The Notion of Language Game
– A Natural Unit of Dialogue and Discourse

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S I C

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1. Introduction

The study of dialogue is a relatively new area for linguistic research. Only ten years ago, linguists were mostly occupied with the analysis of sentences and their internal structure on various levels. In other disciplines, however, such as sociology, anthropology and philosophy, discourse has been a frequent object of study in investigations concerning the role of language in human activities from different perspectives.

In recent years linguists have gradually directed their attention towards a wider domain of language and language use. At present, many linguists focus on discourse as a new area of research with several lines of application. However, this change has come about without any extensive methodological debate. There was no straightforward way of extending the traditional tools for linguistic analysis into this new area. Instead, there has been a tendency to adopt descriptive frameworks from other disciplines concerned with language. As a result, most descriptive frameworks that are currently used have been developed from two sources: on the one hand, the speech act theory of John Searle (1969), and on the other hand, the ethnomethodology tradition in sociology, and specifically the analysis of adjacency pairs (Schegloff & Sacks 1973).

These two approaches to conversation and discourse were very different. Each one had its own shortcomings which made it difficult to apply generally. The speech act concept does not easily apply to dialogue, since it focuses on one utterance (at most) at a time. This makes it difficult to describe speaking and understanding in discourse as part of one coherent
activity. Although attempts have been made to describe conversations as sequences of speech acts (cf Clarke 1975), such a description does not account for facts that are associated with the dynamic, bilateral character of the dialogue process or the overall goals held by participants. Also, the speech act notion does not apply to non-verbal communicative acts.

On the other hand, the notion of adjacency pair has restrictions that limit its application severely. It accounts only for those functionally dependent utterance sequences that are adjacent in a dialogue and those that are binary. Also, the notion is entirely extensional in the sense that it refers only to the utterance, and does not involve the participants, nor their intentions and goals in a communicative event.

As a consequence of these shortcomings, more elaborate systems of descriptive units have emerged, which are more or less direct extensions and integrations of the above-mentioned frameworks. The first of these was Sinclair and Coulthard's system (1975) which was developed as a means for describing classroom interaction. (Some more recent frameworks, such as Owen (1981), are similar to this.)

Sinclair & Coulthard used four levels in their system: 1) Act, 2) Move, 3) Exchange, 4) Transaction. An act is roughly a speech act in the sense of Searle. The other units were not explicitly defined, except for Exchange, which was described as a sequence of moves named Initiation, Response and Feedback.

These levels of description in Sinclair & Coulthard's framework are separated, so that each unit on a higher level is expanded as a sequence of units on a lower level. A transaction consists of a sequence of exchanges, an exchange consists of moves, etc. However, in the analyses made in the book, these levels do not always suffice to describe their conversational material. In fact, the authors sometimes use a special mark to indicate that
two exchanges are 'bound together'. In other words, they seem to need another level of description.

Moreover, in a taxonomy of this kind, there is a certain theoretical conflict between the orientations of the units on different levels. The units on the lower levels (act, move) are conceptually oriented towards an actor and his/her intentions. On the higher levels, however, the system is more extensional and oriented towards text coherency relations (exchange, transaction).

Accordingly, this kind of framework has serious shortcomings. It is too restricted to describe many aspects of the human dialogue process. In order to describe dialogue in a way which links actions with intentions on each relevant level, we need a more general concept which has no a priori limitation on the number of available levels.

In this paper, I will argue that the notion of language game, introduced by Wittgenstein and discussed by many others, is the natural candidate for such a unit. The game concept is, if we make it somewhat precise, very general and covers central properties of social action (cf. Lyttkens 1981). Many authors have already begun to explore that concept for the purpose of studying dialogue (see e.g. Mann, Moore and Levin 1977, Levinson 1979). Others use concepts that are in some respects equivalent to the game concept (see e.g. the discussion below of Reichman's context space theory).

2. Games and language

Many linguists seem to rely on a notion of game in an implicit way. In Sinclair & Coulthard's system, for instance, the term move is used in an intuitive manner without an explicit definition. One attempt at a definition of move is made in Goffman's (1976) clarifying discussion of basic units. Starting from the notion of adjacency pair, he finally arrives at the term move (p. 272):
"... a notion whose definition I cannot and want not to fix very closely ... I refer to any full stretch of talk or of its substitutes which has a distinctive unitary bearing on some set or other of the circumstances in which participants find themselves (some 'game' or other in the peculiar sense employed by Wittgenstein) such as a communication system, ritual constraints, economic negotiating, character contests, 'teaching cycles' (Bellack et al 1966) or whatever. It follows that an utterance which is a move in one game may also be a move in another, or be but a part of such other, or contain two or more such others. And a move may sometimes coincide with a sentence and sometimes with a turn's talk but need do neither. Correspondingly, I redefine the notion of a 'statement' to refer to a move characterized by an orientation to some sort of answering to follow, and the notion of 'reply' to refer to a move characterized by its being seen as an answering of some kind to a preceding matter that has been raised. Statement and reply, then refer to moves, not to sentences of to speakings."

However, Goffman did not attempt to make the game notion more precise, nor discuss how it can be used to formalize language use.

The word game is often used metaphorically about language in everyday life. We talk about speaking as "playing with words" and the word game is used about activities like political debates etc. This is a very rich metaphor (cf. Linell 1982), since the word game itself can be used in a variety of different ways.

What aspects of language are covered by the game metaphor? It is perhaps of interest here to look briefly at the ways in which we use the words game and play in everyday language.

We use these words about things as different as sounds (piano play), about movements or changes in light (Sw. "dagarnas spel"), to refer to athletic activities, children's play, dramatic art, etc.

It is not possible, nor necessary in the present context, to give a comprehensive analysis of the concept of game. However, we can single out some important components which seem to be
present in many of the activities we call games or play (the Swedish word spel, as well as German Spiel, covers both game and play in English).

1) A systematic sequencing of events or actions. (The sequencing between actors' contributions, or between parts of a perceptual domain)

2) A rule-governed activity (i.e. the systematic sequencing is constrained by rules or conventions)

3) Something which is not real, or takes place in a restricted world (typically: play-acting)

4) A process where those who participate subject themselves to external forces (i.e. hazard)

Ludwig Wittgenstein introduced the notion of a language game in his late works about language. He used this concept to illustrate his discussions about various aspects of language use. The notion was used by Wittgenstein in two ways:

(1) To refer to a primitive language:

"Let us imagine a language for which the description given by Augustine is right. The language is meant to serve for communication between a builder A and an assistant B. A is building with building-stones: there are blocks, pillars, slabs and beams. B has to pass the stones, and that in the order in which A needs them. For this purpose they use a language consisting of the words 'block', 'pillar', 'slab', 'beam'. A calls them out; - B brings the stone which he has learnt to bring at such-and-such a call. - Conceive this as a complete primitive language." (§ 2)

(2) To denote different kinds of language use in ordinary language.

"23. But how many kinds of sentence are there? Say assertion, question, and command? - There are countless kinds: countless different kinds of use of what we call 'symbols', 'words', 'sentence'. And this multiplicity is not something fixed, given once for all; but new types of language, new language-games as we may say, come into existence, and others become obsolete and get forgotten (We can get a rough picture of this from the changes in mathematics.)"
Here the term "language-game" is meant to bring into prominence the fact that the speaking of language is part of an activity, or of a form of life."

Review the multiplicity of language games in the following examples, and in others:

- Giving orders, and obeying them -
- Describing the appearance of an object, or giving its measurements -
- Constructing an object from a description (a drawing) -
- Reporting an event -
- Speculating about an event -
- Formulating and testing a hypothesis -
- Presenting the results of an experiment in tables and diagrams -
- Making up a story; and reading it -
- Play-acting -
- Singing catches -
- Guessing riddles -
- Making a joke; telling it -
- Solving a problem in practical arithmetic -
- Translating one language into another -
- Asking, thanking, cursing, greeting, praying." (§ 7)

These two ways of using the term "language game" may seem very different. But, as Wittgenstein points out, our own languages have features which are very similar to the primitive languages. Only they are much more complex, and we use language in a vast number of different ways.

We may also note that Wittgenstein's ways of using the word "language game" are consistent with three of the four components of everyday uses of "game" (Sw. spel) above. At least in the case of the "primitive languages", there is 1) a systematic sequencing of actions, 2) the actions are rule-governed, 3) they take place in a restricted world or context.
Looking at the other class of language games, i.e. the list of "natural" uses of language, this view amounts to an analysis of different kinds of language use as structured according to a general format involving rules for actions performed by participants in an activity. We may look at these language uses in the same way as the primitive forms of language, Wittgenstein reasons, and this reflects the way children learn language. Their learning consists to a great extent of training, not explanation, and the routines in which this learning occurs continually serve as a basis for the acquisition of new routines.

Specifically, Wittgenstein’s discussions of language games teach us that utterances must be viewed in terms of the activity where they are used. The notion of language game was used by Wittgenstein in a way which took this property of language use as fundamental. The meaning of expressions can only be dealt with in the perspective of their use as part of an activity, and this has consequences for how the use of language in discourse should be analyzed. The apparent difference between the two uses of the word language game is eliminated if we view human language use as rule-based action generally structured by a format involving the surrounding activity.

This insight of Wittgenstein, and its consequences for a theory of language use, has more recently been made explicit by other authors. Levinson (1979) gives numerous examples which show the importance of the nature of an activity for the interpretation of discourse elements. The activity type (a term introduced by Levinson) invariably shapes the expectations of interlocutors, and constrains the contributions allowed in a discourse context. Levinson concludes that "a full understanding of the ways language usage is inextricably entangled with social activities will require the description of a heterogeneous mass of arbitrarily varied, culturally determined language games". He adds that these games seem to have many regular features; "there seems to be a healthy tendency towards the rational construction of language games as organizations functionally
adapted to achieving certain goals - the main purpose of the activity in question." (p. 394)

The consequence of this view, as I see it, is that all our uses of language belong in games which we have somehow acquired in learning language. The resulting number of games used in communicating is enormous. This reflects the fact that humans speaking a certain language share a vast body of knowledge concerning language and situations, where this knowledge is structured according to a format which derives from the training routines in which it was acquired.

In the following sections, I will specify the game concept further and try to reach a definition of language game. Many aspects of the detailed form of description will be left open, since so much is still unknown about humans' knowledge of language games. Later on, I will go on to show how the game concept can be used as a descriptive unit in dialogue.

3. Games and social interaction

Taking Wittgenstein's examples of "primitive languages" as standard, we will accept the view that a language game is realized as a sequence of actions by participants. For each act committed by one participant, the other participant in some sense knows what to do in turn. The actions within a game are governed by specific rules, and the participants possess knowledge of the rules of the game. This does not mean that they can make these rules explicit. Their knowledge is rather knowledge of what to do in the game.

A simple example of actions which constitute a language game is the pair Question - Answer. In conversation, when someone asks a question, we know that we should answer. But most people are not aware of any of the rules that specify what constitutes an answer to a question, although they can separate an answer from a non-answer.
The knowledge of a game is not something absolute or complete. Therefore, our descriptions of games have to be seen as ideal cases. Also, we will see that the question of which game is going on is something which is subject to interpretation. (This is clarified in Lyttkens, see below.) As a consequence, mistakes occur, a frequent phenomenon in interaction.

In Lyttkens (1981), the concept of game is taken as a basis for an extensive analysis of human social action and perception. Lyttkens relates his theory to the work of G.H. Mead and to Wittgenstein's language philosophy. Another important source of inspiration for Lyttkens is the work of Erving Goffman.

The game model is applied in the book to explain several phenomena of social interaction, although problems connected with the use of language are not explicitly dealt with.

Lyttkens' discussions of social interaction and perception are much too complex to be abbreviated here. In the following, I will quote from them frequently, although I am aware that my own account of games may in several respects deviate from the views of Lyttkens.

The basic point of departure for Lyttkens' work is that human interaction is rule-governed. In engaging in interaction, we base our actions on inferences about the nature of the ongoing activity. Our knowledge of different kinds of activities and their rules makes us build up expectations during the course of an interaction.

Lyttkens discusses the general concepts of action and rule extensively, as well as the consequences of breaking a rule. In this general discussion, a notion of game is reached as a basis for the analysis of social interaction.

Lyttkens gives the following general definition of a game (the translation into English is mine in all quotations from the book):
"Every game consists of:

(a) one or more actor categories whose members

(b) act according to a relatively coherent system of technical
and normative rules included in a frame." (p. 109)

An actor category is a concept developed by Lyttkens to cover
what is often called role. The distinction between technical
and normative rules is elaborated on by Lyttkens, but will not
be exploited here.

The notion of frame is discussed at length by Lyttkens. Roughly,
the notion is taken from Goffman (1975), but Lyttkens uses the
following definition: "A frame is a category that unites the
actions of the participants in an interaction." He also writes
"... the actors' consciousness about the frame decides what inferences they make about the actions in the game, which in turn
determines the actions of participants. The consciousness about
the frame functions, if we like, as a kind of selection principle
for what inferences may be made... In plain words we could say
that the frame determines what we see in an interaction." (p.122)

Taking the perspective of a participant of a game, we may talk
about the frame of this game as the set of cognitive categories
that are necessarily associated with this game, or that define
it relative to a social context.

Lyttkens' account of the game concept tells us some essential
features of how humans perceive social events, and how they use
the interpretation of what is going on in an event to choose how
to act. To act in a social setting is to follow rules (and some-
times, to violate rules). A game is the general structure, de-
limited by such rules, in which social action occurs. The frame
of a game is the set of circumstances through which its actions
are interpreted.
4. Games and human dialogue

With the above definition of game as a background, I will try to make explicit how such a notion can apply to the analysis of human dialogue. According to my view, the following are basic aspects of human dialogue that should be covered by a basic descriptive unit, and that can be expressed using a concept of game.

1) Initiative: It is a well-known fact that pursuing a dialogue amounts to initiatives at several points. Starting a conversation means to take an initiative, and if the dialogue is to result in more than one single interchange, new initiatives have to be taken. A dialogue unit must have possibilities to express this property, which requires reference to a bilateral concept. This is, for instance, not fulfilled by the speech act concept. It refers only to one act, and thus misses the distinction between initiating and other communicative acts in a dialogue.

To start a game in dialogue amounts to taking a new initiative. The participant who takes this role has a special position in the game. In many games, the actor categories of the participants determine partly or completely who may be the initiator of new language games (subgames) within the main game.

Moreover, to initiate a subdialogue or game means taking on a certain kind of responsibility. This means, among other things, a duty to carry the game to an end and to attend to the other party's contributions (see Severinson Eklundh & Linell 1983).

The recognition of initiatives in dialogue also leads to a notion of closure. This is a point in a dialogue where one initiative has been carried to an end, and no new initiative has yet been taken.

2) Mutualness (reciprocity): The knowledge of the ongoing activity must be partially shared by the participants. At any
point in language interaction, the participants assume and inten-
tionally refer to such shared knowledge on several levels.

The general importance of reciprocity in communicative action
has been pointed out in several contexts (cf. Wunderlich 1972).
However, units such as 'move', 'transaction' (in the sense of
Sinclair & Coulthard) do not take this property into account.
The definition of 'adjacency pair' refers to conditional rel-
evance (see below p. 16), but this can only be accounted for if
participants in an interaction are supposed to share an under-
standing of the on-going event and its goals.

3) Intention: For every realization of a language game in dia-
logue there is a corresponding intention on behalf of the par-
ticipant who initiated the game. This is derived partly from a
knowledge of the general goal of the game. (The goal or purpose
of a game, or its function, is associated with its frame, see
above).

The notion of goal as a basis for the game concept is discussed
in Moore, Mann & Levin (1977). They developed a notion called
dialogue-game which is similar to the language game notion pre-
sented here.

They wrote:

"People share knowledge of what kind of goals may be pursued
by communicating, and how communications tend to satisfy
these goals; they use this knowledge as an essential com-
ponent of their comprehension and generation of natural lan-
guage." "Dialogue-games are ... goal-oriented units, which
specify the kinds of language interactions in which people
engage." ... "Once these multisentential knowledge units are
evoked, they serve as a basis for comprehending the success-
ive inputs. This is achieved by generating expectations and
by providing a framework for integrating the comprehending
of an utterance with that of its predecessors." (p. 6)

In actual interaction, humans continually make inferences about
the nature of the ongoing activity (cf. Lyttkens, p. 25 ff), and
thus about the intentions of the other interactants.
Entering a game, an individual makes such inferences on the basis of features of the situation (which is associated with the frame of certain games), the actor categories of the participants, and their actions. Recognizing the game, and having access to stored knowledge about the rules of the game, the actor makes his decision of how to act.

These inferences are sometimes mistaken or incomplete, so that the real intention of the sender is not recognized. Intentions may also be "added" or reinterpreted during the course of a game or afterwards. In fact, as stated by Gumperz (1982): (in conversational exchanges) "interpretations are jointly negotiated by speaker and hearer and judgements either confirmed or changed by the reactions they evoke - they need not be inferred from a single utterance". (p. 5)

However, we should keep in mind that these individual intentions in a realization of a game may be separated from the goal of a game in a general, abstract sense: the goal of a game is defined indirectly by the games or activities in which it can occur, and its function therein.

The notion of game finally accounts for the fact that a dialogue process is accompanied by a dynamic system of expectations. As a game starts, the participants are expected to act according to certain rules. When a game is interrupted, the expectations still holding are kept in the participants' minds, so that when the game is resumed, the utterances made are interpreted accordingly. A game which is never completed is felt as 'dangling'.

Sometimes an actor may choose not to act according to the rules. In a formal sense, this leads to a break-down of a game on some level (see below, p. 18 ff).
5. Characterisation of language games

In the above account of games we have not yet tried to determine what separates language games from other social games in the sense of Lyttkens. The latter cover social interaction in a wide sense; yet we are interested in those games which are associated with the use of a language. This can be viewed as a formulation of the question 'what is communication', as separated from social interaction generally. The question is by no means an easy one. I will discuss the issue briefly, drawing upon Allwood (1977).

Allwood defines three levels of 'sender activity':

1) Indication: The sender transmits information, or is available for interpretation.

2) Display: The sender intentionally displays behavior.

3) Signalling: The behavior is intentional and, furthermore, the sender has the intention that the receiver shall realize this and also what the intention is.

The first two notions are similar to the notions called "expression" and "display" (uttryck, framställning) by Lyttkens (op. cit.)

According to Allwood, the receiver may interpret any behavior on any of the three levels, regardless of the sender's intentions. This may, consequently, give rise to a mistake.

Now, communication in the fullest sense can only occur if the sender signals behavior, and is perceived by the receiver as signalling.

As an example, we may look at the act of yawning. If the yawn is an index, it is not deliberate (although it may be inter-
preted as such by the receiver). The yawn may be an act of dis-
play, e.g. if the sender wants to show how tired he is. Finally, 
it may be a signal, where the yawning is accompanied by a de-
finite intention on the part of the sender, which is recognized 
by the hearer as having a specific meaning (e.g. if they have 
agreed that a yawn should mean that the sender is planning to 
leave).

With the above levels defined, we define a communicative game 
as a game in the sense of Lyttenks where the rules require that 
all participants at least display behavior.

A language game, on the other hand, is a communicative game 
where the rules require that the participants signal behavior. 
The actions in a language game have a symbolic quality, and 
the symbols involved, taken as a whole, are tied to the game 
by means of a set of conventions (the conventions of a language).

This definition is probably incomplete and will need revision. 
However, it will do for our present purposes.

We will generally in the following restrict ourselves to con-
sidering games where at least one move (see the next section) 
consists of a verbal action, although non-verbal acts often 
appear on the same level as verbal acts in a game.

Every language user has a 'repertoire' of language games, a 
complex set of skills which have been acquired in language 
learning and socialization. These are a subset of all the social 
games that the individual has access to in interaction.

Formally, we will look at a language game as an abstract struc-
ture, with reference to a collection of rules and to a number 
(at least two) of involved parties. Each game applies in a 
certain frame. When talking about a frame in the following, we 
will refer to the set of circumstances in which the game can 
be applied.
In actual interaction, we say that we encounter a realization (or an instance) of a specific game. In a realization, the parties correspond to individuals or groups. The parties in a realization need not be distinct individuals, but in the definition of a game, we always have at least two roles in a theoretical sense.2

In a realization of a language game, the game is associated with an intention on the part of the initiator of the game. The other interactant or interactants may, as mentioned before, choose to interpret the initiative differently, according to another frame. On some level, this results in a mistake. However, if this occurs on a low level, it may pass unnoticed.

6. The moves of a game

I will assume that a language game can be described as consisting of a sequence of moves. The moves are actions that are specified by the rules of the game. They are typically actions which are expected by the participants of the game, so that if a move is never made, participants will feel that something is missing.

This property is very well described by Sacks in his definition of the adjacency pair (the definition is quoted from Goffman 1976):

"The first pair part establishes a conditional relevance upon anything that occurs in the slot that follows; whatever comes to be said there will be inspected to see how it might serve as an answer, and if nothing is said, then the resulting silence will be taken as notable - a rejoinder in its own right, a silence to be heard."

This definition captures extremely well the property of a move as something which is expected to occur by participants.

As an example of moves within a language game we may look at the question-answer structure. The usual kind of question game is sometimes called "Information-seeking", a name which reflects the usual purpose of a question.
The moves are simply, in rough terms:

1. P1 asks a question (according to rules specifying a question).
2. P2 answers the question (according to rules specifying what is an answer to a particular question).

The rules for the moves of a game may be very complex. We will not at this moment deal with the rules of any game in detail.

An important issue is how many moves we can expect in a language game. Is there a specified number of moves, which is the same in all games on a certain level of description? This should be taken as an empirical question, given the account of language games above. The question is what criteria should be used to determine what is a move.

One possible criterion is: actions which are expected (or anticipated) by participants. If we look at a simple greeting ceremony:

(1) A: Hi.
    B: Hi
    (A notices B:s response)

one could perhaps say that there are three actions involved. After the first one, it is certainly the case that A expects B to answer his greeting. However, it is questionable if the third action can be described as expected by B in the same sense of 'expect'. If it cannot, there should, according to this criterion, be only two moves in a greeting game of this type. (A more thorough discussion of such interactions is made in Severinson Eklundh & Linell 1983.)

Anticipation is perhaps a kind of criterion which is slightly different. For instance, one could design an experiment where subjects were asked to predict other's actions in a game. Actions
which are predictable in a game regardless of the identity of participants are probably very likely candidates for moves in the game.

One might also put forward the suggestion that a move is an action which is somehow perceived as constituting an understanding of the overall purpose of the game.

I will not discuss such criteria any further, but we should have in mind that the move status of an action in a game is a problem which deserves empirical study.

We may also note that in several of the frameworks for describing discourse which we mentioned in the introduction, there is a built-in hypothesis concerning the number of moves in a game on an elementary level of dialogue. Thus, Sinclair & Coulthard's model imposes a three-part structure to a dialogue with the successive parts of Initiation, Response and Feedback, whereas the adjacency pair is a format which is derived from binary structures in a dialogue (e.g. a question and its answer).

7. Completion, success and failure

If a game is pursued according to the rules, so that no violation of rules occurs, we will say that the game is brought to completion. Expressed differently, the game succeeds.

If some rule is violated in a game, and this leads to an interruption of the game, we will say that the game fails. Violations of rules may be followed by repairs of the game, in which case the game may be completed after the repair.

The following is a very simple example of a violation of a rule. (A and B are supposed to be strangers in a subway train.)

(2) A: What time is it, please?
   B: Pardon?
A: I said, what time is it please?
B: Oh, sorry, it's seven o'clock.

Since B did not hear A:s question, he could not answer. However, after hearing the question again, he is able to answer, and also provides an excuse, which may be seen a repair move in the information-seeking game. This example shows that violations of rules may be of very minor importance.

Lyttkens (op.cit) discusses several consequences of rule-breaking on a higher level of social interaction. The consequences depend on what kind of game is played, and the nature of the violation of the rule. As we will see, a game is frequently part of a higher game. If a game fails, this does not always imply that the higher game fails. Viewing this from the point of an activity, we may say that an act can be a violation of a rule on different levels. Lyttkens differentiates between acts that simply break a rule in the game, and acts that also violate the frame of the game.

In an example like the one above, we may construct a violation of the frame:

(3) A: What time is it please?
B: Shut up, you son of a bitch!

A violation of the frame means, in Lyttkens' account, that one participant in the game refuses to accept his role (or the relevant actor category) in the game. In this case, B shows that he has no intention of taking part in the game that A has initiated. This is, of course, an insult. It is not probable that a repair of this game will be attempted.

8. Initiative in a game

In the games above, A is the initiating party. The initiating party in a game has a different position compared to the other
party or parties. He/she is the one who establishes the game and thus "defines" the new situation. The responding parties are assigned roles (or actor categories, which is Lyttkens' term) in the game which they may choose not to accept. If accepting their role, they should act according to the rules of the game.

In this way, the initiating party is the governing party in a game. In a given social context there may be severe restrictions on who can initiate a certain game. If we consider a classroom situation, for example, it is usually the case that only the teacher has the initiative on a higher level in the teaching game, whereas the pupils may initiate subgames or subdialogues within the main game.

This asymmetry between the initiator and the responding party (parties) in a game is reflected in many ways. We tend to judge an utterance differently according to whether it is an initiative or a response. In fact, actions generally have a different meaning as an initiative compared to a response.

For instance, if A walks up to a person B in a restaurant and says: "You are a jerk", this is very impolite and even aggressive. However, in a situation where A has already been insulted by B, this action is probably a fairly mild insult.

When discussing language games in the following, I will frequently describe a game simply by describing in general terms the moves of the game, and sometimes specify features of the frame and the actor categories of the game. If no conditions of the latter type are given, we will count the game as fairly generally applicable in any dialogue context.

I am aware that a description like this is incomplete. However, as long as our intention is to describe the overall structure of a dialogue in terms of games, it should generally suffice to provide a rough analysis of each game.
In the next section, we will proceed to the analysis of dialogue in terms of language games. The view that we will try to develop is that the dialogue process can be seen as the successive opening and closing of language games, where some games are included in, and controlled by, others. This means that for each game opened in the process, a system of expectations is generated concerning what will follow in the dialogue. The utterances that are made are interpreted according to such expectations, so that depending on the game in which a certain utterance is made, the utterance will get a different interpretation.

Some auxiliary concepts are helpful in describing the structure of a dialogue. The first of these is the notion of a subgame.

9. Subgames

In order to describe what humans do in dialogue, we want to show how a dialogue is "built up" by language games. To do this we must introduce the notion of a subgame. It is defined in the following simple way:

A subgame is a language game which occurs as a part of another language game.

One type of subgame is the case where a question is immediately followed by another question, such as in the following dialogue ('embedding', Goffman 1971).

(4) A: What'll ya have?
    B: Ya got those almond things?
    A: Not today, honey.
    B: Black coffee and a toasted muffin.

Here, we may say that the embedded question and its answer are parts of B's answer, in the sense that they are necessary steps, initiated by B, to respond to A's first move.
This kind of embedding of one game within another can be assigned the following structure:

Game 1: 1. Question

   2. Game 2: 1. Question  \rightarrow Answer

   2. Answer

In this case, the whole subgame is embedded within one move of the higher game. This game structure may be represented graphically as follows: (every square comprises a move, and the different colors symbolize different speakers)

Subgames may have different functions within the main game (the dominating game). In the case above, the subgame had the purpose to make it possible to complete the Information-seeking or Question-Answer game by providing a set of choices for the answerer. A closely related type of subgame in a question-game is the one where a clarification of the question is requested:

(5) A: Where is Linda?

   B: Do you mean my sister?

   A: Yes.

   B: She has gone to the dentist.

This is one of several types of playback (the notion of playback is discussed in Merritt (1976)).

The two examples above both exhibit a structure of a question game within another question game, where the 'lower' question has the function of making an answer possible. They both have the structure symbolized in the picture above.
A third example of embedding is the frequent case where a speaker asks a question as a means to prepare for another act.

(6) A: You know Bill?
B: Yes, I do.
A: He has been run over by a truck.
B: What?

e tc.

The structure of (6) is that of a question game embedded within a complex Assertion game. The question is part of A:s planning in making the assertion.

\[\text{Diagram:}\]

One common feature of the examples presented so far is that the embedded game results in a new subdialogue between the participants. The may therefore be called free subgames.

However, there is another category of subgames of a somewhat different kind. In the example of Wittgenstein's simple primitive language described above (p. 4), we may describe this as a game G1 with a subgame G2 according to:

G1: M1. P1 gives an order by making a first move in G2.
M2. P2 carries out the order (in the way described in the quotation on p. 4) using M2 in G2.

G2: M1. P1 utters 'slab'.
M2. P2 identifies a slab.

Similarly, there is one reference-identification game for each of the other objects in the example.
Another example is the identifications involved in a simple assertion game:

(7) A: Bill is sick.
    B: I see.

In order to be able to accept the assertion from A, B has to identify the referent of the name Bill.

We might pose this as a subgame like:

Move 1. Bill
Move 2. (identifies the individual referred to)

In both of these examples, we have a structure where each of the moves of the subgame is a part of one of the moves of the dominating game. In other words the structure is as follows:

One may ask what the reasons are for viewing these examples as cases of a language game. It is not as evident to do this as in the other cases of subgames above. The games we discuss here are units on another level and do not occur as independent subdialogues. But using the three aspects of games on page 11 ff. above as criteria, we note that the reciprocity is fulfilled here, since both A and B must share a knowledge of who Bill is for the interaction to succeed. There is also an independent intention, we could say, tied to the use of the name Bill. But clearly, it is not an independent initiative in the sense that a new subdialogue is started.

I will consider these structures as subgames in a theoretical sense, referring to them as latent or bound subgames. The moves of bound subgames are not full-blown interactional moves, since
they are not independent utterances, but they contain, as it were, the embryo or basic structural properties of what may be developed into a subgame.

One reason for accepting the reference-identification structure as a subgame is that such parts of the production/perception of language may be processed in a separate subdialogue. As pointed out by Cohen (1981), the identification of a referent frequently occurs in a separate subdialogue. The example (6) on p. 23 is an example of a subgame which has exactly this purpose. (Identification games are further discussed in section 13.1.)

Embeddings of games within other games may be repeated, so that we get deeper structures. In a complex statement like:

\[(8)\] A: The guy I met at the camp last week works at the Washington Post.

B: I see.

there are several identification games that B has to work out in order to successfully accept the whole statement.

A case of deeper embedding of the first type of subgame:

(I am aware that this example is very artificial.)

\[(9)\] A: Do you know Bill?

B: You mean Bill Smith?

A: Who's that?

B: My neighbor.

A: No, I mean Bill, the postman.

B: No, I don't know him.

If we look a little closer at the kinds of embeddings presented so far, we see that there is one major distinction that can be made. In the case of the examples of 'free' subgames, the subgame was a feature of the actual realization of the Question game, which happened by 'accident': the conditions for an answer
were not completely satisfied, which prolonged the game. But in the case of the reference-identification subgames, the embedding is a feature of the internal structure of the game, and thus a permanent property of a certain higher-level game. This means that the rules of the game (in the latter case Assertion - Acceptance) make reference to these subordinated games. I will call this category of subgames intrinsic subgames. (Of course, this class is not restricted to reference-identification games.)

The category of 'accidental' (non-intrinsic) subgames may be further clarified by using the concept of frame. Lyttkens mentions in his discussion that an interruption of a game does not have to constitute a violation of the frame. A violation of a rule may simply lead to a temporary change of frame. Examples (4) and (5) above illustrate this. Another example is: (A and B are working in the same office)

(10) A: Where is Bill?
    B: Do you mean Bill Smith or Bill, the janitor?
    A: Bill Smith.
    B: Oh, I think he went to a meeting.

The embedded question and its answer are produced within the same setting as the main question. However, the question has imposed an additional set of circumstances for the interpretation of utterances. Therefore, we have, we could say, a subgame with a partly new frame. If this is a valid distinction, we arrive at a new characterization of the 'accidental' subgames. I will use the term digressive subgames for subgames which are characterized by a temporary change of frame, within the same setting and actor categories. A digression in a lecture is an example of this phenomenon, as well as the example above, and the first examples of embedding in the beginning of this section ('side sequences').

In summary, we have identified two main types of embeddings of one language game within another: One is intrinsic, i.e. a result
of the rules of the dominating game. The other is digressive and is the result of circumstances in the realization of the game, which lead to a temporary change of frame.

10. Subgames and presuppositions

In an assertion like Bill loves Mary, we have noted that in order for the act to succeed, the hearer must identify the referents of the noun phrases Bill and Mary. In other words, the identification of these referents are intrinsic, latent subgames in a realization of the corresponding assertion game.

In semantic terms, one often formulates the same thing in the following way: There is a presupposition involved in the interpretation of the sentence Bill loves Mary, namely, that an individual named Bill exists (and likewise one named Mary).

In this case there is accordingly a direct correspondence between an intrinsic subgame in the sense used here, and a presupposition in the usual sense of that term.

Look at an assertion like:

(11) Bill regrets that he hit Lisa.

In order for this assertion to succeed, the hearer apparently has to accept the assertion Bill hit Lisa, or, accept the truth of the corresponding proposition. This can also be phrased as: (11) has the presupposition that Bill hit Lisa is true. So even in this case the above correspondence holds: Bill hit Lisa is a subassertion in the assertion (11), and it is also what is normally called a presupposition of that sentence.

Presuppositions, as well as subordinated language games, can be viewed as embodying something that is necessary for the utterance to be successful. As formulated by Ehlich & Rehbein (1972), presuppositions are unquestionable in a speech act: they com-
prise, not what is conveyed by the act, but what is in some sense necessary for the act to convey anything at all.

This leads us to formulate an equivalence between presuppositions and subgames in a language game: a presupposition in the application of a game corresponds to an intrinsic subgame. This subgame normally has to succeed in order for the whole game to succeed.

The subordinated language games can be seen as the necessary "platforms" that must be passed in order for the whole game to succeed. The game then succeeds via the completion of all subgames. The equivalence formulated above is supported by the fact (pointed out in Ehlich & Rehbein) that presuppositions are not only what the speaker assumes in the performance of a speech act, but what must necessarily be shared by the hearer in order for the whole act to succeed. This reciprocal property of presuppositions indicates that they have a game status, i.e. they are bilateral, social structural intities.

This property of presuppositions means that a listener has to recognize that the proposition presupposed is treated as shared knowledge by the speaker. The listener, in processing the utterance made by the speaker, must decide whether it is compatible with his already established knowledge.

One way of getting to know intrinsic subgames in a given game is to study ways in which the game can fail. Ehlich & Rehbein use the following example of an unresolved presupposition:

(12) - Nina besuchte Lübeck, Plön und Kiel.
  - Welche Nina?

Here, the identification of Nina has failed. As a consequence, the whole assertion fails.
However, it is not always the case that a hearer refuses to accept when there is a subordinated game (presupposition) that he cannot accept. Often, in communication, a game is "swallowed" with all subgames, and as a side effect, the knowledge corresponding to the subgames (presuppositions) is conveyed to the hearer.5

The problem of accounting for presuppositions made by speakers in a communicative event is well-known and has been addressed by many linguists. In traditional accounts, explanations are often sought in purely syntactical or lexical properties of an utterance. Though space limitations prevent further discussion of this issue here, I want to point out that a theory of presuppositions must take account of general properties of a communicative event and that the game notion can help to clarify this relationship.6

11. Games and levels in discourse

In the discussion of language games so far, we have identified games on several levels in discourse. We have looked at sub-games of different types where the dominating game was sometimes a simple question game, and sometimes a more complex piece of discourse.

One consequence of the discussion so far is, accordingly, that games can be identified on several levels in a communicative event. These levels correspond to discourse structures with different properties. Before continuing the discussion of the analysis of dialogue by means of games, we want to mention some main types of games in dialogue and generally discuss the issue of the number of levels.

On a high level, we have discourse types like lessons, debates, negotiations, lectures, as well as 'looser' types like chats etc. They can be analysed as language games of which some have very elaborate rules. They are generally more or less restricted
with respect to the number and categories of participants, as well as other conditions of application, such as time and place. They are sometimes characterized by typical ways of initiation and termination, and so on.

Discourse types of this kind have internal structure. They can be analysed into parts with have definite functions within the main game and which are subgames of some kind. There is probably more than one relevant level here, but at least one type of such constituent is probably of the kind which is called a transaction by Sinclair & Coulthard. Another term which is sometimes used is episodes.

On the next level down in a dialogue or discourse structure, there are question-answer games, assertions, prayers, promises, etc. These are the elementary turnbuilding devices in dialogue.

Further down on a 'micro' level, we have bound subgames like reference-identification and embedded assertions within a single turn in a dialogue.

We see that some of these types are similar to discourse units introduced by various authors (e.g. Sinclair & Coulthard). This is, of course, no coincidence. In criticizing these frameworks in the beginning of the paper, I did not aim to refute the units that they have found, but to argue that their categories do not suffice to describe discourse structure.

Now, we may ask if these levels, or perhaps some straightforward extension of the list, are the only relevant levels we need. We have indicated in the previous discussion that the answer is no. It is simply not possible to provide a list of the levels which are available in discourse generally. We regard the number of levels as potentially unrestricted. There are productive ways of composing games in new inventive ways, and the limits of such procedures is not known. However, it still seems evident that in some sense, a discourse type has a finite structure. Let us illustrate this with an example.
If we are asked to describe the structure of a negotiation, we will perhaps find that such a communicative event is typically started with an initiating phase, where the parties state their positions. After this, other phases follow on the same level. Each such phase perhaps in turn consists of definite episodes. These episodes are realized as a series of exchanges of different kinds, questions and statements followed by replies and feedback moves, etc.

This description is only meant to illustrate that it may very well turn out, for any discourse type, that there is a small number of levels which are relevant to give a 'grammar' for that discourse type. Still, we have said that there are potentially unlimited ways of embedding games within others.

The solution for this apparent conflict can be found in our division between different kinds of subgames. Considering that we have the two types intrinsic and digressive subgames, we may find that there are only a few levels of intrinsic, non-latent embedding for a certain discourse type. These levels are relevant to describe the standard build-up of the discourse type. However, when it comes to potential digressions or 'accidental' embeddings, there is no specific limit. These subgames do not belong to the intrinsic structure of the discourse type; in spite of this, this kind of embedding provides (in principle) unlimited ways of varying the shape of realization of the actual discourse type.

One qualification is necessary: it is not equally possible to make digressions in all discourse types. Some games, e.g. rituals of various sorts, do not seem to allow digressions other than very minor ones. In a wedding ceremony, for instance, it is probably not possible to digress; even a playback game seems out of place in this context.

Reflecting the distinction above, one could say that there are two different ways to study a discourse type. In the first, one
studies the invariants of the game, that is, the elementary constituents of the game in terms of intrinsic subgames. This necessitates looking at many instances of the game and making generalizations, which may lead to a sort of grammar for the game. In the other type of analysis, we look at variations within this pattern. This means, among other things, to look at digressive subgames of various sorts; to look at individual differences in the application of the basic game structure, and to study creative and inventive aspects of the game.

In the following, we will pursue the game analysis mainly on an elementary level of discourse. Though we have shown that the game concept can be applied to language interaction on several levels, our main concern here is the analysis of the basic sequential structure in dialogue.

12. Dialogue as a stream of games

With the help of the subgame notion, we may now view a dialogue as a sequence of realizations of language games, where some are nested into others. The games in a dialogue follow one another with different types of linkage (to use a term introduced by Goffman 1971). This means that a new game (or exchange, which is the term used by Goffman) can attach to the previous one in different ways. Goffman gives several examples of linkage, the difference being which of the interlocutors initiates a new game or exchange:

(13) A1: Where have you been?
    B1: The bookstore.
    A2: Get anything?
    B2: No.

(14) A1: Where have you been?
    B1/B2: The bookstore. Did you fix the tap?
    A2: No.
As is seen from these examples, the boundary between two games may occur between two distinct turns or within a single turn of speech. In (14), B finishes the first game and starts a new one by asking a question in the same turn.

In many games, only one kind of linkage is possible. This is because some games only allow one of the participants to initiate new subgames. An interrogation for example, has typically the structure Q - A, Q - A, etc.

In other cases, as Goffman points out, the linkages reflect that only one of the participants cares for the maintenance of the interaction:

(15) A1: Pen?
    B1: Here.
    A2: I like that nib.
    B2: I always use that kind.
    A3: Me, I always lose them.
    B3: That's the trouble.
    A4: Still.
    B4: Ya.
    A5: It's very light.
    B5: It's light.

A case which exhibits a somewhat similar structure superficially as (15), is the type of conversation which is typical of the classroom, where the teacher initiates question games, and evaluates the answers:

(16) T: Question
    P: Answer
    T: Evaluation
        Question
Here, however, the reason for the asymmetry in the dialogue is that the teacher has a dominating position in the main activity, and is the one who leads the activity towards a certain goal.

We will use the term closure (introduced by Goffman) to refer to a point in dialogue where one language game is completed, and no new game on the same level has been started. It follows from this definition that there is closure on several levels in a dialogue. If no language game at all is open, we will talk about a complete closure.

Looking back at the examples above, we see that example (15) contains closures at a deeper level than (16). Example (14) contains a complete closure in the middle of a speaking turn.

The amount of closure in a dialogue may be very essential in some kinds of interactions. If a speaker wants to tell another person about a fairly complicated state of affairs, he can choose to do this either in one very long statement or in several interactions. The latter alternative leads to repeated points of closure, and gives the addressed person an opportunity to process subgames one-by-one instead of all at once. This interaction type thus puts less load on the memory and processing capacity of the hearer. In later section, I will discuss an issue related to this, namely so-called gear variations in dialogue.

A dialogue as a sequence of moves in language games has, in the ideal case, where all games are completed, a pushdown stack structure. According to this storage principle, a participant who takes the floor may choose to make a move in the topmost game of the stack or to start a new game, which will then be put on top of the stack. One qualification here is that the
latent games are completed in the same turn as their super­
ordinated game.

This model has definite consequences for the way humans admin­
ister an ongoing dialogue. When a game develops towards a di­
gression or, generally, switches into a subgame, both inter­
locutors keep track of the dominating game so that when the
subgame is completed, the dominating game is resumed.

The above way of describing dialogue is similar to the account
in Reichman (1978), where so-called context spaces are ident­
ified on several levels in dialogue.

13. Some specific language games

13.1 Reference-identification games

Above we have mentioned the game of identification, which may
be carried out in many ways. One way is the following:

(Frame including an object)

1. Person A points at an object.
2. Person B looks at (or identifies) the object.

Pointing at an object is a simple symbolic action, which is
part of an identification game. This game results in a situation
where the object pointed at is in the immediate focus of both
participants.

Identification is a class of games, rather than one game. There
are several ways of establishing a joint reference in interac­
tion, some verbal (using a name or a description of an object),
some nonverbal, where features of the situation are directly
involved.
Identification games of various kinds are an essential ingredient in children's early communicative development. A standard class of games between caretaker and baby are the ones that aim to establish a joint reference or joint focus of attention (Keenan et al. 1978). These games seem to play a very important role in the child's social and linguistic development and specifically, in the child's acquisition of further language games.

In Searle's speech act theory, the act of referring is a so-called propositional act. Searle explicitly stated that propositional acts cannot occur alone, that is, that they should always be part of an illocutionary act. However, in actual speech, this principle no longer holds. Identification acts in several forms may occur as subparts of dialogues, as pointed out by Cohen (1981).

One illustration of this is the following invented dialogue segment:

(17) A: John Smith, you know that guy?
   B: Yes, what about him?

Here, A requests B to identify a person. After this has been achieved, the dialogue may continue. In a more restricted context for instance in a case where A and B are engaged in a subdialogue whose frame includes an object O, a very small hint may be enough for B to identify this object. B may then in a face-to-face-situation indicate that he has succeeded in identifying the referent simply by a nod or a slight mumble, by eye-contact, or other means.

One special kind of reference is the anaphorical use of pronouns. Here, the works of Reichman (1978) and Grosz (1977) have shown that the concept of focus is essential for explaining the occurrence of pronouns in discourse. Reichman introduced the notion context space to explain coherency relations in dialogue. It seems clear that the context space boundaries are what I
would call boundaries between language games. A context space seems to be exactly the range of a language game on a certain level. Reichman's notion is only applied to larger segments of dialogue, and it seems that the context space notion refers roughly to what is called a transaction by Sinclair and Coulthard.

Using the parallel between games and context spaces, we may state: (Cf. Reichman 1978)

The range of anaphorical reference to an object in discourse is a language game. The element referred to must be in immediate focus, and must have been introduced in a game which is currently open.\(^7\)

One illustration of the above principle is the following segment of a dialogue from Reichman 1978:

S: 1. I used to be a very emotional person, \(\text{[Full illustrative Relation (C1-C2)]}\)
   2. Amy. Do you know what I said about
   3. Albert? I mean - and Carol pointed this \(\text{[C2]}\)
      out to me, and it was just so funny -
   5. I am so afraid - I mean it's so funny,
   6. one of my problems is that I - I - I put \(\text{[C1]}\)
      everything, my feelings, in a total
   8. intellectual basis, I said that - it's \(\text{[C2]}\)
      funny 'cause, by the way, when I was
   10. thinking about Albert, I was thinking \(\text{[C3]}\)
      about how I would think about Albert,
   11. years from now. You know look back upon
   13. it and what context Albert would fit in
   14. my life. And my gut phrase was, and I
   15. said. "And I decided that history will
       really be kind to Albert." That is what I
   17. said, and she said, "Well you can't get
   18. much more removed than that." And I
   19. thought - and I realized that was the
   20. terms I put it in. That when - Because,
   21. you know, it's true. I do believe that. I
   22. went through a very healthy thing with
   23. Albert, and that is really - no matter
   24. what, restored a lot.
A: 25. That's very important.
S: 26. Yeah, and so for that, no matter what, - \(\text{[C4]}\)
   27. I mean I can feel angry at him now,
A: 28. Well you had a real relationship.
S: 29. Yeah, exactly.
A: 30. No matter what.
S: 31. Exactly. And that was real important to
   32. me. It proved something to me. It
   33. proved that I could, and I didn't know if
34. I could. You know? And so - But that's  
35. what I said. I said History will be kind  
36. to Albert," and she just kinda looked at  
37. me.

The context spaces identified by Reichman are indicated by C1-C4. The use of the pronoun him to refer to Albert in C4 illustrates the principle above.

Reichman's work is an important contribution towards the understanding of coherency relations in discourse. The context space notion is derived from such relations alone, and is thus an attempt to describe "text" structure. Reichman does not directly touch upon the question of how context spaces occur, or how they are results of intentions of speakers.

If the equivalence of a context space and the range of a language game in dialogue is recognized, we may use features of pronoun usage in discourse as an indication of game boundaries. This means that the use of pronouns indicates the basic coherency and intentional/initiative structures in dialogue.

Returning to the main issue of this section, we may state that the game of anaphorical reference - identification is very similar to the pointing game. To refer anaphorically is, metaphorically speaking, to point in the immediate focus space or context space.

13.2 Assertions

We shall view an assertion game as consisting of the two moves:

1. Assertion
2. Acceptance

This reflects the observation that, on the lowest level in dialogue, an assertion is followed just by an acceptance. This is perhaps illustrated by a mini-dialogue like:

(19) A: John is coming.

B: Aha.
The purpose of a plain assertion is thus simply to be accepted by the addressed party. Frequently this purpose is not fulfilled. The following are some hypothetical examples of violations of the rule:

(20) A: John is coming.
   B: That's nonsense. You know very well he has gone to Florida.
   (Rejection of the assertion)

(21) A: John is coming.
    B: John who?
Here, B cannot identify John. This may lead to a subgame of repair, after which the assertion game can succeed:
   A: John, my neighbor.
   B: Oh. I see.

(22) A: John is coming.
    B: (ignores A and walks away)
B:s action can be interpreted in several ways. (Often, though, nonverbal information makes the situation unambiguous). Either B did not hear A:s utterance, or, he heard it but refuses to take his role in the game (a violation of the frame). Other interpretations are possible.

(23) A: John is coming.
    B: Parlez-vous francais?
Here, we can perhaps say that the frame is violated in Lyttkens' sense, since B does not belong to the relevant actor category.

In a recent investigation of dialogue in a surveillance tower, I have studied different ways of completion of assertion or message games. Basically, there are the following ways of accepting an assertion: 1) simple acceptance, like in (19) above,
2) evaluation of the assertion in a larger context, 3) playback, followed by 1) or 2). The following examples illustrate evaluation and playback, respectively:

(24) A: I've done my homework.
   B: Good.

(25) A: I've done my homework.
   B: You have?
   A: Yes.
   B: Good.

The functional differences between explicit forms of confirmation of acceptance is sometimes difficult to establish. There are numerous variations of confirmative utterances depending on the nature of the assertion, or the activity where it occurs, as well as differences due to media and several other factors.

Very often the acceptance of an assertion is only non-verbally expressed. In the material discussed above, it is also clear that confirmation of the acceptance of assertions is sometimes systematically ignored or suppressed, and instead, a switch back to a higher game is performed. This feature seems to be particularly common in dialogues between non-equals, where a powerful person has an option to suppress feedback. (Cf Severinson Eklundh & Linell 1983.)

In interaction types with large monologue structures, like a lecture, or a 'sub-lecture' as a part or a lesson in a teaching setting, there are many ways for the audience to express understanding and acceptance of subgames, although the higher game conventionally excludes explicit expression of this kind. What is generally excluded in this kind of game is for someone in the audience to actually take the floor. (Cf. Owen 1981.) However, there may still be what is called back-channel activity on the part of the audience: mumbling and similar vocalizations
in the course of the lecture. Owen elaborates on this distinction (referring to the work of E. Schegloff), holding that back-channel utterances are not to be counted as speaking turns. Although Schegloff calls this kind of activity 'continued coordinated hearership', I think it is fair to consider some of it as simply signalling acceptance of subgames.

Lecture-type interactions differ along a scale in this respect. In the classroom, a teacher may rely heavily on the pupils' non-verbal signs of acceptance to be able to go on teaching. It is not probable that a teacher would go on talking in spite of the pupil's behaving completely indifferently and non-reacting. But in a more ritualized setting, like a formal lecture, the rules of the game may prescribe the speaker to go on talking no matter how uninterested the audience seems to be. Still, the expression of acceptance from the audience may function as a positive feedback for the speaker.

One aspect that probably differentiates between games in this respect is to what degree the goal of the game is defined operationally. In the classroom case, the teacher may have to work through subparts of the lecture in the interactive way, awaiting acceptance of subgames from the pupils, simply because there are concrete measures of the results of teaching (exams, for instance). The teacher is responsible for failure in the teaching game. But in a more formal lecture there is a strong ritual component dominating the game, and the acceptance of subgames does not have clear-cut consequences for the speaker.

I will use the term instrumental dialogue to refer to a communicative event which has such an operational status in an activity, i.e. that the success of the communicative event is a necessary step (an intrinsic part) in this "higher" activity.

In the last section I will return to the notion of instrumental dialogues.
Comparing the two kinds of lecture-type interactions discussed above, we may say that the frames of the two lecture games are different, as well as the actor categories involved. Only the rules for the moves have similarities.

In some interactions, where acceptance of assertions is particularly essential, there may be special communicative devices developed for making acceptance explicit. I shall look at one example of this, which is taken from the above-mentioned material of conversations made at a surveillance tower located in a military testing area.

The activity going on here has the goal of maintaining control of a sea area during shooting at the testing ground. The personnel has a heavy responsibility, since the misinterpretation of location of a boat, for example, may have fatal consequences. During a period connecting to a particular testing, communication proceeds in the tower across radio (with boats and helicopters), telephone (various) and face-to-face between personnel. If a boat is discovered inside the risk area, cease-fire must be ordered.

In spite of the external requirements, no rigid form of radio communication is used. Instead, the operators have developed their own ways of ensuring clear communication, especially on the radio, where audibility is sometimes low. Typical ways of signalling acceptance of assertions in this game are: 1) Repeating the assertion. 2) By special phrases like 'det är uppfattat' (Roger; literally: it is understood).

One example is the following radio dialogue:

(B stands for surveillance boat personnel, T for tower)

(26) B: ÖC, ADA Calling tower from Ada
    T: ÖC Tower
    B: Vi är neråt Röcknen till då. We are down towards the Röcknen.
(This dialogue is one of a series of interactions between the boat and the tower during a 2-hour period; this explains the occurrence of the word då (then), which refers to a previously established frame.)

13.3. Questions and answers

We will only briefly discuss the structure of questions as parts of language games. As mentioned earlier, a Question game has the moves Question and Answer. But very often, an information-seeking exchange has the following form:

(27) A: Where are you from?
    B: Sweden.
    A: I see.

This three-part structure (which is exhibited by some other types of interactions as well) has led many authors to pose an analysis for a question exchange of the form: Initiation, Response and Feedback. (Cf. Sinclair & Coulthard 1975). However, it seems that the expressions which occur in the Feedback slot here are the same that we find as acceptance expressions after an assertion. (Oh, I see, Hm, etc., as well as non-verbal acceptance.) Therefore, I will assign the game the following structure:

1. Question.
2. Answer: 1. Assertion
   2. Acceptance.

This I will take as the basic form of a question game. Now, it may be argued that the class of answers is not equal to the class of assertions. We have answers like Yes, Bill, etc. which are not full sentences. I want to propose the above analysis in spite of this, with the general motivation that the frame of the
assertion game is different when it occurs inside a question game. The question game poses restrictions on what assertions may occur as answers.

Some question types have a somewhat different game structure. One well-known type is classroom questions. The differ from ordinary questions in that the teacher, who poses them, already knows the answer. We will look at such questions as belonging in a structure like the following (Cf. Mehan 1979):

1. Question
2. Answer

2. Evaluation

The purpose of examination questions, and generally classroom questions, is to elicit an answer to be evaluated by the teacher. Such procedures are part of the general strategy of some teaching games.

14. "Gears" in dialogue

In an article called "The Need for Reference-Identification as a Planned Action" (1981), P. Cohen noted that one may sometimes find so-called "gears" in a human dialogue. This refers to variations in goal complexity that occur in the individual turns of a dialogue. Cohen made these observations in connection with a discussion of a task-oriented dialogue. The topic of this dialogue was an assembly task being performed by one of the participants (the apprentice) with the aid of an "expert". A typical case of gear shift is when the expert refers to an object or action unknown to the apprentice. In this case, when a referential act fails, what happens in the following subdialogue is that fewer linguistic goals are introduced in one turn. In Cohen's terminology, the dialogue switches to a lower gear.
The following fragment of a dialogue via computer terminals from Cohen's article illustrates the notion of gears:

(28) 1. B: Anyway, put the red piece with the strange projections LOOSELY into the bottom hole on the main tube. OK?
2. A: Which hole the bottom one on the side?
3. B: Right put the 1/4 inch long 'post' into the loosely fitting hole ...
3. N: I don't understand what you mean.
5. B: The red piece, with the four tiny projections?
6. N: OK.
7. B: Just place it loosely (into the)
8. N: (done) (B & N typed simultaneously, causing gibberish to appear on each screen)
9. B: Yes?
11. B: Place it loosely into the hole on the side of the large tube ...
13. B: Very good. See the clear elbow tube?
15. B: Place the large end over that same place.
17. B: Take the clear dome and attach it to the end of the elbow joint ...
18. N: Using the blue attachment part?
19. B: Right. It's already attached, so I didn't mention it. Now, put the red nozzle over the hole in the dome.

Cohen refers to a series of experiments where similar interactions have been arranged using five different communication channels: telephone, face-to-face communication, teletype dialogue, audiotape, and written communication. One structural
difference between these interactions is, as Cohen points out, that in telephone conversations, there is more often a need for clarification than in the other dialogues. This leads to frequent occurrences of speech acts like Request to identify and Question (Identified Reference). The speech act status of these acts is the main issue of Cohen's paper.

Cohen notes that clarification acts of this kind typically accompany a lower dialogue gear. The dialogues studied differed with respect to this feature, so that in the case of teletype dialogues only a couple of such speech act instances occurred.

If a dialogue is viewed as a sequence of realizations of language games, some embedded within others, the concept of gear is linked to the "speed" and order in which the games are processed. In a high gear dialogue, there are many latent subgames in every utterance. In a low gear variant of the same interaction type, some of the corresponding subgames are free and processed one by one.

We may thus say, in current computer terminology, that a low gear realization of a language game has an "interactive" character, whereas a high gear realization is more "batch-oriented". This presupposes that it is possible to identify two such dialogues as variants of the same game.

We may also note that a low gear dialogue is characterized by frequent instances of (partial) closure. The level of embedding in a low gear dialogue is usually low, while high-gear dialogues often have highly embedded structures, and consequently, put more strain on the hearer.

Some phenomena which were introduced earlier are related to gear shifts in the sense of having the function of ensuring subgoal success. I am referring to side sequences (Jefferson) and playback sequences (Merritt 1976). The following is one example:
(29) A: Do you know if Bill has arrived?
    B: You mean Bill Smith?
    A: Yes.
    B: Well I think he came about three minutes ago.

Here, a one-step subgoal check is made in order to ensure success of the superimposed question.

The following diagrams illustrate this example and gear shift, respectively: (every dot is a speaking turn, and the level of the dot symbolizes its place in the language game hierarchy:

**Playback:**

![Playback Diagram]

**Gear shift:**

![Gear Shift Diagram]

It seems that the notions of playback and gear shift are sometimes related in the following way: If a playback game fails, the dialogue is switched down and kept low until the success of the playback game is ensured.

A down-shifted dialogue of the kind discussed by Cohen may be viewed as a repair game. Following the failure of an identification game, the repair has the function of successively establishing a sufficient body of shared knowledge for the participants in order for the identification to succeed.

Very often, a playback question is posed in order to check the identity of a referent of some sort, which the receiver has failed to identify correctly. If the playback succeeds, the identification is done, and the interaction may continue.
In some situations, however, when the addressed party is unable to draw any conclusions regarding the intended referent, he may not even be able to phrase a playback question (which is often of the form 'do you mean X (or Y)'). Then he must simply admit that he fails to follow the intended course in the dialogue, which gives rise to a down-shifted segment of dialogue.

This may look roughly like this:

(30) A: I met Susan yesterday. She is coming to our party.
   B: Susan?
   A: Yes.
   B: I'm afraid I have no idea whom you are talking about.
   A: Oh. You know Lisa?
   B: Yes.
   A: You know Lisa works in a store?
   B: Yes.
   A: Susan works in another store in the same building.
   B: Oh, I see. O.K.

Using the parallel between subgames and presuppositions, we may conclude from the above example that what may give rise to a gear shift is the case where a presupposition made by a speaker is not resolved by the hearer. The hearer signals that he cannot retrieve the information presupposed by the speaker. Therefore, the latter has to "wind up" this information step by step until the hearer catches up. After that, the original pace of the dialogue may be resumed.

Accordingly, the relationship between a "high gear" dialogue and a "low gear" dialogue in this case is that in the former type, one presupposes what is explicitly stated in some form in a dialogue of the latter type. If this observation is correct, there is a possible downshift point in a dialogue for every presupposition made.
From what has been said about downshifted dialogues so far, it is evident that they constitute a form of digression from the main course of a dialogue. We noted above on p. 31 that digressions cannot occur freely in any dialogue. This is also true for downshifts: not all dialogue types can be expected to contain such downshifted parts. In many situations, communication proceeds in a manner where presuppositions are resolved later through inferences or are partially ignored. In communicative events where there is a limitation on the possibility to resolve presuppositions interactively, which would result in a downshifted subdialogue, participants continually have to build up hypotheses concerning the other speaker's presuppositions. These hypotheses are saved and perhaps confirmed during the course of the dialogue or later. (They may also be rejected, which may lead to a partial reinterpretation of the dialogue.)

Consequently, there are cases where the main purpose of the interaction may very well be considered to be achieved although some presuppositions are unresolved.

One simple example of this is the following: A calls on B. B opens the door.

(31) A: Hi.

B: Hi Bill. I'll be ready soon. I'll just finish my letter to Dr. Smith.

In this situation, A probably understands B's utterance, although he has no idea of who Dr. Smith is.

However, there are dialogue types where it is essential that all presuppositions are resolved (that all subgoals succeed). We introduced the term instrumental dialogues for this in an earlier section. One such case is instructional dialogues of the kind studied by Cohen (and Grosz 1977). In an instruction of the type "take object y and do x", it is essential for the addressed party to be able to identify the object referred to. This is a necessary condition for him to carry out the instruc-
tion. As a consequence, we may expect downshifted parts to occur in instructional dialogues, and generally in instrumental dialogues.

A typical feature of a low-gear dialogue seems to be that it not only has a lower number of subgames per turn, but also the way of realization of subgames is different. Every subgame in the lower gear is performed in order to maximize the possibility for its success. An example of this is:

(32) A: You see the clear elbow tube?
    B: Yes.
    A: Place the large end over that same place.

Phrases like "You see ...?", "Look at ...", You know that ..." are common devices aiming at identification of referents. These are typical examples of the 'maximum cooperation' feature that seems to be present in many down-shifted dialogues.

Above we have tried to outline what seems to be the differences between a higher and a lower dialogue gear. However, it is evident that in order to study this phenomenon further, it is necessary to look at several different dialogue types and try to find ways to vary the dialogues systematically.

It is an open question how the notion of dialogue gear should be defined. In fact, one may find that the concept has to be defined relative to the dominating game. One possibility of a general definition would be to define the current gear as the number of bound moves processed per turn in the dialogue.

In other words, using a game representation of the dialogue, we would simply count the number of moves of latent subgames (well-established in the literature) in every speaking turn. The fewer embedded games in a turn, the lower the gear would be.
This procedure is not without problems, however, since the question of the identity of subgames may not be decidable from a transcription or recording of a dialogue. The speaker's intentions, unavailable for subsequent analysis in most cases, are an important source of information as to what is a distinct subgoal in an interaction. This problem is however always present when a communicative event is to be analyzed.

15. Conclusion

In this paper, I have tried to outline how a concept of language game can be used as a basic unit for the purpose of analyzing dialogue, and discourse generally. The first sections aimed at presenting a sufficiently precise account of language games to accomplish this, drawing upon several earlier theories of language use and social action. In the following sections, examples were presented to show how this concept can be used to analyze different aspects of communication in dialogue.

The most important gains of using the game concept compared to other frameworks for analyzing discourse may be summarized as follows:

1) It poses no restriction on the levels available in the analysis.
2) It comprises in an elegant way important aspects of discourse such as initiative, reciprocity, and intention.
3) It is compatible with a general theory of social action and comprehension. It comprises the fact that speech acts can only be understood as part of a social context.

These characteristics in my opinion make the concept of game the most natural general unit for analyzing dialogue (and, generally, communication). In this paper we have pointed at several deficiencies of other proposed units. Although these units do not adequately express general properties of human
dialogue, this does not mean that they are necessarily 'wrong'. In the process of further study, we can expect that many concepts will be needed to further explain the structure and properties of language games.
Footnotes

1) The notion of frame has been used in various disciplines to discuss action and knowledge. In artificial intelligence research, frames, scripts etc. are knowledge structures which have been introduced to build models of human language understanding. (See e.g. Minsky 1975.) In these contexts, a frame is conceived as a schema for representing knowledge which has a bearing on the processes of understanding. It is possible that there is a certain theoretical danger in using it in both the definition of games and in models of comprehension. In this respect, I have some doubts concerning Lyttkens' account of games. The definition of frame given by Lyttkens is rather vague, and it does not carry much information about what frames really are. I suspect that, if it is possible to separate the descriptions of action and perception, so that the social games in a culture are looked at "from the outside" as a hierarchical structure of actions, the frame notion might be superfluous; the frame of a game is associated with the purpose of the game, or, equivalently, the function of the game in a higher activity (game). In this view, the frame is the link between a lower and a higher game in a hierarchy.

However, to describe understanding and knowledge of social events, the frame notion seems to be the primary concept. A game and its frame, it may seem, are different aspects of the same thing. Applied to language, we could perhaps say that frames are what we know about language interaction, whereas (the rules for) games describe what we do with language in interaction. It is, however, an open question if this separation of perspectives is at all possible.

Lyttkens states that the three basic components of a game, its rules, its frame and the relevant actor categories, are difficult to separate and cannot be described completely independently (p. 119). In order to pursue a game actors must know something about all these components.

2) Some mental processes can perhaps be described as communication between different parts of a person's mind. But there are always at least two roles involved in such a game.

3) In a later section, I will argue that the question game should be analyzed further, so that the answer is the start of a game of its own.

4) If structures like this are accepted as games, it is justified to ask how far one can pursue the game model, in terms of 'micro' linguistic structures. At the moment, I have no specific answer. However, one may note that linguistic action on the level of reference and predication is also a part of other theories, such as speech act theory (Searle 1969).
5) The last-mentioned process is of course possible only if the knowledge presupposed is compatible with what the hearer already knows. However, it seems to be a frequent phenomenon that two or more conflicting 'theories' about a subject matter are kept in a person's mind, and during the course of a communicative event, one of them may be chosen as 'true'.

6) In an article under preparation, I will use the parallel between games and presuppositions and try to make a general statement of the range of presuppositions in discourse.

7) In an earlier work on language games, I proposed an equivalence of this kind (Severinson Eklundh 1977). However, at that point I did not realize the importance of focus for reference.

8) A similar structure is suggested by Wells et al (1981). However, they use the general structure Solicit - Give - Acknowledge, which makes it possible to avoid the problems of embedded assertions.
References


In the Faculty of Arts and Science at the University of Linköping, Sweden, research and postgraduate research training are conducted within broad problem areas – themes – instead of traditional academic disciplines. There are four themes: Health and Society, Communication Studies, Technology and Social Change, and Water in Environment and Society. Within each theme research is pursued through cooperation between scholars with different scientific backgrounds. Research activity commenced in 1980 and after a period of construction of 6–7 years each theme will have an establishment of 20–25 research posts – professors, readers etc. – and ca. 40 research students.

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