EXAC
	A/S	@ (4)	UNTP
35	S	/kəsən/ (5) ↑GIVE HER/US SOME prob	RQAC
		/təd karaə kəd jəra/	UNTP
36	A	I gi' 'im it first (7)	ASIR
		we could gi' it all look (.)	RQSU
		come 'ere	RQAC
		look (2)	ODAG
37	S	/wə/? WHAT	ODCQ
38 d	A	I said give it all now	RSCL
39	S	'ere (6.5)	EXAC
		ahahah(=1)	EXCL
		did it (.) I broke and did it (5)	PFCL
40	A	I see /də/ goin' home (.) (.hh) THEY	ASDC
		if dey could stop we could (4)	ASEX
		missed (8)	ASDC
41	A/S	/pɔ ə ən/ (11) PUT IT IN	RQAC

J & M / 11M / rabbit

Tn	Sp	Utterance	C-act
1	J	/tʔ ɹa wən/ eat it DON'T SHE WON'T maybe	UNTP
2	M	I know he can eat it in two minutes	ASAT
		(3) dat's 'is photo ya know	ASDC
3	J	if I 'ave to eat (.) /əm/ (.hh)	
		he'll 'ave to (2.5)	ASEX
4	M	here y'are, here y'are,	
		here y'are, here (1) /də/	EXAC
5	J	umh umh	EXAC
6	M	'ere eat:: (2)	RQAC
	J	(laugh=1)	
	M	a shoo ooh	EXCL
		'ere eat	RQAC
7	J	it's a rabbit (.)	ASID
		rabbit (.) eat	RQAC
8	M	put it there=	RQAC
9	J	eat eat eat 't (2)	RQAC
		ba: (.) shall I give some apple to 'im BROTHER	RQPM
10	M	eat y'apple	RQAC
		/u/ shall /ə/ pu' it pass it to 'im? (1.5) WHO or WHERE I	RQPC
11	J	shall we feed 'im?=	RQSU
		over der's a cake	ASDC
12	M	where?	RQPR
13	J	der	RSPR
14	M	oh /ə dəw/ I KNOW	RSAK
		we eat dat ca:ke	ASEX
15	J	it's only 'tending to be PRETENDING [it's a model birthday cake]	ASDC
16	M	/və/ I //know	RSAK
17	J	/kə/* (1.5) fog ?	UNTP
		here (1) here here here here	
		// here (about 7x more)*	EXAC
18	M	here (about 7x tunefully)* (2)	EXAC
19	J	*ba::* BROTHER	ODAG
20	M	oh aah:	EXCL
21	J	owh dear	EXCL/RSAK
	M/J	(hh) /bɔst/	UNTP

22	J	*`pa* BROTHER	ODAG
23	M	wwh (4) [plop]	EXCL
		eat	RQAC
24	J	der got it //* de' got it (4.5)	ASDC
25	M	eat* eat	RQAC
26	J	*`pa::* BROTHER	ODAG
27	M	what? (1)	RSAK
		you look // at it*	RQAC
28	J	that's your* picture book /əm/ in here?	RQCH
29	M	no	RSCH
		we could /stə/ some (2.5)	RQSU
		wh- der's the carrot (1)	
		the carrot (.) the carrot	ASDC
30	J	owh	EXCL
		he's not eatin' the carrot	ASDC
31	M	the carrot's der	ASDC
		carrot where?	RQPR
		der's the carrot	ASDC
32	J	oh owh (.5)	EXCL
		she won't ger out of the box (.5)	ASAT
		it's too long big (3)	ASEX
		de carrot (.) de carrot, de carrot.	ODAG
		owh owh ah wwh	EXCL
		(=3) it's a rabbit	ASID
33	J/M	owh owh wwh (=2.5)	EXCL
34	J	fee- feed the @ (.5)	RQAC
		I'm scared of it (.5)	ASIR
		(noises=2) (.) (laugh=1)	
		(.) wwh wwh (=2) (15)	EXCL
35	M	wwh (.5)	EXCL
		we saw /də bɔtəm iz/ (.) little piece / bis/ SILLY VOICE	UNTP
36	J	ssh /ə/ comin'	PFWA
37	M	I'm listenin' in der (6)	ASDC
	J/M	wh wh wwh wh (=2)	EXCL
38	J	e's licked it off	ASDC
39	M	oh no	RSAK negative
40	J	what? (4)	ODCQ
41	M	/wɪc/ apple:: hm. WHICH prob	UNTP
		he can speak apple, apple, apple .	
		(.5) apple, apple, apple, apple appl=	ASAT
42	J	d'you want some apple?	RQCH

43	M	oh, e's gonna eat the carrot,		ASAT
		aren't ya, aren't ya?		RQCH
		eat it (4)		RQAC
		/wwc wə ə/=		ASIR
		WANNA GO		
44	J	have you?		RQCH
45	M	no I 'aven't (1)		RSCH
		wh (2) oh oh God=		EXCL
46 d	J	le' 'im		RQSU
		LET HIM		
47 d	M	silly		ASEV
48	J	/ə ə/ don't want to kick @ @ (5)		ASIR
		NO I		
		www(=1.5)		EXCL
		(3) nobody's comin' in here (2)		ASDC
49	M	in a minute.		ASEX
		wh oh (=1) (1.5)		EXCL
50	J	I'll come in a minute (.) in a minute		
		(.5) alrigh' in (.) in a min', alrigh'		
		(.) //* in a min' alrigh'		ASAT repeating E
		//* [hot air heating comes on]		
51	M	what is de wind?		RQPR
52	J	e's eatin' (.)		ASDC
		he's tryin' to eat de (.) carrot (3)		ASEX
53	M	put de carrot in der		RQAC

49 secs inaudible

54	J	/jəs/ why dey keep stories in 'ere?		RQPC
		JUST		
55	M	aah(=1.5)		EXCL
		no @		PFPR
56	J	der's Postman Pat		ASDC
57	M	where?		RQPR
58	J	there		RSPR
59	M	where?		RQPR
		I can't see it		ASIR
60	J	der der		RSCL
61	M	where?		RQPR
62	J	der://:		RSCL
63	M	where*		RQPR
64 d	J	der: (1)		RSCL
		can't ya see it? (1)		RQCH
		gədhi (laugh=1)		PFTE
		ASS		
65 d	M	don't call me *gəd*-		PFPR

		@ @ called me *gɔdhi* /batɔ/ (1) (laugh=.5) ASS ?	ASEX
66	J	/bala du/ (.5) /pati fati tati ata gathi/ PLAYING WITH SOUNDS	PFTE
		(laugh=2)	
67	M	@ said dat	ASDC
		//* it's not *gɔdhi* ASS	PFPR
68	J	ah(=1)* ooh(=1)	EXCL
69	M	/tati/ CALLING NAME	PFTE
70	J	did your Mum tell 'im off?	RQCH
71	M	no (.)	RSCH
		I be (.) upstairs and work (.) /sɔm/ SOME	ASEX
72	J	did you tell @ @ @ ? (1) A LITTLE FIB maybe	RQCH
		owh(=1)	EXCL

11 secs inaudible

73	M	ooh ooh (=1)	EXCL
		oh dat land on his head (3)	ASDC
		got it, got it	ASDC
		owh owh(=1)	EXCL

J & A / 11m / birds

Tn	Sp	Utterance	C-act
1	A	@ @ @ @ @ @	UNTP
2	J	@ tell @ how to do it? SHALL I TELL YOU maybe	RQSU
3 d	A	@ @ @ (5) ALRIGHT NOW maybe	UNTP
		you don't know it /nɔ/ NOW	ASAT
4 d	J	it /dɔnt/ fit all in like dat DOESN'T	ASEX
		don't do it like dat	RQAC
5	A	why not?	RQPC
6 d	J	do it (2)	RQAC
		don't /ɔ/ him HIT maybe	RQAC
		don't do dat one (1.5)	PFPR
		not like that (.5)	PFPR
		break it off like that (.)	
		break it off like that (.) break it.	
		break it like that	RQAC

7	A	bird (2)	ODAG	
8 d	J	break it (1)	RQAC	
		break it off like //* I do	ASEX	
9	A	uhh!	EXCL	
10	J	/dənt/ matter (14.5)	ASEV	
		DOESN'T		
11	A	I break it (3)	ASDC	
12 d	J	break some bit more (.)	RQAC	
		don't break that one (3)	RQAC	
		we've breaked it all (.5)	ASDC	
		tell the teacher (.5)	RQAC	
		no it /dənt/ matter (.) /dənt/ matter (11)	ASEV	
		DOESN'T DOESN'T		
13	J/A	oops (17) whoo (=1) (1.5)	EXCL	
14	J	I've breaked dem all (17)	ASDC	
15	A	eat (1)	RQAC	
		now that bird is eat (1.5)	ASDC	
		and now the- they're fightin' the bird	ASDC	
		ah	EXCL	
		this bird nice this bird (.)		
		this bird nice (.)	ASEV	
		this not nice (1.5)	ASEV	
16	J	they both are nice	RSAG	disagree
17	A	that's nice that's nice	ASEV	
18	J	I like the both /əv/ because I // like	ASEV	
		OF		
19	A	that's* because they need dis nice (.hh)		
		because this not nice	ASEX	
20	J	they are nice (1.5)	RSAG	disagree
		ahh (=2) (3)	EXCL	
21	A	it (.) go (.) /fə fəitən/ he (2) two bird	UNTP	
		FRIGHTEN or FIGHTING		
22	J	/ə mɔɪ/ @ @ @	UNTP	
		ah ah	EXCL	
		do a little bit more	RQAC	
		only do a little bit /əiə/ (1) /əli/ -	ASEX	
		I AM prob ONLY		
		no don't (6) don't (3)	RQAC	negative
23	A	wh (2) @ @ (2) wh	EXCL	
24	J	they don't bite you ya know (3)	ASAT	
		I like // dem	ASIR	
25	A	@	UNTP	
26	J	I like 'em (1.5)	ASIR	
27	A	/kiəw/ (5)	UNTP	
28	J	not comin' is it? (5.5)	RQCH	
29	A	/bɒ/ no, stop it (9)	PFPR	
30 d	J	ger off	RQAC	

31 d	A	he needs doin' /i si/ (11) @		ASAT
		(5) /diz ə klə/		ASID
		THIS CLOCK		
32	J	ah?		ODCQ
33	A	dis clock is nice		ASEV
34	J	I know (.)		RSAK
		we're gonna get one.		ASIR
		ge' a better one than dat on my /dəɪtz/		ASEX
		BIRTHDAY prob		
35	A	your /dəɪtz/ you can tell 'im (2)		RQSU
		BIRTHDAY prob		
		birth/dəɪtz/ (2) @ @ (2)		
		DATES=DAY		
36	J	birthday (.) we'll get them if we be-		ASRU
37	A	/dinə/ my // birthday (clapping=1) *		UNTP
		//ah		EXCL
38 d	J	owh*		EXCL
		don't (1)		PFPR
		don't you touch a @ @ bird (4)		RQAC
		LITTLE		
39	A	cuckoo (2)		PFJO
		/ə səməi (.)ə ləi əˈtaləiki/		
		you /r b/ head (.) you both, you /fəsili/		ASEV
		/hi/ she's not /gəw/		UNTP
		//@ @* like it		ASIR
40	J	@ @* I don't (.)		RSAG disagree
		I like either one (1) birds (2)		ASIR
41	A	he /kə hi ni fi/ (.5)		UNTP
		CUT HIM WITH IT maybe		
		e said to go ou' of it		ASAT
42	J	/həi rɪsk/ (2)		UNTP
43	A	these not all there (3)		ASDC
		it's (1.5)		UNTP
		say /*səwkriə lə o/* (4)		RQAC
		ukriam THANKS		
		e's /kəwkəˈtun/		UNTP
44	J	you could say ladies and gentlemans		RQSU
		/əw/ /əz/ a very good girl (1)		
		and very good boy		ASEV
45	A	here you /əi ɪn/ (4)		EXAC
		ARE maybe		
46	J	ha they're falling off (4) /h r n in/		ASDC
47	A	I see it (hh)		ASIR
		/ək/ (.) look		ODAG
		LOOK		

Tn	Sp	Utterance	C-act
(2)			
	J/S	(laugh=1) (6.5)	
1	J	stroke 'im	RQAC
2	S	what?	ODCQ
3	J	/ə/ we stroke 'im	RQSU
		SHALL	
		he's just a little one ya know (.)	ASDC
		'ere y'are	EXAC
(9)			
4	J	shall we give 'im some more?	RQSU
5	S	what?	ODCQ
6	J	shall we give 'im some more ? // @	RQSU
7	S	yeah* (3.5)	RSCO
		yeah?	RQCH
8	J	na (1)	RSCH
		he's havin' some (3)	ASDC
		d'ya want to have some more?	RQCH
	J/S	/ə ə / in it (2)	UNTP
9	S	no:	RSCH
10	J	is she /gi/ it? (3.5)	RQCH
		he needs it ya know	ASAT
11	S	what?	ODCQ
12	J	he needs it ya know.	RSCL
		'e's a little one.	ASDC
13	S	'e can walk /li/ (.hh) dat little one	
		/z/ can walk /ə/ in the, in the /pωkəts/	ASAT
14	J	um?	ODCQ
15	S	der, dem can walkin' (.5)	RSCL
		him walkin' (2)	ASDC
16	J	sh (1) don't hit ya	ASAT
		NOISE	
17	S	what?	ODCQ
18	J	why don't ya move the chair like dis	RQSU
19	J/S	ss (.5) @ @ (2) @ @ @ @ (2)	UNTP
		I LIKE TO KNOW maybe	
20	J	'ook at 'im 'e @ (1)	RQAC
		if I close it (2)	UNTP
		no no no no no (4)	EXCL
		go /ən/ call the teacher (2)	RQAC
		why don't you? (5)	RQPC
		d'you want some (1.5) d'you want some?	RQCH

21	S	giv' it den (.5) giv' it	RQAC
22	J	/ə/ won't let me (.5)	ASIR
		ya see 'e's eatin' (1)	
		'e's eatin' the grass (5.5)	ASDC
		giv' 'im some (.5) /ɪnk/ (2)	RQAC
		THING	
23	S	/iz dabɪt/	RQAC
		EAT THAT BIT prob	
24	J	um?	ODCQ
25	S	/dabɪt/ (2)	RSCL
		THAT BIT	
26	J	no: no:: (7)	EXCL
27	S	/ə ə fiə tə/ (2.5)	UNTP
		I WANT FOR THE TOILET maybe	
28	J	I'm up to here I am (5)	ASDC
		he can't reach us he can't (1)	ASEX
		/fə də bi/ (7)	UNTP
		THAT BIG	
		'e's too small (.)	ASDC
		he can't even (.) /ric dəwnz/ dat much (2.5)	ASEX
		REACH DOWNS maybe	
29	S	/didiz/ little one	ASDC
		THIS IS maybe	
		dem two bigs (1) dat der	ASDC
30	J	/wə/?	RQPR
		WHERE	
31	S	/jəms (.) təwmz/ (.) der	RSCL
		THEMS TWOS	
32	J	der's two o' // 'em?=	RQCH
33	S	I* /bəri/ I /bəri den ənəx/	clause formation
		BETTED BETTED (NAME) maybe	problem
		dat h- (hh) (2) got winner (2)	ASDC
		one one (.hh)	
		got three babies at (.hh) home (.)	ASDC
		one in 'ospital, one 'ome (2)	ASEX
34 d	J	one in *h*ospital and one *h*ome (4.5)	RSAK
		you didn't say it properly	ASRU
35	S	what?	ODCQ
36 d	J	you didn't say it properly	ASRU
37 d	S	yeah I can	RSAG disagree
38 d	J	can't (4)	RSAG disagree
		because because you talk to me like dis	ASEX
		/ə ə ɸ/	
		COUGHING NOISE	
		we cough in de bed	ASDC
		(1) I'm sleepin'	ASIR

39	S	he's sleept (2)	ASAT
40	J	he's no::t (1)	RSAG disagree
		see 'e's doin' it (.hh)	ASDC
		he /wə/ somethin' to eat now	ASAT
		WANTS	
41	S	look at 'im	RQAC
		he can't reach it now,	ASAT
		he did reach /wi dɪd i/? (2)	RQCH
		WE DID HE maybe	
42	J	one do m' like dat (4)	UNTP
43	S	we can go an' call the teacher?	RQSU
	J/S	'e's not coming	ASEX
44	J	/sə/ know (2) is not (3)	RSAK
		SHE or I	
		@ are ya goin' like dat?	RQCH
45 d	S	I want t' stay here	ASIR
		and you go	RQSU
		(1) d'you?	RQCH
46 d	J	no (1)	RSCH
		bite you in der (4)	PFWA
47	S	it's /təlɐ rəbət/ can't bite me (1)	ASAT
		RABBIT	
		dat other one can bite me (4)	ASAT
48	J	he got Rupert you know	ASDC
49	S	no	RSAK negative
50	J	can't bite (.hh) /rəbət/ can't bite	ASAT
		RABBIT	
51	S	/rəbət/ no' bite me (3.5)	ASAT
		RABBIT	
		/ko lωk i/ (4)	ODAG
		LOOK HERE	
52	J	eats some more	ASDC

10;2;2 Groups-of-four (Southall)

GROUP A

Tn (4)	Sp	Utterance	C-act
1	3	where's the food? (12)	RQPR
2	4	/filiz/ not eating (6)	ASDC
		's not eating anything	ASDC
		khande nəi hωndi khande	ASDC
		EAT NOT AUX EAT	
		SHE DOESN'T EAT	
		oh oh	
		(laugh=1) (1.5) oooo(=1) (5)	EXCL
		ho:::h look hu:::(=2)	ODAG
		(laugh=2)	
		hah(=1) (14)	EXCL
3	2	hi::t (4) hi::t (4)	ASDC
		look (9)	ODAG
4	4	oops	EXCL
		na dekh	ODAG
		LOOK	
5	2	teachers (8)	UNTP
6	4	'ooked in der? (5)	RQCH
		ah (banging=6)	EXCL
7	1	/gah/ phww	EXCL
		NOISE BLOW	
		@ @ @ @ (11)	UNTP
		STOP IT maybe	
8	4	(laugh=1) /kopi kar / (2.5)	UNTP
		COPY CAT maybe	
		want some more? (.)	RQCH
		give Rajwant some more	RQAC
		(3) eh? (2)	ODCQ
		hey you /wəkɪn di tʊw ki/	UNTP
		†THE TWO maybe	
9	3/4	*twsiŋ kəro*	RQAC
		YOU DO	
10	4	I finished	ASDC
		I tell the //	ASIR
11	3	you can't go now // (.5)	ASRU
		gotta wait for me	ASEX
12	4	um?* um?	ODCQ
13	3	go and sit there	RQAC
14	4	why?	RQPC
15	3	'cause, I'm gonna go with you	RSPC
16	4	/ə we/ you giv' me some o' /di/ (3)	RQAC
		THIS or IT	
		thank you (5)	ODPM
17	2	look	ODAG

		they (.) /kəmL/ (laugh=1) (6) COMING	ASDC
		Rajwant (.) Rajwant (2)	ODAG
		look on de floor (.5) look on de floor (6)	RQAC
		(4)	
18	2	look (.5) Rajwant /lɔ/ LOOK or HERE	ODAG
19	3/4	jaa! (.) NOISE	EXCL
		look (3) (laugh=2) (15) (laugh=1) (8)	ODAG
20	3	we having to all make out (.) that teacher's not there	ASEX
21	4	I gonna take all fo' us (.) *hana* (4) FOR Qtag	ASIR+RQCH
22	3/4	*o* teacher *apni* *cωkia* (4) THAT HERSELF PICKED-UP	ASDC
	2&4	(blowing=3)	
23	3	bə bə (.) bə- bəp bəɪ bəɪ Fareen, in der NOISES	ODAG+RQAC
24	4	tut, oh we'll // fall /ə/* down (8) IT (blowing)*	PFWA
25	3	Rajwant mummy's come	ASDC
26	2	uh?	ODCQ
27	3	look (.)	ODAG
		mummy's come	ASDC
		to look at me	ASAT
28	1	and me	ASAT
29	?	Rajwant (3)	ODAG
30	3	go /ə/ (2)	RQAC
		ah (=.5) (1)	EXCL
		teacher's /di/ THERE	ASDC
		I'm going	ASIR
31	4	I'm n- I'm n- no:: don't	PFPR
32	3	I (.) g- /əwd/ (.hh) I get them with you GAVE or GOED	ASIR
33	4	I'm not /wəri/ WORRIED maybe	ASIR
34	3	I'm not too (4)	ASIR
35	1	mind dat /iɔd/ (2.5)	PFWA
36	3	my mummy's come (6)	ASDC
37	4	ya mummy:: (3)	RSAK
38	3	*sadi* *kol* *vi nəi nIkɔlda* *hana* OUR TO/WITH EM NOT COME-OUT Qtag	ASDC+RQCH

39	4	um um (6)	RSCH
40	1	Rajwant @	ODAG
41	?	/fi e/	UNTP
42	1	*o vi dekho* @ @ (18) PN.ALSO LOOK	RQAC
43	?	/sə m wɔkz/ SOMEONE WORKS maybe	UNTP
		can't do dat (5)	ASRU
		@ in here (3)	RQAC
44	3	y'ave this bit (.) /nənis/ (2) MUMMY'S maybe	RQSU
45	4	some more	RQAC
		dat's /kə/ //	UNTP
		gimme some	RQAC
46	?	//oh	EXCL
		/de/*	
		/kəʃ/ (laugh=1) PUSH prob	RQAC
		/tɪz e/ ahh	UNTP
47	3	/ɔv/ dat big (3) MOVE maybe	RQAC
48	4	//open it*	RQAC
49	3	don't touch*	RQAC
50	2	open (2)	RQAC
		@ @ @ @	UNTP
51	4	have dis one	RQSU
52	3	hah:	EXCL
53	?	hah: (3)	EXCL
54	2	@ @ @ @ @ @	UNTP
55	3	yeah	RSAK
		's a little @ (2)	ASDC
56	4	(squeal=1) (4.5) oi	EXCL
57	2	/ia əv (.5) ɔnkɔd/ (6) @ @ (6)	UNTP
		(all laugh=4)	
58	2	Rajwant (2)	ODAG
		@ @ @	UNTP
59	3	pick dat on the floor (1)	RQAC
		bat ja (2) STOP	PFPR
		oi (6) ahja (5.5)	EXCL
		get some out (2)	RQAC/ASIR
60	4	Nadia (1)	ODAG
		ethe vic pai ja HERE IN KEEP-PUTTING	RQAC
		no::	PFPR
61	3	put some here (5)	RQAC
62	2	feed /ə/ dis one	RQAC

63	4	/fə ʊia/ (1) I'll /mit / you there (9) MEET maybe	ASIR
		let's see some more o' dis (2)	RQSU
64	2	back (.)	UNTP
		/ʊmʊ es/ /per/ (11) SOME MORE O' DIS prob	UNTP
	?	@ @ @	UNTP
	1	(laugh=.5) (2) (laugh=4) (2)	

GROUP B

Tn	Sp	Utterance	C-act
1	?4	what's your name?	RQPR
2	1	what's your name?	EXRP
	?	@ @ @ @ @ @ (2) (laugh= 1.5) SHOUT	UNTP
		/bəba/ /ke/ it	UNTP
3	2	a waters	ASID
4	1	/pəkoi ai/	UNTP
		o pani nɪk- sɔ- nɪkɔl səkdi a THAT WATER COME-OUT IS-ABLE-TO	ASEX
5	3	*ona ne pani pina (1.5)* THEY WATER DRINK THEY WANT TO DRINK WATER	ASAT
		nəi NO	PFPR
		o pani na /bəwlda/ (1.5) THAT WATER NOT	UNTP
6	1	*nəi* (1.5) NO	PFPR
		e teacher *ki kərdi?* THIS WHAT DOING	
		teacher *ki kərdi?* (7) WHAT DOING	RQPR
		no::	PFPR
7	4	*kwj mera* SOMETHING MINE	ASDC
		a de' ki a? (laugh=1) LOOK WHAT IS	ODAG+RQPR
8	1	/citi/ ohh	EXCL
		@ *pani nɪkɔl jana hana?* (8) WATER GO-OUT Qtag	ASDC+RQCH
		oh (.5)	EXCL
		here piece // @ @	EXAC
9	2	here# y'are birdie (2)	EXAC+ODAG
10	4	no::: (3)	PFPR
		/ai/ it's min//e	ASDC
11	1	shur up	PFPR

		/tɘc/ it TOUCH maybe	UNTP
12	2	birdie birdie (.)	ODAG
		eat your dinner food	RQAC
13	4	birdie birdie	ODAG
14	1	birdie	ODAG
15	?	/ɘkli/ QUICKLY maybe	UNTP
16	4&1	@ @ @ @ @ @	UNTP
17	4	dinner food (1.5)	EXAC
18	1	/kɘnɘ ɐd/	UNTP
19	4	/tɘ/ le' me have /ʔ/ dinner food (3) LET	RQAC
20	1	ahhh(=1) (.)	EXCL
		gɘndiaŋ /nu/ DIRTY (pl)	ASDC
21	2/3	food (2)	EXAC
		you done it	ASDC/PFPR
22	2/3	eh	EXCL
23	1	ai	ODAG
		@ @ *mæ te(re) marna* @ I YOU HIT	ASIR
		tũ /bindi/ *nuŋ kwttda (3)* YOU NAME(BIRDIE) TO BEATING	ASEX
		/ɘvi ɘvi/	EXCL
24	1	*kɘl /nɘ/ apne /tim/ nuŋ dedena @? (2)* TOMORROW Qtag OWN TEAM TO GIVE TOMORROW I'M GONNA GIVE TO MY OWN TEAM	ASIR
25	3	*/ɘinu/ vi de* (teem nu or mɘinu) ALSO GIVE	ASIR
		// @ *nɘi* (t inu maybe) NOT	ASIR
		@ @ # water der	UNTP
26	2	here y'are (.) birdie (.5)	EXAC+ODAG
		a le (1.5) TAKE IT	RQAC
27	3	*Rishi a le /ɘw/* (1.5) NAME TAKE IT	RQAC
28	4	hey Rishi	ODAG
		@ @ @ don't @ @ to (4) WANT maybe	UNTP
		here food	EXAC
29	1	*water kɪtthe paie?* WATER WHERE SHALL-WE-PUT	RQPR
30	3	/ɘdɘ/ der (2) OVER	RSPR
		mɘinu vi TO-ME ALSO	RQAC
31	4	*nɘi* (4) NO	RSCO negative

32	1	*o kɔ̀wɯ e dedena sanu* PN. WHO IS GIVE TO-US WHO IS GOING TO GIVE TO US	RQPR
33	?	le' me	RQPM
34	1	no, no	PFPR
		see	PFWA
35	2	teacher (1.5)	ODAG
		he do like that (6)	ASDC/PFPR
36	1	I 'aven't pushed it /ɔwpa/	RSAG disagree
37	2	there we are birdie (.)	EXAC
		dis your food dinner	ASID
38	3	*apaŋ jana na Harprit?* WE GO NOT NAME AREN'T WE GOING?	RQCH
39	1	*nəi* NO	RSCH
		ɔje nɪkəl (.hh) YET COME-OUT	
		odoŋ sara /frɯta/ ena nu dena THEN ALL FRUIT THEM TO GIVE	RQSU
		fer @ javaŋge THEN WE'LL-GO	RQSU
40	3	@ @ @ alright *kɔrda* THEY DOIN' IT prob DOING	ASEV
41	1	wwh (blow=1) wwh	EXCL
42	2	there y'are (.5)	EXAC
		do it do /ɔt/ do it do /ɔ t/ do // @ @ @	RQAC
43	?	/di ɔ/ do (laugh)	UNTP
44	4	*paɲi pin' lɔgga* WATER DRINK ABOUT-TO	ASAT
		paɲi othe lɔgga WATER THERE ABOUT-TO	ASAT
45	?	put @ it in ::	RQAC
46	3	*on- one- one paɲi lena* IT WATER GET	ASAT
		ene onu khana IT THOSE EAT	ASAT
47	?	/dɔnu/	UNTP
48	1	owh (.) owh owh	EXCL
		/mws/ kɔrdi e (2)	ASDC
		/hale mɔinu hale lɔgia lɔgpa lɔgpa/ SONG (meaning unclear)	UNTP
		/ɔ spi pi/ A SPARE PIECE maybe	UNTP
49	3	ha? (1.5)	ODCQ
50	2	(.hh) he eatin' (.)	

		he eating 'is food dinner (1)	
		(laugh=.5) he eatin' 'is food dinner	ASDC
51	3	@ @ // @ @ @*	UNTP
52	1	whh::*	EXCL
		a le	RQAC
		TAKE IT	
53	2	apple	EXAC
54	1	*leo pəta nəi*/nge/	RQAC
		TAKE KNOWN NOT	
55	4	/apa/ *ande ande*	ASDC
		APPLE maybe COMING COMING	
56	2	ah?	ODCQ
57	4	/apa/ *aja*	UNTP
		APPLE maybe COME	
58	2	*o* birdie *khandi* /bɪsi/	ASDC
		THAT EATING BISCUIT maybe	
59	1	wwh:	EXCL
60	2	I'm not bird	UNTP
61	1	flying // @ @	UNTP
62	3	@ @ @ * @ @	UNTP
		I'M NOT A MAN @ maybe	
63	2	*a de' (3)*	ODAG
		LOOK	
64	?	ya goin' leave 'im there? (4)	RQCH
		/dia/ *pinda* /dia dia/ //@	UNTP
		DRINKING	
65	4	/ə/ *gəndi* # *kita (2)*	ASDC
		HE DIRTY DONE	
66	2	*həttɛ' (1) hɔttɛ'*	PFPR
		STOP-IT STOP-IT	
67	?	he wants	ASAT
68	3	no:: I /daɪk/ nothin'	PFPR
79	?	*nəi hɔttɛ'*	PFPR
		NO STOP-IT	
70	4	*o khanda a*	
		HE EATING AUX	
		o khanda a (laugh=1)	ASDC
		HE EATING AUX	
		o de' // khanda	ODAG+ASDC
		LOOK EATING	
71	?	I can't see @	ASIR
72	3	*Harprit bəɪ' ja* (2)	RQAC
		SIT	
73	1	/sə də jaɛ gəd/ (2)	UNTP
		DID IT maybe	
		ahhh(=1) @ @	EXCL
74	2	meat *khanda vi* meat (1) eat	RQAC
		EAT ALSO	
75	1	*cal onu* meat *pade* (.5) meat	RQAC
		GO-ON TO-IT GIVE	

		pəta nəi k tthe /khullhɪda/ hana? KNOWN-NOT WHERE OPEN Qtag	ASIR+RQCH
		məinu vi dena TO-ME ALSO GIVE	RQAC
		gi' me another (1.5)	RQAC
		nəi NO	PFPR
		mæ nəi kərna teacher *dekhdi a* (11) I NOT DOING LOOKING	ASEX

76	2	there sweet birdie	EXAC
77	1	the food there @ @ @ it (2)	EXAC
		/ən də ɪəw ən də/ @ @ @ @ @	UNTP
78	3	/kɪre/ (.)	UNTP
		a le TAKE IT	RQAC
79	1	um?	ODCQ
80	3	*a le* TAKE IT	RSCL
81	1	*nəi* (.5) NO	PFPR
		mæ marna (1) I HIT	PFWA
		/finu/ (1.5) *enu vi p ta* TO-HIM ALSO KNOWN	ASAT
82	3	*haŋ mæ* new pant *pai a* YES I WEARING	ASDC
		məinu (1) new pant *pai a (2)* I WEARING	ASDC
		mæ disco te jana (6) I PP GO	ASIR
		cini pade cini SUGAR PUT SUGAR	RQAC
83	1	*cini cini ki hwnda a?* (1.5) SUGAR SUGAR WHAT IS AUX (doesn't know the word cini)	RQPR
84	2	water look//	ODAG
85	3	*dekh pani pinde a* LOOK WATER DRINKING (pl) AUX	ODAG+ASDC
86	2	huh?	ODCQ
87	3	*pani pinde* (1) WATER DRINKING	RSCL
		they can fly *kərde* DO	ASAT
		mæ vi /vina/ I ALSO (pina=DRINK prob)	ASIR

88	2	(.hh) *paɲi pinda pæa* WATER DRINKING CONTINUES	ASDC
89	3	ah eh	EXCL
		/dɪnə/ vi hωɲ pinda (4) DINNER ALSO NOW DRINKING	ASDC
90	2	*mæ* copy *kərda p//* I DO	ASDC
91	1	oooh::(=1) (.5) owh::(=1) oi	EXCL
		e mæ i kərna @ @ @ @ //@ PN NOT DO (MUMBLED)	ASDC
92	3	*mæ k- mæ ko hæga Ia* ME TO IS (EM) I'VE GOT ONE	ASDC
93	2	eat */ə/*	RQAC
94	4	not me (.)	PFPR
		/fə/ mine IT'S ALL prob	PFCL
95	?	@ chuckie */tə̃ni bɔ/* (1)	UNTP
		eat @ @	RQAC
96	4	er *Ik mɪɲt* (.) *tũ chhor* ONE MINUTE YOU DROP	RQAC
97	2	*a le tera* TAKE YOURS	RQAC
98	4	not dat one (1) not dat one	PFPR
99	2	*tera hor* YOUR MORE	RQSU
100	4	no	RSCO negative
101	2	ah(=1) (4)	EXCL
		me' kol cωnni (1.5) cωnni ME TO SCARF SCARF I'VE GOT A SCARF	ASDC

GROUP C

Tn	Sp	Utterance	C-act
1	4	hello (laugh=1)	ODAG
2	1	hello	ODAG
		here y'are	EXAC
		owh(=.5) ho	EXCL
3	1&2	wwh huh (2) wwh huh (4) wwh huh, wwh huh,	
		wwh huh (2)	EXCL
4	2	not (.) not (.) with (1.5)	
		not with the *d∂kke*	PFPR
		TWIG or PIECE OF STRAW	
	4	// (laugh=4) (2)	
5	1	what?	ODCQ
6	2	not with the *d∂kke**	RSCL
		TWIG	
	3&4	(lau//*gh=5)	
7	?	shur up	PFPR
8	1/2	wwh(=1) (1) wwh wwh	EXCL
9	3	have a drink /ɔ/ water	RQAC
10	1	here y'are (.) here y'are	EXAC
		wwh (1)	EXCL
		can't catch my hand	PFTE
11	1	hello (.)	ODAG
		here y'are	
		here y'are=	EXAC
12	3	here y'are	
		here y'are	EXAC
13	1	here y'are (4)	EXAC
		wwh(=.5) (18)	EXCL
14	3	teacher (.5) we done finished (4)	ODAG+ASDC
15	?	hello	ODAG
16	3	wwh hh	EXCL
17	2	wwh hh	EXCL
18	3	wwh hh	EXCL
19	2	wwh hh	EXCL
20	3	wwh hh	EXCL
21	2	I sit down (2)	ASIR
22	2	wh hh, who hh (7) wh hh (1.5)	EXCL
		//no nothing*	PFPR
23	1	teacher we've finished*	
		teacher // we've finished	ODAG+ASDC
24	2	wwh hh* (4) eh (1)	EXCL
		you have to talk to them (2)	

		little birds (3.5)	ASRU
25	3	why d'you 'ave to know dat?	RQPC
26	2	nothing	RSPC
		don't talk /si/=	ASEV
		SILLY prob	
27	?	wwh wh	EXCL
		@ @ @	UNTP
		YOU HOLD THAT maybe	
28	1	ehh(=1)	EXCL
29	2	no	PFPR
30	1	//'ere y'are	EXAC
31	?	@ @ * @ (12)	UNTP
		↑TALK maybe	
32	2	(banging) get //ə/	UNTP
33	3	@ @ got* a /fi ə/ (1.5)	UNTP
		hey you (3)	ODAG
		tell Harjinder (2)	RQAC
34	4	water	ASID
35	3	it's in der? (.5) @ @ @ (4)	RQCH
		JUST LIKE THAT maybe	
		bird (1.5)	ODAG
36	2	bird	ODAG
37	3	@ @ @ @ @ @	UNTP
		YOU'LL HAVE TO PUT IT IN OR 'E WON'T EAT IT maybe from intonation	
		bird @ @ @ bird (2)	ODAG
		EH LITTLE maybe	
38	1	@ @ more	UNTP
		teacher might tell you off (3)	PFWA
39	2	she's out der (4)	ASDC
		O.K.	RSAK
40	3	shall we pick it up @?	RQSU
		THEN maybe	
41	?	no	RSCO negative
42	3	heh (2) heh (2)	EXCL
43	1	put that down	
		put it down	RQAC
	2&3	(laugh=1.5)	
44	1	teacher might tell you off (1.5)	PFWA
		so pu' it down	ASEX
45	2	no	PFPR
		pu' it down	RQAC
46	1	pu' it down	RQAC
	?	@ @	UNTP
47	2	teach-	UNTP

48 3 *mæ dekh* ASIR
I LOOK

DISMANTLED MICROPHONE

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49 1 I'm callin' teacher // /kə/ I am (.5) @ @ ASIR+ASEX
CAUSE

50 3 eh? ODCQ
51 1 I'm callin' teacher ASIR
52 3 why? RQPC
53 1 /kə/ I am RSPC
CAUSE
54 3 why? RQPC
55 1 /kə/ I am RSCL
CAUSE
56 3 why? (3) RQPC
57 1 I won't tell your /fəw/ RSPC
FRIEND maybe
58 3 @ which // one? RQPC

59 1 we've finished (2)
teacher we've finished (2)
teacher we've finished (2) ODAG+ASDC
60 2 get down RQAC
61 1 we've finished ASDC
62 3 we /nia/ eat it (2) ASDC
63 1 what? ODCQ
64 2 (laugh=.5) *ode ləggi* bird *de* ASDC
ITS(gen) HIT BIRD OF
4 (laugh=2)

65 2 did I hurt you? RQCH
66 3 don't PFPR

67 2 she goin'- UNTP false start

they gonna be scared of dis (laugh=.5) ASAT
68 1 /səl ɔ/? (laugh=2) RQPM
SHALL I

69 3 // gimme dat
gimme dat RQAC
70 2 (laugh=.5) no= RSCO negative
71 3 gi' it RQAC
72 2 no you can't (1) ASRU

Hardeep (.) ODAG
you have to throw in a bin (2) ASRU
dis the bin (4) ASID
73 3 /wəit/ piece (3) UNTP
teacher /ə/ finished (.5)
/əI/ 'ave finished (2)
WE
we 'ave finished (1) (laugh=.5) (4) ASDC

		I've finished	ASDC
74	1	so I am	ASDC

GROUP D

Tn	Sp	Utterance	C-act
	2	(laugh=2) @ @	
1	3	*e cuṯi te anda a* HE SWING ON COMING AUX	ASDC
2	2	haŋ (1) (noise =1) (3) @ @ (3)	RSAK
3	1	they like @ ing this DRINK	ASAT
4	2	*mæ /tə̆ta/ ləggda* I HOT TOUCHING/FEELING	ASDC
5	3	*məinu nəi* TO-ME NOT	ASIR
6	2	*məinu nəi* TO-ME NOT	ASIR
7	3	*məinu nəi /t/*	EXRP
8	2	*məinu nəi*	EXRP
9	3	*məinu nəi*	EXRP
10	1	*o khandi a* SHE EATING AUX	ASDC
11	2	haŋ?	ODCQ
12	1	*khandi a* EATING AUX	RSCL
13	2	hah	RSAK
		little /bəndi/ *khandi hωndi* (1) BIRDIE EATS AUX	
		khandi // hωndi EATS AUX	ASDC
14	1	[nods]	
		o little /atənta/ *o biṯe nəi kərdi* THAT ? SHE NOT DO	ASDC
		kωʃ khandi a SOMETHING EAT AUX	ASDC
		/da/ naughty (3) THERE	ASEV
	2	(laugh=2)	
15	1	does not (1)	UNTP
		/wen de kəm fə/ eatin' /pən əbi/ WHEN THEY COME FOR maybe	UNTP
		um?	RQCH

16	3	*mæ nɔ́i dɔ̲́rdi* I NOT SCARED	ASIR
17	1	*mæ vi nɔ́i* I ALSO NOT	ASIR
18	3	*tû vi nɔ́i* YOU ALSO NOT	RSAK
		mæ vi nɔ́i I ALSO NOT	ASIR
19	4	*mæ vi nɔ́i (3)* I ALSO NOT	ASIR
	?	@ @	UNTP
20	1	*o* /messy/ *ho jandi a* HE BECOMING AUX	ASEV
		o nice *hana kɔ́rde* /cɔ́m/ THEY NICE Qtag DOING	ASEV
		hmmm (=.5) (kiss noise) (2)	
	2	(laugh=1)	
21	1	@ *lɔ́ndi hana?* SWING HAVING Qtag	ASDC+RQCH
22	3	hah?	ODCQ
23	1	swing *lɔ́ndi si* HAVE AUX(past) SHE HAD A SWING	RSCL
24	?	hah (2)	RSAK
25	1	they're eating (4)	ASDC
		there's one (2)	ASDC
26	3	have dat one (3)	RQSU
27	2	*mɔ́inu fer dɔ̲́r lɔ́ggda ã̃* TO-ME AGAIN SCARED BEGIN AUX	ASIR
28	4	*mɔ́inu nɔ́i* TO-ME NOT	ASIR
29	3	*mɔ́inu vi nɔ́i* TO-ME ALSO NOT	
		dɔ̲́r mɔ́inu nɔ́i (.hh) dɔ̲́r lɔ́ggda SCARED TO-ME NOT SCARED BEGIN	ASIR
		enu dɔ̲́r lɔ́ggda TO-YOU/HIM SCARED BEGIN	ASAT
30	2	*e tɔ́inu tã̂ na? (2)* PN. TO-YOU EM. Qtag?	RQCH
31	3	*haŋ* (2) YES	RSCH
32	4	*e dendi nɔ́i* pake na? SHE GIVING NOT FULL Qtag	ASDC+RQCH
33	3	*nɔ́i mɔ́inu nɔ́i* NO TO-ME NO	RSCH
		I know	RSAK

34	4	*/ə*i/ do little finger like dat i'n't it?	ASDC+RQCH
35	3	yeah	RSCH
36	4	*cɪtti e* WHITE IS	ASDC
37	3	*e ki kərd' done /ka/ hana?* HE WHAT DOING BOTH Qtag	RQPR
38	2	*/ə/ meri kol a vi* MY BESIDE IS ALSO IT'S MINE AS WELL	ASDC
39	3	*ede kol e ede kol, // e ede kol e* HIS/HERS BESIDE IS ditto ditto HE'S/ SHE'S GOT ONE	ASDC
40	4	*m- m- me*ri kol vi həɪga* MY BESIDE ALSO IS(EM)	
		choti white one *he* @ @ (2) LITTLE I'VE GOT A LITTLE WHITE ONE TOO	ASDC
		e big *vi həɪga* IT ALSO IS(*m)	ASDC
41	3	(laugh=1) *e choti a* IT SMALL IS	ASDC
42	2	*e vi choti a* IT ALSO SMALL IS	ASDC
43	4	/hale/ big one /ale/	UNTP
44	3	*mæ tere kol thora ləɪ səkdi ə̃?* I YOUR BESIDE LITTLE TAKE ABLE-TO AUX I CAN TAKE YOUR LITTLE ONE	RQCH
45	?	hmm	RSCH
46	1	*mere pas* finished *ho ge* MY BY(MINE) AUX	ASDC
47	?	ah?	ODCQ
48	1	*mere* finished *ho gɪa* MY AUX MINE ARE FINISHED	RSCL
		mæ tera ləɪ n ləggi I YOUR TAKE ABOUT-TO	ASIR
49	4	ah *ethe // @ @ @* HERE	UNTP
50	2	ah naughty *kərdi** DOING	ASEV
		twada lela (3) YOURS TAKE IT	RQAC
51	1	they gonna eat this bit	ASAT
52	2	eeh (1) (laugh=2)	EXCL
53	4	/i flidə/ HE FLY THERE maybe	

		mæ dərdi ã̃ I SCARED AUX	ASIR
54	3	*mæ nɔ̃i /dərdidi/* I NOT SCARED	ASIR
55	1	when you open the door they're gonna // fly* away	ASEX
56	4	(laugh=1)* bird	ODAG
57	1/2	/ə də hɪr/ something	UNTP
58	4	look (4)	ODAG
	2	(laugh=1.5)	
59	1	eat it here birdie//::	RQAC EXAC
60	4	*ki kərdi# e* WHAT DOING AUX	RQPR
61	1	bird eat it	ODAG+RQAC
62	2	*mæ nəi dərdi hωndi* (2) I NOT SCARED AUX	ASIR
63	3	*khandi do* EATING TWO	ASDC
64	2	eh?	ODCQ
65	3	*ethe vɪc // khandi do* HERE IN EATING TWO	RSCL
66	2	*khandi# /ta/ hard /bəωte/ khanda /əcą/* (2) EATING (b wt= VERY prob)	ASEV
67	4	(laugh=1) /da jande vt/	UNTP
68	1	eh?	ODCQ
69	3	*hor hor kɪoŋ* MORE MORE WHY	RQPC
70	4	look (1.5)	ODAG
71	3	*həɪgɪa* THERE-ARE-SOME	ASDC
		@ vɪc hor hana (1.5) IN MORE Qtag	RQCH
72	1	I got it (2)	ASDC
	?	@ @ @ @ (2) MUMBLED	UNTP
73	4	*@ hor ləɪna* MORE TAKE I WANT SOME MORE	ASIR
74	1	*ki* /tela/ WHAT	UNTP
		birdie (1) birdie	ODAG
75	4	missed ya	ASDC
76	1	birdie	ODAG
77	3	*bəs bəs* ENOUGH ENOUGH	ASEV
78	2	*bəs* ENOUGH	RSAK

79	3	*nəi hor lela* (2) NO MORE TAKE_IT	RQAC
80	1	@ *dekho* LOOK	ODAG
81	3	birdie (1) *khala* (.5) birdie EAT-IT	ODAG+RQAC
82	4	*khalə* bird EAT-IT	RQAC
83	2	it could happen	ASEX
84	4	look	ODAG
		it's here	EXAC
85	2	put it	RQAC
86	4	ahahah (=1)	EXCL
87	2	*mere kolo pɪa* (laugh=1) MY BESIDE EM. I'VE GOT IT	ASDC
88	4	/watə gime ko/ WATER GIMME maybe	UNTP
		tere kol vi nal pɪa YOUR BESIDE ALSO WITH EM. IT'S NEXT TO YOU TOO	ASDC
		ah	EXCL
89	3	*mere kol nəi* MY BESIDE NOT	ASDC
90	?	*nəi mere kol* NOT MY BESIDE	ASDC
91	?	*a dəndavala* HE STICKMAN	PFJO
92	4	*sade kol* finished *a hana?* (2) US NEAR AUX Qtag OURS IS FINISHED	ASDC+RQCH
		you've finished de all (3)	ASDC
		khala EAT-IT	RQAC
93	1	*khande a* EATING(pl) AUX	ASDC
94	4	*e mere kol həIgia* IT MY BESIDE IS I'VE GOT IT	ASDC
95	1	ah (2)	EXCL
96	?	eat	RQAC
97	1/2	he can't hit ya (3)	ASAT
98	?1	eat /diz/ (5) THESE	RQAC
99	3	come on /fə i::/ bir:die bir: die(1) EAT	ODAG
		come on ea' it	RQAC
100	4	eat it	RQAC

101	2	birdie	ODAG
102	3	birdie ea' it	ODAG+RQAC
103	4	ea' it	RQAC
	2&3	(laugh=3)	
104	1	*khande a* EATING(pl) AUX	ASDC
105	2	nice *kɔrdi* /cəldi/ nice *a* DOING IS	ASDC
106	3	*o /pɪri/ pani pindi a* THAT (cIri=BIRD) WATER DRINKING AUX	ASDC
107	2	*hã? (1)* YES	
		ki? WHAT	ODCQ
108	3	*o pani pindi a* HE WATER DRINKING AUX	RSCL
109	2	*o ɪh jɪha pinde ɪh jɪha pindi* SHE LIKE-THIS DRINKING LIKE-THIS DRINKING	ASDC
110	4	/o de ode vɪt fə/ FALSE STARTS prob	
		me- mera dadi mɪrca khanda MY DAD CHILLIES EAT	ASDC
111	3	*ho ho*	ODAG
		mera dadi nəi MY DAD NOT	ASDC
112	2	*mera dadi // vi mɪrca khanda* MY DAD ALSO CHILLIES EAT	ASDC
	?	@ @ @ *	UNTP
113	4	@ @ @ // *mɪrca khanda** CHILLIES EAT	UNTP
114	3	*mera dadi m- m-* * *mera dadi* eee MY DAD MY DAD	UNTP
115	2	*meri mami vi mɪrca khandi // @ @ @ @ ** MY MUM ALSO CHILLIES EAT	ASDC
	?	@ @ @ @*	UNTP
116	4	*meri mami* eh! eh! MY MUM	ODAG
		meri mami vi mɪrca khandi MY MUM ALSO CHILLIES EAT	ASDC
		dal vi khandi DAL ALSO EAT	ASDC
117	2	*meri /ene/* MY	
		meri mɪrca eni sIddh eni mɪrca khandi MY CHILLIES THE-SAME? STRAIGHT ? CHILLIES EAT	ASDC
		mæ vi mɪrca khandi ã I ALSO CHILLIES EAT AUX	ASDC
118	3	*mera (.hh) dadi car khande a* MY DAD FOUR EAT AUX	ASDC
119	2	*mera dadi vi mæ vi khandi car* MY DAD ALSO I ALSO EAT FOUR	PFCL
120	3	two /nɔ/ two	ASDC

121	4	*mera dadi khanda car* MY DAD EAT FOUR	ASDC
		mera motur khanda MY FAT EAT	PFJO
	2	(laugh=2)	
122	4	*/roti* tu/ (1) *ladu* ROTI TOO prob INDIAN-SWEETS	ASDC
123	2	*ladu* (laugh=.5) SWEETS	RSAK
124	4	*m- me- mer- mera* brother *kəInda* /ha/ MY SAYS	ASDC
	2	(laughs=1)	
	?	/ha tə/	UNTP
125	4	*mera* brother *kəɪnda* /tə̃d/ /təgiə/ MY SAYS	PFJO
126	2	*mera dadi kəɪnda* /tə̃d/ MY DAD SAYS ?	PFJO
127	3	(laughs=2) *mera dadi nɑ̃i kia* MY DAD NOT SAID	ASDC
128	1	*ja tera* brother GO(TO) YOUR	RQAC
		o mere kər every day *anda nere mæ* HE MY HOUSE COMES NEAR I	
		fer /brənda/ THEN (anda=COME or b nda=MAKE)	ASEX
129	3	*mera dadi* /mɪn/ MY DAD MEAN maybe	
		mera sina redio tutə gia MY SINA RADIO BROKEN	ASDC
		(SINA=SOUTHALL RADIO STATION)	

GROUP E

Tn	Sp	Utterance	C-act
1	1	//hello birds	ODAG
2	2	hello birds* (2)	ODAG
3	?	you give 'im these	RQAC
4	3	I think she's gonna b- (1)	ASIR/ASAT
		hello birds	ODAG
		(squeal=.5) (laugh=1) (3) /ə s/ (2)	
5	1	/ɔ və/ this /pə/	EXAC
		PIECE maybe	
6	?	sure (4)	RSAK
		ha ha	EXCL
		he's scareds of us (5)	ASAT
7	3	you're not @ scared of /pəlɔs/	ASAT
		I'm /itɪn// @	UNTP
		EATING SOMETHING prob	
8	4	hello * birds (5)	ODAG
		//I like the birds	ASIR
9	3	let's say one two three*	RQSU
10	2	hello birds	
		hello// birds	
		hello birds	ODAG
11	3	what dis?*	RQPR
		one two three (.)	
		one two three (laugh=1)	RSPR SELF
12	2	I fed those bird (4)	ASDC
		/ə ʃi əs/ dat	
		GIVE US	
		give us dat	RQAC
13	3	nothing	RSQL
		say one two three into der	RQAC
14	2	one two three (3)	RSCO
15	2	go to toilet @ @ @ @	ASIR
16	4	eat it little /litə/	RQAC
		LITTLE	
17	3	uh (2) uh	EXCL
18	4	(laugh=2) (2)	
19	?	@ do and do it again (6)	RQAC
20	1	owh owh	EXCL
		I'm scared of birds	ASIR
21	2	so I am	RSAK
22	4	don't eat /ə/ dat (.)	RQAC negative
		he's dead then	ASEX

23	3	birds (.) birds	ODAG
24	1	oh // nə* tʔ/ you	EXCL+UNTP
25	3	birds* (1.5) birds birds	ODAG
26	4	birdie birdies	ODAG
27	3	birds birds birds //* birds birds	ODAG
28	4	birds*	ODAG
29	3	bi::rds bir:: br:: brr brr	ODAG
30	1	I've put mines in	ASDC
		so they can eat it (3)	ASEX
31	3	brrr	ODAG
	?	(laugh=.5)	
32	3	bird (2) birds (1) birds birds (4)	ODAG
		/pəʃʔpə/ (6.5)	UNTP
		dat bother 'er (9)	ASAT
33	4	ahh Har::deep:: /ə/ (10)	PFPR
34	1	here birds (3) here /bi/ (2) birds (3)	EXAC
		birds (3) birds (2)	ODAG
		I like these two little birds	ASIR
		//ain't it?	RQCH
35	?	birds*	ODAG
36	2	yeah they are	RSCH
		they're nice	RSAK
		aren't they?	RQCH
37	2	birds /iuhi/ (=1) birds	ODAG
		CALL	
38	3	@ @	UNTP
39	2	I gonna miss-	
		we're gonna miss our s- (.) our story	ASRU
		aren't we? (2.5)	RQCH
40	3	/ə/ give i' /ə/ me (.)	RQAC
		PLEASE prob TO	
		er- gimme dat // (.5)* gimme dat (2)	RQAC
	?	@	UNTP
41	3	birds=	ODAG
	?	@	UNTP
42	2	now //* @ @ @ @ at me	ASDC
		HE'S THROWING maybe	
43	1	birds* birds have // it all	ODAG+EXAC
44	2	you haven't opened* it for Sandeep	
		// Gavinder	PFPR
	3&2	(noises & laughs=6)	
45	1	watch /ə/ feed dem (2)	RQAC
		YOU or HER	
		they're scared (2)	ASAT
		wwh(=1)	EXCL
46	4	look /ə ə es/ inside this (4) (noise=2)	RQAC+ASEV
		AT THE MESS prob	
		here birds:::	EXAC

47	2	heh::	EXCL
		they're gonna stand on there (3)	ASAT
48	?3	I know they could (2)	RSAK
49	1	arrr(=1)	EXCL
		they're puttin' their leaves in my eye	ASDC
		(laugh=.5)	
50	4	what?	ODCQ
51	1	/mɪnəw/ (.) they make erm (2)	UNTP
		ME KNOW maybe	
52	4	/ləs/ inside all this (.)	RQSU
		LETS maybe	
		/e/	UNTP
		HERE maybe	
53	2	yeah	RSAK
54	3/1	@ @ this one	UNTP
55	4	what?	ODCQ
56	3/1	oh n' can't	ASIR
	?	@	UNTP
57	4	birds	ODAG
		look at the floor (3)	RQAC
		le' clean the floor (.) floor	RQSU
58	3	gimme this (2)	RQAC
59	4	look at (.) this now	RQAC
60	1	yeah (2)	RSCO
		don't do it (2)	RQAC negative
61	4	where's mine?(3)	RQPR
		where's your one?(2)	RQPR
62	2	I've got it	RSPR
		look (1)	ODAG
		here's mine (3)	ASDC
	?	@ @ @ @	UNTP
63	1	ahh(=1)	EXCL
		I saw der legs (2)	ASDC
64	4	where?	RQPR
65	1	der (4)	RSPR
		ohh(=1) (2)	EXCL
66	3	// I've finished* mine (3)	ASDC
	1	(noise)*	
67	3	let's touch /də/ one	RQSU
68	2	I've finished mine	ASDC
69	1	ah	EXCL
		I touched dem (7)	ASDC
70	4	don't /də ə/ (5)	PFPR
		DO THAT	

71	2	don't /də/ (2)	PFPR
		ahh(=.5) (2) ohh(=.5) (6)	EXCL
		[pen drops in cage]	
		now we can't (.hh) do the register	ASEX
72	?	/d / do it (2)	UNTP
		DIDN'T maybe	
73	2	go and tell (.hh) the new teacher	RQAC
		we'll tell dem it (.) yeah (2)	RQSU+RSAK
		Mary (.hh) Mary might /id/ dat (2)	
		NEED	
		Mary might /id/ dat (1.5)	ASAT
		NEED	
74	3	you bin lookin' through the window?	RQCH
75	2	they might-	
		they might lose the pen now, won't they (2)	ASEX+RQCH
76	4	yeah	RSCH
77	2	then they can't do the register	ASRU
78	3	what's this /wə-/	RQPR
		lemme see what's this	RQPM
		Mrs Spann come 'ere (5)	RQAC
79	2	I wonder what's in dat (.)	
		in dis (1) box in dat box (.5)	
		I wonder what (.5) in dat box	ASIR
		look look at somethin' // @ dat box	RQAC
80	1	shall I* go an' see	RQSU
81	2	no	RSCO negative
82	1	go on	RQAC
83	2	no (8)	RSCO negative
		(banging)	
84	4	eat it all up	RQAC
85	1	eat it all up (2)	EXRP
86	4	don't hit it	RQAC negative
		he eating now	ASDC
		(banging=4) (1.5)	
87	4	look a'	RQAC
88	3	shall we pick (.) it up	RQSU
		let me pick i' (5.5) (.hh) (1.5)	RQPM
89	4	*ki kita?*	RQPR
		WHAT DID-YOU-DO	
90	3	*kwc nəi (3)*	RSPR
		NOTHING	

91	2	you shouldn't do that (.)	ASRU
		it's bad	ASEV
92	1	his /kərs/ going all in it (1.5)	ASDC
93	4	where?	RQPR
94	1	there	RSPR
95	4	so (.hh) all you look 'ere (3)	RQAC
96	1	who?	ODCQ
		Mary?	RQCH
97	2	yeah Mary	RSCH
		that's a nice name isn't it?	ASEV
98	4	yeah	RSAK
99	1	yeah Mary	RSAK
100	?	Mary (2)	RSAK
	?	@ @ (5)	UNTP
101	2	I wonder what's in that box? (2)	ASIR
102	1	let's go an' see (1.5)	RQSU
103	2	no	RSCO negative
		teacher's @ @	UNTP
104	4	Mary come den (13)	ASAT
105	1	ahh (=2)	EXCL
106	4	what's happened?	RQPR
107	1	look (2)	ODAG
108	4	show Mary in it	RQSU

109	1	oh	EXCL
110	4	who did it?	RQPR
111	1	[shrugs]	
112	2	I didn't	RSPR
113	4	I didn't	RSPR
		you are *hana* (Q tmg)	ASDC+RQCH
114	2	// no me	RSCH
115	3	one two three* @ @ @ @	PFJO
116	4	no	RSAK
		Sandeep	ASDC
117	2	I didn't	RSAG negative
118	4	Sandeep did it	ASDC
119	1	I */ər/* maked it (HAVE)	ASDC
		I fixed it now (2)	ASDC
120	4	/lə́s/ (2) /lə́s pə́ns/ (9)	UNTP

		let's (1) do up down=		RQSU
121	1	no		RSCO negative
		let's pick them up (1.5)		RQSU
		no (2)		PFPR
		ahh(=.5)		EXCL
		I'm worried about the pen (1)		ASIR
		ah (=1.5)		EXCL
122	2	now we can't do the register (1.5)	*hana*	ASRU+RQCH

GROUP F

Tn (10)	Sp	Utterance	C-act
1	2	*sade na mare /hə/* US NOT HIT	RQAC
2	?2	*mæ /todo/ marna (1) hana (.hh)* I HIT Qtag	ASIR+RQCH
		əsiŋ nəi kərna kərke dər ləggda hərga WE NOT DO BECAUSE SCARED BEGIN TO-BE	RSCH+ASEX
3	1	oh	EXCL
		hana? ki kərda hana? /si na/ @ @ Qtag WHAT DOING Qtag	RQPR
4	2	*/ə iə tωt mi/ @*	UNTP
		ki kita? (3) WHAT DID	RQPR
5	1	*vɪc padie* IN LET'S-PUT	RQSU
6	?	eh? (2)	ODCQ
7	2	*dekhia? (2)* DID-YOU-SEE?	RQCH
8	1	*e khanda nəi (1.5)* HE EATING NOT	ASDC
		pəro pəro kərda hana? NOISE DOING Qtag	ASDC+RQCH
		khanda nəi kωj nəi EATING NOT SOMETHING NOT	ASDC
9	2	(noise=.5 + .5) *kərda hana?* DOING Qtag	ASDC+RQCH
10	3	*/həngəri ɔte kərte həngəri/* HUNGRY ? HUNGRY	UNTP
11	2	eh *eda kər* (noise x 4) LIKE-THIS DO	RQAC
12	1	*o ode uppər rəkhi jandi a (1)* SHE IT ON-TOP PUT (in-the-process-of)	ASDC
		vɪc nəi pa səkdi hana? IN NOT PUT ABLE-TO Qtag	ASAT+RQCH
13	2	*/hame/ vɪc pa səkda (.) hana?* ME IN PUT ABLE-TO Qtag	RQCH
		CAN YOU PUT MINE INSIDE	
		e sara IT ALL	RQCH
		SHALL I PUT ALL OF IT	
14	1	*sara panda o* ALL PUTTING HE	ASDC
		HE'S PUTTING ALL OF IT IN	
		/ote/ uppər uppər rəkhi jandi a PN. ON-TOP ON-TOP PUT (in-the-process-of)	ASDC
15	3	*mæ thəle* I UNDERNEATH	ASIR
		I'M PUTTING IT UNDERNEATH	

16 1 *o khanda nəi* ASDC
HE EATING NOT

ode vɪc vɪc pa /d/ RQAC
IT IN IN PUT

uppər */kahte/* *dərdi a* RQPR
ON-TOP WHY SCARED AUX
WHY ARE YOU SCARED OF PUTTING IT ON TOP

mæ tere kol khəri a ASEX
I YOU BESIDE STAND AUX

17 3 *dekh (1.5)* ODAG
LOOK

18 1 up // @ @ *vɪc* RQAC
IN

19 3 *mæ* hand *thəle# kərda (1)* ASDC
I UNDERNEATH DO

mæ thəle kərda hana?
I PUT-DOWN DO Qtag

thəle ASIR+RQCH
PUT-DOWN

20 1 *mæ cətt marungi @ @* ASIR
I QUICKLY WILL-HIT

21 2 *nəi* PFPR
NO

ethe kər ethe kər RQAC
HERE DO HERE DO

ede uppər RQAC
PN. UP

22 1 *fer khalo /cənga/ // kərke* RQSU
THEN EAT NICELY DOING

23 2 *dekh (1.5)* ODAG
LOOK

a vi thəle nu kər (2) RQAC
PN. ALSO DOWN TO DO

tũ uppər rəkhi jandi andi ASEX
YOU UP PUT (in-the-process-of)

24 1 *o uppər jəd /thələrɪ/ hana? vɪc pao (2)* RQAC
PN. UP WHEN DOWN Qtag IN PUT
THE ONES ON TOP PUT INSIDE

25 3 *sɪddhe tũ ɔndər pade* RQSU
STRAIGHT YOU INSIDE PUT

um? (4) uh RQCH
26 1 [nods] RSCH

asiŋ /dərdnə/ nəi ASIR
WE SCARED NOT

asiŋ kərie fer? RQSU
WE LET'S-DO AGAIN

27 2 eh? ODCQ
28 1 *e kərie* RSCL
LET'S-DO (subj)

29	2	[nods]	RSAK
30	1	*fer cəl* THEN GO LET'S GO	RQSU
31	1	*lela* */pera/* TAKE SWEET	RQAC
		e kωj nəi kərna IT SOMETHING NOT DO IT WON'T DO ANYTHING	ASDC
		mæ tere kol rəkkhdi I YOU BESIDE PUT I'M PUTTING IT NEXT TO YOU	ASDC
32	3	*/ɪndəpə/ e chota (.) e choti hərgi othe* NAME IT SMALL(m) IT SMALL (f) IS THERE	ASDC
		(.hh) see (1.5)	ODAG
33	1	*sar' (.) kha hωn* ALL EAT NOW	RQAC
		cəlo dekhla LET'S-GO LOOK	RQSU
34	2	no I'm not goin' @ @	RSCO negative
35	1	*/kəl/ asiŋ apa pake* WE OURSELVES PUT	ASIR
36	2	*// mæ sara# ɒɪna* I ALL TAKE	ASIR
37	1	/naci/#	
38	2	I wanna pu' dat @ (2)	ASIR
39	3	ah awh (laugh=1) (3)	EXCL
		mæ choti pae I LITTLE(ONES) PUT	ASIR
		put 'im in the /sitɪdium/ (1) SITTING ROOM maybe	UNTP
		ethe tɔk (1) mæ ene /pəɪda/ @ (.) HERE UNTIL I THIS-MUCH PUT	ASDC
		swttke /təuru/ THROWING WITHOUT	RQAC
		swtt- swttke /təuru/ kərida (.) məinu THROWING WITHOUT DOING TO-ME	RQAC
40	2	*mæ /təuru/ swttədi (4)* I WITHOUT THROWING	ASDC
41	3	*mæ choti /ata/ kərke /talin/ (2)* I LITTLE ? BECAUSE OF ?	UNTP
42	1	*anda nəi (2)* COMING NOT	ASDC
43	3	*jekər fer tũ thəle agia swtt (2)* IF THEN YOU DOWN COMING THROW WHAT'S GOING TO HAPPEN IF IT COMES DOWN	RQPR

44	1	*ωppɔr thɔle a janda oho* UP DOWN COMING IT IT KEEPS COMING UP AND DOWN	ASDC
45	3	hah (22.5)	EXCL
46	2	*//mæ* /ede/ vɪc* padi I THERE IN PUT	ASIR
	3	@ @ @ *	UNTP
47	2	*ωppɔr ode vɪc* UP IT IN	RQAC
		/pu ɔ ə/ (3) PUT 'EM IN	RQAC
48	1	oi(=1) (.) *ki kɔrda pɔɪa?(1.5)* WHAT DOING (COMPOUND em)	RQPR
49	?1	*sanu /kahte/ dɔsda hωnda a (2)* TO-US WHY TELLING AUX	RQPC
50	3	@ @ @ @ @ @ (5)	UNTP
51	1	*sade hωndi ede (2.5)* OURS IS LIKE-THIS	ASDC
		vɪc pade (2) IN PUT	RQAC
52	2	*vɪc pala (2)* IN PUT_IT	RQAC
53	1	*hωnda nɔi /edɔ/* HAPPENING NOT IT	ASDC
54	2	a black one *tɔinu* no good *khanda* TO-YOU EATING	ASEV
55	?	*nɔi* NO	RSAK
56	2	a white one?	RQPR
57	1	white one *nɔi khanda* NOT EATING	ASDC
58	2	white one *tã* chicken *Ia* EM. IS	ASDC
59	1	chicken *na hana?* NOT Qtag	ASDC+RQCH
60	2	*tã//tã#* black one *vi* chicken *Ia* (3) EM. EM. ALSO IS	ASDC
61	1	SSSh(=1)	EXCL
62	2	*ethe /tɔuru/ sωttɔna (4)* HERE WITHOUT THROW DON'T THROW OVER HERE	RQAC
63	1	SShu	EXCL
64	2	*tɔinu na* TO-YOU NOT	RQAC
		rahnde LEAVE-IT	RQAC

		bolde a SPEAKING AUX	ASDC
65	1	*e gəllaŋ kərde* song *kərde a?* THEY TALK DOING DOING AUX ARE THEY TALKING OR SINGING?	RQCH
66	2	@ @ @ *ɑ gəllaŋ k rde* THEY TALK DOING	RSCH
		tũ /tʊuru/ @ // @ @ @ YOU ?	UNTP
67	3	/ata kata la/ NOISE	
68	2	*e kər* THIS DO	RQAC
69	1&2	/ta da ta ta ta ta / NOISES	PFJO
70	3	ssh (=.5) ssh(=.5)	EXCL
71	1	/ωnə ta ta do/ (6)	UNTP
72	2	@ @ @ I'LL DO IT maybe	UNTP
73	1	*pəta nəi hana?*(1) KNOWN NOT Q+neg WE DON'T KNOW, DO WE?	ASIR+RQCH
		ti ti ti ti (4)	
		pade vIc mera PUT IN MINE PUT MY SHARE IN AS WELL	RQAC
74	3	*mera pana?* MINE PUTTING DO YOU WANT TO PUT MINE	RQPR
75	1	*nəi* NO	PFPR
		tũ nəi pa səkda YOU NOT PUT ABLE-TO	ASAT
76	3	*tũ /mi/ pani* @ (1.5) YOU WATER	UNTP
77	1	*mere /cɔk/ vi nəi marda* MY ? ALSO NOT HIT	UNTP
		kωʃ nɔi kəruga (2) SOMETHING NOT WILL DO IT WON'T DO ANYTHING	ASAT
78	2	*//mere vi nəi* MY ALSO NOT IT WON'T DO IT TO ME EITHER	ASAT
79	1	@ @ @* *mere vi nəi* MY ALSO NOT	ASAT
80	3	*// mere vi nəi#*	ASAT

81	2	*mere vi nəi#*	EXRP
82	1	*mere vi nəi*	EXRP
83	3	*//mere vi nəi*	EXRP
84	1	*mere vi nəi#*	EXRP
		tere sɪr te kəɳda pəɪa (3)	ASDC
		YOUR HEAD ON SAYING (COMPOUND em.)	
		HE'S SAYING IT'S ON YOUR HEAD	
85	3	*tera* finished *ho gɪa?*	RQCH
		YOURS IS	
86	1	*khanda pɪa nəi əje*	ASDC
		EATING (COMPOUND em) NOT YET	
		je pωkh ləggia apɲa khanana	RQSU
		IF HUNGRY BEGIN OWN EAT	
		/parkər kərke/	
		NOISE	
		IF YOU ARE HUNGRY EAT YOURS LIKE THIS	

GROUP G

Tn	Sp	Utterance	C-act
1	2	@ @ @ @ *bɔɪthie sath* SIT TOGETHER	ASDC
2	3	/ha/ *dekh sari khɔlati* (2) LOOK ALL MESSED-UP	ODAG+ASDC
3	1	*ho (1)*	EXCL
		marɔŋgi vwh WILL-HIT PN	PFWA
		THAT WILL HIT YOU	
4	3	here's the last /tɔʧe/	ASDC
5	1	throw in the @ (5)	RQAC
6	2	/ca/ a	UNTP
7	1	here ya are	EXAC
8	3	*tũ vi kɔr* YOU ALSO DO	RQAC
		ho OH	EXCL
		e nɔi kɔrdi (2) SHE NOT DOING	ASDC
9	2	*kɔrla* uh DO-IT	RQAC
10	3	*jɔdoŋ marda hwnda fer kɔrida* WHEN HIT DO THEN DOING	RQSU
		WHEN IT HITS YOU THEN DO IT	
		khala (3) EAT-IT	RQAC
11	2	hah(=1)	EXCL
12	3	you can feed them	ASAT
		it's /ɔt/ in der HOT	ASEV
13	1	I can't see // it properly	ASIR
14	3	*calo* LET'S-GO	RQAC
		ethe# /phala/ hwn (2) HERE HOLD NOW	RQAC
15	1	hello birds (1)	ODAG
		nice bird (1.5)	ASEV
16	3	eat	RQAC
17	1	eat birds	RQAC
18	3	I like small birds not big birds (.5)	ASIR
		hana? QTAG	RQCH
19	2	I like the big birds	RSAG disagree
20	3	and me	RSAG
21	1	I like the little birds	RSAG disagree

22	3	I like small birds (.) not big birds (2)	RSAG
		ahh(=.5) (laugh=.5) (5)	EXCL
		eat	RQAC
		khande a dekhɪa	ASDC+RQCH
		EATING AUX LOOK	
		DID YOU SEE THEM EATING	
23	2	*haŋ*	RSCH
		YES	
		like *kərde a*	ASAT
		DOING (pl)	
		/hə ko/ /ata/ səmose ɪa	ASID
		THESE SAMOSAS ARE	
		bird	ODAG
24	3	*səmose* birds *khande hʊndi a səmose*	ASDC
		SAMOSAS EATING AUX SAMOSAS	
25	2	*haŋ*	RSAK
		YES	
26	1	*cɪrɪaŋ* birds *nəi a cɪrɪaŋ a*	ASID
		BIRDS(pl) NOT ARE BIRDS ARE	
27	3	birds *nəi a cɪrɪaŋ a*	RSAK
		NOT ARE BIRDS ARE	
28	1	*haŋ // cɪrɪaŋ*	RSAK
		YES BIRDS	
29	3	*cɪrɪaŋ hana hana cɪrɪaŋ a?*	RSAK
		BIRDS Qtag Qtag BIRDS ARE	
		kha-	RQAC
		EAT	
30	2	*ho*	EXCL
		OH	
		dɪgie jande a	ASDC
		FALLING (in-the-process-of) AUX	
31	3	*dekhe dʊllhi jandi a*	ODAG+ASDC
		LOOK SPILLING (in-the-process-of) AUX	
32	2	*kəʊn?*	RQPR
		WHO	
33	3	*ana cətt//@*	RQAC
		COME QUICKLY	
34	1	*mere ko* dolly *hæ kə̀r/pe/*	ASDC
		MY TO IS HOME-AT	
		mæ nəi lə ina	ASDC
		I NOT TAKE	
35	3	*tũ kərna nəi* (1.5)	RQCH
		YOU DO NOT?	
		DON'T YOU WANT? (to silent child)	
		owh::	EXCL

		choʈa ləɪɲa si ɪh jɪha LITTLE (ONE) GET AUX(PAST) LIKE-THIS	RQSU
36	2	// @ @ @ * @	UNTP
37	3	@ @ @* *asiŋ tə̃ kωj nəi kɪa* WE EM SOMETHING NOT SAID WE DIDN'T SAY ANYTHING TO HER (TO UPSET HER)	ASEX
38	2	*təinu ki ho gɪa* TO-YOU WHAT HAPPENED	RQPR
39	3	ho OH	EXCL
		/ticə ɔw der/ TEACHER OUT THERE	ASDC
		/ @ @ siti/ *tə̃ kωj vi nəi kərdi* TEACHER prob EM SOMETHING EM NOT DOING THAT TEACHER'S NOT DOING ANYTHING	ASDC
		ɔsiŋ ɪk hor ləɪna /a/ (.5) hana? WE ONE MORE HAVE Qt=Q	RQSU+RQCH
40	2	[nods] *fer hor ləvenge, apaŋ* THEN MORE WILL-GET WE	RSCH+RQSU
		hello birds	ODAG
41	1	// hello birds	ODAG
42	3	hello birds*	ODAG
		/nieti/ *onu dəsi pəɪla* TO-HIM/HER TELL FIRST	RQAC
		/asiə/ can we 'ave some more / ASK @ maybe	RQAC
		/ωne kə ωne kə dənɪgə/ (VERY FAST)	UNTP
		jədoŋ o hωndi si kəɪndi WHEN SHE WAS AUX(PAST) SAID	
		you can have some more	
		you can /səv/ some more more	ASDC
		you can have more have more //(laugh=1.5)	
	?	@ @ @*	
43	2	*mere chɪlka nɪkəl gɪa mere ke* MY SHELL DROPPED MY OF	ASDC
		a dekh LOOK	ODAG
44	3	*ho! a dekh* OH LOOK	EXCL+ODAG
		a keɾa kərdia IT WHICH DONE	RQPR
		hωɲ məinu vi nəi pəta NOW TO-ME ALSO NOT KNOWN NOW I DON'T KNOW! (clearing up mess)	ASIR
45	2	*nəi* NO	PFPR

		o cɪɾi nəi kita a	ASDC
		THAT BIRD(f) NOT DO (PAST) AUX	
		sara khəlate	ASEV
		ALL MESS	
46	3	*o c ɾi* naughty *a*	ASEV
		THAT BIRD IS	
47	1	*c ɾi* naughty *k o b ɲda, c ɾa*	RQPC
		BIRD WHY MAKING BIRD(m)	
48	3	*lela*	RQAC
		TAKE-IT	
49	1	*lela*	EXRP
		TAKE_IT	
50	2	*ki kər'?*	RQPR
		WHAT DO	
51	3	/i rətən/ @ (laugh=1) (2) (laugh=4)	UNTP
		HE ROTTEN maybe	
		je onu pəta /ləgio/	ASAT
		IF TO-HER FOUND OUT	
		(pəta ləgo jana=TO FIND OUT)	
		I WONDER WHAT WILL HAPPEN	
52	2	eh?	ODCQ
53	3	*andi a*	PFWA
		COMING AUX (f)	
		cəlo cωk	RQAC
		COME-ON PICK-UP	
54	2	pick up it @ @ @	RQAC
55	1	hello	ODAG
56	3	hello *cɪɾis*	ODAG
57	2	hello hello	ODAG
58	1	//hello	ODAG
59	3	I'm pickin' you up /sən gᵃd/ you up	ASIR
		here *kərda* /lie/	UNTP
		DOING	
		/hə/ @ *kərdi* @ @ *cɪɾiaŋ*	UNTP
		DOING BIRDS	
		cəl kər cəlie	RQSU
		MOVE DO LET'S-MOVE	
		ethe ho gɪa	ASDC
		HERE HAPPENED	
		hah	EXCL
60	2	*o a ləgia* (2)	PFWA
		SHE COME ABOUT-TO	
61	1	swing *a ethe /swingi/*	ASID
		IS HERE SWING	
62	3	*ena khande pəɾla* dinner	RQSU
		HIM EAT FIRST	
		LET HIM EAT HIS DINNER FIRST	
63	1	*khande @*	ASDC
		EATING	

64	3	/ona sala sitəd/ you see	
		o khanda pəɪla pωkh ləggi a HE EAT FIRST HUNGER BEGIN AUX	
		/ən den/ (1.5) /pə pə/ AND THEN	
		cɪɪriaŋ BIRDS	ODAG
		pωkh ləggi a HUNGER BEGIN AUX	ASAT
		khala fer EAT THEN	RQAC
		a dekh uppər cəl ge IT LOOK UP GONE	ODAG+ASDC
65	2	*uppər* UP	RSAK
		hωɲ thəle cəl ge (3) NOW DOWN GONE	ASDC
66	3	*khala* EAT_IT	RQAC
67	1	*dekh khala=* LOOK EAT	ODAG+RQAC
68	2	*thəle sade jande a, thəle* DOWN OURS KEEP-ON AUX DOWN	ASDC
69	3	*e jande /təws/ hana?=* FN. GOING PUSH maybe Qtag	ASDC+RQCH
70	2	hah?	ODCQ
	?	/təws ahe/ @ @ @ @ @ @ @	UNTP
71	2	*thəle sωtte ae (.5) thəle* DOWN THROW AUX DOWN	RQSU
		owh(=.5) (2) (laugh=.5)	EXCL
72	2/3	/kəwl ɪu/ *thəle / mənu/* DOWN	UNTP
73	1	*sare thəle a* (2) ALL DOWN ARE	ASDC
		teacher *təinu maraŋgi* TO-YOU WILL-HIT	PFWA
74	3	*nəi kəri jao* NOT DO KEEP-ON	RQAC negative
		kəlli teacher *nu kωj kəɪnda* Sanny (1) ALONE TO SOMETHING SAYS	ASDC
		kha jandia e cɪɪriaŋ EAT KEEP-ON FN BIRDS	ASDC
		mere @ @ @ @ MY	UNTP
		tere? YOUR	RQCH
75	2	*mere nəi* MY NOT	RSAG disagree

		dekh a meri othe khala pɪa LOOK AUX MY THERE EAT (CONTINUE)	ODAG+ASDC
		othe dəɾgi THERE SCARED	ASAT
76	3	*one one ade swttie* THAT-ONE THAT-ONE IT THROW	RQAC
77	2	*haŋ ?* WHAT	ODCQ
78	3	*a* PN	RSCL
79	2	*ade swttie* IT THROW	RQAC
80	3	*khal ode* EAT HIS	RQAC
		ho::	EXCL
81	2	*kia ho gɪa?* WHAT HAPPENED	RQPR
82	3	*e khandi nəi /ha/* SHE EATING NOT	ASDC
83	2	*ki?* WHAT	ODCQ
84	3	*a* PN	RSCL
85	2	*khande* EATING (p1)	ASDC
		he eatin'	ASDC
		[bird cage falls down] ohh(=1) ahh(=1) (3)	EXCL
86	1	*ki kita?* WHAT DID	RQPR
87	3	*tũ eda swttəna nəi si* YOU LIKE-THIS THROW NOT AUX(PAST) YOU SHOULDN'T HAVE THROWN IT LIKE THAT	ASRU
		tũ swtti YOU THREW	ASDC
		one khala (.5) PN EAT IT HAS EATEN IT	ASDC
		eeh birds	ODAG

GROUP H

Tn (4)	Sp	Utterance	C-act
1	1	*e ki kərdi a* SHE WHAT DOING AUX	RQPR
		marna /kera jəj/ HITTING	UNTP
		khande a (13) EATING(pl) AUX	ASDC
2	3	ah ah look	ODAG
		nice bird	ASEV
3	4	yeah nice (.) bird	RSAK
4	3	*Ida / dəgri/* LIKE-THIS [FLYING ACTION]	ASDC
		e eda kərdi hana SHE LIKE-THIS DOING Qtag	ASDC+RQCH
		e // swing* *hana* IT Qtag	ASID+RQCH
5	?2	oops*	EXCL
		swing (1) hh (2) hhh hm (7)	RSAK
6	3	here /təkətəkkəkədə / /kəkkəkə/ (2) NOISES	
		chicki chicki chicki chicki (2)	ODAG
7	?	/lit/	
8	2	*tu kɪtthe ?* // chicki chicki YOU WHERE	RQPR
9	4	*kia kərta?* (2) WHAT DOING	RQPR
10	2	/cəke cəkə/ NOISES	
11	3	cəka cəka/ NOISES	
12	4	/əi əm lə/ I AM LOOK maybe	UNTP
13	?	huh?	ODCQ
14	2	chicki chicki	ODAG
15	?	/kit ə kit ə kə/ @ @ @	UNTP
16	4	*əj mæ təinu marungga* TODAY I TO-YOU WILL-HIT	ASIR
17	1	ah /a/ *kwj par gɪa* (3) SOMETHING ACROSS WENT	ASDC
18	3	*sanu nəi* TO-US NOT	RQAC
		oh /hi/ *həvə marda sanu* WIND HITTING US BLOWING	ASDC
		ah	EXCL
		tũ sanu həvə marda? YOU TO-US WIND HITTING ARE YOU BLOWING AT US	
		sanu // *həvə** TO-US WIND	RQCH

19	4	/wə wə/ # (2)	UNTP
20	3	/ə vɔl likna ne/ (3)	UNTP
21	1	/ɔw i/ ah	UNTP
		DO IT maybe	
22	3	oh ah	EXCL
		sorry	ODPM
23	2	uh oh	EXCL
		/ə me sige/ // (laugh=4)	
	?	@ @	UNTP
24	2/4	come on chicki chicki	RQAC+ODAG
25	1	oh (laugh=1)	EXCL
26	2	ah (2)	EXCL
27	1	oh bird	ODAG
28	2	here y'are	EXAC
29	4	/sar/ khanda hana	ASDC+RQCH
		sara=ALL EATING Qtag	
		ah owh (laugh=1) ah ooh ohh ooohh	EXCL
		/ə beni/ /ki ɪa/	
		NOISES	
30	1	o kəɪnda mæ vi jana	ASDC
		HE SAYS I ALSO GO	
		mæ vi ethe bəɪthna /i də ena/ (1)	ASIR
		I ALSO HERE SIT	
		taŋ /dəw/ kholda (3)	UNTP
		THEN OPEN	
		oh	EXCL
31	2	eh ehh	EXCL
32	3	e ki kərdi a?	RQPR
		YOU WHAT DOING AUX	
		bat	RQAC
		TALK	
33	1	vəddi /e/ ho gi	ASDC
		BIG HAPPENED	
		IT'S GOT BIGGER	
34	2	nəi (2)	RSAG negative
		NO	
35	4	o ganda (2) @ @ (2)	ASDC
		HE SINGING	
		bəɪtho (4) //@	RQAC
		SIT	
36	3	mera nəi	PFPR
		MINE NOT	
		pinda pi pi	RQAC
		DRINKING DRINK DRINK	
		nəi (4)	PFPR
		NO	
37	2	pina	RQAC
		DRINK	
38	3	end of ma:n (2)	ASDC
39	2	said mummi	ASDC

40	3	said mummi, say mum (2)	RSAK
41	?	*khandi a* @ (2) EATING AUX	ASDC
42	2	do I have to (2)	RQCH to self
		I /də/ have to go der or not (2) DON'T	ASEX to self
43	4	birdie */pi gi/* (7) DRANK	ASDC
44	1	come on bird (12) (laugh=1)	RQAC
45	2	*dekhdi a sade vəl* (2) LOOKING(f) AUX OUR TOWARDS	ASDC
46	1	*kəɪndi hæ onu* feeding *kita hana* SAYING AUX PN DID Qtag	ASDC
		/fiji/ o /gɯd/ ho gɪa (4) FEEDING PN GOOD HAPPENED IF YOU HAVE IT'S GOOD	ASEV
47	3	/elo/ *ganja* (9) BALD-HEADED	PFJO
48	1	*enu /sələ*w *gəs / dedi*? TO-HIM GIVE	RQSU
49	2	[nods]	RSCO
50	1	eh?	ODCQ
51	3	*nəi* NO	PFPR
		təinu maru' (1) TO-YOU WILL-HIT	PFWA
		o kəhi kitthe? SHE SAID WHERE	ASDC
		o kəhungi uppər cəl ja SHE WILL-SAY UP GO	ASAT
52	1	hah?	ODCQ
53	3	*mæ kəɪndi uppər cəl ja (3)* I SAYING UP GO	RSCL
		tũ vəddi a tũ nəi ede vɪc a səkdi (2) YOU BIG AUX YOU NOT IT IN COME ABLE-TO YOU'RE TOO BIG TO GO IN THERE	ASEX
54	4	*mæ vi ja səkdi hana?* I ALSO GO ABLE-TO Qtag	ASIR+RQCH
55	3	*/ə ɔ /* NO	RSCH
		mæ ja nəi səkda I GO NOT ABLE-TO	ASIR
56	4	I finished my 'pple	ASDC
57	2	*ene kɪa* (2) HE SAID	ASDC
		owh	EXCL

78	4	hello (9)	ODAG
79	1	owh (.hh)	EXCL
		my can't	ASIR
80	4	/ir p li/	UNTP
81	2	ah (2) */ɔd/* *vIc pana* *thə*=THERE IN PUT	RQAC
82	1	ah two birds	ODAG
83	4/3	ah @ @ birdie	ODAG
84	1	bird (2)	ODAG
85	3	hello hello	ODAG
86	1	hello hello	ODAG
	?	@ @ @	UNTP
87	?	hey	ODAG
	?	@	UNTP
88	3	hello hello	ODAG
	?	@ @ (2)	UNTP
89	3	hello (6)	ODAG
90	4	*khala* /ti/ EAT_IT	RQAC
	?	@ @ @	UNTP
91	4	*khala* EAT-IT	RQAC
92	3	/cori/ *paie*? STORY PUT(SUBJ) SHALL WE PUT	RQSU
		look (1) story	ODAG+ASID
		ləI Ida di story *rəkhugi* TAKE LIKE-THIS WILL-PUT	ASIR
93	2	@ @ @ @	UNTP
94	3	@*Ida di* story */dekhɔna/* LIKE-THIS WILL-SHOW	RQAC
95	2	[nods]	RSCO
96	3	*haŋ rəkhungi* YES I-WILL-PUT I'LL KEEP IT HERE	ASIR
97	1	let me see it (2)	
		let me see it there	RQPM
		a le IT TAKE	RQAC
		a nəi THIS NOT	RQAC negative
		a təinu @ @ THIS-ONE TO-YOU	UNTP
98	3	*nəi/* NO	PFPR
99	1	*təinu nəi @ @ @* TO-YOU NOT	UNTP
100	1	*ki kəIndi si* WHAT SAY AUX(PAST)	RQPR

101	3	*ɔ kəɪndi* can you put it down (6)	
		SHE SAID	
		fer kəɪndi can you put down (2)	RSPR
		THEN SAID	
102	1	put down (4)	RQAC
103	2	put it in here (2)	RQAC
104	3	*ethe rəkhdo*	RQAC
		HERE PUT	
		put it in (3)	
		/ed/ vɪc	RQAC
		IN	

Mapping of conversational turns, for subject (S) & interlocutor (I), classified as C,D or d moves

GRAPH 10;1 dyad 1M

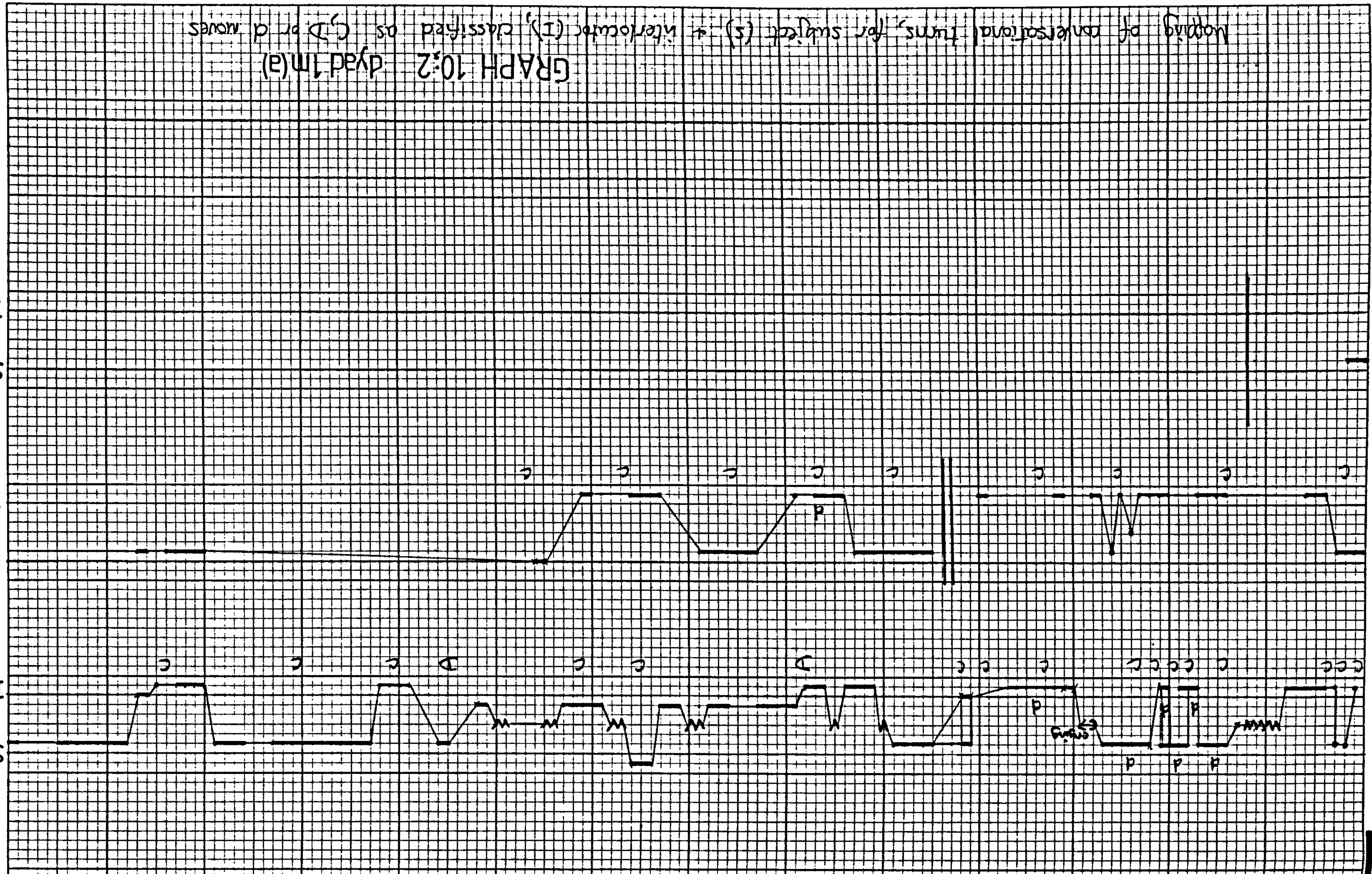
I
S
I
S
I
S
I
S

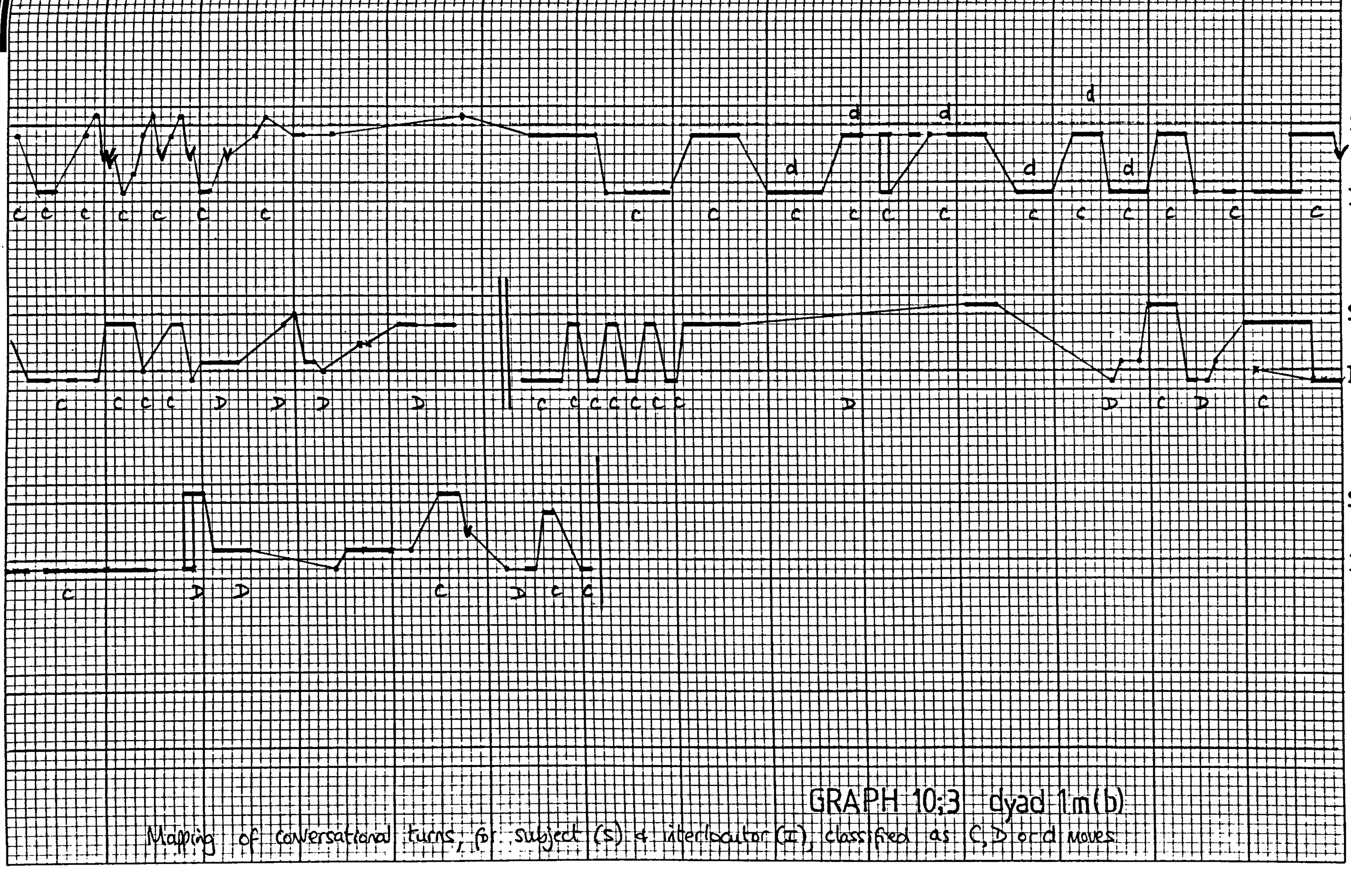
GRAPH 10:1 cont'd.

I
S
I
S
I
S

Mapping of nonlateral turns, for subject (S) + interlocutor (I), classified as (J) or d moves

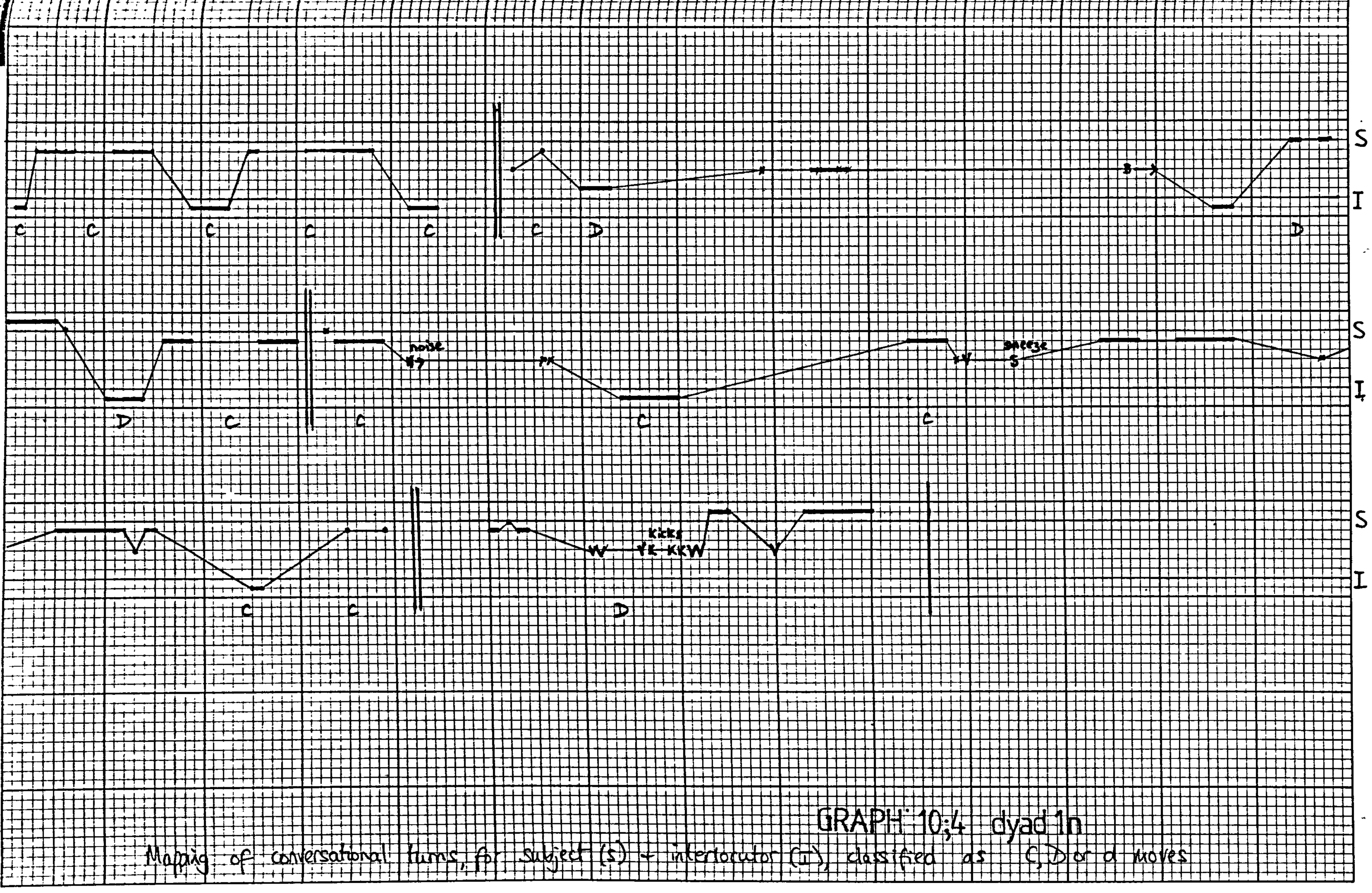
GRAPH 10:2 dyad 1m(a)





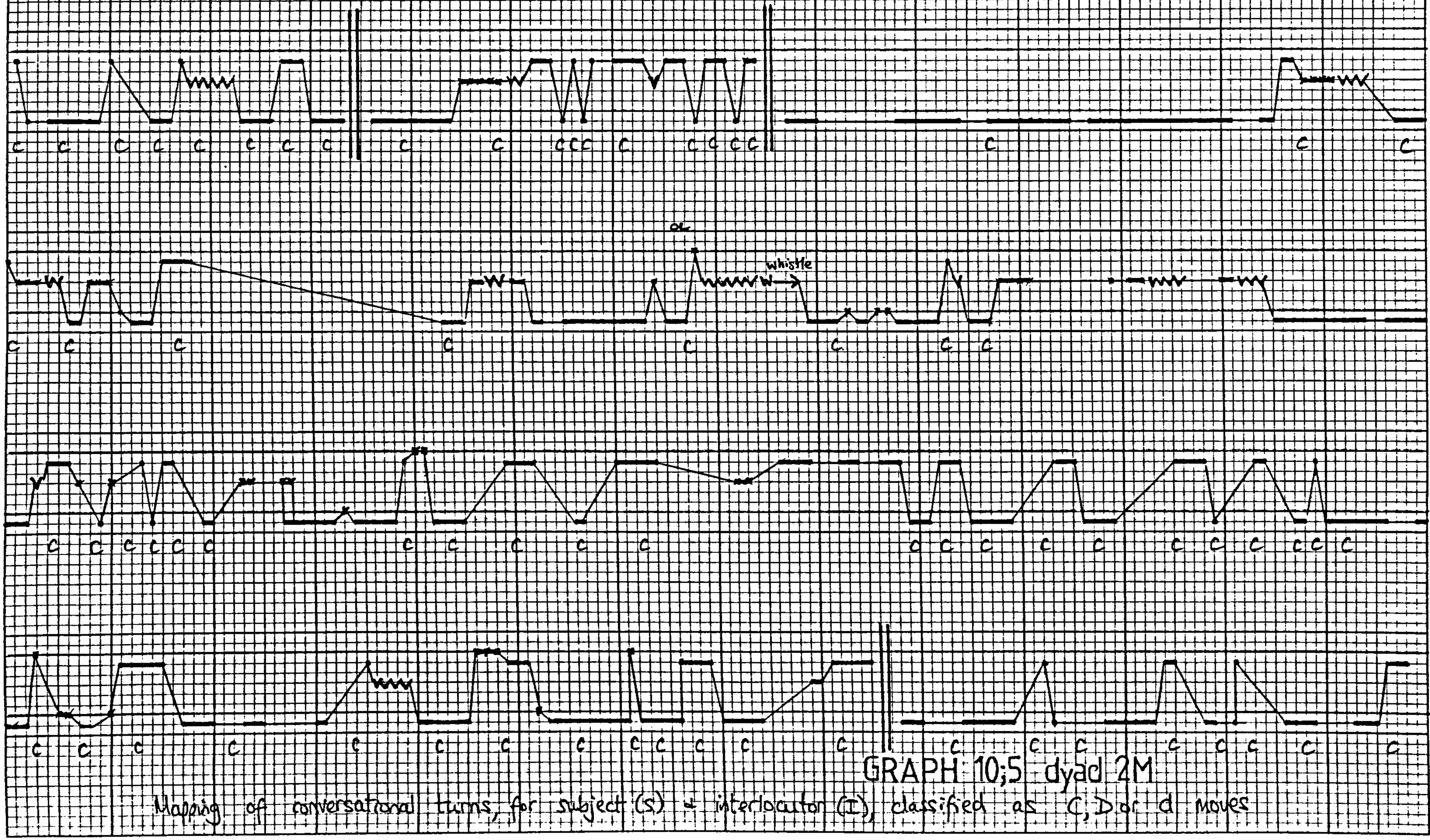
GRAPH 10;3 dyad 1m(b)

Mapping of conversational turns, for subject (S) & interlocutor (I), classified as C, D or d moves



GRAPH 10;4 dyad 1n

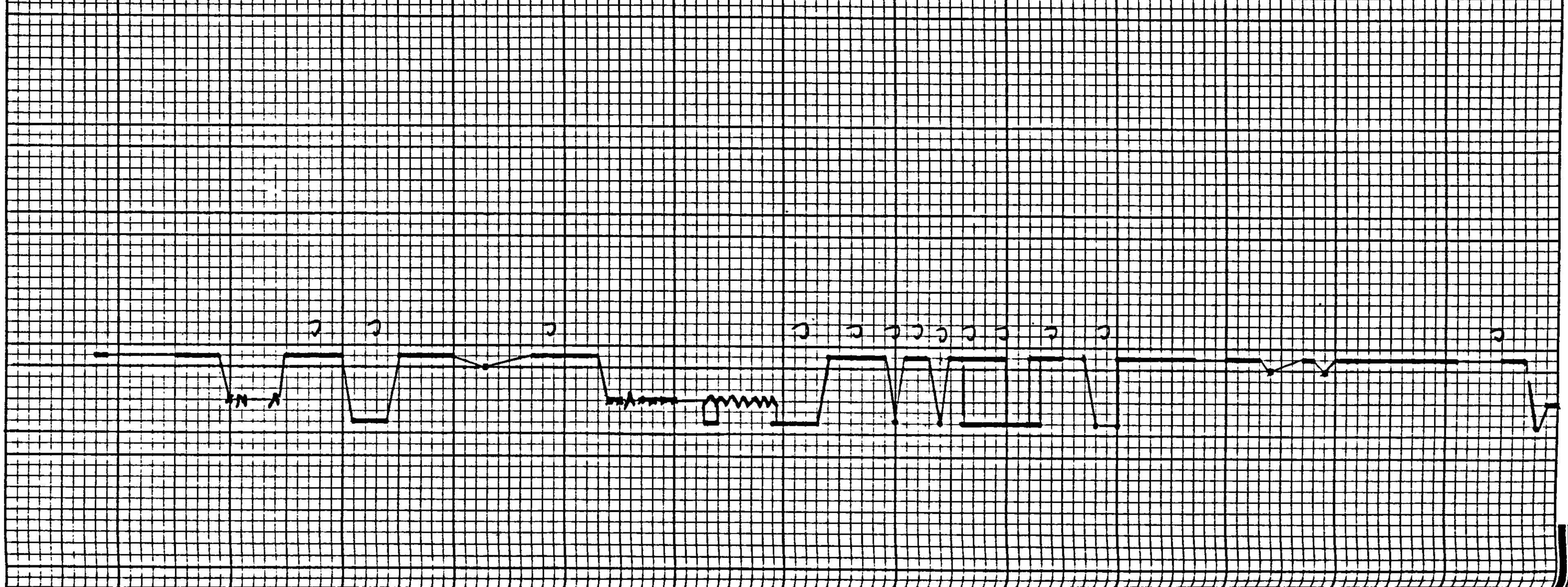
Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves



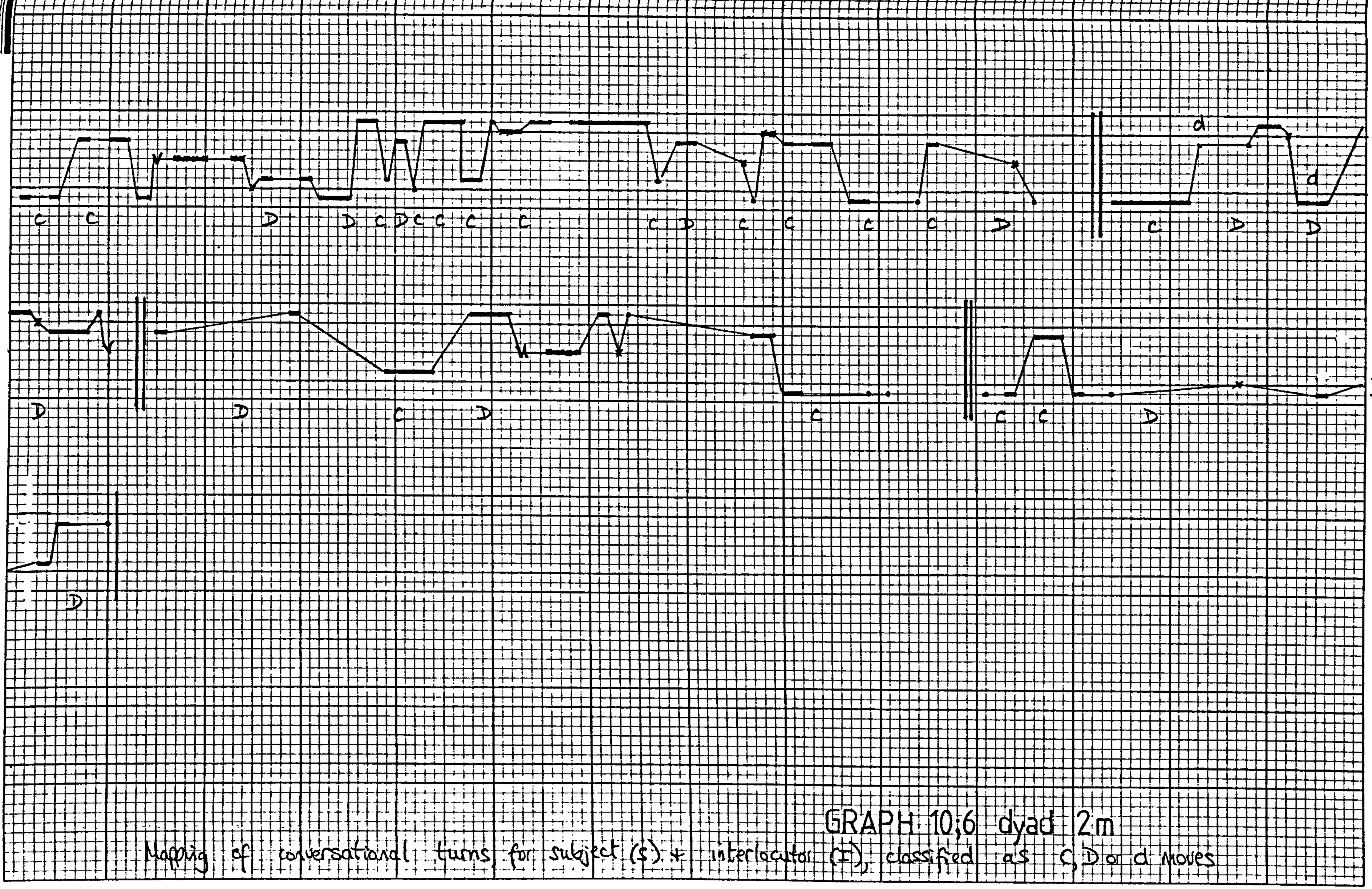
GRAPH 10;5 dyad 2M

Mapping of conversational turns, for subject (S) & interlocutor (I), classified as C, D or d moves

GRAPH 10;5 cont'd.



-345-



GRAPH 10;6 dyad 2m

Mapping of conversational turns for subject (S) + interlocutor (I), classified as C, D or d moves

S
C C D C C C D
I

S
d C C C C C C C C D D C C C C
I

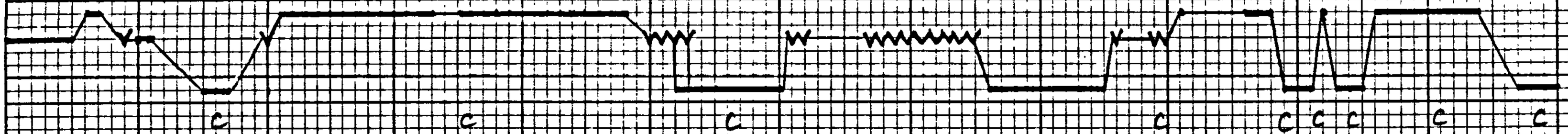
S
C C
I

GRAPH 10;7 dyad 2n

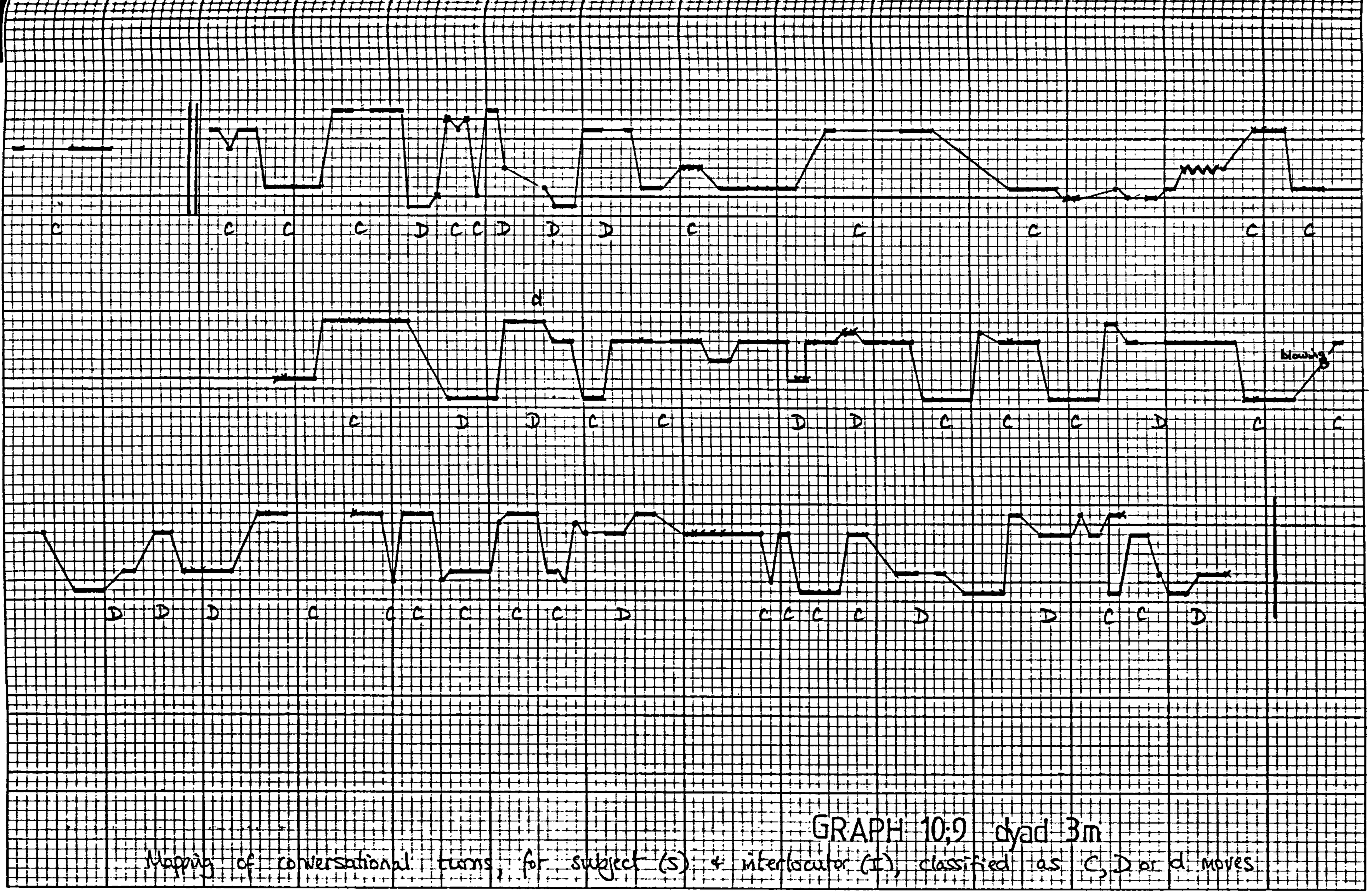
Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

GRAPH 10;8 dyad 3M

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves



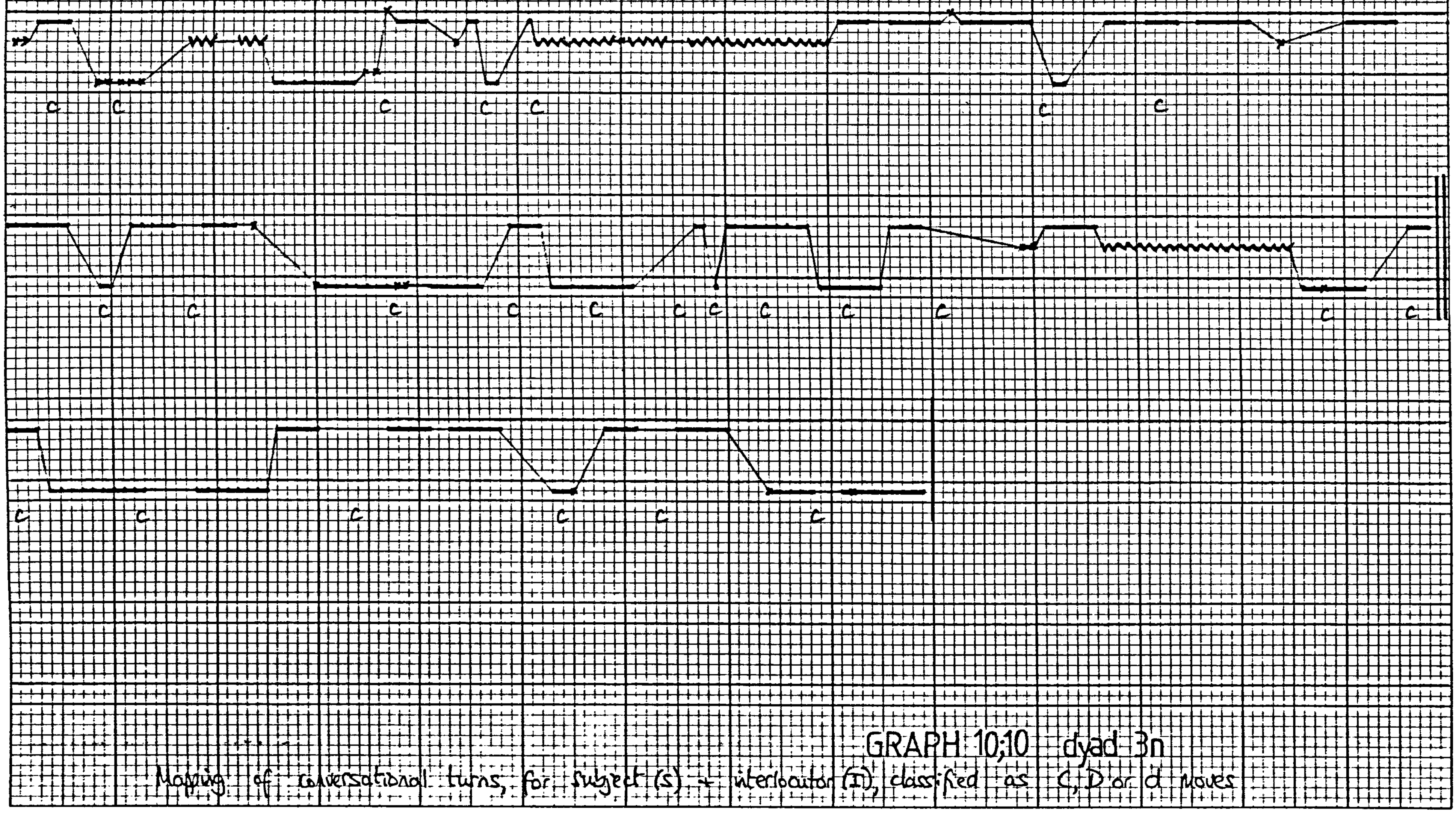
GRAPH 10;8 contd.



GRAPH 10;9 dyad 3m

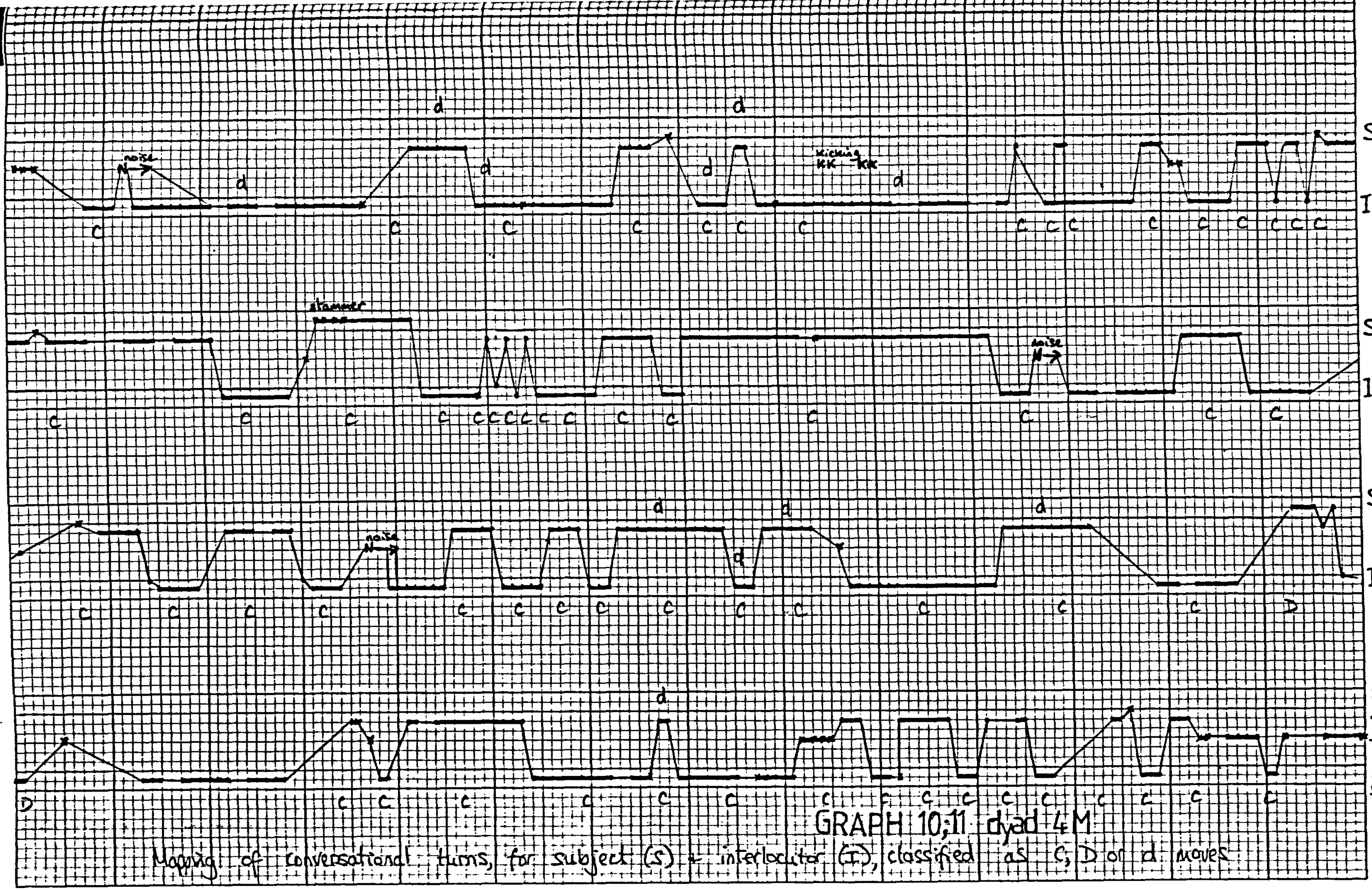
Mapping of conversational turns, for subject (S) & interlocutor (I), classified as C, D or d moves

1m 27s. from beginning



GRAPH 10;10 dyad 3n

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves



GRAPH 10;11 dyad 4M

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

GRAPH 10;12 dyad 4m

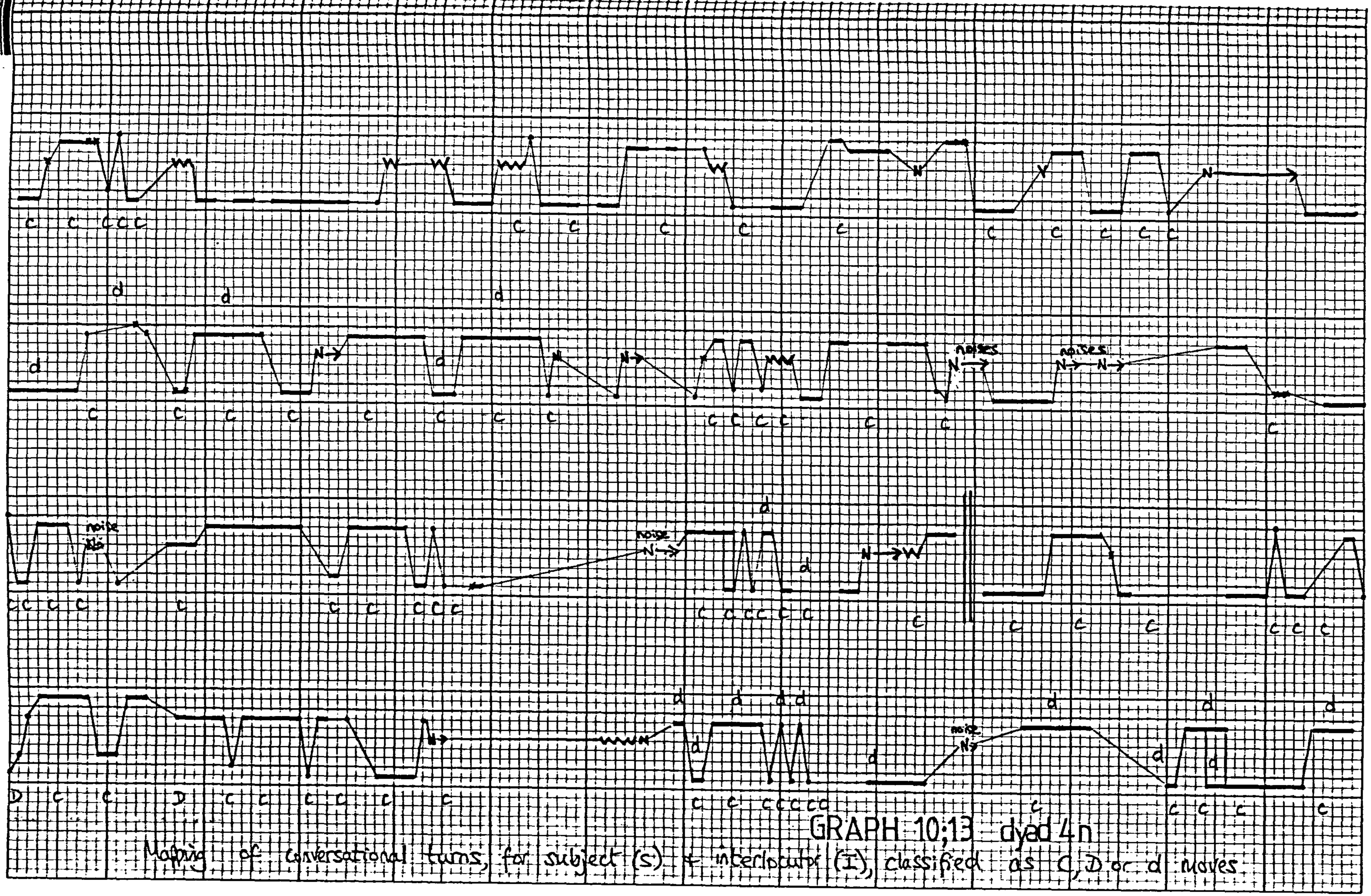
Mapping of conversational turns, for subject (S) + interlocutor (I) classified as C, D or d moves

S

I

C C C C C C C C

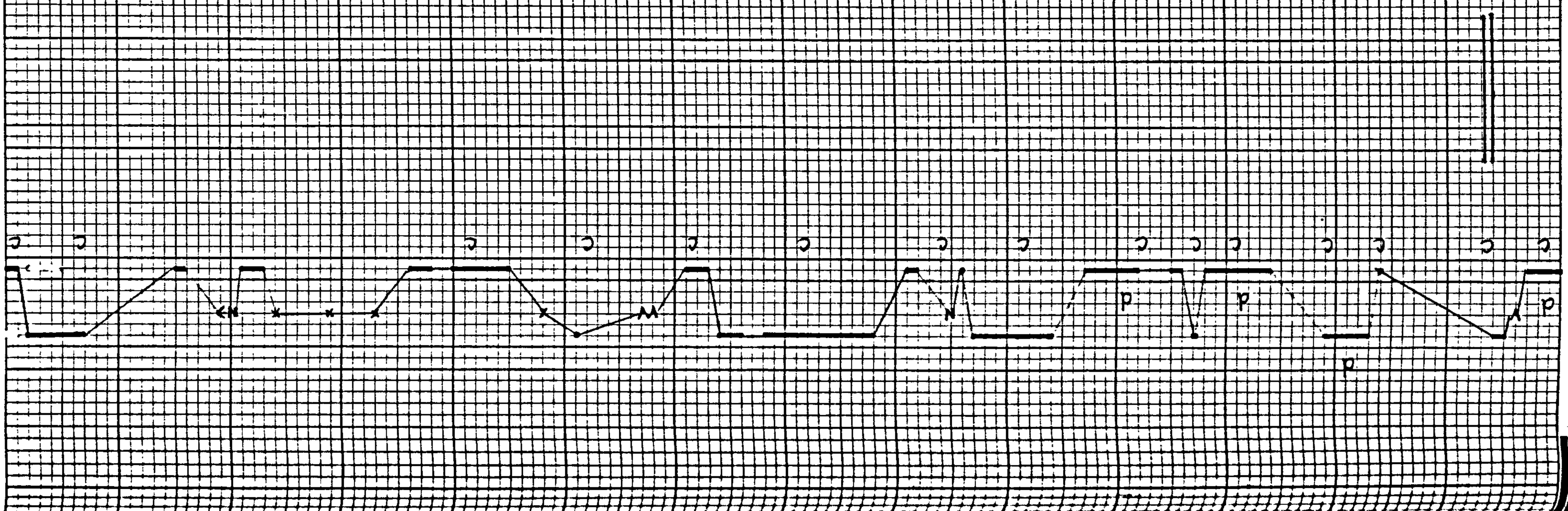
GRAPH 10;12 contd.

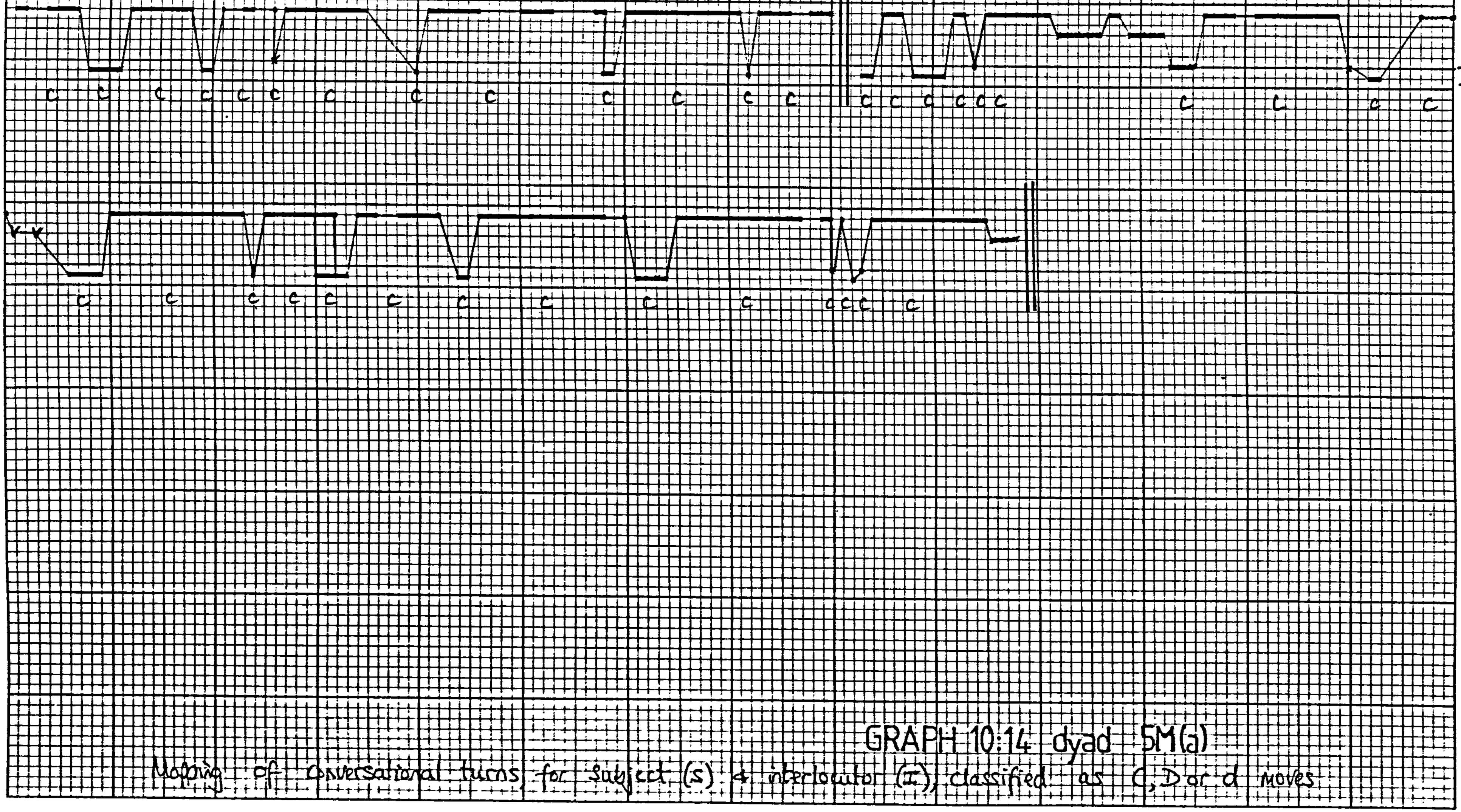


GRAPH 10;13 dyad 4n

Mapping of conversational turns, for subject (S) & interlocutor (I), classified as C, D or d moves.

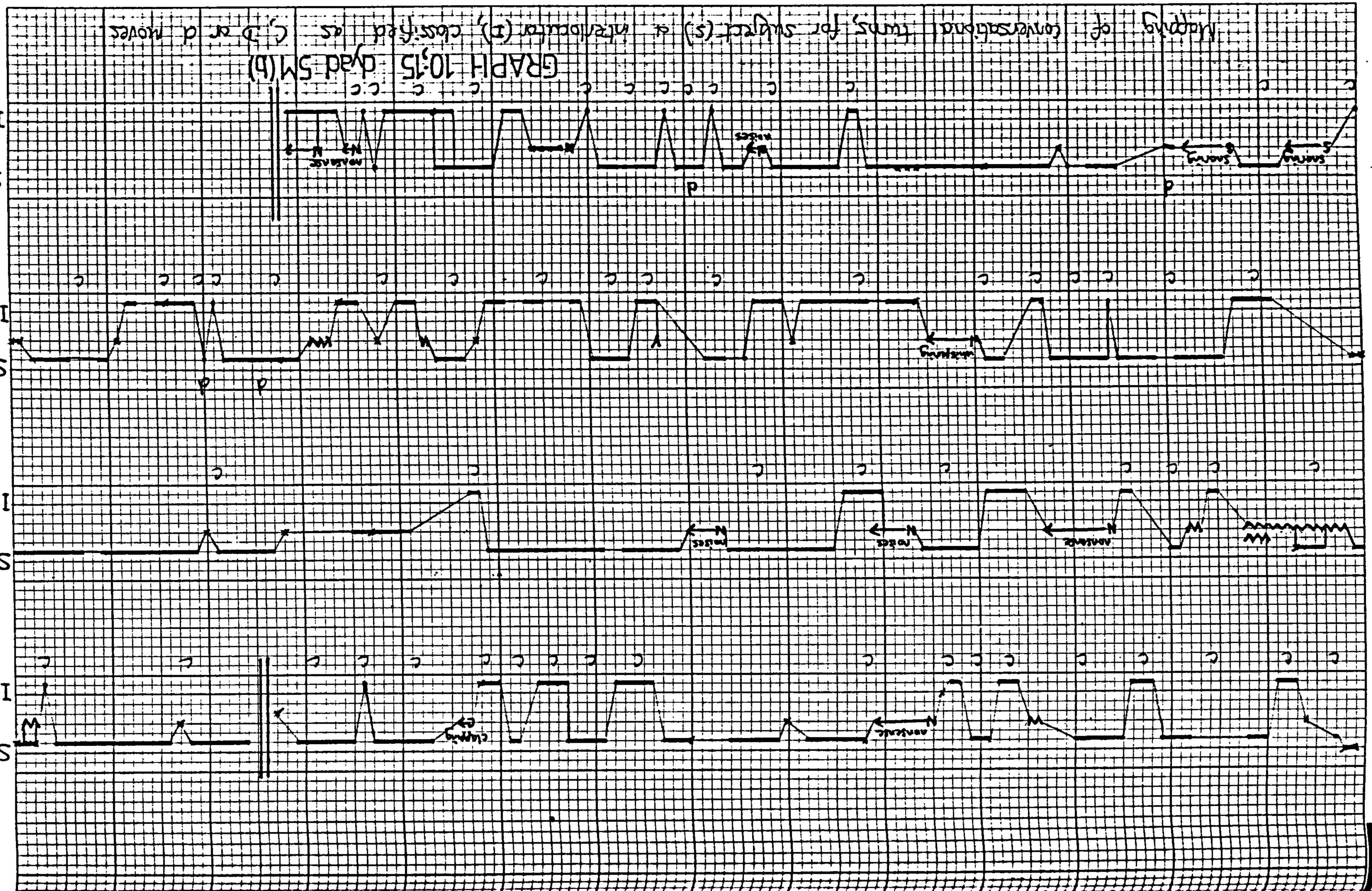
GRAPH 10;13 contd.

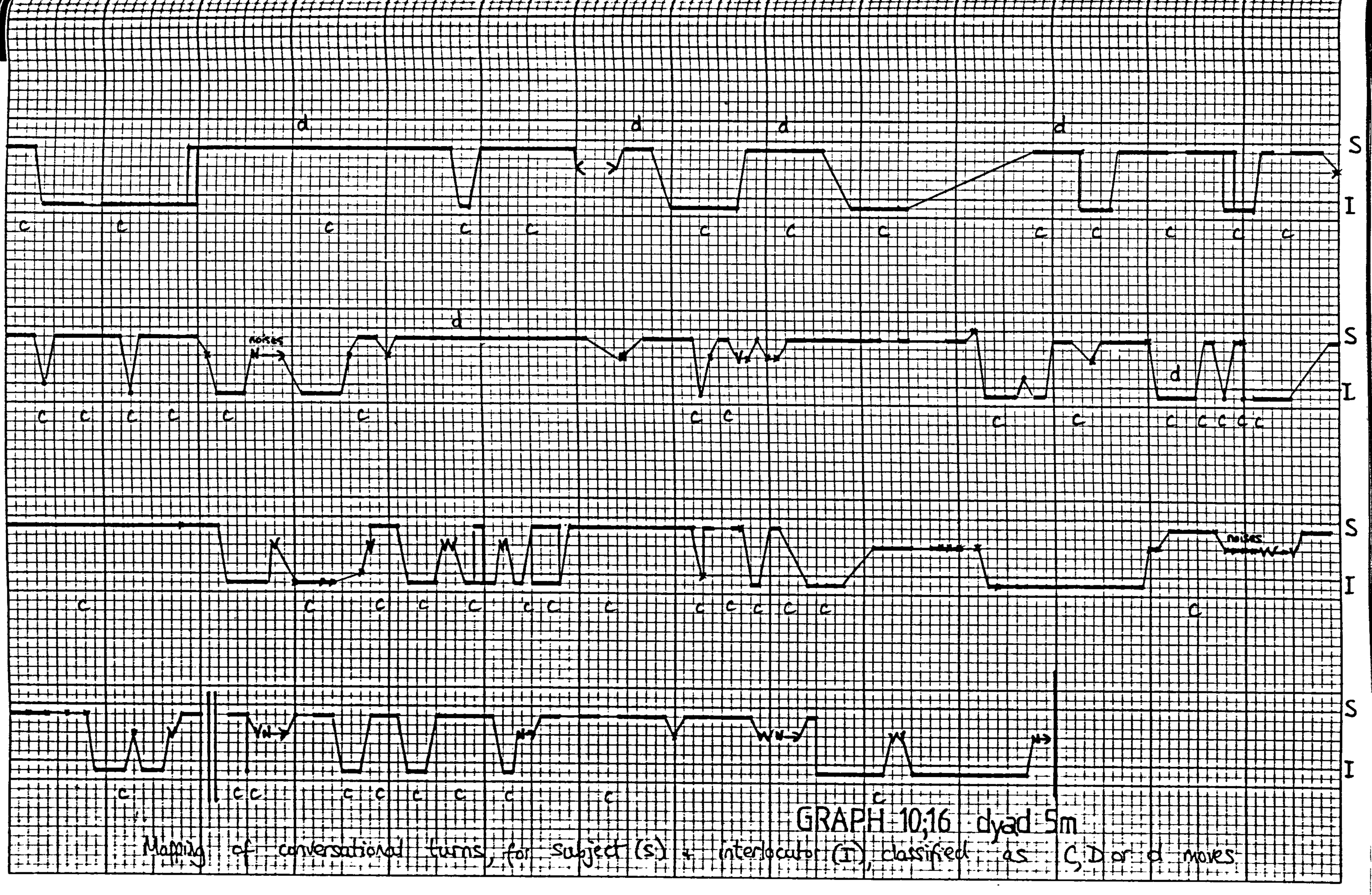




GRAPH 10:14 dyad 5M(a)

Mapping of conversational turns for subject (S) & interlocutor (I), classified as C, D or d moves


S
I
d
c
GRAPH 10.15 dyad SM(b)
Mapping of conversational turns, for subject (S) a intermediate (I), classified as c, d, or d moves

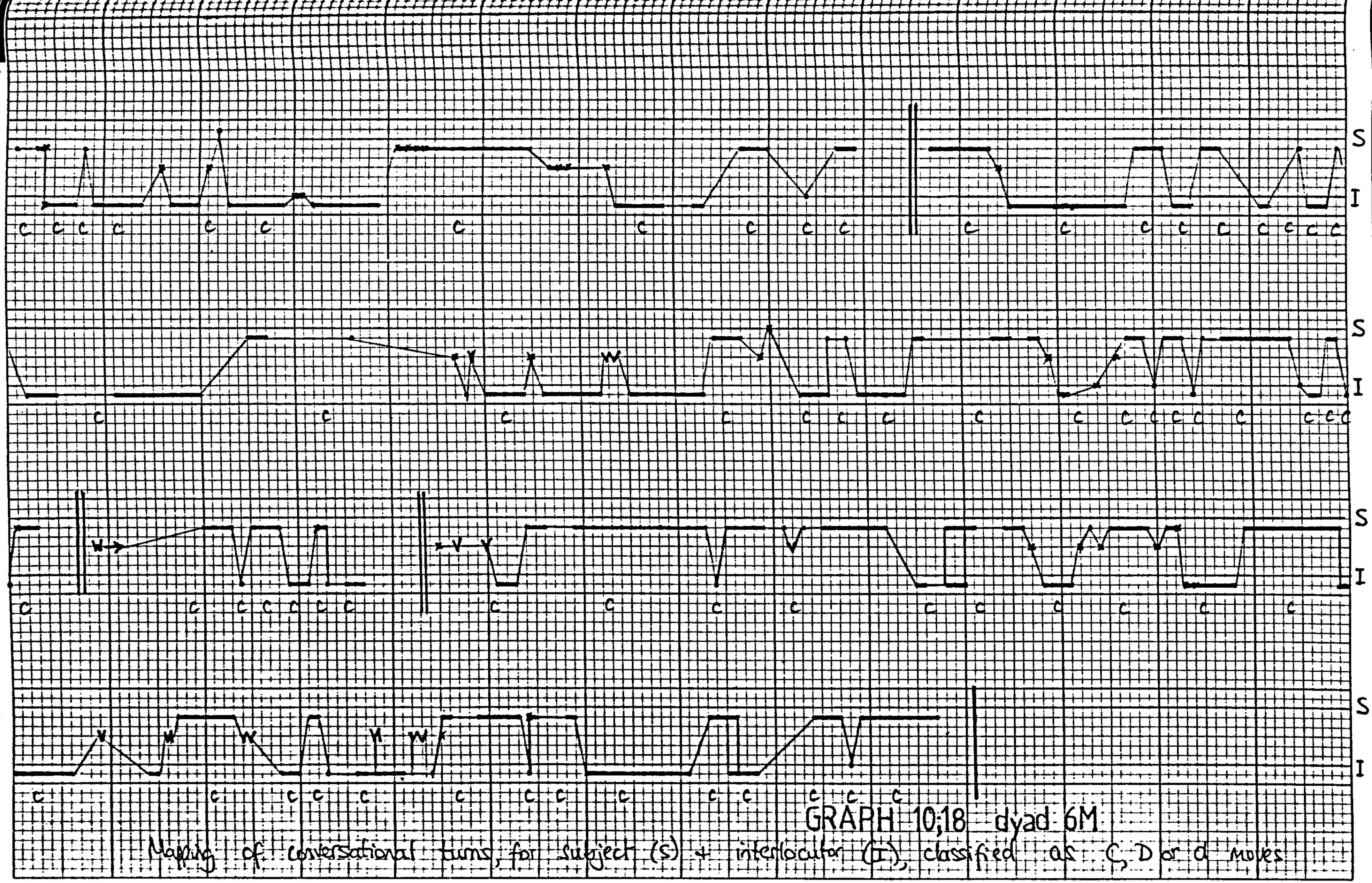


GRAPH 10;16 dyad 5m

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

GRAPH 10;17 dyad 5n

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves



GRAPH 10;18 dyad 6M

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

S

I

S

I

S

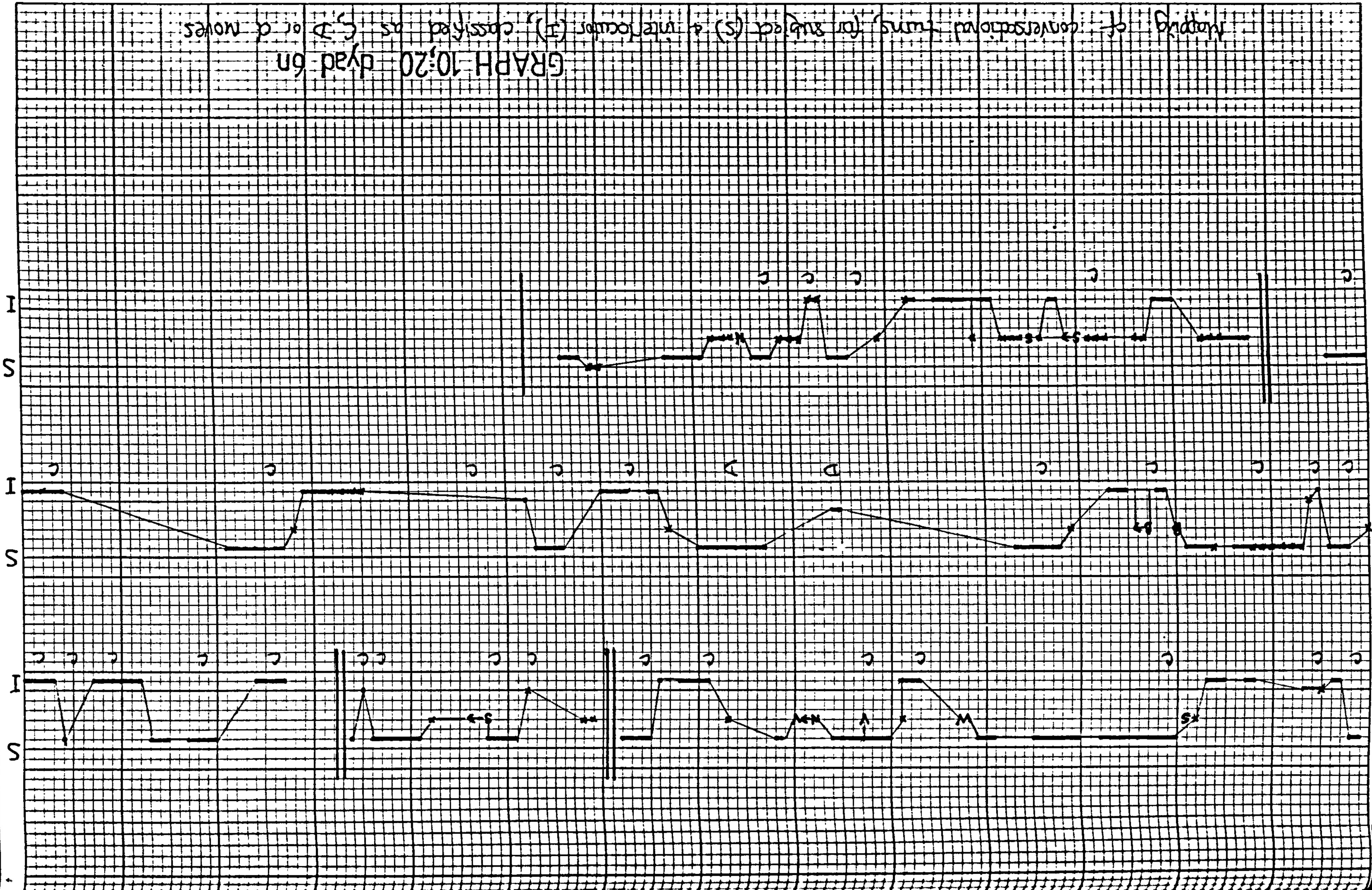
I

S

I

GRAPH 10;19 dyad 6m

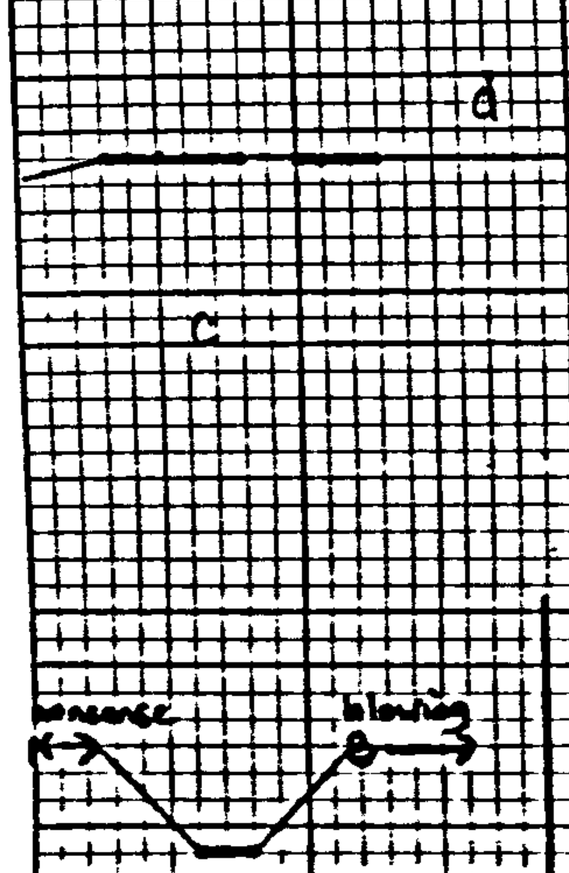
Mapping of conversational turns for subject (S) + interlocutor (I), classified as C, D or d moves



GRAPH 10:20 dyad 6n

Mapping of conversational turns for subject (S) & interlocutor (I), classified as C, T or d moves

S
I
S
I
S
I



GRAPH 10;21 dyad 7M

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

GRAPH 10;22 dyad 7m

Naming of conversational turns for subject (S) + interlocutor (I), classified as C,D or d moves

I
S
I
S
I
S
I
S
I
S

Burning

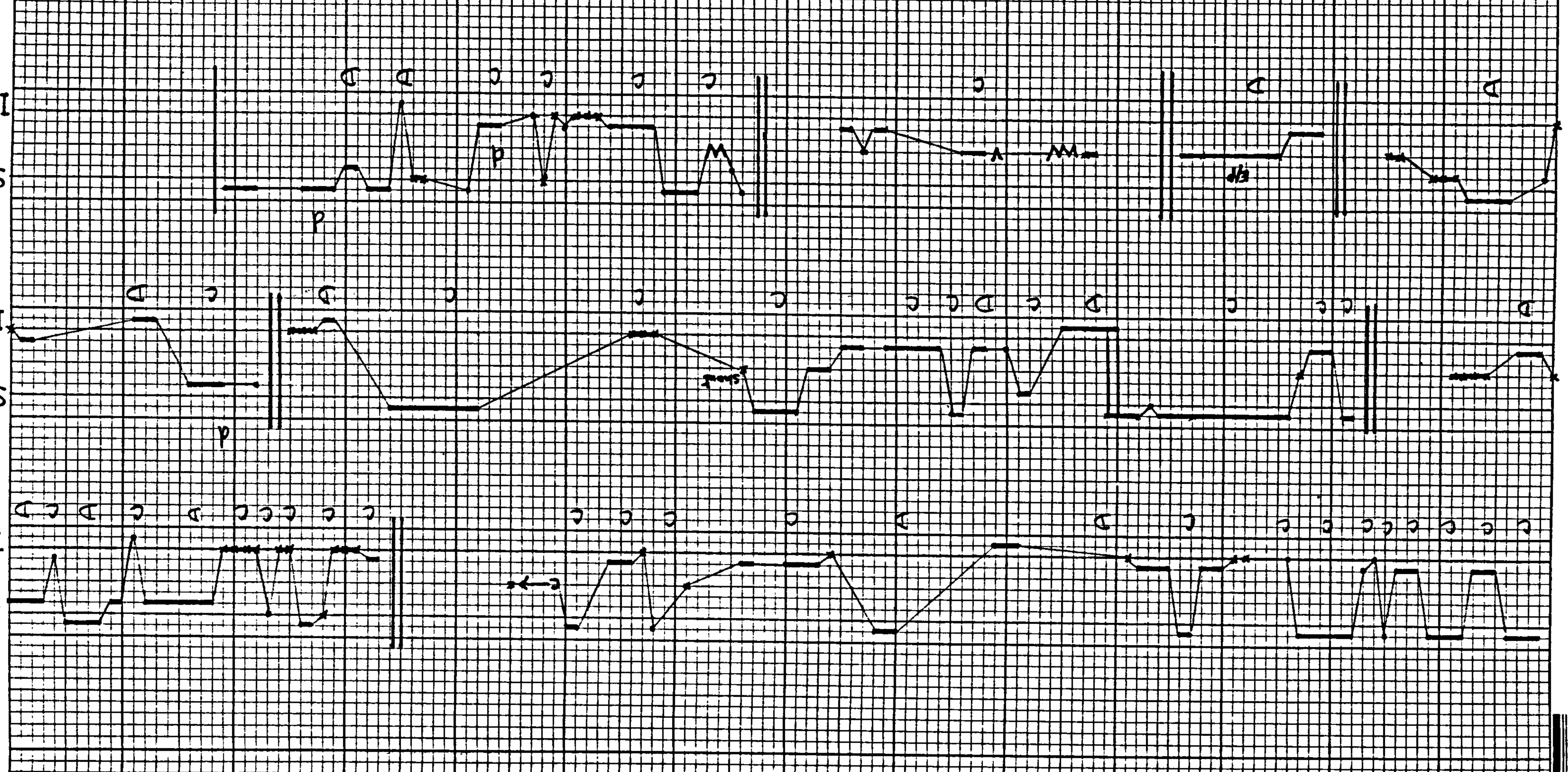
-365-

GRAPH 10;23 dyad 7n

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

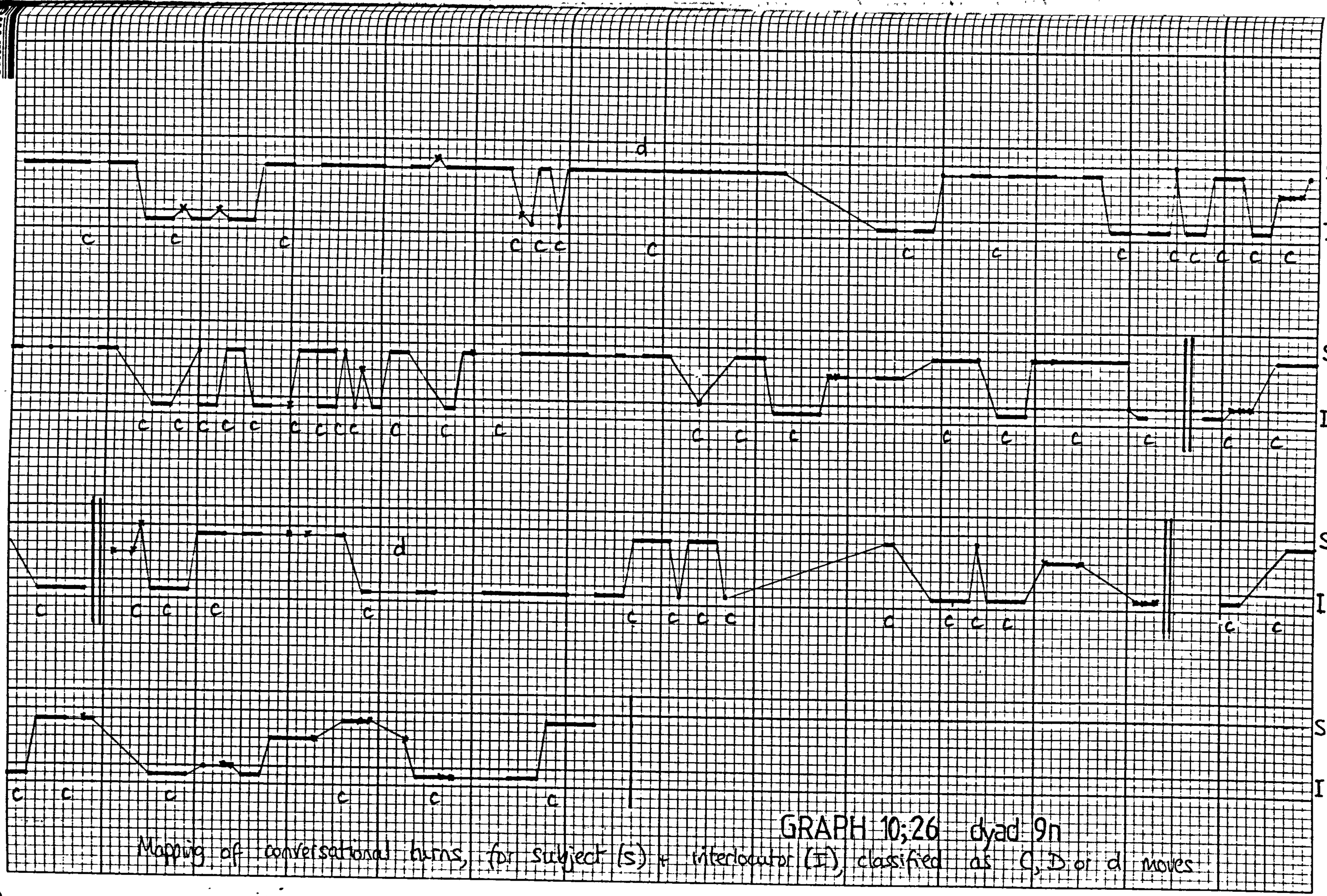
Looping of conversational turns, for Sequence (S) + interlocutor (I), classified as C, D or d moves

GRAPH 10:24 dyad 9M



GRAPH 10;25 dyad 9m

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

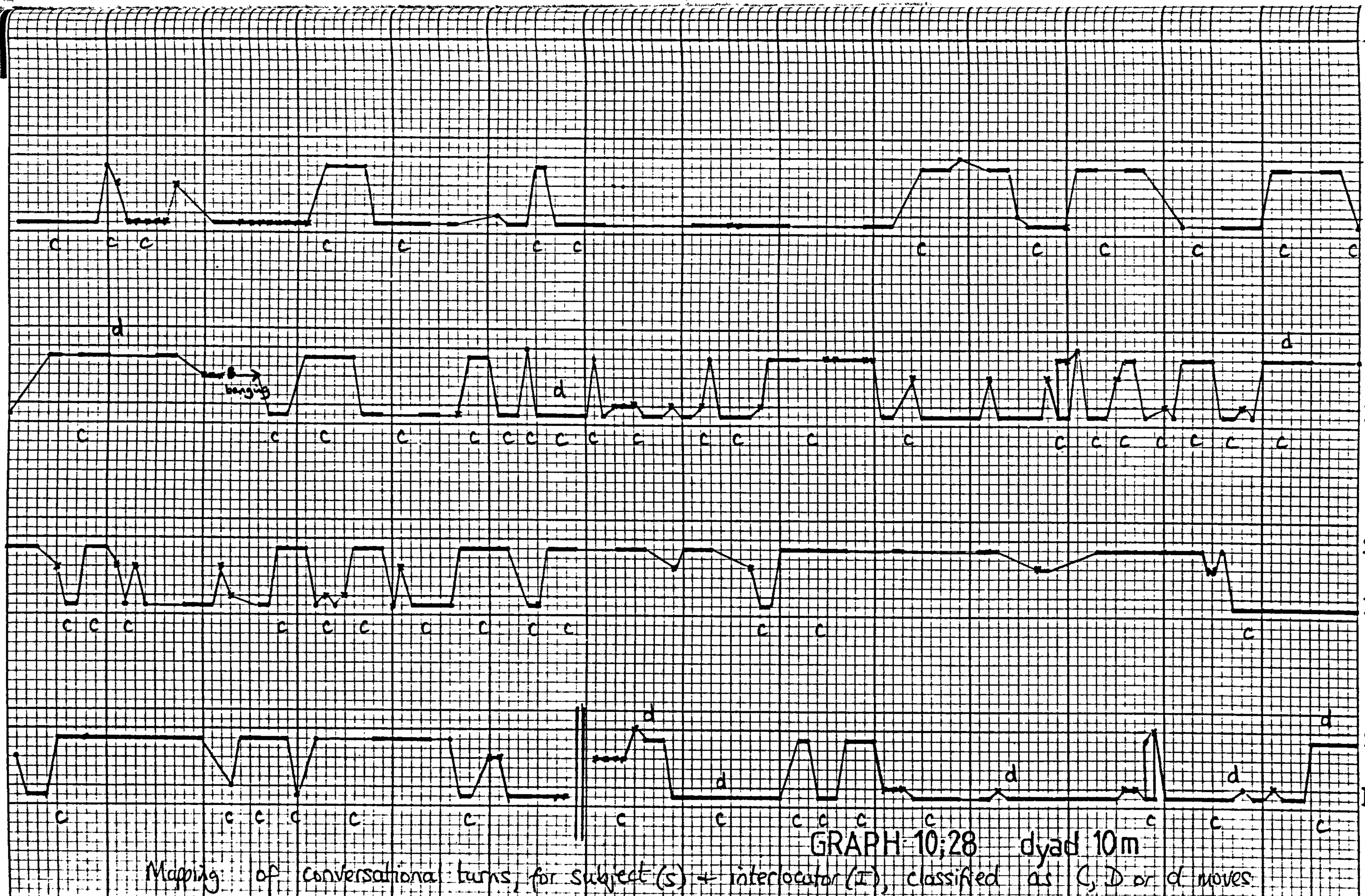


GRAPH 10;26 dyad 9n

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

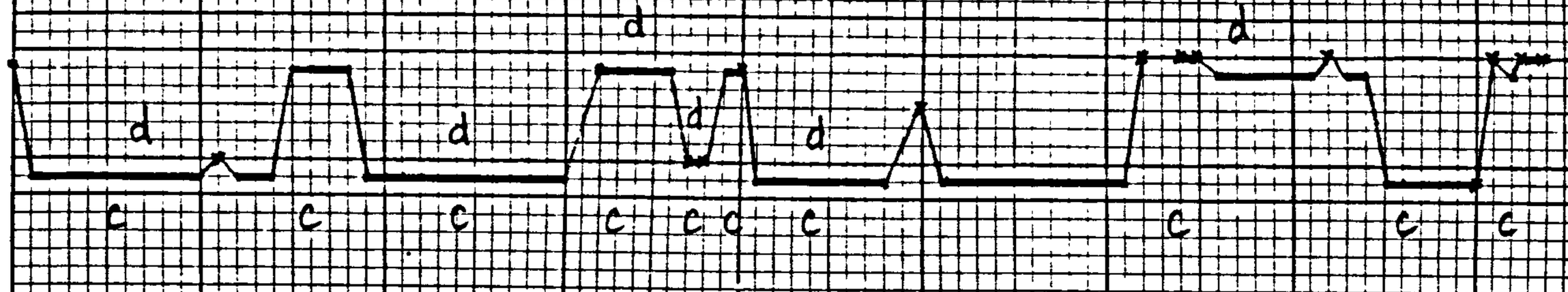
GRAPH 10;27 dyad 10M

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves



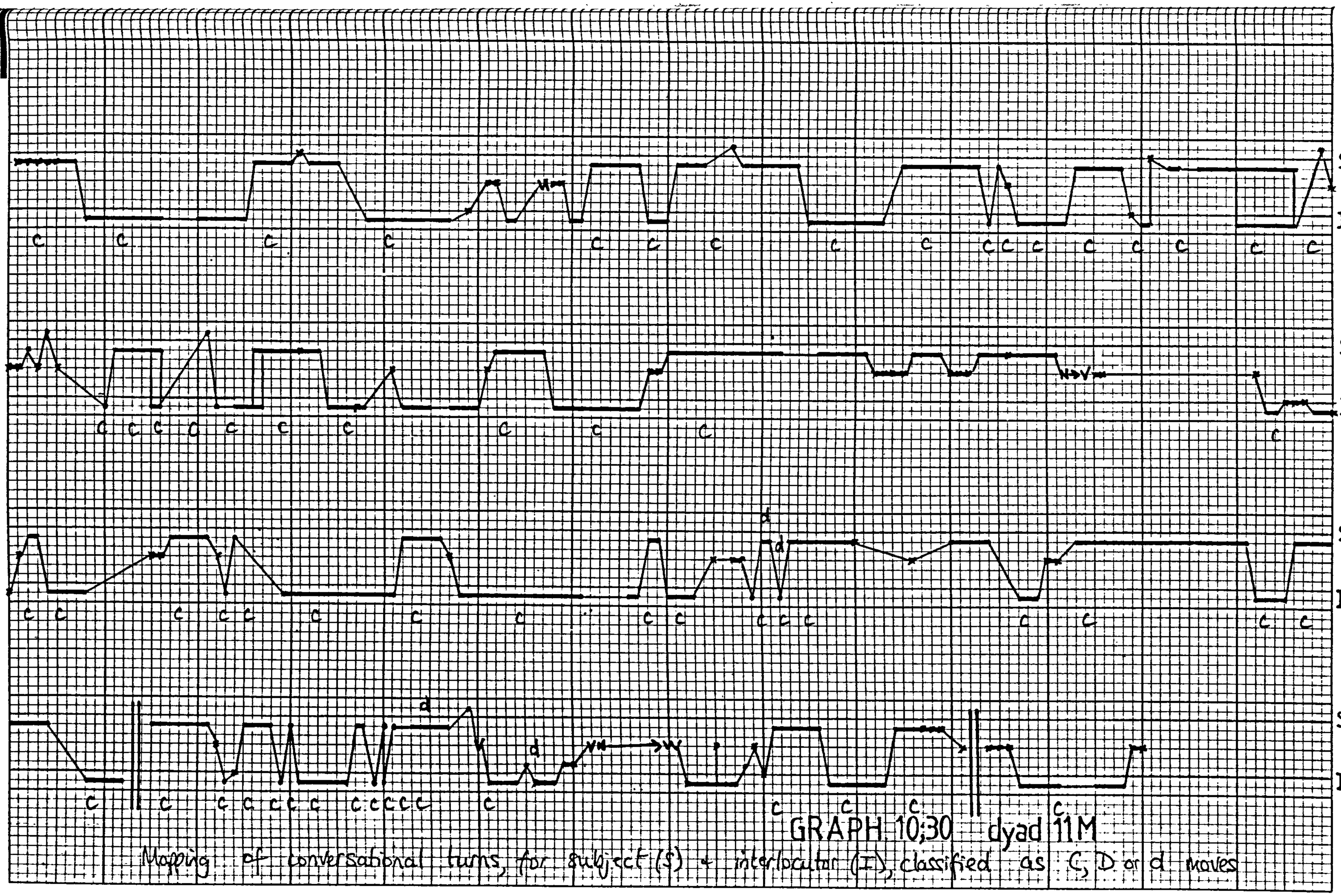
GRAPH 10;28 dyad 10m

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves



GRAPH 10;28 contd.

GRAPH 10;29 dyad 10n;
Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves



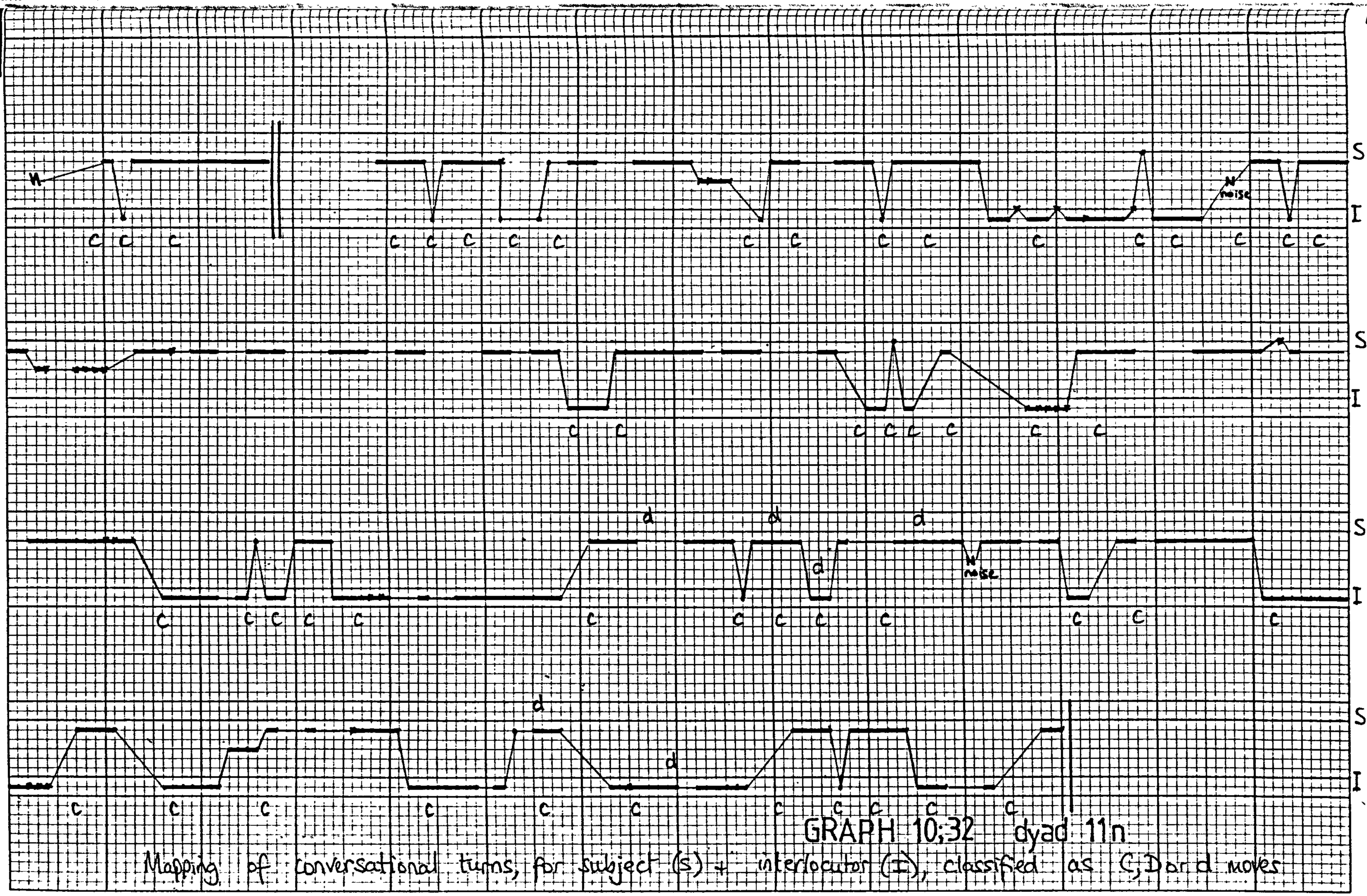
GRAPH 10;30 dyad 11M

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

S
I
S
I
S
I
S
I

GRAPH 10;31 dyad 11m

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves



GRAPH 10;32 dyad 11n

Mapping of conversational turns, for subject (S) + interlocutor (I), classified as C, D or d moves

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