1. Methodological preliminaries

1.0. Introduction

When one takes a functional approach to the study of natural languages, the ultimate questions one is interested in can be formulated as: How does the natural language user (NLU) work? How do speakers and addressees succeed in communicating with each other through the use of linguistic expressions? How is it possible for them to make themselves understood, to influence each other’s stock of information (including knowledge, beliefs, prejudices, feelings), and ultimately each other’s practical behaviour, by linguistic means?

A constructivist way of formulating this question is: how could we build a model of the natural language user (M.NLU) in such a way that M.NLU can do the same kinds of things that real NLUs can? What sorts of modules would have to be built into M.NLU, what sorts of relations would have to be established between these modules, and what kinds of processing strategies would be required to approximate the communicative performance of human NLUs?

As soon as one starts thinking about how to model NLU, one realizes that NLU is much more than a linguistic animal. There are many more “higher” human functions involved in the communicative use of language than just the linguistic function. At least the following capacities play essential roles in linguistic communication, and must thus be incorporated into M.NLU:

(i) a linguistic capacity: NLU is able to correctly produce and interpret linguistic expressions of great structural complexity and variety in a great number of different communicative situations.

(ii) an epistemic capacity: NLU is able to build up, maintain, and exploit an organized knowledge base; he can derive knowledge from linguistic expressions, file that knowledge in appropriate form, and retrieve and utilize it in interpreting further linguistic expressions.

(iii) a logical capacity: provided with certain pieces of knowledge, NLU is able to derive further pieces of knowledge, by means of rules of reasoning monitored by principles of both deductive and probabilistic logic.

(iv) a perceptual capacity: NLU is able to perceive his environment, derive knowledge from his perceptions, and use this perceptually acquired knowledge both in producing and in interpreting linguistic expressions.

(v) a social capacity: NLU not only knows what to say, but also how to say
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it to a particular communicative partner in a particular communicative situation, in order to achieve particular communicative goals.

From the formulations chosen it will be clear that these different capacities must interact closely with one another: each of them produces output which may be essential to the operation of the others. Within M.NLU, there will have to be efficient communication systems between the various modules which deal with the five essential capacities described.

It will also be clear that developing a fully adequate and operational M.NLU is an extremely complicated matter which must be broken down into a number of subtasks before we can even begin to approximate its completion. It is very important, however, that in breaking down the structure of NLU into different submodules, we do not lose sight of the integrated network in which these different submodules have their natural place.

1.1. Functional Grammar

This work develops a theory of Functional Grammar (FG), which is meant to reconstruct part of the linguistic capacities of NLU. FG is a general theory concerning the grammatical organization of natural languages.

As with any complex object of inquiry, the manner in which one conceptualizes a natural language, the questions one asks about it and the answers one seeks to find to these questions are heavily dependent on the basic assumptions which underlie one’s approach. Together, these assumptions constitute one’s basic philosophy, the paradigm (Kuhn 1962) or the research tradition (Laudan 1977) in which one operates. In linguistic theory one may discern quite a few distinct research paradigms, each with their own view of what a natural language is like, and how one should go about getting to grips with its structure and functioning. Nevertheless, at a rather general level of abstraction, these various views can be grouped into two main paradigms, which have been vying for acceptance for the greater part of this century. For the sake of the argument, these two paradigms may be called the formal paradigm and the functional paradigm.

In the formal paradigm a language is regarded as an abstract formal object (e.g., as a set of sentences), and a grammar is conceptualized primarily as an attempt at characterizing this formal object in terms of rules of formal syntax to be applied independently of the meanings and uses of the constructions described. Syntax is thus given methodological priority over semantics and pragmatics.

In the functional paradigm, on the other hand, a language is in the first place conceptualized as an instrument of social interaction among human beings, used with the intention of establishing communicative relationships. Within this paradigm one attempts to reveal the instrumentality of language with respect to what people do and achieve with it in social interaction. A natural language, in other words, is seen as an integrated part of the communicative competence of NLU.

Verbal interaction, i.e., social interaction by means of language, is a form of structured cooperative activity. It is structured (rather than random) activity in the sense that it is governed by rules, norms, and conventions. It is cooperative activity in the obvious sense that it needs at least two participants to achieve its goals. Within verbal interaction, the participants avail themselves of instruments which, in a general sense of the term, we shall call linguistic expressions. These expressions themselves are again structured entities, i.e., they are governed by rules and principles which determine their build-up.

From the functional point of view, then, linguistics has to deal with two types of rule systems, both ratified by social convention:

(i) the rules which govern the constitution of linguistic expressions (semantic, syntactic, morphological, and phonological rules);
(ii) the rules which govern the patterns of verbal interaction in which these

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1. See Dik (1985b) for a discussion of these different views.

2. The formal paradigm is, of course, the basic view underlying Chomskyan linguistics since Chomsky (1957). It can be traced back to certain roots in earlier American linguistics, such as Bloomfield (1933) and Harris (1951), although it does not share the behaviourist tenets of these antecedents. Another source of inspiration for the formal paradigm lies in certain strongly formalist currents in modern logic (e.g., Carnap 1937). Along these various paths the formal paradigm can be traced back to the positivist philosophy fashionable in the first quarter of this century.

3. The functional paradigm can boast at least as long a history as the formal paradigm. The functional point of view can be found in the work of Sapir (1921, 1949) and his followers in the American anthropological tradition; in Pike’s theory of tagmemics (Pike 1967); in the ethnographically oriented work of Dell Hymes (who introduced the notion of “communicative competence”, Hymes 1972); in the linguistic school of Prague, from its inception in the twenties up to the present day; in the British tradition of Fairclough (1983) and Halliday (1978, 1985); and in a somewhat different sense also in the philosophical tradition which, from Austin (1960) through Searle (1969), led to the theory of Speech Acts.
linguistic expressions are used (pragmatic rules).

Rule system (i) is seen as instrumental with respect to the goals and purposes of rule system (ii): the basic requirement of the functional paradigm is that linguistic expressions should be described and explained in terms of the general framework provided by the pragmatic system of verbal interaction. And, as was argued in 1.0. above, verbal interaction itself must be seen as integrated into the higher cognitive functions of NLU.

FG is intended to be a theory that fulfills this requirement of the functional paradigm. This means, inter alia, that wherever possible we shall try to apply the following two principles of functional explanation:

(i) a theory of language should not be content to display the rules and principles underlying the construction of linguistic expressions for their own sake, but should try, wherever this is possible at all, to explain these rules and principles in terms of their functionality with respect to the ways in which these expressions are used.

(ii) although in itself a theory of linguistic expressions is not the same as a theory of verbal interaction, it is natural to require that it be devised in such a way that it can most easily and realistically be incorporated into a wider pragmatic theory of verbal interaction. Ultimately, the theory of grammar should be an integrated subcomponent of our theory of NLU.

FG has been implemented in a computer program, called ProfGlotr, which is able to perform the tasks of generating and parsing linguistic expressions in different languages, deriving certain logical inferences from these expressions, and translating them between the different languages. This program can be seen as a step towards exploiting the potential of FG within the wider context of a (computational) model of NLU. See Dik (1992).

1.2. The functional paradigm

A paradigm, in the sense in which this term is used here, is a composite structure of beliefs and assumptions which interlock and interact with each other. In order to give some more content to what I understand by the functional paradigm, I now present the basic conceptions of which it is composed, by answering a number of questions concerning the nature and functioning of natural languages.

4. For more detailed discussion of the notion “functional explanation”, see Dik (1986).

(Q1) What is a natural language?
A natural language is an instrument of social interaction. That is, it is an instrument that is used by humans to communicate with each other, and the rules of the language are learned and used by humans. The study of natural languages is known as linguistics.

(Q2) What is the main function of a natural language?
The main function of a natural language is the communication between individuals. It is through the use of language that humans are able to share ideas, thoughts, and knowledge with one another. Language is a tool for social interaction, and it is through language that humans are able to establish and maintain relationships with one another.

(Q3) What is the psychological correlate of a language?
The psychological correlate of a natural language is the NLU's "communicative competence" in the sense of Hymes (1972): his ability to carry on social interaction by means of language. The interpretation of "competence" as "communicative competence" does not mean that we cannot distinguish between "competence" (the knowledge required for some activity) and "performance" (the actual implementation of that knowledge in the activity). There certainly is a difference between what we can do, and what we can say.
actually do in a given instance. When we use the term "communicative competence" rather than "grammatical competence" in the sense of Chomsky (1965), we mean that NLU's linguistic capacity comprises not only the ability to construct and interpret linguistic expressions, but also the ability to use these expressions in appropriate and effective ways according to the conventions of verbal interaction prevailing in a linguistic community. In fact, communicative competence even comprises the ability to use grammatically ill-formed expressions with good communicative results, a game at which most NLU's are quite proficient, as any transcription of spontaneous natural conversation reveals.

(Q4) What is the relation between the system of a language and its use?
Since a natural language is an instrument used for communicative purposes, there is little point in considering its properties in abstraction from the functional uses to which it is put. The system underlying the construction of linguistic expressions is a functional system. From the very start, it must be studied within the framework of the rules, principles, and strategies which govern its natural communicative use. In other words, the question of how a language is organized cannot be profitably studied in abstraction from the question of why it is organized the way it is, given the communicative functions which it fulfills.

This means that linguistic expressions can be understood properly only when they are considered as functioning in settings, the properties of which are codetermined by the contextual and situational information available to speakers and addressees. Language does not function in isolation: it is an integrated part of a living human (psychological and social) reality.

(Q5) How do children acquire a natural language?
The question of language acquisition has been hotly debated ever since language was considered as an object of scientific inquiry. The basic parameters of the discussion are the same now as they were centuries ago. They concern the ratio between the innate genetic factors and the social environmental factors which may be held responsible for the child's ability to acquire a natural language. Within the framework of the formal paradigm, Chomskians have taken an extreme nativist standpoint in this matter. This is understandable, for when language is dissected from the natural social environment in which it is used and acquired, any form of language learning becomes a mystery, which can only be understood by assuming that language has been there all the time in the form of a genetically preprogrammed structure of the human mind.

From a functional point of view, on the other hand, it is certainly much more attractive to study the acquisition of language as it develops in communicative interaction between the maturing child and its environment, and to attribute to genetic factors only those underlying principles which cannot be explained as acquired in this interaction. Students of language acquisition who approach the problem from an environmental point of view have shown that the process of language acquisition is strongly codetermined by a highly structured input of linguistic data, presented to the child in natural settings, and adapted to its gradually developing level of communicative competence.

Note that a functional view of language does not preclude the existence of genetic factors guiding or facilitating the acquisition of a language. After all, natural language is a species-specific phenomenon. Such genetic factors, however, will be regarded as a last resort, to fall back upon when all other attempts at explaining the linguistic facts have failed (compare Hawkins 1983: 8).

(Q6) How can language universals be explained?
About the question why it is that natural languages have universal properties, similar things can be said. When languages are cut loose from their communicative purposes, the question naturally arises why they should have any common properties at all. After all, any arbitrary system would be just as good as any other. Again, in the functional approach to language one should like to be able to understand the pervasive common properties of languages in terms of the external factors which determine their nature. Any natural language can be considered as a particular solution to an extremely complex problem. As with any problem, the possible "space" for arriving at viable solutions is constrained by (i) the nature of the problem itself, (ii) the nature of the problem-solver, and (iii) the circumstances in which the problem must be solved. In the case of natural languages, these three factors can be specified as: (i) the establishment of high-level communicative relationships between human beings, (ii) the biological and psychological properties of natural language users, (iii) the settings and circumstances in which languages are used for communicative purposes.5

(Q7) What is the relation between pragmatics, semantics, and syntax?
It will now be evident that in the functional paradigm the relation between the different components of linguistic organization is viewed in such a way that

5. For a further development of this view, see Dik (1986).
pragmatics is seen as the all-encompassing framework within which semantics and syntax must be studied. Semantics is regarded as instrumental with respect to pragmatics, and syntax as instrumental with respect to semantics. In this view there is no room for something like an "autonomous" syntax. On the contrary, to the extent that a clear division can be made between syntax and semantics at all, syntax is there for people to be able to form complex expressions for conveying complex meanings, and such meanings are those for people to be able to communicate in subtle and differentiated ways.

The answers given to the seven questions posed above together constitute what I understand by the functional paradigm. This paradigm defines the basic philosophy which underlies FG. Each of the points mentioned would merit more detailed discussion. However, this work is to be a monograph on the theory of grammar rather than a treatise in linguistic philosophy. I therefore restrict myself here to the few remarks made, assuming that they sufficiently define the "key" to an understanding of the philosophical background of FG.

1.3. Some aspects of verbal interaction

1.3.1. A model of verbal interaction

So far I have used the term "verbal interaction" as if it were self-explanatory. This is not, of course, the case. I will therefore try to clarify some crucial aspects of what I understand by verbal interaction by means of Figure 1.

![Figure 1. A model of verbal interaction](image)

At any stage of verbal interaction both S and A possess a huge amount of pragmatic information, P_S and P_A, respectively. In saying something to A, S's intention is to effect a modification in P_A. In order to achieve this, S must form a communicative intention, a mental plan concerning the particular modification that he wishes to bring about in P_A. S's problem is to formulate his intention in such a way that he has a reasonable chance of leading A to the desired modification of his pragmatic information. S will therefore try to anticipate the interpretation that A is likely to assign to his linguistic expression, given the current state of P_A. This anticipation on the part of S thus requires that S should have a reasonable picture of the relevant parts of P_A. In other words, an estimate of P_A is part of P_S, a point to which I return in section 1.3.3.

A, on the other hand, interprets S's linguistic expression in the light of P_A and of his estimate of P_S, and thus tries to arrive at a reconstruction of S's presumed communicative intention. The interpretation arrived at may lead A to bring about that modification in P_A which corresponds to S's communicative intention.

If A does not arrive at an interpretation which has a reasonable match with S's communicative intention, there will be a misunderstanding between S and A. Many misunderstandings go unnoticed in everyday life. But when a misunderstanding concerns a point which is crucial to the further development of the interaction, it may be detected and resolved through further metacommunicative discussion between A and S about the nature of S's communicative intentions. Obviously, the roles of S and A switch whenever there is a change of turns.

It is important to stress that the relation between S-intention and A-interpretation is mediated, not established through the linguistic expression. From the point of view of A this means that the interpretation will only in part be based on the information which is contained in the linguistic expression as such. Equally important is the information which A already has, and in terms of which he interprets the linguistic information. From the point of view of S it means that the linguistic expression need not be a full verbalization of his intention. Given the information which S has about the information that A has at the moment of speaking, a partial verbalization will normally be sufficient. Often a roundabout verbalization may even be more effective than a direct expression of the intention.

Thus, the linguistic expression is a function of S's intention, his pragmatic information, and his anticipation of A's interpretation, while A's interpretation is a function of the linguistic expression, A's pragmatic information, and his conjecture about what may have been S's communicative intention.
1.3.2. The structure of pragmatic information

By pragmatic information I mean the full body of knowledge, beliefs, assumptions, opinions, and feelings available to an individual at any point in the interaction. It should be stressed that the term “information” is not meant to be restricted to cognitive knowledge, but includes any possible item which is somehow present in the mental world of individuals, including their preconceptions and prejudices. Pragmatic information can be divided into three main components:

(i) general information: long-term information concerning the world, its natural and cultural features, and other possible or imaginary worlds;

(ii) situational information: information derived from what the participants perceive or otherwise experience in the situation in which the interaction takes place;

(iii) contextual information: information derived from the linguistic expressions which are exchanged before or after any given point in the verbal interaction.

The pragmatic information of S and A will normally have a great deal in common (the common or shared information), but there will also be information which is only available to S, or only to A. The actual point of verbal interaction is typically located in this non-shared information; however, this point can be identified only against the background of the shared information.

We can now say that the primary function of verbal interaction is for S to effect changes in the pragmatic information of A. These changes may be additions, as when S provides A with some piece of information that A did not possess before; substitutions, as when S informs A that a certain piece of information should be replaced by some other piece of information; or reminders, when S makes A aware of some piece of information which A did possess before, but of which he was not aware at the moment in question. S may also intend to mainly effect a change in A's emotional information, as when he attempts to change A's presumed feelings about something.

1.3.3. Mutual knowledge

The pragmatic information of S will include a theory about the pragmatic information of A, and conversely: each participant usually has a rather structured and detailed idea about the other's properties, and this theory of the other plays an essential role in verbal interaction. As we saw in 1.3.1., it allows S to anticipate the possible interpretations of his expressions by A, and A to reconstruct the most likely communicative intention of S. This mutual relationship between S and A can be symbolized as in Figure 2. It is clear that the mutual relationship diagrammed in Figure 2 defines a structure of boxes within boxes within boxes: there is a theoretically infinite recursion as in (1):

\[
\begin{align*}
(P_A)_s & \quad \text{what S thinks about the pragmatic information of A}^6 \\
((P_A)_s)_A & \quad \text{what A thinks about what S thinks about the pragmatic information of A} \\
(((P_A)_s)_A)_s & \quad \text{what S thinks about what A thinks about what S thinks about A's pragmatic information}
\end{align*}
\]

Some of the earlier steps in this recursion are of real importance for verbal interaction. For example, what I think you think about what I know can be very important if I want to get you to disclose some information which you would prefer to keep secret. But after a few steps in the recursion, further steps only have theoretical significance.

![Figure 2. Mutual knowledge of S and A](image)

Since participants have a theory about the pragmatic information of the other, they can also estimate what is shared and what is not shared between their own and the other's pragmatic information. This estimate of shared and non-shared information is of obvious importance for the success of verbal interaction. One rather common strategy is for S to start from estimated shared information, and to proceed from there to estimated non-shared information in order to have this added to, or substituted for, pieces of A's pragmatic information. This strategy, which has been termed the "Given-New Contract" in psycholinguistic work (Clark—Clark 1977), also has its impact on the pragmatically relevant structuring of linguistic expressions.

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6. Brown (1984) aptly calls \((P_A)_s\) "the image of \(P_A\) in \(P_s\)."
1.3.4. Intention, meaning, and interpretation

In terms of the model of verbal interaction sketched in Figure 1, I shall reserve the term meaning (or semantic content) for the information which is in some way or other coded in the linguistic expression as such. Thus, semantic content is a feature determined by the language system, to be accounted for in the grammar of a language. Semantic content, however, is not identical to the initial communicative intention of S (which is only mediated by the linguistic expression), nor to the final interpretation arrived at by A (since A uses much more information than is coded in the expression as such). We may speak of a "scale of explicitness" of expression, in this sense that a communicative intention is coded in a relatively explicit manner when there is little difference between that intention and the semantic content of the expression, and in a relatively implicit manner when there is a great deal of difference between the intention and the semantic content. In terms of this scale of explicitness we must say that much of everyday verbal interaction is relatively implicit, and that much is left to the interpretive activity of A in order for him to arrive at a reconstruction of S's communicative intention. On this view the semantic content of a linguistic expression can be defined as that information which it is necessary and sufficient to attribute to that expression in order to explain how it can be systematically used in relating given intentions to given interpretations, within the framework defined by the pragmatic information available to S and A.  

7. The essential difference between semantic content and final interpretation was an important point in the teaching of Anton Reichtling. See Reichtling (1963).

1.4. Standards of adequacy

The aim of the theory of FG is to provide the means and principles by which functional grammars of particular languages can be developed. And the highest aim of a functional grammar of a particular language is to give a complete and adequate account of the grammatical organization of connected discourse in that language. Such a grammar should be able to specify all the linguistic expressions of a language by means of a system of rules and principles in which the most significant generalizations about the language are incorporated. Thus, a functional grammar should conform to the standards of adequacy (in particular, descriptive adequacy) such as have been formulated for transformational grammars by Chomsky (e.g., 1965).

Given the different paradigm from which FG is conceived, however, we may expect differences with respect to what has been called "explanatory adequacy", i.e., with respect to the criteria which would allow us to determine which one of two or more descriptively adequate grammars would have to be preferred.

In this light, the following standards of adequacy are of particular importance for the theory of FG.

1.4.1. Pragmatic adequacy

We saw above that a functional grammar must be conceptualized as being embedded within a wider pragmatic theory of verbal interaction. Ultimately, it would have to be capable of being integrated into a model of NLU. We shall say that the degree of pragmatic adequacy of a functional grammar is higher to the extent that it fits in more easily with such a wider, pragmatic theory. In particular, we want a functional grammar to reveal those properties of linguistic expressions which are relevant to the manner in which they are used, and to do this in such a way that these properties can be related to the rules and principles governing verbal interaction. This means that we must not think of linguistic expressions as isolated objects, but as instruments which are used by a Speaker in order to evoke some intended interpretation in the Addressee, within a context defined by preceding expressions, and within a setting defined by the essential parameters of the speech situation.

1.4.2. Psychological adequacy

A grammar which strives to attain pragmatic adequacy in the sense described above is a grammar which is relevant to Ss and As, not a formal object cut loose from its users. It follows that such a grammar must also aim at psychological adequacy, in the sense that it must relate as closely as possible to psychological models of linguistic competence and linguistic behaviour. Psychological models naturally split up into production models and comprehension models. Production models define how Ss go about constructing and formulating linguistic expressions; comprehension models specify how As go about processing and interpreting linguistic expressions. A functional grammar which wishes to attain pragmatic and psychological
adequacy should in some way reflect this production / comprehension dichotomy. This can be achieved by conceptualizing a grammar as a tripartite construct, consisting of (a) a production model (a generator in computational terms), (b) an interpretation model (a parser), and (c) a store of elements and principles used in both (a) and (b). A grammar taking such a form would be easier to integrate into models which are meant to simulate the linguistic behaviour of NLUs, and easier to evaluate through psychological testing methods or computational modelling.

Seen in this light, FG as presented in this work more closely approximates a production model than an interpretation model. The presentation follows a productive mode, laying out recipes for constructing linguistic expressions from their basic building blocks. In order to attain psychological adequacy in the naturalistic sense intended here, the productive mode should be supplemented with an interpretive mode, consisting of rules and principles for arriving at an analysis and interpretation of given linguistic expressions.8

In the ProfGlot model (Dik 1992) it has been demonstrated how this view can be implemented by computational means. In particular, ProfGlot demonstrates how a parser can reconstruct the underlying structure of the clause by using the information contained in the input sentences on the one hand, and the contents of the lexicon and the rules of the FG generator on the other.

1.4.3. Typological adequacy

A third requirement to be imposed on the theory of FG (in fact, on any theory of language) is that it should be typologically adequate, i.e., that it should be capable of providing grammars for languages of any type, while at the same time accounting in a systematic way for the similarities and differences between these languages.

The requirement of typological adequacy obviously entails that the theory should be developed on the basis of facts from a wide variety of languages, and that its hypotheses should be tested on facts from yet further languages.

Through some unfortunate whim of the history of linguistics, theorists of language often pretend that they can restrict their attention to one or at most a few languages, while typologists of language often approach their research problems in a theory-neutral, quasi-inductive fashion. From the point of view of the requirement of typological adequacy, this state of affairs is rather counterproductive. Except in the heuristic "natural history" stage, typological work is mainly of interest if it is guided by theory-generated research questions. On the other hand, linguistic theory is of interest only to the extent that it reveals rules and principles which have potential crosslinguistic applicability.

1.4.4. The relations between the standards

At first sight, the standard of typological adequacy has little connection with the other two standards: pragmatic and psychological adequacy concern the degree to which the theory approximates a component of M.NLU; typological adequacy deals with the applicability of the theory to languages of diverse types. However, we can bridge this apparent gap if we consider that a typologically adequate theory reveals the most fundamental recurrent properties of natural languages, properties which have sedimented into the systems of languages through centuries of intensive use in verbal interaction. It is a reasonable working hypothesis, then, that those principles which are most generally characteristic of natural languages are at the same time the principles which have the most fundamental psychological and pragmatic significance. Through the intermediary of linguistic theory, then, typological research may be of ultimate relevance to psychology, just as psychological research may be relevant for the correct interpretation and explanation of the typological facts.

1.5. Abstractness, concreteness, and applicability

FG intends to be a general, typologically adequate theory of the grammatical organization of natural languages. If this intention is to be fulfilled, its rules and principles must be formulated at a sufficient level of abstraction to be applicable to any language, whatever its typological status. Wherever certain linguistic facts are such that they cannot naturally be handled by means of the
principles of FG, it is the theory, not the language in question, which will have to be adapted.

In order to be applicable to languages of any arbitrary type, the theory must have a certain degree of abstractness. But in order to be practically applicable in the description of languages, the theory must be as concrete as possible: it must stay as close as possible to the linguistic facts as they present themselves in any language. This apparent paradox may also be formulated as follows: FG should strive for the lowest level of abstractness which is still compatible with the goal of typological adequacy. By “abstractness” I mean the distance (as measured in terms of rules and operations to be applied) between the actual linguistic expressions of a language on the one hand, and the underlying structures in terms of which these expressions are analysed on the other. Abstractness and typological adequacy interrelate in the following way: when the theory is too concrete in the description of particular languages, the notions used cannot be transferred to the description of other languages, and thus fall short of achieving typological adequacy. But when the theory is too abstract (= more abstract than is required for typological adequacy), it overshoots its mark of defining the most significant generalizations across languages, and thus loses in empirical import: it does not tell us very much about languages anymore.

Let us illustrate the abstractness issue with one rather simple example. Consider definiteness: in a language like English, definiteness is often expressed in the definite article the, as in the house. But proper names and personal pronouns are just as definite without carrying the definite article. And in languages such as Danish, definiteness may be coded in a suffix rather than in a definite article, as in hus-et ‘the house’. Suppose, now, that we analyse the English phrase the house as follows:

\[
\begin{array}{c}
\text{NP} \\
\text{Art} \quad \text{N}
\end{array}
\]

\[\text{the house}\]

We would then need a quite different analysis for the definiteness intrinsic in proper nouns and pronouns, and another analysis again for the suffixal expression of definiteness, as in Danish. It will then be very difficult to generalize about definiteness, both within and across languages. The reason for this is that the notion “definite article” is too concrete, too close to the actual expression, to yield a typologically adequate account of definiteness. For this reason, FG uses a more abstract definiteness operator (d), which on the one hand captures the essential property common to all definite noun phrases, while at the same time allowing for different forms of expression, as in:

\[
\begin{array}{c|c}
\text{English:} & \text{d [house]} \\ 
& \Rightarrow \text{the house} \\
\text{d [John]} & \Rightarrow \emptyset \text{John} \\
\text{Danish:} & \text{d [hus-]} \\
& \Rightarrow \text{hus-et}
\end{array}
\]

We can then say that these various terms are alike in having the underlying definiteness operator, while differing in the way in which this operator is expressed. The differences are attributed to the different systems of expression rules which languages use to map underlying structures onto actual linguistic expressions.

1.6. Take languages seriously

There was a strong tendency in formal logic at the beginning of this century to regard natural languages as obscuring rather than revealing their true semantic or logical significance. The “logical form” of linguistic expressions was in many cases judged to be quite different from their grammatical form, and for this reason natural languages were regarded as unfit for the purposes of logical reasoning. The task of the logician was to define abstract formal languages, free from all the presumed obscurities and ambiguities of natural languages, in which the structure of logical reasoning could more adequately be reconstructed.

Unfortunately, this tradition of formal logic was not without influence on the theory of transformational grammar, especially in its initial phase, when the central thesis was that the deep structure of linguistic expressions was in crucial cases quite different from their surface structure. In the early seventies, many studies appeared with arguments to the effect that “X is really Y”, trying to demonstrate that what at first sight looked like X (where X could be a category or a construction) was in fact only the outward manifestation of some “deeper” category or construction Y. Thus, there were arguments that “pronouns were really noun phrases”, “articles were really pronouns”, “quantifiers were really predicates”, etc.
This idea, according to which languages are often not what they seem to be, easily leads to a non-empirical attitude towards linguistic analysis. Once it is assumed that languages often conceal rather than reveal their true underlying organization, one does not have to take actual surface structures very seriously anymore, and the road is clear for postulating all sorts of rather abstract and non-obvious analyses. This research strategy proved to be rather counter-productive. Time and again, the analyses proposed from this point of view turned out to be untenable. In many cases in which some construction X was supposed to be derivable from some underlying Y, closer inspection showed that X, after all, differed from Y in crucial respects, so that the analysis could not be maintained.

I believe that a simple lesson can be drawn from this situation: take languages seriously. Whenever there is some overt difference between two constructions X and Y, start out on the assumption that this difference has some kind of functionality in the linguistic system. Rather than pressing X into the preconceived mould of Y, try to find out why X and Y are different, on the working assumption that such a difference would not be in the language unless it had some kind of task to perform.

1.7. Constraints on the power of FG

A theory of grammar can fail in two quite different ways: it can be too weak (too concrete), so that it is unable to yield descriptively adequate grammars of particular languages, or it can be too strong (too abstract), in that it defines a class of grammars which widely exceeds the class of actual human languages. In the former case, it does not reach typological adequacy; in the latter, it does not define the notion “possible human language” in any interesting way. In order to avoid the latter danger, the power of the descriptive devices allowed by the theory should be constrained as much as possible. Within FG, this is achieved in three ways, discussed in the sections to follow. The kinds of descriptive devices to be avoided are illustrated by means of analyses which have been proposed at some point in the history of Transformational Grammar. Most of these analyses have later been discarded, and I do not wish to suggest that there is anyone who still endorses them. But the point I wish to make is that within the framework of FG these analyses should be excluded as a matter of principle.