PHILOSOPHY OF ACTION AND THEORY OF NARRATIVE[1]

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1. INTRODUCTION

1.1. The aim of this paper is to apply some recent results from the philosophy of action in the theory of narrative. The intuitive idea is that narrative discourse may be conceived of as a form of natural action description, whereas a philosophy or, more specifically, a logic of action attempts to provide formal action descriptions. It is expected that, on the one hand, narrative discourse is an interesting empirical testing ground for the theory of action, and that, on the other hand, formal action description may yield insight into the abstract structures of narratives in natural language. It is the latter aspect of this interdisciplinary inquiry which will be emphasized in this paper.

1.2. If there is one branch of analytical philosophy which has received particular attention in the last ten years it certainly is the philosophy of action. Issued from classical discussions in philosophical psychology (Hobbes, Hume) the present analysis of action finds applications in the foundations of the social sciences, [2] in ethics [3]

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[2] See especially Louch 1966, where a critical examination of classical work on explanation in terms of 'laws of action' is given.

[3] The relations between the philosophy of action and ethics are obvious, and most work in the domain of 'analytical' ethics pays attention to these relations pertaining to the obligations restricting our courses of action. In the present paper, however, these relations will remain undiscussed, and we therefore must refer to some classical texts collected in Foot 1967 to Hare's well-known monograph (1952), and to a recent collection Honderich 1973. Note also that much of this work should also be studied within a logical perspective, viz. within deontic logic

and in linguistic pragmatics. 4 At the same time well-known work [5] by such philosophers as Melden, Kenny, Peters, Anscombe, Austin, Chisholm, Danto, and others has been given closer scrutiny within a logical perspective [6] by such philosophers, logicians and linguists as Davidson, von Wright, Porn, Nowakowska, Kummer and Brennenstuhl. These are only a few names from the enormous literature on the topic, to which should be added names from the closely related fields of the philosophy of mind [7] and language. Below we shall focus on the results from the logical approach to action and action description because it provides a more explicit basis for a theory of narrative.

1.3. Whereas classical work on (literary) narrative [8] mainly discusses topics like 'perspective' time and tense, the relationship between plot and story, and between

(see Hilpinen 1971). It should be stressed that the basic ideas of ethics and deontic logic might show its relevance also in the analysis of narrative, especially in some types of literary narrative, e.g. in the 'existentialist' tradition, dealing with problems of moral obligation.

[4] Most interestingly perhaps in Austin's work (e.g. Austin 1962; 1970) and further in the work of those influenced by him notably Searle (1969) and Grice (1967). Grice's principles of rational, cooperative conversation are given within the perspective of the basic principles determining rational interaction in general. From a proper linguistic point of view these ideas have been given attention in much recent work in Germany. See e.g. Wunderlich 1973 and especially Kummer 1973 for a more systematic and explicit treatment. See also van Dijk 1975b.

[5] It is impossible to give full references on the philosophy of action here. The following works have mainly been used for this paper, but we will not (if possible anyway) refer to them for the particular views taken below on different aspects of action. Further I will only mention essays collected in books: Shwayder 1965; Mischel 1969; Vesey 1968; Care and Landesman 1968; White 1968; Binkley, Bronaugh and Marras 1971; Danto 1973; Brown 1968; Kenny 1963; Melden 1961. For a good bibliography see Blinkley, Bronaugh and Marras 1971.

[6] For the 'logical' approach to action see especially the exploratory work by von Wright (1963; 1967) and Davidson (1967), both in Rescher 1967. Porn (1970; 1971) is especially interested in providing a serious basis for social and political concepts.

Nowakowska (1973) combines several approaches and casts them in a language borrowed from mathematical linguistics. See Kummer 1975 for a survey of Nowakowska and for further suggestions. Probably the most systematic treatment, criticizing von Wright but essentially in his footsteps, is the recent dissertation by Brennenstuhl (1974). Our short survey heavily draws upon the studies mentiones here, but we also formulate some of our own ideas about action.

[7] As will become clear below, the analysis of action cannot be carried out independently from the analysis of mental events. See Ryle's (1949) classical treatment for the principal background of the discussions about the relationship between mind and action, and especially Anscombe (1963) for a first systematic discussion of 'intention' as a crucial category in the definition of action. Powell (1967) more particularly investigates the requirement that we must know what we do. For a brief survey of these and similar problems related to intentions, wants, purposes, etc., see Whiteley 1973. Most of the articles in the collections referred to in footnote 4 also give extensive attention to these 'mental' aspects of action.

[8] See e.g. the monographs and collections by Booth (1961), Stevick (1967) Stanzel (1964), Hamburger (1968) and Lämmert (1967), which are representative for traditional studies of narrative, especially literary narrative, e.g. about the 'novel'. The results of this work are supposed to be well-known and will not be reviewed in this paper.

author and narrator, the description of characters, and so on, recent structuralist approaches, inspired by anthropological work on the structure of myth and folktales, show a neat tendency both to a more systematic and a more fundamental approach. [9] The structural analysis of narrative is most often limited to a characterization of the action and interaction sequences of a 'hero' and his protagonists and antagonists. Such simple (inter-)action patterns are typically manifested in relatively elementary forms of narrative like our everyday stories of personal experience, [10] myth, folktale, fairy tale, etc. More sophisticated forms of narrative, like the modern novel, have proved to show much less clearly the typical action patterns discovered in the analysis of 'primitive narrative', but it cannot be denied that there is considerable methodological advantage in first studying the structure of less complex narratives.

It has been attempted to make the analytical procedures and categories used in this structuralist work more explicit, e.g. by a more systematic generative approach, [11] where base rules (comparable with Phrase Structure Rules in grammar) and transformations are being formulated, or by a mathematical (topological, game theoretical, graph theoretical) analysis of the relations between characters in a plot. [12]

However, although this formalizing tendency has great importance, its theoretical basis is weak and hardly goes beyond a few rather trivial and intuitive features of narrative. What is needed is a much more rigorous theoretical analysis of actions, interaction and agents and their description in narrative discourse, basic narrative categories which remained undefined in structuralist approaches.

1.4. A serious understanding of the nature of action is of course only one part of the foundations of narrative theory. First of all, not all action descriptions would traditionally be called 'narratives': a psychological or sociological description of behaviour and social interaction of individuals or groups is rarely characterized as a narrative. Obviously, there are further constraints on action discourse in order to qualify as a 'story' or a 'narrative'. Part of these constraints are pragmatical, and de

[9] In the last ten years there are a great number of (often rather different) studies, both theoretical and descriptive, in the paradigrn opened by Propp (1968[1928]), e.g. by Barthes, Lévi-Strauss, Greimas, Todorov, Dundes, Maranda, etc. See Communications 4 and 8 (1964; 1966), Bremond's articles, now collected in Bremond 1973, Greimas 1966; Dundes 1964; Köngäs Maranda and Maranda 1971, for the most influential writings. For a linguistic approach see also Hendricks 1969.

[10] See especially Labov and Waletzky 1967 which will be a main source for our treatment of 'natural narrative' below.

[11] Within different perspectives this 'generative' approach has been made by Lakoff (1964), Zolkovskij and Sceglov (1971) van Dijk (1972, 1973a), van Dijk, Ihwe, Petöfi and Rieser (1972).

[12] Cf. Buchler and Selby 1968; Kahn 1973; and Marcus 1974.

fine the contextual conditions for the 'speech act' of 'telling'. Secondly, narratives do not exclusively consist of action sentences, but contain descriptions of circumstances, objects, mental properties or processes of agents, etc. Finally, it should be stressed that the relationship between the structure of action and the structure of action discourse in general or of narrative in particular is not unproblematical: in telling a story about some (real or fictitious) events and actions we usually give only a partial description of a selected number of actions, often even in a heavily transformed way and permanently accompanied by our inferences from observed human behaviour. Conversely, it has often been stressed that our insight in the structure of action depends on our mental processes of perception and thinking, and hence on our discourse about action. We here touch more general problems of linguistics, logic and the philosophy of language with respect to the semantics of natural language dealing with the relations between the structure of our language and its discourses on the one hand and the structure of the 'world' on the other hand.

Clearly, since narratives are only one (empirical) type of discourse, this more general knowledge of the syntax and semantics of discourse and of the features distinguishing types of discourse is a necessary requirement. Nevertheless, we shall in this paper neglect the proper linguistic aspects of narrative discourse and concentrate on the characteristic features of its abstract underlying ('logical') structure.

1.5. Besides these more general theoretical and methodological problems, a number of empirical issues should be clarified. Although our natural language contains a set of words like 'narrative', 'narrate', 'story', 'plot', 'tell', etc., referring to specific speech acts and their 'products', it is not self-evident that the intuitive meaning of such words identifies a clearly definable set of empirical objects. Is there an effective method for distinguishing the set of narrative discourses from the set of nonnarrative discourses, and can we determine for each discourse whether it is narrative or not? In case it should turn out to be impossible to decide on syntactic and semantic grounds alone whether a discourse is a narrative (in isolation), is it possible to specify the pragmatic conditions under which each discourse with some specific syntactic and semantic properties can be qualified as a narrative or not? Furthermore, do such decisions of an observer about empirical objects correspond to intuitive procedures of speakers of natural language: do they have the ability to unambiguously distinguish, identify and compare narrative discourses; are they able to assign degrees of 'narrativity' to a discourse; what is the nature of this ability: is it based on a fixed pattern or on a set of rules comparable with the rules of grammar? Finally, it should be investigated at this empirical level, in what respect the notion of 'narrative' has a more abstract and general character: we do not only have narratives manifested in natural language discourse, but also in picture sequences, movies, and perhaps, derivatively, in music and dance.

All these questions must remain without explicit answer here. We simply adopt the hypotheses that there is an empirical class of discourses called 'narratives' or

'stories', although this class may have fuzzy edges, and that language users have the ability to produce, interpret such discourses as such, i.e. identify and distinguish them as narratives and, finally, that this ability is based on a system of rules and constraints associated with the rules of grammar.

2. THE STRUCTURE OF ACTION

2.1. It is impossible to give a complete and adequate review here of all relevant work in recent action philosophy. Some major results will be integrated in a preliminary discussion about the structure of action.

2.2. The basic idea about action is the following: there is a conscious being, e.g. a human, bringing about some change (in his body, in an object, in a situation) with a given purpose, under certain circumstances. It is the task of a theory of action to explicitly spell out the analytical content of the terms of this 'definition': what is conscious; how do we bring about something; what is a purpose; what are relevant or necessary circumstances; can animals also act?, etc. Most of these questions cannot possibly be answered in the space of an article section, if they can be answered at all. Let us take, then, some central features.

Verbs like *to do* or *to act* usually only apply to animate beings overtly 'behaving' in a certain way, where 'overt behaviour' roughly refers to a *state change (event)* of their *body*, or to an ordered set of such changes.

A first constraint separating doing/acting from this more general notion of bodily movement is that the movement be brought about by the animate individual itself: I do not do something/act, when something or somebody else causes my body or part of my body to move. A simple test is the possibility to use the pronouns *itself (himself, herself,* etc*.)* in a sentence describing doings/actings.

Next, it is useful to separate the class of actions from the more general class of 'doings'. This distinction involves a series of rather complex constraints. First of all, we require the animate being to be *conscious*, i.e. *aware* of itself. More particularly it should *know/believe* what its bodily states and movements are at a given moment. Clearly, I do something when speaking, turning, lifting my arm, etc. when I am asleep, and, similarly, when breathing when I am unconscious, but such movements will not count as actions because we do not and can not know (directly) or believe that they take place. In moral or legal terms somebody is not *responsible* for such unconscious doings.

Since it is problematical in which respect it can be maintained that animals *know* about their proper states and movements, it will be assumed that animals (non-humans) can do something, but not act. If it is true that thinking involves natural language, or at least its abstract underlying forms, and if thought is a crucial mental process defining awareness, we should also exclude babies and perhaps seriously

mentally ill humans from the class of those which can significantly be said to act and not merely to do. Indeed, animals, babies and the mentally ill ire not hold responsible for their doings. We call *person* the conscious human who knows about its proper states (at least some of them) and who can think about its doings. Hence, following this (still unprecise) definition, I am not a person when I am asleep, hypnotized, drugged, etc. Only persons are able to perform actions. A person who performs an action will be called an *agent*. Since all normal persons (i.e. those which are not paralyzed, etc.) are able to act, persons are *possible agents*. It might even be maintained that persons are permanently acting (trivially so when we include 'mental acting' like thinking), but we will reserve the term agent to denote the person performing particular acts, at a given moment.

Note that there are bodily movements of which we may be aware as persons but which we can not bring about as agents: especially the movements of our internal organs. Apparently, there is a further constraint which requires that only doings which are under our *control* may be actions. This is why reflexes are not actions. A doing is controllable if it can be brought about (or stopped) by a person, where control of a doing need not imply awareness of that action or 'intention' as discussed below. Not all controllable doings, however, are actions. We may control our breath and the batting of our eyelids, but usually these are not actions. They become actions only at the moment we *actually* control them.

Next, there is a number of doings which we usually can control but of which we are not directly aware, e.g. because we are aware (think) of other things or doings/actions, although they are not regular or periodic bodily functions (like the ones mentioned in the previous paragraph): playing with a pencil when listening to somebody, scratching our head when think, etc.

Finally, there is a set of doings which are controllable, of which we may be aware when doing them, and which we do control in most circumstances, but which in certain circumstances we cannot 'help but doing', e.g. because of a momentary failure in the control of our movements: dropping a vase, stumbling, and perhaps weeping and laughing.

The characteristic feature of the doings of the last two sets is that they are performed without the *intention* to perform them, and without having a specific *purpose* for performing just these doings. These are crucial notions, and necessary constraints for doings to be actions.

2.3. Obviously a definition of action in pure behaviouristic terms, viz, as 'bodily event' is impossible. We introduced such *mental* notions like awareness, knowledge, belief, thought, intention and purpose, in order to define persons and specific properties of their doings. Although our natural lexicon has a rich subset of terms referring to such mental processes, events, acts or states, our theoretical and empirical knowledge about them is very limited, both at the physiological and at the psychological (cognitive) level of description. Our access to them is largely indirect,

e.g. via an analysis of self-descriptive speech acts/discourse.

Relations between mental states or events and doings are usually referred to in *explanatory* terms: we do something 'because' we like to, want to, intend to do so, etc. Yet, it is not easy to bring these relations under the classical notion of *causation*, involving general laws. We will therefore use the more neutral term *condition* (sufficient or necessary). Thus, it is a necessary condition for a doing to be intended in order to count as an action. An action may therefore simply be characterized as an ordered pair of a mental event of intention and a bodily event (or set of events subject to further ordering constraints) predicated of a given person. Of course the 'content' of the intention must be identical with the doing associated withit: (Int(x), y) is an action only if x =y, at least for successful action (see below).

However, the picture is much more complex; but little has been said explicitly about the exact theoretical relationships between intentions and doings. Perhaps we should construe intensions as *functions* e.g. with doings as values and some mental event as argument. But what mental event? One step toward a possible solution of this puzzle is first to introduce a set of *possible actions*. Possible actions are *action concepts*, which are abstract constructs (viz. functions, with different action instances in possible situations as values). The set of possible actions of a given person is called his *ability-set* (or simply his *abilities*). It is reasonable to assume that a person has epistemic access to this set: he knows what he can do. A *particular action* (e.g. eating this apple now), which is a value of an action concept (eating [an apple]), would in this perspective be an ordered pair of a particular intentional event and a particular doing. Particularity is determined by a given situation, i.e. a possible world at a given time (point or interval). Similarly, these particular doings are values of *possible doings*, like raising an object, biting, chewing, etc.

Of course it is possible to intend these parts of our doings as such, which makes them, together with the appropriate intention, actions. Actions of which the doings can not be (or perhaps better: are not usually) separately intended, are called *basic actions*. This notion is not without problems, but it must be considered from a practical and cognitive point of view, not from a physical point of view: of course all our bodily movements are 'gradual' and not strictly discrete. Basic actions are the result of the most elementary practical abstraction level. We do not distinguish movements e.g. under the 'level' of biting, as can also be inferred from natural language.

Given this conceptual construction we might define intention rather as a *selection function* taking doings from the set of possible doings as arguments and having doings (movement n-tuples) as values. Thus, only those doings are actions which are values of the intention-function. Further, intentions must receive a time index (to) themselves, as well as an (intended) time for the occurrence of the doing-particulars (t;), where of course ti > to. A doing (at t,), then, is an action if it is identical with the value of an intention-function over possible doings (and time intervals). We may call these selected doings the intent of the intention. The exact (cognitive) nature

of intentions will be left undiscussed here: it may be a mental event (if not an act) determining the series of ad hoc mental events ('immediate intentions') bringing about our doings.

Intentions themselves are the 'outcome' of other mental events. There is a decision procedure operating over all possible actions (e.g. for a given time point). This decision procedure is determined by a complex number of other factors, involving *preferences* (general and particular), or *wants* and *wishes*, which in turn may depend on likings, desires, motives and character features, together with the necessary data: our *knowledge* and *beliefs* (we may only like what we know/believe to exist, and want what we know/believe not yet to be the case, etc.). This whole complex mental structure 'below' our intentions will be left undiscussed.

There is, finally, one 'internal' factor left which seems undispensable in a serious action theory. Usually we do not simply intend an arbitrary action and then sometimes execute it. We have a *reason* to select exactly that action type. Indeed, the factors of preference, want, desire, etc., do not seem to pertain (only) to the action itself but to its *outcome*, its *result*. I buy a book for the reason that I think that by buying it I will get it, and getting it is what I want. This sort of reasoning is usually called *practical reasoning* and has been considered as the typical condition ('cause') determining our intentions/actions. The structure of the *practical syllogism* representing such reasoning is roughly as follows:

(i)   a knows: DO$ap > q$
(ii)   a wants: q
(iii)   DOap

where '>' stands for 'relevant conditional' (see van Dijk 1976; 1977). We can also put what is wanted (q) in the conclusion, leaving the second line open. Together with the conditional a modus ponens only yields q as conclusion if we fill in the antecedent in the second line. Hence DOp must be true for q to hold. Real reasoning processes are of course much more complicated: *a* must know what is the case, what will be the case at the time of his action, what other circumstances are, etc.

We see that an action is done for a certain *end*, i.e. with a certain *aim in mind*. In order to denote this having an 'aim in mind' we use the familiar term *purpose*. Purposes involve wants but further require the belief that the object of our want-attitude is brought about by our actions: (Waq, Ba(DO$ap > $q)). In this case q is a *consequence* of our action, and may be a state or another event. Consequences are direct when they follow the action immediately. Sometimes our purposes pertain to *indirect consequences*, i.e. consequences of direct consequences, e.g. when I saw a tree, the immediate consequence is that the tree falls, but my purpose pertains to the fact that I have more light in my room or have some timber. In the same example 'the tree is sawn' is the proposition representing the result of the action. It is the *final state* of the change brought about by my action, whereas the *initial state*

is the situation 'on' which my action operates. In cases where result and conse-quence coincide we may speak of *purposeless* action: we perform an action for the only reason to perform the action, e.g. because we want, like it as such (W*a*DO*ap*), like smoking a pipe, making a walk or reading a poem.

2.4. Until now we limited our discussion to only one form of action, which we may call *positive*. However, there are many actions which do not satisfy the conditions and definitions given above.

First of all there is a form of positive action where initial state and final state are identical: we do something but the 'world' does not change, apart from the bodily change of our doing. Such doings are actions if the situation *would* have changed without our doing something. This is the typical case of *preventive actions*. The condition is of course that the agent believes that the *counterfactual alternative situation* would become realized without his action. By preventing a glass to fall I keep the situation as it was: the glass is on the table. Similarly, I may with such pre-ventive actions stop an event or a process, e.g. by catching a ball, which would continue to fall without my catching it.

Secondly, there is a form (*or mode*) of action which can be performed without doing something, i.e. without bodily state changes. In the preventive case this would mean that the simple physical presence of my body prevents an event to occur or to continue: sitting on a chair with the intention that it will not be re-moved.

Interesting are those cases where an action is performed by intentionally *omit-ting* a doing. Such actions are called *forbearances*. They have a *negative* character, because we omit an action in a situation where such an action would be expected, usual, obligatory, regular, etc. We may forbear to operate a change in a situation or we may forbear to prevent that a change takes place (letting). Not eating when you are hungry may be an intentional action (typically so in a hunger strike), and omit-ting preventive action when a child is drowning is even a criminal forbearing action. Forbearing is so to speak 'based' on letting (the situation be as it is, the situation change) because it operates on actions themselves (forbearings have been called second order actions). In forbearing we omit the 'formation' of an intention for a positive action or omit to change our ongoing actions.

From this discussion it becomes clear that performing an action requires as a condition that we make assumptions not only about the actual situation in which we are acting, or about the situation which is the result of our action, but also about the counterfactual situation which *would* be case, at the time of acting, if we would not act. To take a simple example: we usually do not intend to open a closed window when we expect the wind it to open at the same time. Similarly we will not try to prevent a glass to fall if we assume it will not fall anyway.

The theoretical difficulty with 'negative' actions is that they qualify as actions although there is no (observable) doing as defined, unless we introduce the theoreti-

cal unit of a *zero-doing* (as we also have zero-units in grammar). Another way to approach the problem is related with the essentially *intensional* nature of actions. Doings may qualify as actions because they are *interpreted as* such or socially *count as* such. In such a case, a non-doing may also be interpreted as an action, if in an *alternative course of action* the action would be normal, expected or obligatory.

2.5. The conditions formulated in the previous sections determine when an action is *successful* and when it *fails*. Roughly, an action is successful if an agent accomplishes the doing(s) conform to his intention, viz. if intent and performed doing are identical. Still, such a successful action may not have the desired consequences (independent of my action) so that the purpose of the action is not satisfied. It is usually this notion of successfulness we have in mind: purpose and consequences are identical.

A number of possibilities now arise to have *semi-success* and *semi-failure*. First, I may be able to realize the aimed consequences, although my action itself may fail. Second (see above), I may be successful in my action itself, but the consequences are not those which I aimed at. For both cases there may be different conditions. These, however, will not be treated here. Note, finally, that the notion of success or failure, just like the *ascription* and *description* of actions themselves, may be *subjective*, i.e. *relative* to a given agent or observer. What is success from my point of view may be failure from another's point of view.

2.6. We are still at a comparatively elementary level of action. Most actions, however, are *complex* or *compound*, i.e. are part of an *action sequence* or an 'higher order' action. Moreover, an important class of actions take place in *interaction* between several agents, a point which is neglected in most philosophical work on action. Especially all forms of cooperative social behaviour, in particular conventional interaction like the use of language, require further analysis.

An action is *compound* if the final state of the i-th action coincides with the initial state of the $i + 1$-th action of the same agent and if the agent intends all actions of the sequence in that particular order with the *ultimate purpose* that the final result and its consequences be realized. Example: building a house. There are also compound action sequences which are not necessarily ordered in time or conditions, and where final states of component actions are not required as initial states for subsequent actions. Example: having breakfast.

The last case offers the possibility for actions to *overlap*. Indeed, it is possible to perform actions at the same time, either with identical or with different purposes. This overlapping, to be precise, applies to doings, and must not be confused with the fact that actions may be performed *at the same time* when seen or described from different points of view. When laying the foundations of a house I am building a house 'at the same time'. In all cases where a compound action satisfies the conditions given, and where there is a conventional name for the compound action, we

may say that the component action and the compound action occur at the same time.

In compound action sequences actions are, so to speak, all at the same level. In *complex actions* we may isolate actions which are somehow *auxiliary* to the main action(s). Examples: turning the pages of a book when reading, mixing concrete for laying the foundations in building a house, dialling when calling somebody on the phone. Very often such doings are not particularly intended and hence not proper actions. Characteristic of auxiliary actions in complex actions is that their results do not have consequences identical with a purpose of the whole action. The consequences of auxiliary actions are sufficient and/or necessary conditions for the performance of the (a) main action. Of course the notion of an auxiliary action is relative: in some situations an action counts as main action and others as an auxiliary action. Each complex action description thus has several *levels*: first level actions, second level actions, third level actions..., etc., where an action at level i is auxiliary for an action at level $i - 1$. One of the conditions for an action sequence to count as one (complex or compound) action is that there is one ultimate *purpose*. The intention associated with such a purpose may be highly complex. An intention of a compound or complex action will be called a *global intention, macro-intention* or *plan*. [13] Such plans have the respective intentions of the component or auxiliary actions as their 'scope', such that these actions are controlled with respect to the final result. Usually macro-intentions precede the component 'micro-intentions': when I intend to go to Paris, I may well not yet have formed the intention to go by train or by car. In some cases a plan may change during its execution, which means setting a new purpose. Actions which must necessarily be accomplished in order to realize a given purpose will be called *bound*, whereas actions for which there are alternatives under the same plan and purpose will be called *free* or *optional*. The alternatives of a free action may themselves be sequences of actions, and conversely. This provides a basis for determining the *economy* of an action sequence. Actions which are not contributing to the realization of a plan are *superfluous*, whereas actions which prevent the realization of a plan are *errors* (although in some cases there may be semi-success when the erroneous execution of a plan nevertheless, with good luck, leads to the intended consequences).

2.7. Finally, we must briefly mention some properties of *interaction*. A first condition for interaction is the presence of at least two persons of which at least one is an agent, although in most cases there are at least two agents required. When *X* punishes *Y* only *X* is strictly speaking the agent at the moment of 'interaction', whereas *Y* undergoes the action as an object, viz. as *patient.* A patient, thus, is a person (or perhaps more in general a human being, or even an animal) in which a state

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[13] For the relevance of 'plans' in natural language and action see van Dijk 1972; 1976b; 1977; and Nowakowska 1973 and further references given there.

change takes place as a consequence of an event (including actions by other agents). The fact that in interaction patients mostly are required to be persons is that they be *aware* of the event or the action of the agent. This knowledge may be a condition defining the circumstance for re-actions by the patient, or pertain to the fact that the action of which he is the patient is itself a reaction to the patient is itself a reaction to the patient's earlier action(s).

The simplest cases of interaction are those where two agents accomplish *together* the same action type: going to the movies together, lifting a stone together. A condition is that both agents have the same intentions, at least when the doings are roughly similar. A degree more complex is the case where the intended doings are similar but where the purpose is different: we may go to the movies together but for different reasons. Similarly, the purposes may coincide, although the actions themselves are different in type. Example: preparing dinner together. In these examples the co-acting is free, because the actions must not necessarily be carried out by two agents. The presence of two agents is necessary in such actions as marrying and fighting. Above we mentioned examples where one agent and one patient must be present.

If, in a given situation, two agents have contradictory purposes they will be called *antagonists*. Since contradictory purposed cannot be realized at the same time, at least one of the actions of one agent must fail. The agent of whom the action fails such that the result is intended by the other agent is the *looser*, the other agent the *winner*. The agent of an auxiliary action within a complex action intended by another agent is the *helper*, whereas the agent of at least one of the component first level actions in a compound action is the *collaborator*. The agent aiming at the prevention of an auxiliary or component action of another agent may be called the *interferer*. An interferer succeeds if the action prevented is bound. Prevented free actions may be 'corrected' by choosing alternatives. An agent *A* is *under control of*, or *dominated by*, an agent *B* in a given situation, if at least one action by *A* can be prevented by *B* or if *A* needs permission from *B* to perform the action.

In *interaction sequences* interactions are linearly ordered such that the consequences of the *i*-th interaction are necessary and/or possible conditions for the occurrence (success) of the *i* + 1-th interaction. Agency in such sequences may alternate from one person to another, as is the case in conversation and playing chess.

2.8. (Inter-)action sequences are usually subject to a certain number of further constraints. A first constraint is that the (inter-)action sequence is *effective*. An (inter-)action sequence is effective if the mentioned conditions for success are satisfied (presence of agent(s), appropriate intentions, identity of intent and result, and of purpose and consequences, correct assumptions about inital situation, possible/expected result and alternative final situations, etc.) and if the following conditions

are satisfied: (i) there are no redundant actions (i.e. repeated actions or superfluous ac tions); (ii) the course of action is chosen which requires the least number of actions or actions which are comparatively easiest; (iii) the course of action is taken in which there is the least chance of interference by other agents, or the course in which most help is expected; (iv) the course of action is taken of which the result causes the greatest number of desired consequences and/or the least number of undesired consequences. Of course most of our daily actions cannot and need not be totally effective, if only for the reason that our assumptions about possible future states of affairs or events cannot be perfect.

3. ACTION DESCRIPTION

3.1. It may have become clear from the previous section that our knowledge of the structure of action is closely linked with the way we describe actions and doings. First of all, our *identification* of actions is determined by our knowledge of the *concept* (e.g. as lexically expressed) of the action. It may be the case that some actions for which we do not have a concept remain doings for an observer. Secondly, we identify an action as a value of an intention function, so that by ascribing an action to someone we either must have access to his intentions and purposes or make assumptions about these, based on conventional inferences. Access to intentions is possible only via self-descriptive reports of agents. Actions are *intensional objects*, they differ under different descriptions, also when the doings in which they manifest themselves are identical. I may by calling someone on the phone intend to speak with him, but do not intend to wake him up if my calling results in waking him up. Similarly, I may intentionally speak to somebody without knowing that I annoy him. One of the functions of action descriptions is to give *explanations* of actions, by adducing reasons for my intentions or by specifying assumed circumstances and expected results. One of the ways in which an action (or a doing) is explained is by asserting that it was a component or auxiliary action within the framework of a superordinate or global action which as such needs no justification.

3.2. An action description is a set of action sentences. If this set is linearly ordered and satisfies some further constraints we will call it an *action discourse*. An action sentence will roughly be defined as a sentence with at least one action predicate and at least one name (term for an agent) as an argument.

   This brief requirement remains neutral with respect to the type of language involved. In the previous section we have described action in terms of natural language of which some are artificially restricted in meaning by approximate definitions. At the same time the treatment prepared for a discussion in terms of explicit formal languages and model theoretic semantics, although an action logic, at the moment, barely exists beyond some initial attempts.

Taking the exposition of our second section as criterion, eventually to be worked out as a formal characterization of *logical action space* serving as part of the semantics, we may give some examples of sentences which are action sentences and others which are not (although in different contexts the same sentences may express doings and not actions, or conversely). Clearly not-action sentences are:

(1) Leaves are green
(2) Peter is ill
(3) The train from Paris arrives at 5 o'clock
(4) John recovered quickly from his heart attack
(5) Mary could not pay her income tax

The next sentences are much less obvious cases:

(6) Sheila never realized that she could not make him happy
(7) Harry found a briefcase with ten thousand dollar
(8) Laura stared out of the window
(9) George hesitated whether he would stay or not.

Clear samples of 'pure' action sentences are:

(10) Ann carefully cleaned the windows
(11) Hans repaired my watch
(12) Barbara accused him of murder
(13) Larry refused to let him go

It may be concluded that state descriptions, sentences with a motion verb but without an animate subject, sentences with process verbs, sentences with animate subject which are patients of an event verb, etc. are descriptions of non-action. Dubious cases are those sentences which describe mental events, events which somehow can be controlled by the agent, bodily states which may be brought about intentionally, etc. Finally, all those sentences with a verb/predicate (applied to a human subject) which necessarily implies purpose and/or intentionality (complex acts, conventional acts, etc.) are examples of clear action description. This list follows the distinctions which we have been making at the object level.

There are a number of tests which may decide whether a sentence is an action description. One of these is the possibility of adding *intentionally, purposively*, or similar adverbs, to action sentences whereas in other sentences such an addition does not make sense. Conversely, it is impossible to add *unintentionally*, etc. or additional clauses like *but he didn't intend/want/mean to do so*, to clear cut action sentences.

In other cases the action status of a sentence can not be decided by subject/verb

alone, but depends on the fact whether the rest of the sentence entails that the agent has an intention or purpose for moving or not moving:

(14) Laura stared out of the window because she wanted to avoid his angry looks

Conversely, clear action sentences might be reduced to doing sentences by adding parts implying that the doing could not possibly be intended:

(15) In her sleep Barbara accused him of murder

It follows that inherent action verbs may be contextually reduced to doing verbs, or rather: interpreted as doings in a given context. Hence they no longer are an unambiguous test criterion, and the presence of intentional, purposeful agency must thus often be decided from other elements in the sentence or, for that matter, from other sentences in the discourse or from non-linguistic, pragmatic context. Thus, in sentence (11) for example the description 'repaired' may simply, in a given discourse, mean something like 'did something such that it worked again', where the doing itself may be unintentional (e.g. dropping the watch) or intentional but without the purpose of repairing the watch (just touching the right wheel by good luck). From such examples it should be concluded that the notion of an *action sentence* is not strictly decidable, at least not without, mostly rather unnatural, tests like the ones mentioned above. Decidability is much enhanced of course for *action discourse* because previous or following sentences may entail that the doing described in a given sentence was intentional or whether the causal consequences are identical with a possible purpose. This fact is particular relevant in the identification of *forbearances* which are actions although no doings are present and hence no (unnegated) doing sentence. In such cases it must become clear from previous situations whether in a given circumstance the action of the agent described (but which he forbears) is expected, regular, originally intended, obligatory, etc. Of course these types of *presupposition* for a sentence to be an action setence may also be satisfied by the pragmatic context, viz. by the set of knowledge /belief of the speech participants about each other's knowledge/beliefs, wants, wishes and intentions.

There are a large number of *grammatical* problems involved in a correct description of action sentences, but we will at the moment ignore them and try to provide some more abstract properties of action discourse.

3.3. Although, as we saw, the notion of an action sentence is fuzzy, a first 'definition' of *action discourse* as an *n*-tuple of action sentences may serve as a starting point. We will further assume that such an *n*-tuple is *finite* in practice, although there is no theoretical upper limit for the length of action discourses. Since this is also true for sentences, an action discourse may from certain points of view also be equivalent with an appropriately connected sentence. The specific grammatical

intricacies involved in such sentence-discourse relationships have been discussed in *text grammatical* research and cannot be dealt with here. [14] It will be assumed that *natural action discourse* satisfies the rules and constraints on well-formed texts. A text is intended to represent the abstract grammatical structure of a *discourse*, which is a notion of performance or language use, denoting an uttered text. Some of our remarks below, in fact, pertain to texts, but if there is no reason of disturbing ambiguity, the term 'discourse' will be used.

The most obvious ordering principle defining (action) discourse is its visual/auditory, *temporal linearity*: its sentences are produced (uttered) and perceived (read) one after the other, whereas its 'underlying' text satisfies syntactic or semantic orderings (e.g. precedence). This is a well-known, if not trivial, property of discourse/text, but it might have some implications for a specific characterization of action discourse. That is, action sequences, which are the obvious referents of action discourse (see below), are also ordered in time, which suggests an interesting *one-one mapping* between action discourse and action sequence, at least in what we call *normal ordering* of discourse (for details on this semantic notion, see van Dijk 1977).

An example of such a discourse would be a discourse like

(16) Peter went into the room. He took his raincoat off and threw it onto a chair. He took a book from the table, lit a cigarette and sat down to read.

In such a discourse, of course, a number of states, results and doings (e.g. walking to the table) have been omitted: every sentence or clause is an action description (under some normal interpretation: Peter is not sleepwalking, say). Grammatically the discourse is coherent if the pronouns are correctly interpreted as identical discourse referents, the past tense interpreted as one given time interval (before the moment of uttering), the presuppositions are satisfied (the raincoat must be off before being thrown, having a book in order to be able to read; the possible existence of a chair in a room-context, etc.). Semantically the relation with the represented course of action is (nearly) one-one: each action of the sequence corresponds with exactly one sentence (or rather proposition) manifested in the discourse (however: in this example we could still require as possible actions: *he took his cigarettes from the table, his lighter from his pocket, selected a cigarette and lit it*, or something of the sort). Now, take the first sentence and put it at the end of the discourse (adjusting the name-pronoun expressions). The discourse at once becomes ill-formed, because semantically it no longer corresponds to a possible course of events (in a

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[14] See e.g. van Dijk 1972; 1973b; 1977; Petöfi and Rieser 1973; Halliday and Hasan 1976; and Dressler 1977 for general and theoretical accounts and further reference; and van Dijk and Petöfi 1976 for a descriptive account. See especially van Dijk 1977 for differences between composite sentences and sequences of sentences.

strict one-one reading): we cannot go into a room, normally, in a sitting and reading position. Since there is no (normal) possible world in which such a course of action could occur, the ('transformed') version is *ill-formed* (and not contingently false because there are no alternative situations in which it could be true).

Note that (16) is an action description only under a certain number of assumptions: Peter is a person, animals do not wear raincoats, smoke cigarettes and read books, etc. Otherwise it would be a doing description. Nevertheless some of the expressed actions may be fully automatic and executed without explicit awareness, whereas other actions, e.g. taking a book, cannot be automatized (in most circumstances) because of the fulfillment of a reasonable purpose expressed in the discourse (read the book).

Characteristically, (16) is what we may call a *behaviour description* because its sentences all refer to observable doings (interpreted as actions). Many natural action discourses, however, do not have that property. Let us consider e.g. the following discourse:

(17) Peter decided to go into the room. He felt hot and took off his coat. Because he did not know where to hang it, he threw it onto a chair. He took the book which pleased him from the table. He urged for a cigarette and lit one, then sat down to read. He felt at ease and the book fascinated him.

Although still rather artificial (disregarding awkward 'style') this example is already rather close to the type of action discourse which we usually call narrative. It contains the same action propositions as in (16) but further expresses a certain number of propositions signifying mental states and events, and states of feeling, in some sentences related (with causal connectives) with the doing propositions. At first sight, then, the discourse is no longer a 'pure' action description in the sense of having exclusively sentences expressing observable doings. Nevertheless, the descriptions of the internal states in all sentences are directly relevant to the doings, and in fact represent conditions for purposes of such doings. That is, they refer to the internal part of actions, viz. they provide the *reasons* for performing the actions reported. Hence (17) is a more genuine action description than (16), and cannot possibly be a report of mere doings.

A specific property of (17) is the fact that it is a third person description, which is inconsistent with a full action description including mental descriptions. In order to assign a consistent interpretation to such a discourse we either must assume that the observe r-describer has further information (from the observed agent) about the mental states of affairs, or that the agent gives a self-description in the third person, which is a common pragmatic feature of literary narrative.

Both (16) and (17) are relatively *complete action descriptions*, i.e. they describe each action of the action sequence. Such complete descriptions, however, are usually given only in accurate psychological or criminal reports of action behaviour (ex-

ample (16)) or in certain forms of literary narrative ((17)). In everyday action reports we would possibly only have the following discourse:

(18) Peter came in, took a book and sat down reading, without saying a word.

Observe that a number of *irrelevant* action sentences have been omitted here, e.g. the fact that the took off his coat and lighted a cigarette. The first is *situationally evident* ('people usually take off their coats when being in a room and when reading'), whereas lighting a cigarette is not relevant for the characterization of the 'main action', viz. sitting down to read without saying a word (to the observer-describer). Finally, there is also mention of forbearing action, implying that the observer -describer has some assumptions about normal, regular, co-operative, conventional behaviour of the agent. At this point, it becomes obvious that 'artificial' action description (in a natural or formal language) is not very close to those action descriptions of everyday discourse in which we tell each other 'what happened'.

Whereas the 'cuttings' in discourse (18) have been made with respect to a relevance criterion, yet to be made explicit, we may have discourses with the converse property, i.e. containing sentences with description of relatively *superfluous* parts of the action situation. Take the following example:

(19) It was five o'clock in the afternoon, but still very hot. As I came in the room with the refreshing air conditioning, I felt as if diving into a cool swimming pool. I took my sticky shirt off and layed down onto the large bed.

Only a small part of this action discourse actually has action sentences, whereas the other parts consist of feeling- and mental descriptions on the one hand, and time, atmosphere or circumstance description on the other hand. The fact that it seems reasonable to consider such a discourse to be still an action discourse, and not a state description, may be explained by the *indirect* relevance of state descriptions as possible conditions for inducing feelings, preferences and their possible mental consequences like intentions and purposes of action. In this example the circumstance of heat and its uncomfortable feelings as consequences become sufficient reason for the agent to take off his shirt and to explain its stickiness. The 'explanatory' character of action description, observed above, is clearly manifested in this example. The criterion, of course, is that there is at least one action description for which the other descriptions are *preparatory conditions*.

This constraint does not seem to be satisfied in the following example:

(20)   "In the afternoon she took a little bag, with shears and sponge and a little scrubbing brush, and went out. It was a grey, wintry day, with saddened, darkgreen fields in an atmosphere blackened by the smoke of foundries

not far off. She went quickly, darkly along the causeway, heeding nobody, through the town to the churchyard." (Lawrence 1972: 157)

From this (literary) example it becomes clear that there are action discourses with circumstance descriptions which cannot immediately be construed as possible conditions for specified feelings and mental states determining following actions. Instead of merely describing the full course of action, including possible causes or reasons, part of the *action world* is described in order to give the action description itself a 'setting'. The precise function of such setting descriptions requires further examination (see below).

Next, there is a class of action discourses which should perhaps, following the conditions on actions set out earlier, rather be classified as *state descriptions*. Such discourses describe inner states, events and mental acts. Characteristic examples can be found, again, in 'psychologizing' literature reporting 'streams of consciousness':

(21)   "Perhaps it was in the middle of January in the present year that I looked up and saw the mark on the wall. In order to fix a date it is necessary to remember what one saw. So now I think of the fire; the steady film of yellow light upon the page of my book; the three chrysantemums in the round glassbowl on the mantlepiece. Yes, it must have been winter time, and we had just finished our tea, for I remember that I was smoking a cigarette when I looked up and saw the mark on the wall for the first time." (Woolf 1972: 142)

With the possible exception of the 'finishing tea' action the whole discourse is about circumstances, objects and a series of mental events. Although the notion of a mental act or action is not very clear, it cannot be denied that in this fragment remembering and thinking are described as intentional acts. Moreover, descriptions of mental states, as we saw above, are often used as specifications of determining conditions for the formation of intentions and purposes for (overt) action, or as necessary conditions for identifying non-doings as forbearing actions.

We may distinguish a class of discourses which should be termed *event descriptions* in the wider sense, because they do not contain (overt or mental) action descriptions. However, there are events in which persons are involved (consciously), e.g. as patients, and which may cause specific mental events, which in turn may become sufficient conditions for action. The main reason to consider such discourses as action descriptions is their possible occurrence as *(semi-)narratives*, under some further pragmatic conditions: we may narrate not only what we did but also what happened to us. An example of such personal event descriptions is e.g.:

(22) Last night, on my way to Rotterdam, a cow suddenly crossed the freeway. The driver before me noticed her too late, and died in the crash.

Finally, there are discourses containing action descriptions which are satisfied under different semantic conditions. Such discourses typically specify action sequences occurring in *non-actual*, or non-actualized *possible worlds*, e.g. future situations, dream worlds, counterfactual worlds, etc., where the whole discourse pertains to the wishes, intentions or imagination of a given person. It is not clear whether this class belongs to the class of mental act descriptions, since 'imagining' need not be intentional. An example:

(23) "She would go to the London Library tomorrow." (Woolf, 1974: 62)

Similarly for the description of *alternative courses of action*:

(24) He should have written her a letter. He was sure that she would have forgiven him his stupid remark of that morning.

From the literary examples it may be concluded that some action discourses are to be interpreted wholly in such alternative worlds, which makes them only different at the semantical level from 'real action' discourses.

3.4. Our observations made above are not yet very explicit. Let us resume, therefore, the classes of action discourse distinguished, and try to provide a more exact and systematic characterization of them.

I. *ACTION (DOING) description*
All sentences/propositions refer to the doings of a course of action.

II. *ACTION (INTENTION/PURPOSE/DOING) description*
All sentences/propositions refer to the intentions, purposed (and reasons) and to the doings for which they are action conditions.

III. ACTION(MENTAL STATE/EVENT, EMOTION) description
All sentences/propositions refer to emotions or mental states/events relevant for intentions or purposes of actions in some possible situation.

IV. *ACTION (CIRCUMSTANCE)description*
All sentences/propositions refer to action (as in I, II, III) and to properties of states and events of the possible world in which the course of action takes place.

From these classes we see that action discourses range from a strict action/doing description (behavioural description) to a full specification of conditions, including mental conditions, consequences, and local, temporal, etc. circumstances of a course of action.

At the same time there are various modes for these types of action discourse, regarding the relevance, the completeness of the description:

A. *COMPLETE DESCRIPTION*
A description is complete if all states, events and actions of a course of event each correspond to at least one proposition of the discourse.

B. *RELE VANT DESCRIPTION*
A description is relevant if all sentences /propositions refer to states/events/ actions that are each a necessary and/or a sufficient condition for at least one of the other states/events/actions.

These modes, it should be said, are *ideal limits*: no natural discourse is usually fully complete and relevant, so it seems necessary to distinguish *degrees* of relevance and completeness of each discourse. In practice the two notions are not always well applicable. Thus, we know that a discourse is complete only if we know the exact properties of the course of events/actions. Similarly, a notion like relevance has a *relative* character; what is relevant for one observer -describer may not be so from the point of view of the other. This is certainly true for the description of mental states and emotions, because these do not properly *cause* actions, like actions may cause events, nor are they always necessary conditions for a given action.

Assuming different *levels* of action description, we call an action description *over-complete* (at some level) if it contains descriptions of more 'lower level' detailed actions. A description which only contains propositions referring to those actions which are immediately relevant for the succesfulness of the whole course of action may be called *strictly relevant*. Since not all normal courses of action are strictly effective most strictly relevant descriptions will be incomplete. That is, the observe r-describer makes an appropriate selection of the actions to be 'covered' by the discourse. This selection was seen to be based on relations of *entailment* and *presupposition*: 'presupposed' actions are necessary conditions, which need not be specified; the same holds for 'entailed' consequences of a given action sentence.

The modes A and B apply to all four classes of action description. Thus IV-A would be a *full world description relative to a course of action*, which of course can not be given. Our everyday action discourses ('stories') are usually of type II-B.

The distictions made here are merely a first step in making conceptual distinctions and empirical observations more exact. Full explicitness can be reached only in a formal treatment of action structures and discourse structures, related by an appropriate formal semantics.

3.5. The types of action discourse distinguished above can further be characterized in a *quantitative* way. That is, we may calculate the respective ratios of action sentences with respect to the total number of sentences or with respect to the number of its mental conditions or its circumstance sentences.

Discourses of type I will have maximal degree of action/doing, viz. 1, whereas discourses of type 1V will approach value 0. In the same way we may calculate the *density* of an action discourse by examining the distribution of action sentences and their linear distances. Other such properties might be defined but their theoretical relevance is not yet fully clear, so that we will stick to abstract, qualitative aspects of action description.

4. THE STRUCTURE AND FUNCTION OF NARRATIVE

4.1. There are a certain number of reasons to assume that every narrative discourse is an action discourse but that the converse does not hold. Apparently, we must formulate some further constraints in order to be able to account for the empirical notion of a narrative discourse.

In our introductory remarks it has briefly been pointed out that the set of narrative discourses of a natural language has a fuzzy character. Although we now are in a position to identify an action discourse, it is not obvious a priori that natural language users have the ability to unambiguously identify each possible narrative. Nevertheless, it is doubtless that they are able to identify, implicitly or explicitly, at least some of them. The formulation of the specific constraints on action discourses which make them narratives is intended to be an explanation of this ability.

4.2. The intuitive notion of a 'narrative' is meant to refer, here, to the set of linguistic products (discourses) of the conventional speech act of 'telling', 'narrating', performed both in normal, everyday conversation and in specific (exclusive) contexts of narration. Most work on narrative pertains to discourses of the latter type, but it is clear that serious understanding of such more specific, and often more complex narratives can be gained only on the basis of our knowledge of the structure and function of narrative in normal, everyday communicative interaction. We will call the latter type *natural narratives*, the former type *artificial narratives*.

Roughly, 'a natural narrative is produced in natural conversation with the intention to inform a hearer about my (past) actions and interactions, or about the (inter-)actions of others, or about the actions/events in which I was involved as a patient, observer, etc. The *pragmatic* condition is thus, at least in many cases, that speaker and agent or patient or observer coincide. The more general pragmatic conditions are those of an assertion:

  (i)   S knows that p
  (ii)   S believes that H does not know that p
  (iii)   S wants H to know that p
  (iv)   S believes that H wants to know p (or weaker:
          S believes that H does not want not to know that p)
  (v)   S wants that H knows that S knows that p

These conditions, however, as we will see, do not necessarily hold for artificial narratives.

Since natural narratives occur in natural conversation they must satisfy the general principles determining effective and cooperative conversation, [15] e.g. as follows:

(A)   S assumes that NN is *true*:

(B)   S assumes that NN is *relevant*, or rather that his (narrative) speech act is relevant in the (speech) interaction sequence;

(C)   NN is *complete relative* to the knowledge of *H* i.e. contains all the propositions which *H* does not know about the (described) course of action;

(D)   NN is *strictly relevant* (in the sense defined in the previous section), i.e. only contains descriptions of those actions, mental states/intentions/purposes, which are directly relevant in the course of action. described.

Deviation from these principles determining the effectiveness of natural conversation (ideally of course) is permitted only under specific further conditions. In the perspective of the theory of interaction in general and of speech interaction in particular, these principles guarantee that (a) the hearer gets to know the information conveyed by NN as quickly as possible; (b) the hearer obtains correct (true) information about a part of the possible world in which S and H interact; (c) the hearer can directly interpret NN (see the effectiveness principle (C)) without being obliged to ask further questions. These last two consequences are a necessary condition for the successfulness of *H*'s own possible actions, of which intentions/purposed may rely on the information given in NN.

The principles mentioned above are not yet fully explicit, although some have been made somewhat more precise in our discussion of the structure of action discourse in general.

Ad (A): 'truth of a discourse' is a concept which requires a serious semantics. Clearly, it depends on the well-known logical notion of sentence truth, but a discourse does not seem to be true if and only if all its sentences are true (in some possible world). A discourse is linearly ordered and uttering it changes the context, including the set of presuppositions, permanently. Every sentence, thus, must be true in the model structures 'constructed' by the set of previous sentences. Hence, as a set, a discourse may be inconsistent by having contradictory sentences, although these sentences may be true in an ordered set of model structures (e.g. changing with time). Moreover, truth is intended, here, as a *pragmatic* concept: it is assumed

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[15] See Grice 1967.

(believed) truth of a discourse, for which a number of pragmatic truth criteria suffice: reliability of perception/observation, correctness of interpretation/inference, credibility of information.

Ad (B): the relevance criterion is rather complex. First of all it pertains to the *connectedness* of NN with the assumptions of both *S* and *H* about both the speech context ('what *S* and *H* were talking about') and the interaction context ('what *S* and H were/are doing'). Secondly, the speech act of 'telling' itself (and its various felicity conditions) must be relevant for other speech acts and interaction. It is exactly at this point where the *specific function* of narratives comes into play, which needs further treatment below.

Ad (C and D): these properties of the discourse have been discussed already. Notice only that the conditions are a constraint on the more general class of action discourses, and thus provide a first criterion for isolating (natural) narratives from that class.

4.3. A further explication of the crucial principle of communicative relevance carries us beyond the more general and abstract pragmatic conditions, as those specified for assertive contexts above, perhaps way into (social) psychology. Indeed: *why* do in fact people tell about their personal events? A serious answer to such a still rather unprecise question should be given in the framework of interaction theory sketched earlier, where questions pertaining to the 'why' of actions in general have been discussed.

Narrating, clearly, is a (communicative) action and therefore must satisfy a certain number of *purpose conditions*, in which the *reasons* of such an action are specified in terms of underlying wants with respect to aims to be attained through successful accomplishment of the narration speech act. One of these wants has already been specified: the 'teller' wants his hearer to change his knowledge set as a function of the information (propositions) contained in the narrative and their consequences (obtained by inference by the hearer). This, however, is merely a *direct* consequence of the speech act, but it is likely that the teller has other consequences 'in mind' although he may not be aware of them.

The conscious (indirect) purposes of narrative action may e.g. be the following:

(i) *S* assumes that *H* will engage in a course of action *A* in a situation *wi* and wants *A* to be successful; knowing that *A* is similar to his own past course of events *B* in a similar situation *wj*, he wants *H* to form the most appropriate assumptions, intentions and purposes with respect to *A*, so that the chance that *A* will be successful is optimal;

(ii) *S* wants *H* to engage in an action *A* (assuming *H* will not do *A* without *S*'s speech act) and assumes that *H's* knowledge of the successfulness of *S*'s action *B*, which is similar to *A*, is a sufficient reason for *H* to do *A*. Or con-

versely: *S* does not want *H* to do *B*, by informing him that *A* was not successful.

(iii) *S* wants *H* to know that *S* will act like *B* in future.

The interactional functions of such purposes are obvious: *S* gives (implicit) advice or help by thus specifying the necessary conditions for *H's* future courses of action (i.e. both in the 'doing' and the 'forbearing' mode), or prepares *H* (to re-act adequately) for this own (*S's*) future actions. In other words: the narrative plays the role of a sort of *model of experience* with respect to which future (inter-)action and its chance of success may adequately be planned and evaluated. This function of narrative may be called *practical*.

Another set of functions of narration has rather an 'emotional' character and pertains to the *evaluation* by *H* of *S* and *S's* speech act of narration itself:

(i) *S* assumes that his action *A* has been *morally positive*, and wants that *H* by knowing that *S* performed such an action *A*, changes his evaluation set with respect to *S* ('*S* is a good person');

(ii) The course of action, *A*, accomplished and reported by *S*, is somehow remarkable, and *S* assumes that *H* will think (evaluate) *S* to be remarkable, which would please *S* (see below for further discussion of the 'remarkable' predicate);

(iii) (a variant of (ii)) The course of action, *A*, reported by *S*, though not necessarily featuring *S* as an agent, but perhaps only as an observer, is somehow *remarkable* for itself, and *S* assumes that *H* will be pleased knowing *S*;

(iv) The narrative NN itself, although perhaps not reporting a remarkable course of events, is somehow remarkable, whereby *S* assumes that *H* will change his evaluation set about *S's* narrative abilities.

Resuming in a few words: the speaker hopes that the hearer will like him, his actions and/or his narrative. Here the desire of *S* that *H* will like him may have further psychological and social functions (*S* wants to establish or to confirm a specific social relationship with *H* etc.), which we need not speculate about at the moment.

In the four emotional functions enumerated above, we have used the rather vague expression remarkable, about which some more must be said, because it seems to be one of the crucial properties of storytelling in general, both natural and artificial.

The notion of remark able ness is closely related with a notion like *interest*: trivially we will usually only tell somebody a story when we expect to arise his interest by an interesting story. As we saw, this interest-feature may be identified at different levels: the course of action itself is interesting or the role played by the

agent-teller in it, or the way the narrative is told. The course of action may be interesting for several reasons: (i) the actions performed are *difficult*; (ii) the initial situation is a *predicament*, i.e. the possible agent has no obvious choice to take between his possible actions aiming at solving the predicament; (iii) there is a course of events or actions which initially seem normal, but then there are *unexpected* events, which force the agent to change his current purposes, or which are a predicament for him (see (ii)); (iv) there is a normal course of action/events but followed by *unforeseen* consequences; (v) a normal course of action/events relates the agent or the observer with *unusual* objects or persons, i.e. objects with specific properties. Other, similar, characterizations of interesting courses of action may be given, but the predicates used ('unexpected', 'unforeseen', 'unusual', etc.) already indicate that the condition is based on the *beliefs* of both speaker and hearer (as asssumed by the speaker) with respect to the *normality* of states of affairs (objects, properties) or courses of events. Of course, this notion is subjective and contextually (socially, culturally) determined. The simplest (formal) definition of a *normal course of events/actions*, is a course of action/events of *which most alternatives* are *identical* or *similar*. In other terms, in most possible worlds, seen from the perspective of the (beliefs of the) teller, compatible with the laws, regularities and properties of the actual world, the courses of actions/events taking place are considered to be normal. Most agents know approximately which laws, rules, norms and other regular constraints determine their courses of action, given an initial situation. If, then, the course of actions/events *actually* taking place does not correspond to those occurring in most alternative situations, it acquires the properties mentioned above, which are sufficient reasons to report them. In information theoretical terms, we would say that a narrative must be *particularly informative*, i.e. have a high value of subjective unexpectedness (entropy). This, of course, is a well-known condition for effective communication in general, but we saw that narratives do not merely have practical functions as indirect assertions, advices, warnings, and so on, but also emotional functions like the desire to capture the specific attention, interest and (positive) evaluation of the interlocutor.

There are still other pragmatic, psychological and social constraints. One of them is that we are not free to tell any story to anybody in any situation, as is the case for any speech act, but most narratives may be told only to those hearers which we know rather well and of which we like to receive (and are likely to receive) interest and positive evaluation, or of which we do want to influence positively the future courses of action or interaction (co-operation).

4.4. The pragmatic and semantic conditions, principles and constraints informally discussed above determine also the *structure of the narrative*. [16] That is, the hearer

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[16] In the following sections we will be using conclusions from empirical work in structural analysis (see e.g. Bremond 1973) and above all from the empirical work by Labov and Waletzky (1973).

must be able to interpret a given discourse as narrative and infer the communicative f unction from the structure of both discourse and pragmatic context.

A first set of structural properties of natural narratives are the *introductory formulae*, functioning as meta-linguistic indices, announcing that the next speech act will be a narrative. Characteristic examples are:

(25)   - Hey, do you know what happened to me today?!
        - Guess what happened today!
        - Now, listen, I'll tell you something!
        - You should hear my story!
        - Believe me or not, but...
        - Did you hear what *X* said/did?
        - (boasting, reply to a narrative) Oh, that's nothing. L..

The discourse following must satisfy the conditions specified above. The following action descriptions will, in normal circumstances fail to satisfy them and hence not qualify as possible narratives:

(26) Today the boss came to me in the office and said that he liked the weather. My secretary typed my letters and at eleven I took some coffee (...)

Such discourses are products of a felicitous speech act only when the speaker is requested to supply a precise description of his actions and doings, e.g. for a police report. Consider also:

(27) The secretary general today had a conversation with our prime minister. It was decided that our government would not neglect her international commitments...

The events/actions reported here certainly are 'news' and hence have a relatively high information value. Nevertheless, in the context or situation of international political interaction such a course of events is not particular. Moreover, the course of action does not directly relate to the actions or history of the speaker, nor will it be likely that the hearer will change his future actions, nor does the speaker assume that the hearer is very much interested in hearing the discourses (beyond a mere change in his knowledge or opinion set), nor will he like the discourse as such. Such discourses are pure news items, having the function of assertions.

The truth (or verisimilitude) condition is violated by the following discourse, which seems a sufficient condition of failure for the speech act of natural narrative:

(28)   This morning I took a plane to Mars, where I met my old fried Aristoteles. We proved Pythagoras' theorem with the help of some local bacteriae, but

then suddenly Kissinger came along and killed Aristoteles with an expert karate blow on his left toe (...)

One of the emotional principles of narrative acts, viz. moral self-assessment, does not seem to be followed in the following discourse:

(29) This morning the road was very slippery. An old woman slipped and fell before my car. I was in a hurry and drove on in full speed. She would have died soon anyway. I was in time at my office.

More particularly, a narrative must satisfy the epistemic presuppositions of the speech context. Hence it must be specified where and when the narrated action took place, who were the (other) agents, etc. This condition, of course, holds for all discourses, but in narratives such introductory specifications are necessary in most cases, because the narrative does not usually follow the relevance principle, requiring the discourse to be directly connected with time, place, objects, persons referred to in the ongoing conversation. Structurally, then, a narrative will usually begin with an *exposition*. This condition is not satisfied by the following discourse:

(30) The man told me he would kill me if I did not give him the money. But then suddenly the girl appeared behind him and slugged him over the head with her handbag (...)

Neither 'the man', 'the girl', nor the preceding events have been mentioned, which makes (30) unappropriate both as a discourse – violation of text constraints – and as a narrative in case these presuppositions are not satisfied by the epistemic structure of the hearer. We will see below that, under specific conditions, e.g. for artificial narrative, beginning 'in medias res' is possible.

An exposition in natural narratives must not only be relatively complete but also strictly relevant. The following exposition does seem to violate this principle:

(31) Last night the bank round the corner was robbed. A man wearing sunglasses, shabbily dressed in blue jeans, a yellow shirt with holes in the back and a small red bird figure stitched on each shoulder arrived in an old Ford Mustang, year 1965, with bad tyres (...)

Such a discourse would rather be a police report than a natural narrative in which we tell our friends what happened. The details of the introduced agent do not seem to be directly relevant for an account of the 'main action': the robbery. It does not seem easy to draw a line between information which is relevant for the main action, and which is not. That a relevance criterion is operating, however, may be concluded also from the fact that natural conversation has conventional means for cor-

recting such 'deviations', e.g. by such expressions as "Come to the point", "*Be brief*!", etc. Formally, it is not difficult to establish a relevance criterion: only those individuals and properties which are conditions of further action sentences are relevant.

There is another characteristic feature in a discourse like (31). Strictly speaking, it does not begin with the exposition, viz. with the introduction of the 'dramatic personae' but with a sort of *abstract* resuming the narrative. [17] A systematic use of such a feature is made in newspaper reports, where a title and often a brief 'survey' (printed in bold type) of the narrative report is given. The function of such discourse segments should perhaps be accounted for in terms of the *preparatory* or introductory part of the narrative discussed above. More in particular such preparatory segments are intended to arise the interest of the hearer/reader for the course of events and hence for the narrative about them. After such a preparatory the hearer may insert a reply expressing disbelief or desire to hear details. Such preparatory abstracts must of course refer to the main action, event or crucial point of the 'history' reported. CF. e.g. the following news-paper discourse (translated from a Dutch paper):

(32)   MOTHER KILLS 2 YEAR OLD CHILD
D. A 31-year-old woman in D. early wednesday morning killed her two year old son. After her deed she went to a neighbour who called the police.
The woman killed her youngest child (a girl of four remained unhurt) after her husband had left for work. Between man and wife there were serious problems concerning the assignment of the children after their planned divorce. According to the police the woman also had intended to kill the other child and herself. She has been put under psychiatric care.

The title refers to the crucial action of the course of events. The bold type abstract is the shortest report of the doings/events and seems to be of the exclusive behaviour type of narrative (Type I), whereas the rest of the discourse gives also details about initial circumstance, determining motivation 'on' which the intention and

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[17] Abstracts or summaries also have an important cognitive function. If we assume that they express the *macro-structure* of a discourse, reading and comprehension of the discourse will be enhanced by a preceding summary. Similarly, an added summary will confirm or change the assumed macro-structure as assigned by the reader, and thus constitute a conditions for better storage and recall of the discourse. For extensive theoretical discussion and experimental work on these assumptions, see van Dijk 1975a; Kintsch and van Dijk 1975; and van Dijk and Kintsch 1977. For further reference on this research about cognitive processing of discourse, see Meyer 1975 and Thorndyke 1975 among many other publications in this area. In this paper, written before this research was known, important insights from the research on cognitive properties of discourse and narrative is ignored.

execution of the action can be formed. It follows that *structurally*, introductories and preparations do not belong to the *narrative* itself but should be considered as implicit or explicit devices of a *narrative* speech act to elicit the hearers attention for the narrative proper. Such a device is parallel to such explicit self-referential expressions as *I now will give you a good advice* (...), which are not properly part of the advice but belong to the *communicative anticipation* part of the speech act as a whole, in which the expression of a given discourse is previously identified as intended to count as a specific speech act (advice, narrative). A more general parallel exists in action sequences themselves, where an agent may *announce* that he will do such and such, and thereby gives direct expression of his intentions, which for the hearer (possible co-agent) means an unambiguous identification of a given (future) doing as a certain action (a knowledge which in turn can be relevant for effective reaction).

Let us resume, then, the possible content of an *exposition, i.e. the description of the initial state/circumstance of a reported course of actions/events*:

(i)   introduction of *time* point or interval in which course of action takes place
(ii)   introduction of *place* (country, town, street, house) where the action occurs
(iii)   introduction of further *physical circumstances* (e.g. rain, heat, etc.)
(iv)   introduction of *social circumstances* (under this government, during the elections, etc.)
(v)   introduction of *agents,* co-agents, patients and their specific relevant properties (age, sex, etc.)
(vi)   introduction of relevant instruments, objects, etc. necessary for the action
(vii)   introduction of *ongoing events and activities* (see iv) of the agents
(viii) introduction of the relevant *emotional and mental states* of the agents, viz. their motivation, feelings, intentions and purposes

This list of exposition elements is *ordered*: (i) and (ii) precede the other elements, (v) precedes (viii); other elements and their ordering, within these limits, are *optional*. In drama metaphor we could call (i), (ii) and (iii) the *scene*, (iv) and (vii) the *background* and (v) *the dramatis personae*, whereas (viii) provides the *grounds* of the course of action (the *play*). Such distinctions are well-known from classical poetics and traditional theory of the novel, but we are now in a position to give a precise action theoretical description of structure and function of such elements.

4.5. Given the initial state description (the exposition) the next part of the narrative must provide a first event/action/doing description. We have stipulated that for an action discourse to be a narrative, such events must somehow be specific, viz. unexpected, unusual, difficult, etc. This property is relative, viz. with respect to the initial state. Following extant suggestions we may call such a part of the narrative

its complication description, or more briefly its *complication*. A complication, thus, is the description of an unexpected and unexpectable event, changing the initial state. More in particular it describes an interruption of ongoing events/activities or a sudden change in the physical circumstances, followed by a corresponding change in the emotional and mental state or activities of the agents.

There are a number of natural language devices signalling the specific character of :his change, e.g. adverbs like *suddenly, unexpectedly, but then, at a given moment*, etc. Their semantics therefore should be given in terms of the structure of actions/ events and the structure of knowledge /belief given earlier.

The question now arises which sort of actions/events can possibly be described as operating the specific complicating in a 'sudden way'. The problem is, however, that adverbs like *suddenly* seem inherently pragmatic or contextual: any event or even state can be unexpected, given the appropriate circumstances. Nevertheless ate states, events or actions require extensive previous planning, which exclude a normal use of *suddenly*. The following sentences therefore somehow seem queer:

(33)   Suddenly Nixon was impeached
(34)   Suddenly he wrote a book
(35)   Suddenly she loved him
(36)   Suddenly Peter ate a steak

Hence actions or events which require elaborate preparation or which themselves are complex and take a certain time cannot properly be said to occur suddenly. Especially *momentary* events and actions, like exploding, falling, hitting, beginning, stopping, etc. can usually be said to occur suddenly. Yet, with respect to given initial circumstances (asssumptions) even processes and complex events may be unexpected (cf. (33)), which allows them to be described in the complication of a narrative.

Besides sentential adverbs like *suddenly* a certain number of natural languages have grammatical means for expressing the fact that an event or an action changes an ongoing activity, course of events or state, e.g. verb aspects like the *passé défini* in French and the perfective in Russian, which have been treated both in traditional narrative theory [18] and in modern applications of tense logic. [19]

Apparently, the constraints to be formulated on possible complications for a narrative must be stricter; the simple fact that an event is sudden or unexpected is perhaps a necessary but not a sufficient requirement. Take e.g. the following action descriptions:

(37)   Suddenly Peter let himself fall into his chair

[18] See Bronzwaer 1970 also for further references.
[19] See Hoepelman 1974.

(38)   At a given moment Mary coloured her finger nails
(39)   But then John lighted his pipe

Although we could perhaps imagine narratives where such actions could be crucial and hence complicate an ongoing course of events, they somehow are not *spectacular* enough to have such a complication function in most narratives. In other words, such events/actions in most possible situations would be perfectly normal parts of a course of events, which is not the case in the following cases:

(40)   Suddenly a man with a gun ran towards the president
(41)   Suddenly a bomb exploded in the peaceful village
(42)   All at once a torrential rain began pouring on us
(43)   At a given moment I heard a loud crash

Hence a complicating event must not only be unexpected but also unnormal with respect to usual courses of events. From the examples given another feature may be distinguished: the complicating events have or may have serious *negative consequences* for the agent, for the events /activities going on (assumed to be neutral or positive) or for the social background. In particular, these consequences may interrupt an intended action of the agent and lead to a state of affairs *contradictory to the purposes* set by an agent, group or social system. Negative consequences of events may further be specified as follows: an object is destroyed or transformed which the agent or a group desires to keep (because it is valuable, important in further interaction, etc.) (cf. (40)). Similarly, an object may be created which is not desired (e.g. because it is an obstacle for further action). A consequence of a complicating action is negative also when an intended course of action becomes longer, more difficult or 'riskier', i.e. when more of its possible alternatives lead to failure.

It is not sure whether narratives are limited to such 'negative' complications. We may imagine stories with *positive complications*, i.e. reporting a change which is beneficiary for the agent or patient. In that case, however, the initial situation must at most be neutral, but rather *negative*, with the further constraint that in most courses of events this situation would have continued. A *lucky* action or event is worth telling under such conditions. We will see below that such happy developments are characteristic in many stories when first preceded by an unhappy event.

4.6. What next? This type of question would arise in a situation where a teller would stop his narrative after its complication. Similarly, at the theoretical level we are obliged to answer the question by specifying properties of narrative segments typically following the complication. Yet, the answer is not so easy, and it may well be that the following constraints are not so general, if not universal, as those formulated above. In fact, they seem optional in many respects. In object level terms: there are many ways out of the complication, some very simple, others very com-

plex, eventually leading to further complications. Of course, the general constraint m List be that the further developments are 'worth' narrating.

Thus, let there be given a situation in which an agent meets unexpected events. Basically, as we saw, the *negative result* of such complicating events is inconsistent with the wishes, desires or wants of the agents, or, more particularly, with the purposes for this ongoing actions. In other words, complications are *interfering* with a course of action.

Now, the first possible consequence is the following:

(i)   the agent forebears a (re-)action against this complication, because
        - he knows/believes that his action would fail to eliminate the negative situation, or would aggravate it;
        - he knows/assumes that the negative situation is temporary and will pass soon anyway, which would make his action redundant;
        or: the agent lets the negative event, and its possible negative consequences,
        happen, because
        - he knows/believes that they cannot be prevented.

The consequences of this action of forbearing or letting are themselves negative or positive. They are negative when they conflict with the consequences of the initial activity or course of events originally intended. They are neutral when they are identical with the original purpose: i.e. the complication was only temporarily disturbing the intended course of events/actions. They are positive when they complicate an originally intended plan, but have (unforeseen, unexpected) consequences which are better than, or preferred above, the initially consequences aimed at.

Similar results can be formulated in the case where the agent reacts by accomplishing a (re-)action:

(ii)   the agent accomplishes an action A, because
        - he assumes that A will prevent that the undesired state/course of events will continue;
        - he assumes that the negative consequences of the undesired events may thus be avoided.

In that case the results of the preventing action may again be positive: agent succeeds, or negative: agent fails in eliminating the undesired state/event. In case he succeeds, he has *solved* his predicament. This is why the segment of a narrative reporting this part of the course of events, has been called the resolution description, or the *resolution*.

A characteristic property of resolutions is that the action, or sequence of actions, they refer to are not trivial, easy, usual, or expected. They somehow draw upon the spectacularity of the complication. In other terms: in most other courses

of action the resolving action would not have been taken, e.g. because it would have been impossible (caused by lack of ability, insight, the presence of obstacles, etc.), and thus have led to failure. At this point the expected (moral or other) *appraisal* by the hearer with respect to the reported action finds its reasons. Of course, such an appraisal is possible only when the agent-teller intentionally brought about his resolving action, and did not merely succeed by good luck to solve his predicament, although the latter type of resolution may also be narratively relevant.

Let us now give some concrete examples of narratives featuring such resolutions of different type:

(44) Yesterday morning during the coffee break at the bank suddenly one of the clients opened his briefcase, took a gun from it, and shouted at us to put our hands up. Pointing his gun at me he required to hand him the money on my desk. Terrified by the gun, I knew I couldn't refuse and gave him the money, upon which he disappeared.

(45) (...idem) The yound guy, however, was so scared himself that we could see that he wouldn't dare to shoot. We didn't move and the guy ran away.

(46) (...idem) I took the money from my desk, but while he took it, I threw my hot coffee in his face and grabbed his gun. With his hands before his face he stumbled out of the bank and disappeared.

(47) (...idem) As I gave him the money, I stumbled and dropped the cup with hot coffee on his hand, so that he dropped his gun on the counter. I grabbed the gun, and the guy ran away.

In the first case there is merely a *negative resolution*: the undesired event continues. In the second case the complication is resolved independently of the (co-)agents' doings, viz. by their 'brave' forbearing (refusing). In (47) the resolution is positive but only by good luck, whereas in (46) the resolution is due to 'brave' intentional action of the agent-teller. Of course other varieties exist: there may be other events (actions) preventing the complicating events, or the event which at first seems complicating, in fact turns out to be quite normal, usual and consistent with the initial state of affairs, including the agent's intentions and purposes.

4.7. The narratives in (44) through (47) seem pretty complete and we may conclude that we thus have the necessary basic components of a narrative. Taking the three main categories involved, we could define a narrative simply as follows:

(48) N =def (Exp, Compl, Res)

where the final state of the (positive) resolution may be identical with the initial state.

Of course narratives, as we will see below, may be much more complicated, but

any narrative must at least satisfy this triple of basic categories. [20]

The three basic categories introduced are of a rather specific sort, and do not seem to have either a logical or a linguistic nature. Each category dominates ordered sets of state descriptions, event descriptions and action descriptions, viz. sets of propositions. These in turn must satisfy a number of specific properties (e.g. have unusual/unexpected/difficult events and actions as their referents). The categories somehow are constraints on proposition sets, not on isolated propositions. We will therefore call them *macro-categories*. Such macro-categories operate on the *macro-structure* of the narrative. In other terms: a narrative is a complex specific constraint on the macro-structure of an action discourse. It should be stressed, however, that these kinds of macro-categories are not linguistic, but constructs of an independent *narrative theory*, whereas the macro-structures onto which the narrative structures are mapped are semantic. In other words, we should distinguish between a *narrative structure* as defined briefly in (48) on the one hand and the *narrative discourse* or *story* expressing this narrative structure – via constraints on its semantic macro-structure – in natural language. Thus, a narrative category assigns a specific *function* to a macro-proposition subsuming a sequence of propositions of a discourse.

4.8. Besides the three basic narrative macro-categories discussed above, there are certain categories which are optional. Note that the three basic categories can directly be interpreted as parts of a course of events. Many narratives, however, do not merely report the events/actions, but also the *mental consequences* of such events/ actions for the narrator. The agent-narrator is aware of the fact that the course of events in which he has taken part, or which he was observed, is somehow spectacular. This is precisely a reason for him to tell about it. During the narrative he therefore may directly expres his *attitudes* with respect to the reported course of events. The expression of such an attitude seems necessary in order to assess the function of the narrative itself in the emotional perspective explained above. That is, it must be made clear that the course of events is not as such unusual or unexpected, but relative to the narrator-observer/agent. That is, the narrator gives an *evaluation* or interpretation of the facts. Some examples of such an evaluation component of a narrative are:

(49) God, it was terrible!
(50) I have never seen something like that!
(51) Can you imagine that?!

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[20] Thus, for reasons of simplicity we have assumed that the narrative structure is linearly ordered, although in a more sophisticated analysis we may require it to have a *hierarchical* structure. The *Exposition* or setting, for instance holds for both *Complication* and *Resolution*, and would therefore be at the same level as a category subsunting these two categories, e.g. *Episode*. For further distinctions, see van Dijk 1975a.

Finally, a natural narrative may contain a category in which the *moral* of the story is expressed, i.e. the consequences upon future actions of the agent-narrator or of the hearer. Trivially, we learn from negative events and appropriate or inappropriate (re-)actions. Such a moral is characteristic in narratives having a practical function. Some examples are:

(52) I'll never go to that town anymore!
(53) Next time I'll keep my trap shut!
(54) Go, and do likewise! (characteristic for parable-narrative)
(55) And so we see that the wicked are always outwitted. (characteristic of the fable).

4.9. A narrative with the three obligatory and the two optional categories, viz. *exposition, complication, resolution, evaluation* and *moral*, may be called *basic* or elementary. This does not mean that the sentence manifesting these categories must always be present. Given certain pragmatic conditions, the hearer may know or infer certain parts of the narrative. E.g. the hearer may already know tire inital circumstances, which enables the narrator to skip his exposition and to begin 'in medias res'. In other cases, the hearer knows or observes the obvious positive or negative consequences (effect), without knowing the complicating event, which however he can inductively infer from the consequences. Finally, a hearer need sometimes only hear the initial circumstances and know the consequences by observation in order to be able to infer the complication. Examples:

(56) A (seeing *B* with a bandaged arm):
       What happened to you?
       B: I went skiing.
(57) A: (seeing *B* run in from the garden with frightened face)
       What is the matter?
       B: There is a snake in the grass!
(58) A to B: (seeing *B* in an expensive furcoat)
       Hey Mary, I am happy that at last you have found your millionaire!

Such *semi-narratives* require of course an appropriate communicative situation, appropriate assumptions of speaker and hearer, and correct inferences both from the situation and the semi-narrative. A semi-narrative manifests usually one or two of the narrative categories, e.g. the exposition in (56), the negative complication in (57), and the evaluation with a presupposed positive *complication* in (58).

4.10. Whereas semi-narratives lack several basic categories which may be inferred from the other parts of the narrative or from the context of narration, there are several classes of narratives of a more *complex* type.

In the first place, the categories may all be present, but the respective descriptions manifesting them may *not* be *strictly relevant*. That is, the natural narrative reports about properties, events and actions which are superfluous with respect to the complication or the resolution. Examples have been given earlier for action descriptions in general. Since, narratives are a subclass of action descriptions, the same typological distinctions can be made, based on the presence of mere doing-descriptions, mental descriptions and/or circumstance descriptions. Similarly, narratives may be complete and/or relevant in different degrees.

The complexity of narratives we here have in mind, however, pertains to the macro-structure itself. The different macro-categories may be *recursive*. For example, after having eliminated a complication the action result may lead to new complications, which require again appropriate reaction. Whereas the first resolution may be successful, the second may fail, or conversely. Due to this recursive character a narrative may be theoretically infinite, When all respective resolutions lead to further complications.

Another source of complexity for narratives is their *depth*. That is, resolving actions need not directly be carried out by the agent-narrator, but he may act first in a way such that the conditions of success for the resolution are optimal: he may search collaborators or helpers, of which the auxiliary actions may be described as being successful or successless, etc., where lack of success of auxiliary actions may lead to further, *second order* complications and so on. It is at this point where the structure of natural narratives is close to that of artificial narratives.

5. THE STRUCTURE AND FUNCTION OF ARTIFICIAL NARRATIVE

5.1. There is a set of narratives which do not seem to satisy some of the constraints formulated for natural narratives. Such narratives will be called *artificial.* We usually refer to members of this class when using such terms as 'narrative' or 'story'. They are typically manifested in myths, folktales, fairy-tales, short stories, novels and dramas, and therefore the traditional empirical object in anthropology and literary scholarship. It is impossible to treat all structural and functional properties of such artificial narratives, and we focus our attention upon those properties relevant in their action descriptions.

5.2. One of the characteristic *pragmatic* [21] (or perhaps pragmatico-semantic) properties of artificial narration is that the narrator is not obliged to tell the *truth*. That is, he is free to imagine a given course of events, either about himself, or about some (actual or also imagined) other agent. Nor does he intend the hearer to be

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[21] For the pragmatic properties of artificial (literary) narrative, see van Dijk 1975b, and Searle 1975.

lieve that the narrative is true, which distinguishes such narrative speech acts from lies. Artificial narratives which do not satisfy the truth criterion are traditionally called *fiction(s)*. Indeed, the fact that they are descriptions of fictitious courses of events is often sufficient reason to call them 'arti-ficial', i.e. the courses of events to which they refer are 'made up', 'constructed' (cf. the etymology of the term 'fiction'). The truth criterion is, however, not decisive; artificial narrative *may* be true, or at least true to a certain *degree*. Its agents or objects, or circumstances may be true but the course of action may be fictive. The converse, of course, is impossible: fictive agents cannot accomplish actions which are true (in the actual – past – world), although they may, in some counterfactual world accomplish, in similar circumstances the same *type* of actions as those accomplished by real agents.

Degree of truth, them, is *degree of similarity* between the states of affairs and the events of some counter-factual world and our actual world. In case the course of events *could* very wel have taken place in our actual world, it is a possible alternative of our actual world. Such possible alternatives satisfy the set of basic norms, laws, regularities, etc. of the actual world. Hence, without further historical information a hearer cannot decide whether fictive narratives of that type are true or false. Other fictions are interpretable only in possible worlds which have a certain number of dissimilar properties with respect to the actual world. A *fable*, in which animals have speech abilities, is a well-known example in case. Whereas a natural narrative is about part of history, a fictive narrative is about a part of a *possible history* (or future) of our world, i.e. of some alternative of the actual history. Since many, if not most, artificial narratives are fictive, we may simply conclude that the truth criterion for them is *irrelevant*.

What, then, is the consequence of this property of artificial narrative for the communicative situation? Clearly, fictive narratives cannot be *directly* connected or relevant to the actual situation, because they cannot inform the hearer about events occurred to the narrator or to some person known to both hearer and speaker. Nevertheless, fictions may have *practical pragmatic functions* (see the purposes of natural narrative on pp. 310-311) when the narrator intends to influence the future actions of the hearer by inducing the recognition in the hearer that he should (not) do a similar or same type of action. A characteristic example is the class of 'didactic' artificial narratives, like fables and parables. In this respect natural and artificial narratives both function as 'models' for future action.

Closely related to this practical pragmatic function is the epistemic or *explanatory* function of some types of artificial narrative, especially myths. Here a story is told giving an answer to implicit cultural 'questions' about the 'how' and 'why' of the actual world, in particular the basic laws, norms, rules or real or imagined objects of the actual world.

5.3. Although artificial narrative may have indirect practical functions in communication, this criterion is also optional if not irrelevant, just like truth. It follows

that the major pragmatic functions of artificial narrative are to be sought at the *emotional* level. More in particular the narrator intends that the hearer/reader finds '.:e (real or fictitious events) interesting and thus accordingly confirms or changes is opinion about the narrator as possessor of 'interesting knowledge' or, for fictive narrative, as able 'creator' of interesting courses of events. Pragmatically this means that the speaker intends to change the *evaluation set* of the hearer. This positive evaluation (of the speaker by the hearer) may be based, as we saw on pp. 311ff., by the remarkable properties of the course of events themselves, or by the way a course of events is described. The first reason for positive evaluation is typically intended by crime stories, fantastic fiction and science fiction. Semantically, these are to be interpreted only in those possible worlds which are rather dissimilar to our actual world, or which report courses of events with dangerous courses of events (see below). The seconds reason of positive evaluation as a pragmatic function is usually associated with all literary narratives: Apparently, literary narratives thus must have specific properties of action description in order to be evaluated not so much for the narrative structure but for the way this is expressed as a story.

5.4. Artificial narratives may also be accompanied by 'meta-linguistic' indices, referring to the narrative or the type of narrative. In written /printed form such narratives may have undertitles like *a novel* or *a short story*. In oral narrative communication the narrator may also give specific *preparatories* or *introductories* of the story:

(59)   Do you know the story of the guy who...?
(60)   Listen folks, I'll tell you the story of...

Popular tales often have fixed *formulae* for announcing or beginning a story. Even in written narrative such introductions may be used:

(61)   "This story is told out in one of the old frontier towns..."
(62)   "People say (but this is unlikely) that the story was first told by..."
(63)   "I want to leave a written record ((,...)) of one of the strangest and grimmest happenings ...
(Examples from Borges 1973)

As we saw for natural narratives such introductions may provide a brief summary of the crucial events (e.g. in the title of the narrative) and, as in (63) the *evaluation* of the course of events.

Another characteristic of artificial narrative is their *fixed* status, typically in written form or learned by heart by the story-teller. The communicative interaction therefore usually has the form of a *monologue*, in which the hearer is not supposed to interfere. The semantic consequence is that the narrative must be *relatively com-*

plete in all possible contexts, because (see the irrelevance property) the narrator either cannot assume that his hearer(s) know which agents are involved, or the hearer(s) cannot possibly know about whom the narrative is when it is fictive.

5.5. Let us now give a brief survey of the specific structural (syntactic, semantic) properties of artificial narrative. Taking *macro-structure* first we observe that most types of so-called primitive or popular narrative roughly respect the categories distinguished above. Indeed, these categories have first been observed on myths and folktales, viz. as *functions*, which need not be discussed here. [22] Functions are to be defined in action theoretical terms, because they only pertain to the description of action sequences. The crucial notions used in structural analysis of such primitive narratives, such as 'lack', 'hero'/ 'protagonist', 'antagonist', 'helper', etc. have been defined in our previous sections. The complication of such narratives, resulting in a 'lack', is usually negative, whereas the resolution part may be rather complex, have a recursive character (typically: $n = 3$) and have embedded courses of events. Resolutions are further typically positive, i.e. the hero succeeds in eliminating the 'lack'. This is all well-known and we are now in a position to give a precise characterization of the actions involved.

One of the striking specific properties of artificial, and above all of the less primitive forms of, narrative are the different *structural transformations* at the macro-level. That is, the story may begin with a description of the *evaluation* or of the (results of the) *resolution: permutation*. In the next segment, then, it is told ('explained') how this situation came about. Similarly, some segment may be *deleted*, e.g. the exposition (or part of it), especially when the complication and resolution parts presuppose them:

> (64)   "Flame-lurid his face as he turned among the throng of flame-lit dark faces upon the platform. (...)" (Lawrence 1967: 208)

The same holds true for the descriptions of the final state or event, in case these are entailed by the resolution, or for the resolution itself if entailed by the complication. The implications/presuppositions may, however, be less strict and only have the status of possibilities. In that case the narrative may be called *open*, because it allows for several *possible interpretations* by the reader.

Talking about macro-structural deletions in artificial narrative has a number of methodological problems. Formally, we may say only that parts of a discourse have been deleted when other parts presuppose them; or, more strictly, cannot be interpreted without the interpretation of the deleted parts. We know that a part is de-

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[22] We here have failed to make the important distinction between the *syntactic* narrative categories discussed above – defining narrative well-formedness – and the *semantic* categories, termed *functions* by Propp, which are invariables of content.

leted also when the description is not *complete*, but completeness depends on the properties of the possible world described by the narrative. As soon as this world is nun- actual, or in general when we have no epistemic access to it, we are unable to know the precise events of that world, so that we cannot always decide whether the discourse is complete or not. Taking a possible world as the set of propositions (the model set) which are true 'at' it, we may however say that the fictive possible world !s exhaustively described by the narrative (including the propositions entailed by the narrative). If, thus, a narrative breaks off in the middle of a course of events (as described to be intended by the agent) we have no certainty that the events will actually go on in the way predicted in that particular world. Hence fictive worlds are essentially *fragmentary*, because narrative discourse is finite. If then we describe artificial narrative as (macro-structurally) incomplete, we are able to do so only by *analogy* to the structure of other narratives, and by analogy to the structure of courses of events/actions in actual possible worlds. [23]

5.6. Compared with natural narrative and other action descriptions, complex artificial narrative not only refers to much more complex courses of events, which require extensive description of initial and final circumstances. Typically, artificial narrative contains descriptions which are usually lacking in natural narrative. In many cases, as we saw in some examples given earlier, the descriptions are *not strictly relevant* for the description of the course of events. We might say that artificial narration is not only pragmatically 'irrelevant' (to direct practical interaction) but also syntactically and semantically. Let us give some different examples of this typical 'excess' property of narrative.

Taking the *exposition* part first, artificial narrative usually may have *extensive circumstance descriptions*, with details about place, localities, atmosphere, etc. (Of course examples can be found much longer than the following but it would require to much quotation space).

(65)   "She was sitting on the veranda (...) she could look at the river. Under the breathless sun of midday it had the white pallor of death (...). The colours of the day were ashy and wan. They were but the various tones of the heat. (It was like an Eastern melody, in the minor key, which exacerbates the nerves by its ambiguous monotony; and the ear awaits impatiently a resolution, but waits in vain.) The cicadas sang their grating song with a frenzied energy; it was as continual and monotonous as the rustling of a

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[23] We here touch upon difficult problems concerning the status of possible worlds and their description. For nations such as 'similarity', 'analogy', etc. of possible worlds and possible objects in these worlds, see Lewis 1973 and Rescher 1975. See also Woods 1975 for an application of formal semantics in the interpretation of fictional sentences and discourse. Finally, cf. recent attempts to make use of these ideas in literary scholarship, e.g. Dolezel 1976.

brook over the stones; but on a sudden it was drowned by the loud singing of a bird, mellifluous and rich; and for an instant, with a catch at her heart, she thought of the English blackbird.
  [Then she heard her husband's step on the gravel path...] ". (Maugham 1967)

Of course such initial descriptions do not but exceptionally appear in natural narrative. They present a more or less *over-complete* characterization of the physical and biological aspects of the world in which the course of action will take place. The description, although it contains propositional attitudes and feelings with respect to the background, is not strictly relevant, because not all the sentences are presuppositions for the following action description.

In this particular example (65) the description is not only extensive, but also heavily comparative and metaphorical, i.e. subjective, depending on the analogies as perceived by the narrator. Hence circumstances, a 'scene', is an *intensional object*, like action itself: they are different under different descriptions.

A degree less 'irrelevant' are the *person descriptions* of the exposition, because such descriptions may at the same time provide implicit or explicit *reasons for action*, or for action in a certain manner. Nevertheless, such descriptions may also exceed the strictly necessary:

(66)   "Mr Hutton came to pause in front of a small oblong mirror. Stopping a little to get a full view of his face, he passed a white well-manicured finger over his moustache. It was as curly, as freshly auburn as it has been twenty years ago. His hair still retained its colour, and there was no sign of baldness yet - only a certain elevation of the brow. 'Shakespearean', thought Mr Hutton, with a smile, as he surveyed the smooth and polished expanse of his forehead. (...)" (Huxley 1967: 252-3)

Notice that such extensive descriptions merely figure in certain types of artificial narrative. As we have remarked earlier, 'primitive' narrative has very restricted descriptions of circumstances and dramatis personae. In literature, however, at least since the classical epic (Homer), such extensive descriptions are *conventional*, they are a *rule* for certain forms of narrating, and certainly one of the differentia specifica of artificial narrative with respect to natural narrative.

One would expect, then, that the same property holds for the proper action and event descriptions of the *complication*. First of all, here, a specification of underlying *emotions* and *mental processes* is required as an appropriate preparation and explanation of the course of action. Again, this is a property of literary artificial narrative (of some kinds):

(67)   "(…)
        He waited outside the drawing-room door until the waltz should finish,

listening (...) He was still discomposed by the girl's bitter and sudden re-
tort. It had cast a gloom over him, which he tried to dispel (...) he was un-
decided (...) He would only make himself ridiculous (...) They would think
(...) He would fail with them (...)." (Joyce 1967: 160)

It has been remarked above that one of the striking differences between natural and
artificial narrative is that the narrator seems to have direct access to the emotions
and thought of the agents. This is possible in natural narrative only in explicit self-
description. In the example above, as is conventional in literature, the third person
pronoun is used however. As we noticed this might be interpreted such that the nar-
rator tells about himself (i.e. his inner states) as a *different person*, which he (= nar-
rator) can observe, both externally and internally. The other possibility is that the
narrator really speaks about some other person, but has via (deleted) information
direct access to his feelings and thoughts. A more satisfactory explanation for all
cases (the other explanations given *may* be true in some exceptional cases) is that
the narrator of a fictive story thereby himself 'creates' the world, of which his sen-
tences are (trivially) true. It follows that he must have full access to that world, and
hence also to the inner states of its persons. Other types of literature seem to have a
different *rule*, viz, that the narrator may only describe *as if* he narrates about a
course of events in the actual world, which precludes direct descriptions of mental
states. In that case we would have descriptions of doings and bodily states with pos-
sible *inferences* about the feelings or thoughts of the agents:

(68)   "He stared at the door as though not understanding what it was. (...) His
       eyes lit up with joy (...) (Borges 1973: 91)

Such pure action descriptions are relatively rare. They may, however, occur in nar-
ratives with an *I*-narrator describing other persons, where the *I*-narrator only has
access to his own feelings and thoughts. Notice, however, that the *I* in such cases
may again be an 'embedded' narrator, i.e. a person which itself only exist in the
counterfactual world, and introduced by the real speaker/author as a device for tel-
ling a narrative from an 'ego-centric' point of view, without telling about himself.
These complex relations of *perspective* have had extensive attention in classical nar-
rative theory. [24] They can easily be reformulated in a more explicit way with a
serious pragmatics and semantics, and we need not go into this feature of artificial
narrative here.
    The crucial property of complications is the description of complicating events
or actions. Above we have given some examples of the mental states of the agents as
described in the initial phases of the complication. The complication itself, empiri-
cally, is however not always easy to localize, because many state descriptions may

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[24] See the studies mentioned in note 7, and further Kummer 1972 and Kuroda 1975.

be aspects of the complication. One rather clear example is the following event:

(69)   [Initial circumstances: Mrs. Bixby, married to a dull dentist, deceives her husband with a colonel in a nearby city, pretending to pay weekly visits to an old aunt.
One day, leaving that town, standing on the platform waiting for the train:]

" 'The Colonel asked me to give you this!, a voice beside her said. She turned and saw Wilkins the Colonel's groom, a small (...)
'Good gracious me!' she cried, all of a flutter. 'My heavens, what an enormous box! What is it Wilkins? Was there a message? Did he send me a message?'
'No message,' the groom said, and he walked away.

[Unpacking in the Ladies' room in the train she finds an expensive mink coat, and a letter from the Colonel saying he would not see her again] :

Well!
Imagine that!
Right out of the blue, just when she was feeling so happy.
No more colonel.
What a dreadful shock.
She would miss him enormously." (Dahl 1962: 89, 90)

This example rather clearly shows the mechanisms underlying a narrative with a clear complication: there is, previously, a description of a woman, a man, the feelings of boredom of the woman, her wicked character, and her ongoing activities. The complication is immediately preceded by the sentence indicating the time of the activities: *Eight years went by.*, which is followed (next line) by *It was just before Christmas, and Mrs Bixby was standing on the station* (...), the sentence specifying time and place of the complicating event. Micro-structurally this is the address by the Colonel's groom and the woman's reactions. Even at this level, the complication is already indicated by the use of direct conversation, and the expression of surprise. The same is true in the 'core' of the complication, where the woman reads the letter, followed by startled thoughts. This phenomenon manifests the criterion that complicating events must be unexpected and of serious consequences for the agents involved. This condition is satisfied, because in the example given the woman has to give up her double love life. Macro-structurally, however, the complication at issue is of course that the woman cannot go home to her husband with an expensive minkcoat, coming from a poor aunt. This situation satisfies the definition of a *predicament* we have given: A wants very much to do *x*, but knows that *x* will lead to *y*, which A does not want.

The complication in a narrative must be resolved through action of the agent. This requires that the agent interprets the situation as a predicament and plans the possible course of action to take:

(70)   [Same story as in (69)] :

> "Very well, my dear. You shall have the coat. But don't panic. Sit still and keep calm and start thinking. You're a clever girl, aren't you? You've fooled him before. (...)" (Dahl 1962: 91)

In the present example, however, the description of the actual planning is deleted, such that the plans will become clear only in the execution of the plan. The pragmatic function of such a deletion is clear: the reader must be kept in *suspense* about the further development. This fact satisfies the condition of *interest* of the narrative, not only at the level of the course of action itself but also at the level of the description.

The *resolution*, then, is a set of descriptions of actions removing the obstacles interfering with the original actions or states of affairs or with the actions of resolving the predicament themselves. The resolving action is successful, fails or remains undecided (open), and depends on whether its results are the final state aimed at. In such a case there is another possibility to induce suspense in the reader, viz. by letting the resolving actions be *close* to success or failure. In our example (69, 70) the woman seems to be very close to success in deceiving her husband, but then the husband appears to have been able to deceive her. Such a final counteraction which is successful determines that the (macro -)resolution fails, with the implicit *moral* that the deceiver is deceived. In our example this counteraction of the antagonist is not explicitly described but is a (probable) presupposition of the final event.

The example given has been discussed in some detail because it is a clear instance of the macro-structure of a narrative, although some parts of it may remain implicit in the description, viz. as presuppositions of explicitly described events. Literary narrative, however, not always so clearly demonstrates the general properties outlined above. The actual complication may not have the unexpected and important character, and be described briefly at the end of the narrative. In that case the description of the initial circumstances, and of the development of mental processes prevails. In other cases, events are taking place but they are not followed by a (clear) resolution. More particularly, the narrative may report a very common segment from the 'history' of a set of agents, without any spectacular events or actions. The pragmatic intention in that case will simply be to show the ability of the narrator to construct a possible (segment of a) history close to possible actual histories. Strictly speaking, then, the literary discourse is no longer a narrative, but a description of some alternative world, including the circumstances, the agents, the

purposes, the events and the actions taking place in such a world. It might be argued that such literary 'narratives' are *second order narratives*. A narrative action (narration) would be the regular, normal, expected action, but the author *forbears* to tell a proper narrative, and merely gives a description of an alternative world in which something spectacular *may* happen.

5.7. Although this 'normality' may be a property of many types of (modern) literary 'narratives', there are certain types of artificial narrative where both the course of action and its description are intended to be remarkable and thus to arouse interest. Above, we briefly mentioned the element of *suspense* as a specific type of interest of the hearer/reader involved. Especially crime stories manifest this feature. This notion should be made explicit by determining what conditions a narrative must satisfy in order to cause suspense. [21]

In most cases, first of all, suspense arising narratives must be about *remarkable* events, as defined above. That is, the complication must be serious, be a real predicament. The result of a complicating event is a serious predicament if its consequences are *least* wanted or preferred by the agent. The limiting case is when such consequences will cause the *destruction* of the agent, socially or physically (death), or of the protagonists of the agents he values *most*, e.g. his beloved ones (wife, children, friends, etc.). A situation is suspense arising if the complicating events or their consequences *nearly* lead to destruction of the agent, which would be the *maximal failure* of the course of action. In such cases the agent will initiate a resolving course of action, but such actions muct themselves be *difficult* or *risky*, and not obvious or easy reactions. An action is difficult if the chance to fail is considerable given the abilities of the agent. An action is risky if its failure results in a (new) serious predicament of the agent. The description of such actions is suspense arising if they nearly are successfull or nearly fail: luck or bad luck must be close and the difference must not be within the control of the agent beforehand, but may depend on ad hoc features of the situation or result from a late 'desperate' try. It follows that the description of such events is suspense only if the reader has no epistemic access to the final situation, which requires the information about the situation to be given only at the end of the resolution description (the famous 'last page' of the detective novel).

It does not matter here what the exact psychological nature of 'suspense feeling' is, but we may give it a rough abstract characterization in terms of pragmatic context description: what *H prefers* (wants) *most* in a given situation is to *know* what is (will be) the case, as a result of known events, at a given situation: $PrH(KHp, \sim KHp) = \max$.

This is merely a rough sketch of the syntactic, semantic and pragmatic properties of suspense narrative. Other conditions must be satisfied at the level of description: it does not seem to be a sufficient condition that information about the result of resolving actions in a serious predicament be postponed. The description must be

such that the reader cannot but infer that the complication is really a predicament for the agent. Such inference are to be made especially from the description of the mental states and the initial reactions of the agent. The relevance of such adverbs as *suddenly* has already been discussed. Other suspense arising devices however may be used. Some examples (from a crime story (Chase 1968)):

(71) "(...) Then he began to climb again. He had one *bad* moment. The pipe was wet and slippery. His fingers and knees gripping the pipe *suddenly* failed to hold his weight. For a brief, *heart-stopping* moment, he hovered between life and *death* (...)". (my italics) (p. 40)

"(...) Girland, *suddenly* aware of *unexpected tension*, walked into the room. He came to an *abrupt* standstill when he saw a short, thickset man. (..,)" (p.42)

"(...) She snapped on the lights and walked into her living room. Then she *stopped short*, her blood turning cold, her mouth opening to *scream*.
    The *chill* of *cold steel* touched her throat as Smernoff *snarled*, "one sound out of you, you bitch, and I will cut your throat. (...)" (p. 89)

Such examples show that although events and actions as such may be dangerous or risky for the agent, the specific use of adverbs, verbs, nouns, etc. such as those underlined above, determine that such events should indeed be so interpreted. Another description of the same events might not lead to this desired interpretation. Notice that dangerous situations, at least in the examples given, are described in detail: they are complete, relevant action descriptions in the sense defined, including the consequences in the emotions of the agent, and, as an important preparatory, the (danger) presentments of the agent.

6. CONCLUDING REMARKS

6.1. The characterization of artificial narrative presented above has been very approximate and not very explicit. We have limited ourselves to brief remarks about the properties of the pragmatic situation of the narration, of the semantic features of the narrative (the character of the course of events reported) and of the syntax and 'style' of the narrative discourse itself.

6.2. Let us finally resume which of these properties seem to distinguish at least many types of artificial narrative from natural narrative and action discourse in general:

A. *Pragmatic properties*
  (i)   truth principle is optional (see *B*);
  (ii)   narration speech act not directly linked to other speech acts and actions of the communicative context;
  (iii)   pragmatic intention predominantly emotional: speaker wants to change the evaluation set of the hearer, i.e. wants the hearer to find the story and the description remarkable;
          - in didactical types of narrative: the counterfactual world represented is intended as a 'model' for action of the reader;
          - in 'primitive' narration: speaker (which may be collective) wants the hearer to know or understand that the world has the properties as those explained in the narrative;
  (iv)   narration is monological and fixed;

B. *Semantic properties*
  (i)   the world and courses of events are not necessarily factual, but 'verisimilar';
  (ii)   the narrative is relatively complete with respect to all possible hearers: no particular presuppositions left to narrative context;
          - presuppositions which may be inferred from the narrative may be deleted (see *C*)
  (iii)   the possible world represented coincides with the course of events, and its circumstances, described by the narrative;
  (iv)   the narrator/author has access to the mental states of the agents;
  (v)   (some types of artificial narrative) the values of the complication, viz. the disturbing events, must be dangerous and cause a serious predicament, followed by difficult, risky action;
  (vi)   (other types of artificial narrative, especially literature)
          - there is no complication such that the events referred to are 'spectacular'; the intended model structure is 'normal', viz. a representation of an alternative world- or history segment, close to the actual world.

C. *Syntactic properties*
  Macro-structure
  (i)   The macro-structure may be transformed: permutation or deletion of the macro-categories;
  (ii)   Parts of the macro-structure, especially complication/resolution may be resursive (*n* has a high value)
  Micro-structure
  (iii)   Description of circumstances, agents, objects, etc. is not (always) strictly

        relevant and even heavily redundant, often given in terms of the impact
        on the agents (indirect relevance);

(iv)   the narrative is not first-person but third person but may have the semantic
        properties of first person narratives (access to mental states, see *B*);

(v)   complications may be described as leading to predicament by adverbs,
        verbs, nouns, etc. indicating unexpectedness, fright, and other strong
        emotions;

(vi)   (in some narratives) part of the complication or the resolution may be
        deleted for reasons of 'suspense', or because they are quasi-redundant
        because they are possible entailments/presuppositions of other parts of
        the discourse.

6.3. These properties are still rather general, whereas others are restricted to sub-
types of artificial narrative. The list, to be sure, is not complete, and more results
from classical literary scholarship should be accounted for in the framework pre-
sented. The main idea was that a certain number of well-known properties of arti-
ficial narrative can be satisfactorily specified only with respect to our previous
understanding of the pragmatics, semantics and syntax of narration and narrative in
general, and of natural narrative in particular. Furthermore, it has been shown that
the major analytical categories involved can be defined only against the background
of a serious semantics, of which a basis is provided by the analytical description of
action and interaction structures. At the same time such a procedure guarantees the
possibility of providing a serious empirical theory of narrative and narration, on the
one hand by specifying a set of finite rules with which (together with the rules of
the grammar) a native speaker can interpret a virtually infinite set of narratives, on
the other hand because we have a first glimpse of the cognitive perception and pro-
cessing of actions and events and their relations with their description in natural
language discourse.

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