

The meaning of syntactic position or movement in modern Danish syntax

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Ole Togeby, *The Meaning of Movement*
Object position: Jun 14-17

Abstract

- Ole Togeby:
- **The meaning of syntactic position or movement in modern Danish syntax**
- The terms of ‘syntactic position’ and ‘syntactic movement’ are metaphors of something which must be described as mind processes of prediction and recall during the language user’s interpretation of a text. These processes are triggered by lexical items with meaning, and so word order in it self carry meaning too. In my talks I’ll discuss the meaning of the positions in Diderichsens sentence scheme, and of the different movements in modern generative syntax. I suggest that the requirement to these explanations is that they are not incompatible with what we know about how the brain works - which in fact both ‘position’ and ‘movement’ are. Example to be discussed are objects in front position in Danish, e.g.: *Ham kender jeg*, so called light objects before the negation, e.g.: *Jeg kender ham ikke*, and normal objects in the final position: *Jeg kender ikke ham der*.



Plan

- I. Aims of linguistics
- II. Examples
- III. Theoretical framework
- IV. Formalism and functionalism
- V. Word order



I. The aim of linguistics (Diderichsen)

- The purpose of the grammar is according to Diderichsen
- (1) to describe and protect the linguistic norm of the so called ‘rigsmål’, the standard language of the upper social classes,
- (2) to facilitate the acquisition of foreign languages by knowledge of the principles of universal grammar, and
- (3) to strengthen the general education in knowledge of the mother tongue and it’s culture - as a goal in it’s own right.



The aim of linguistics

(Formal grammar)

- **formal grammar** An approach to grammatical study which focuses on the forms which make up the patterns of word and sentence structure; the implication is that the analysis is carried out without relying on the meanings of these forms (a 'notional' approach). Notional grammar would analyse nouns, for example, as 'names of persons, places, and things', whereas formal grammar would describe nouns in terms of their location in sentences and the types of words which co-occur with them (articles, determiners, etc.).
- *The Penguin Dictionary of Language*, David Crystal



The aim of linguistics

(Formal grammar)

- The study of language structure is basically **biological**, while the study of language use lean towards behavioural and social sciences. Since methods and results are different it is essential to know which side you are on when you study the human language. The purpose of this book (Svenskans inre grammatik) is to describe the outline of the internal grammar of Swedish, the normal unconscious knowledge of how sounds, words and phrases are put together into sentences that all with Swedish as their mother tongue share and automatically use. **The structure of language is the centre of interest, not the use of the language.**

■ Platzack 1998



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The aim of linguistics

(Formal grammar)

- As a declaration of intent Platzack's aim is a **reduction of the research domain**. The generativists claim only to care about descriptive and biological adequacy, and not about psychological and sociological adequacy, primarily about syntax and much less about semantics and pragmatics. A real theory of language should of course encompass all seven issues, and explain how they cohere.



The aim of linguistics (Dik)

- The purposes of Simon Dik's functional grammar are different. In Simon Dik (1989): *The Theory of Functional Grammar* they are formulated in the following way:
- How does a natural language user “work”? How do speakers and addressees succeed in communicating with each other through the use of linguistic expressions? - **How could we build a “model” of the natural language user?** [p.1]



The aim of linguistics

- Requirements to the grammatical description:

- **Descriptive adequacy**
 - [the truth, the whole truth and nothing but the truth].

- **Explanatory adequacy:**
 - **Pragmatic adequacy:**
 - **Psychological adequacy:**
 - **Typological adequacy:**
 - Simon Dik 1989



II. Examples

- What is the difference in meaning and function between:
- *Jeg kender ikke lægen*
 - *I know not doctor-the*
- *... at jeg ikke kender lægen*
 - *that I not know doctor-the*
- *Jeg okender ikke 'ham der.*
 - *I know not him there*
- *'Ham 'kender jeg ikke*
 - *Him know I not*
- *Jeg kender oham 'ikke*
 - *I know him not*



Examples

- *Det fortryder mig*
 - *It regrets me*

- *Jeg fortryder det*
 - *I regret it*

- *Det lykkedes for mig at få en billet til koncerten*
 - *It succeeded for me to get a ticket to concert-the*

- *Jeg lykkedes med at få en billet til koncerten*
 - *I succeeded with(in) to get a ticket to concert-the*



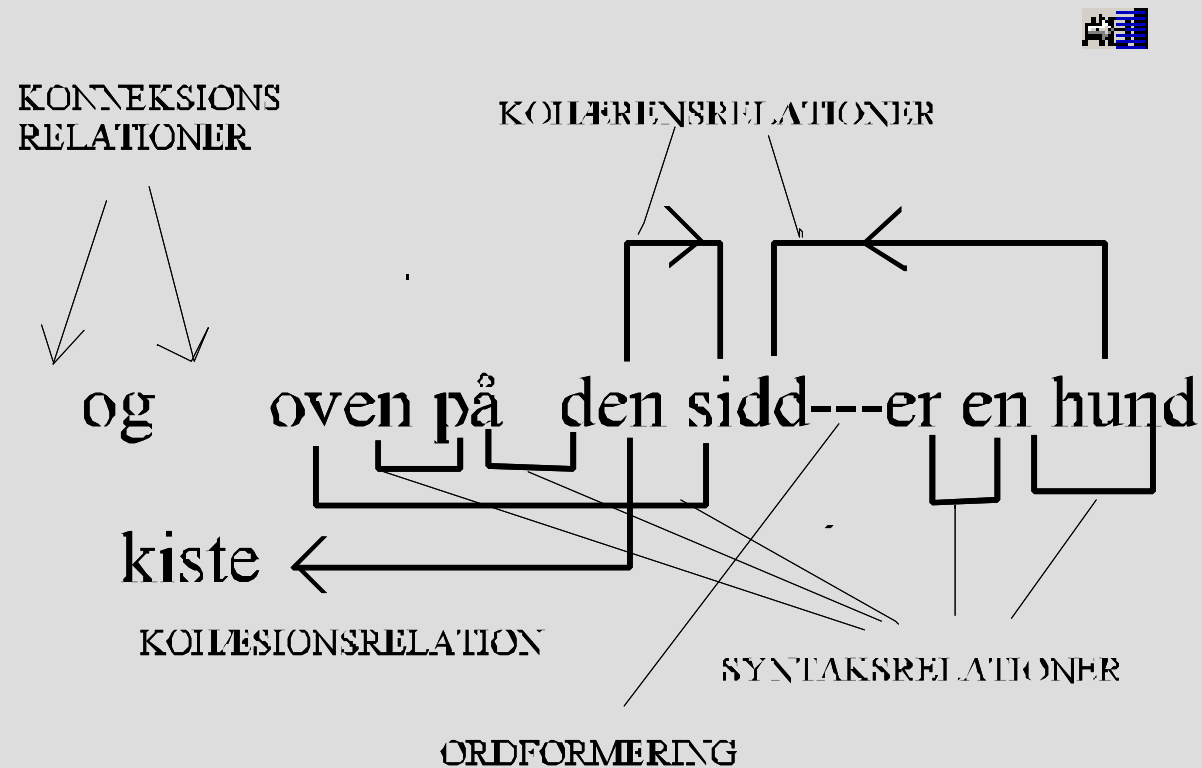
III. Theoretical framework:

Syntax, semantics and pragmatics

- There is no theoretical difference between syntax, semantics and pragmatics. What is meant by the terms is normally a distinction between:
 - interrelations between bound (grammatical) morphemes (syntax - cohesion)
 - interrelations between free (lexical) morphemes (semantics - coherence)
 - Interrelations between what is said about a situation and the situation it is said about (logical truth)
 - Interrelations between what is communicated and the situation in which it is communicated (pragmatics).



Theoretical framework: Syntax, semantics and pragmatics



Theoretical framework: Layers in syntactic analysis

- Three layers in analysis of syntactic relations:
 - 1. **the phenomenon**: the abstract syntactic relation
 - 2. **the notation**: the means of representing the abstract syntactic relation (in a meta language)
 - 3. **the manifestation**: the overt manifestation of the abstract syntactic relation (in object language)
- Croft p. 22



Theoretical framework: Layers in syntactic analysis

Example:

1. **the phenomenon:** embedded clauses
- 2. **the notation:** tree diagram of hierarchical structure, movements in the tree structure, slot filling in templates
- 3. **the manifestation:** conjunctions, word order, tense changes,



Theoretical framework: Layers in syntactic analysis

- If you take the metaphor (i.e. 'movement') too seriously, you confuse the notation with the phenomenon.
- If you don't care about meaning you confuse manifestation with the phenomenon



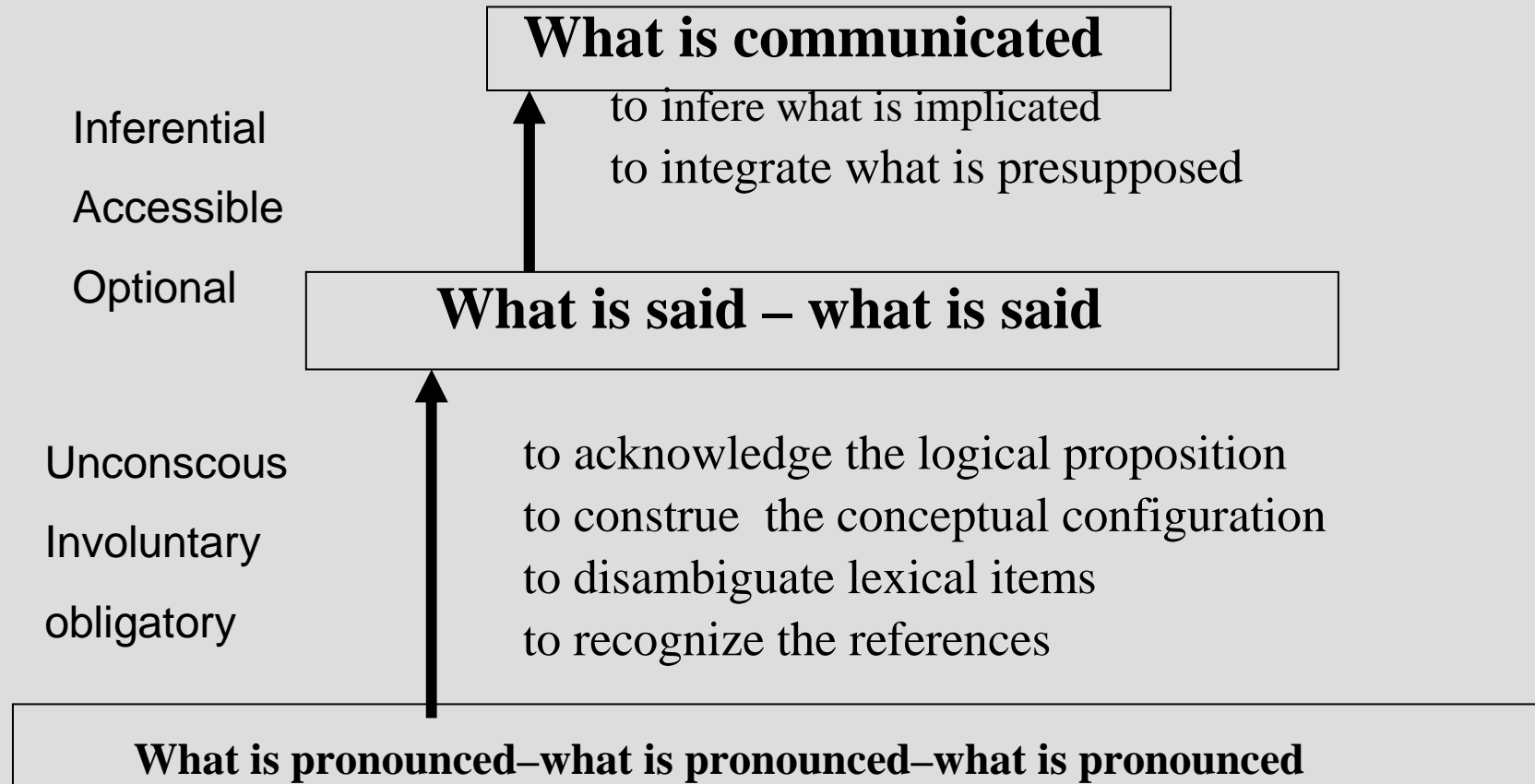
Theoretical framework:

The rules by which form has meaning

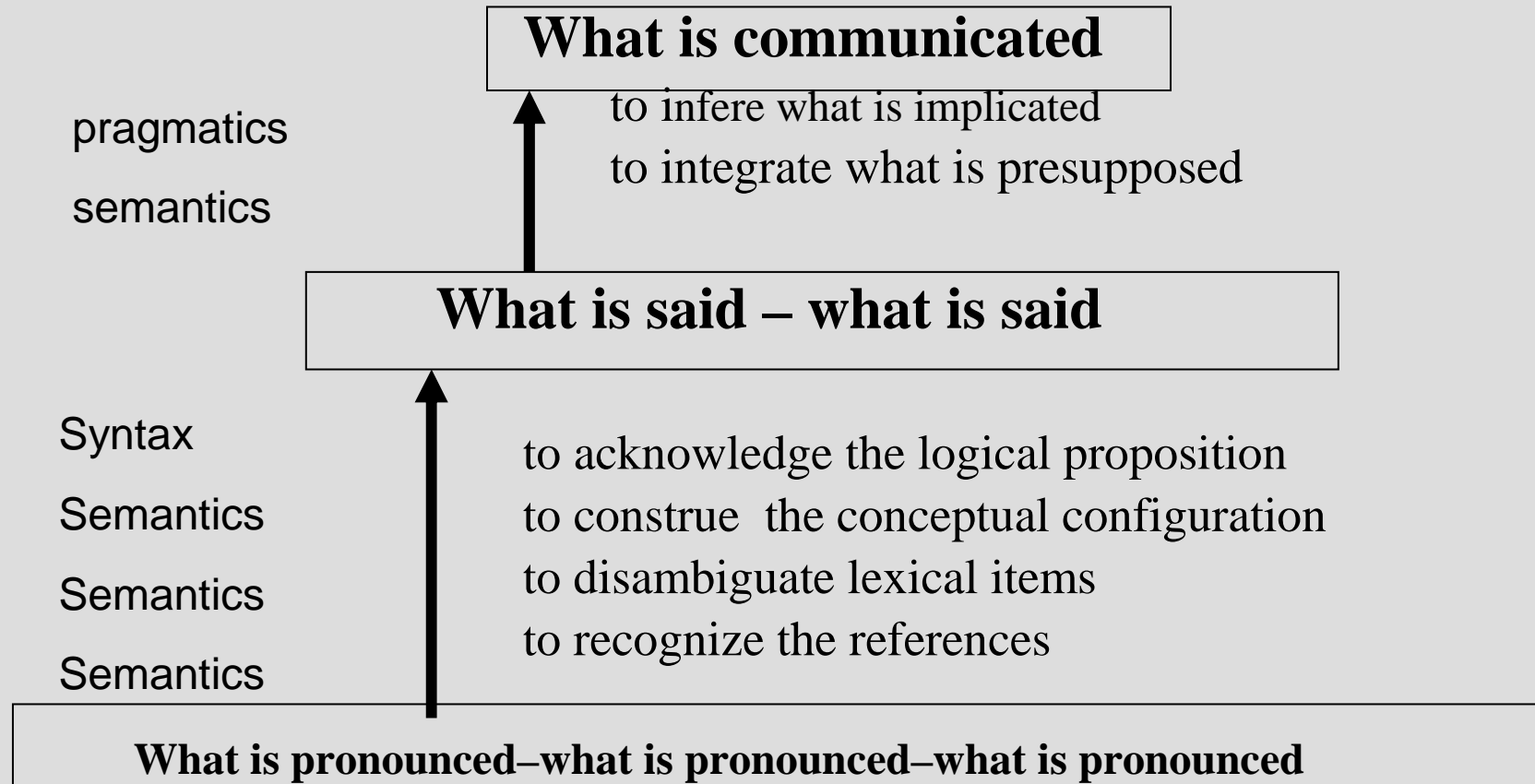
- If we take the oral situation as basic, we can thus distinguish between:
 - 1) what is pronounced (known as *what is explicit*) in uttering a text, the form
 - 2) what is said by what is pronounced (called the *explicature* or the *coded meaning*), and
 - 3) what is implicitly communicated by what is said (both *presupposition* and *implicature*).



Theoretical framework: A model of the interpretation process



Theoretical framework: A model of interpretation process



Theoretical framework:

Formalism and functionalism

- **Formalism:** Linguistic form can be characterized independently of meaning and function.
- **Functionalism:** Meaning and function can determine linguistic form.

Vikner



Theoretical framework: Formalism and functionalism

- In linguistics you have to recognize the phonemes (letters) and morphemes as units with function and meaning (respectively), and the utterance (spoken or written) as a communicative unit. Already when you call it *linguistic form*, you have acknowledged that it has function and meaning. So **‘Extreme Formalism in linguistics’ is a contradiction in terms.**

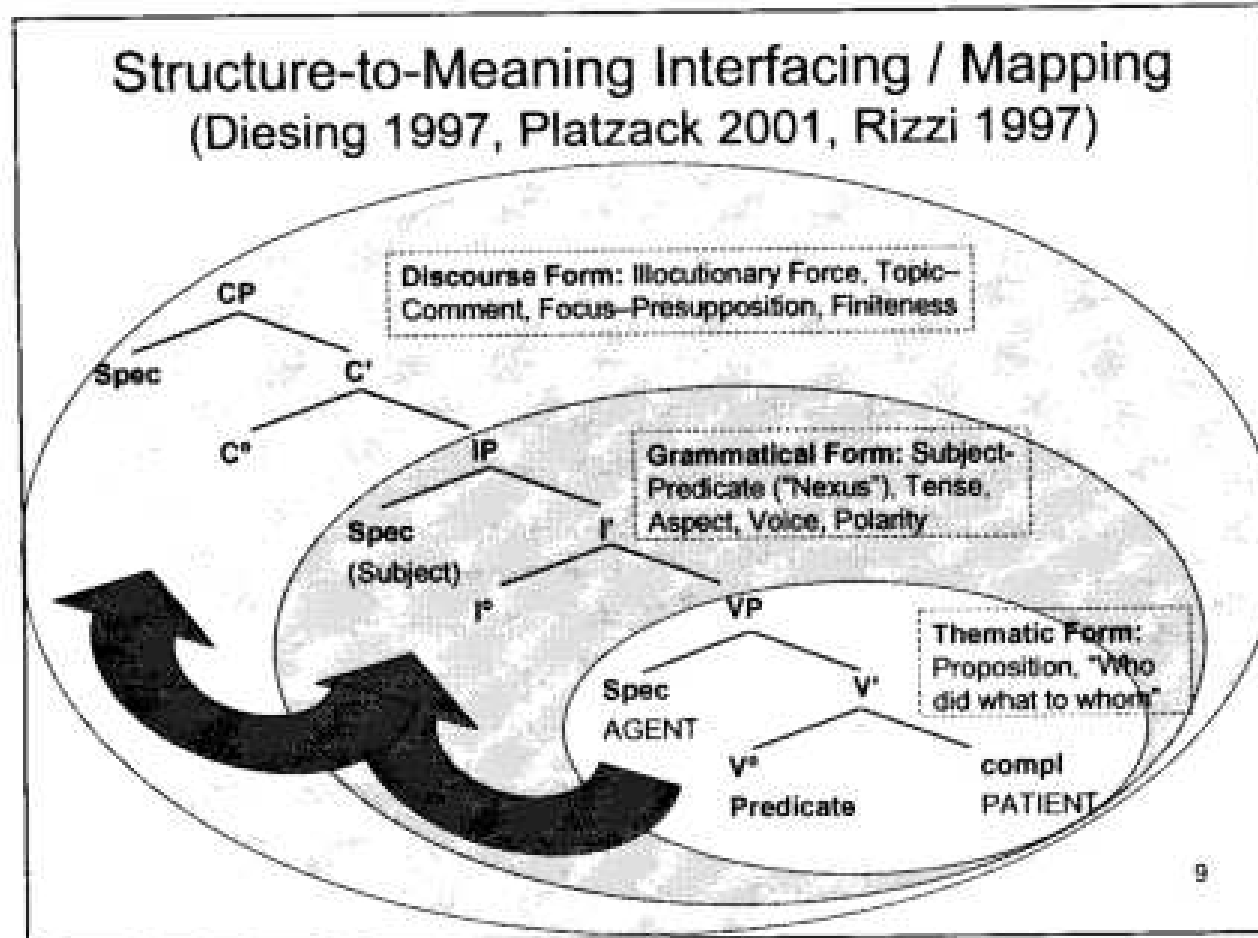


Theoretical framework: Formalism and functionalism

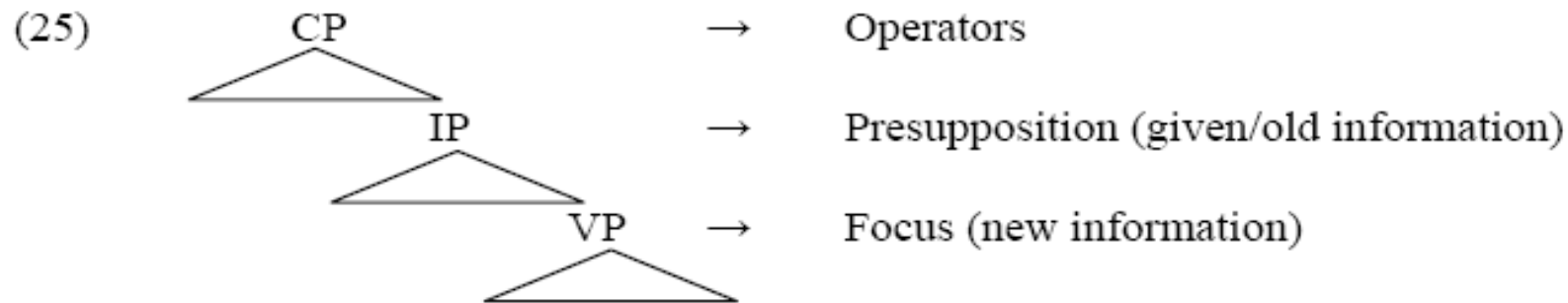
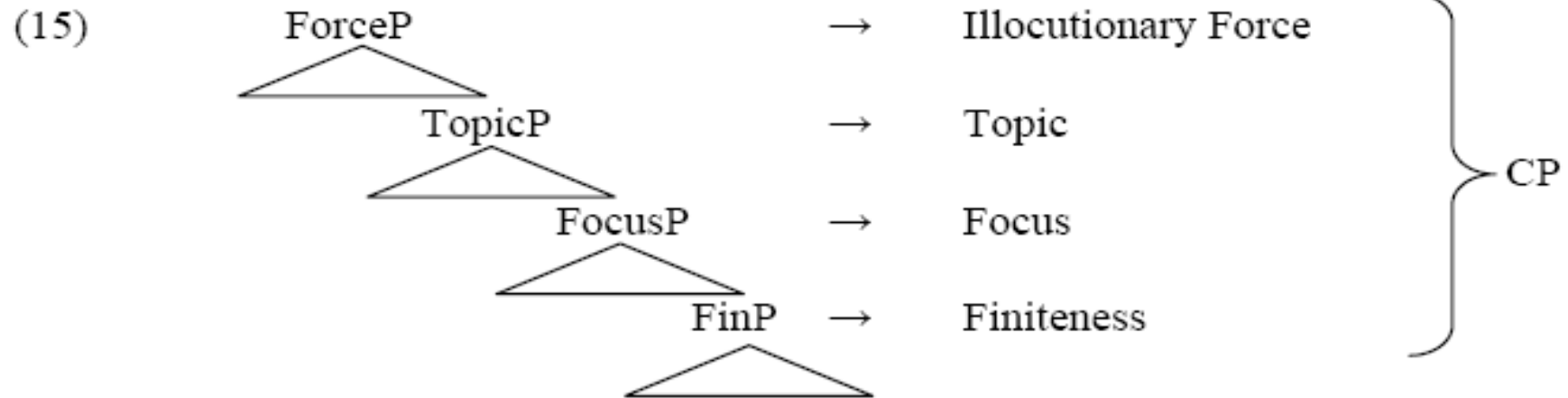
- Some grammars have more elegant or more exhaustive formal descriptions than others, and some grammars have more exact and more differentiated accounts of the meaning. But the main difference is:
-
- Formal approaches explain the color of the flower as caused by the chemical composition in the cells
- Functional approaches explain the colors as something developed during evolution by which the flowers attract insects?
- They both have to improve their weaker side.



Theoretical framework: Types of meaning



Theoretical framework: Types of meaning

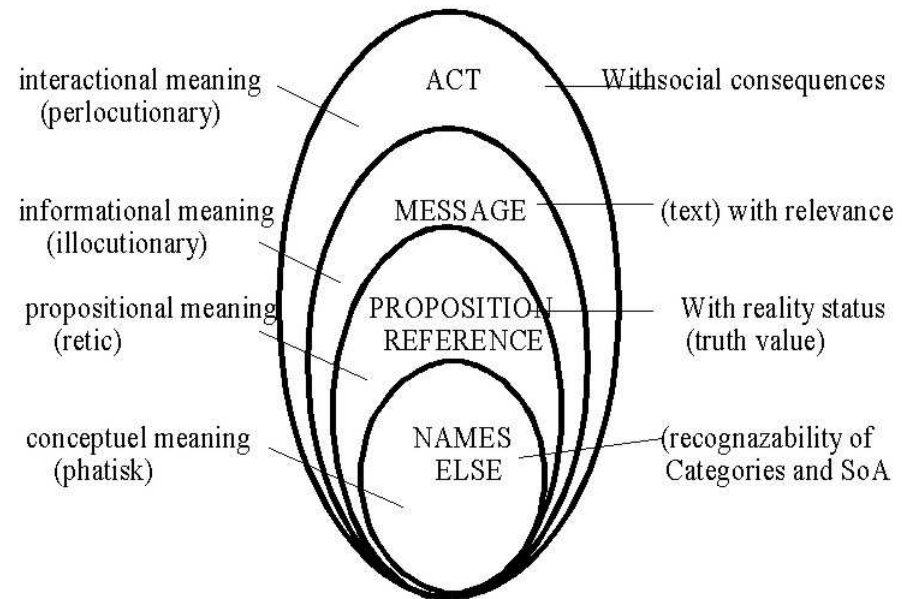


(Christensen 2005: 137, (271))



Theoretical framework: Types of meaning

Togeby 2003: Does
this sentence function?



IV. Formalism and functionalism

- A. Brain
- B. Innateness
- C. Poverty of stimuli
- D. General ordering principles
- E. Explanatory adequacy



A. Formalism and functionalism: The Brain

- There are great **advantages of formalizing theories**: it facilitates **generalizations** and it **precludes inconsistency**
 - you can't state one thing in one corner of the theory, and another contradictory thing in another corner of the theory, .
 - In principle all parts of the theory are expressed in every theoretical statement
 - The present minimalist formalization style is smart because you can expand and collapse the trees as you wish, and at the same time maintain consistency. You can collapse the nodes in the tree from *Agrs* to *Akt'* under the name *IP*, and you can expand the *CP* node to TopicP [Spec Topic' [Topico FocusP [Spec Focus]]]' (Hrafn p. 194).



Formalism and functionalism: The brain

- But **there are many formalized theories** about language on the market:
 - LFG (Lexical Functional Grammar) HPSG (Head-Driven Phrase Structure Grammar), CG (Constraint Grammar) Montague grammar,
 - It is part of the mathematical theory of formalization that there can be made indefinitely many formal grammars of a given non-natural language that are descriptively adequate (the whole truth and nothing but the truth). Furthermore it can be proven (by Church, Turing and Gödel) that it not possible by mathematical proof to decide which of them is the best
 - **formalization is no guarantee for truth or explanatory adequacy.**



Formalism and functionalism: The Brain

- Formulated as a rewrite grammar it runs on a digital computer as we know it. A computer is in principle a Turing-machine with a central processing unit, a CPU with a very fast clock frequency, that computes the resulting analyses in a finite number of steps and in something that looks like real time. So the formalized grammar is taken to be something like the program that is supposed to run in our brains, and in this way the grammar is a description of the software of our computational brain.



Formalism and functionalism: The brain

- **The brain** surely must be a sort of a computing device, but it **is definitely not a digital computer**; it has no CPU, and it has a very slow clock frequency. The brain is not a digital computer, but an analog computer, and it makes its calculations by **massive parallel computing**. So a formalised grammar with rewrite rules has no resemblance at all with what is going on biologically in the brain.



Formalism and functionalism: The Brain

- **Officially stated, generative grammar is primarily biological.**
- Generative linguistics take the purpose of linguistics to be to provide an account for the language faculty of human beings. To do this, linguistics must try to explain what **shape the linguistic knowledge (i.e., the grammar) in the brain has (or might have) and also how this knowledge enters the brain.** (Vikner 1995)



Formalism and functionalism

Innateness

- UG is a theory of grammar across all natural languages, and (b) UG is a theory of **innate linguistic endowment**—that is, the ability to acquire linguistic skills, which humans but no other beings are born with.
- **The principles** are the part of linguistic knowledge that the child is assumed to possess already at birth. If part of linguistic knowledge is innate,
- **A parameter** determines a set of related properties, related in such a way that choosing one particular parametric setting entails determining a number of surface properties of the language.



Formalism and functionalism: Innateness

- The situation could very well be that:
- What is universal is not uniquely linguistic: trust and empathy, order phenomena and memory span, parallel processing, statistical learning
- And
- What is genuine linguistic is not universal: function and meaning of forms



Formalism and functionalism: Innateness

- It is remarkable to talk about biology, and not about psychology. Language is the means by which individual human beings share thoughts by making manifest sounds or visual tracks (i.e. written texts) that can be perceived by the others. **So the phenomenological experience of the meaning is a necessary part of what is studied by linguistics.**



Formalism and functionalism: Innateness

- How does a natural language user “work”? How do speakers and addressees succeed in communicating with each other through the use of linguistic expressions? - **How could we build a “model” of the natural language user?**
- **Descriptive adequacy**
 - [the truth, the whole truth and nothing but the truth].
- **Explanatory adequacy:**
 - **Pragmatic adequacy:**
 - **Psychological adequacy:**
 - **Typological adequacy:**



Formalism and functionalism: Innateness

- Since grammarians, until now, hasn't opened the brain and looked at the neurons, the only way to study language structure is to study linguistic performance, i.e. texts and verbal interactions. **The distinctions between structure and use can not be maintained in a biological study.** You can not study the stomach without studying digestion. You can not study language without studying texts and interaction.



Biology:

Innateness

- Also, the fact that **learning a first language is very fast** would be mysterious. Every human language is extremely complex: Yet every single child who is regularly exposed to English between the ages of one and four will acquire all its intricacies without any particular effort.
- This is all the more surprising when the **degeneracy of the direct linguistic data** to which the children are exposed is taken into consideration: The data are degenerate both with respect to quantity and quality (Vikner)



Formalism and functionalism: Poverty of stimuli

- it is impossible for mother nature over 2 or 3 million years (which is the maximal time in which we have used language) to build a whole system of purely linguistic devices into the brain of man with the function of *building a tree, projecting the x-bar, moving "* or *extracting or repelling* or in what form the fans of the principles and parameters theory imagine the device to look like. Evolution does not work that fast.



Formalism and functionalism: Poverty of stimuli

- As Tomasello, who works on this evolutionary perspective, suggests **the only innate device you need to develop language, is ‘trust and empathy’**, viz. the fact that the enfant has as innate knowledge that the mother has a mind like the infant itself, and that cooperation is a value in itself; the rest can be done by cultural inheritance and smart learning procedures.



Formalism and functionalism: Poverty of stimuli

- Peter Juel Henriksen at the CMOL (Center for Computational Modelling of Language):
- **smart statistical learning algorithms that can learn all abstract grammatical categories although they have only degenerate linguistic data as input.**
- The only prerequisite is that the leaning window, the memory span of the learner, is not a whole sentence, but only two adjacent tokens (e.g. words).



V. Word Order



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V. Word order:

General ordering principles

- Dik's requirements to a theory of language will delimit the meta language of language description in the following way:
- 1. Avoid transformations (structure-changing operations)
 - (i) avoid deletions of specified element
 - (ii) avoid substitutions of one specified element by another specified element
 - (iii) avoid permutations of specified elements
 - a. John doesn't like pancakes
 - b. PANCAKES John doesn't like
- 2. Avoid filtering devices
- 3. Avoid abstract semantic predicates



Word order:

General ordering principles

- Word order is described by placement rules:
 - (i) placement rules are expression rules
 - (ii) placement rules are not movement rules
 - (iii) constituent ordering is not a deep property of languages
 - (v) there are no free order languages (different word orders have different meanings)(Dik 337)



Word order:

General ordering principles

- **(GP1) The principle of Iconic Ordering**
 - Constituents conform to (GP1) when their ordering in one way or another iconically reflects the semantic content of the expression in which they occur.
- **(GP3) The principle of Centripetal Orientation**
 - Constituents conform to (GP3) when their ordering is determined by their relative distance from the head, which may lead to “mirror-image” ordering around the head
- **(GP7) The principle of Pragmatic Highlighting**
 - Constituents conform with special pragmatic functionality (New Topic, Given Topic, Completive Focus, Constrative Focus) are preferably placed in “special positions”, including, at least, the clause-initial position.
- **(GP9) The principle of Increasing Complexity**
 - There is preference for ordering constituents in an order of increasing complexity (Dik 343ff.)

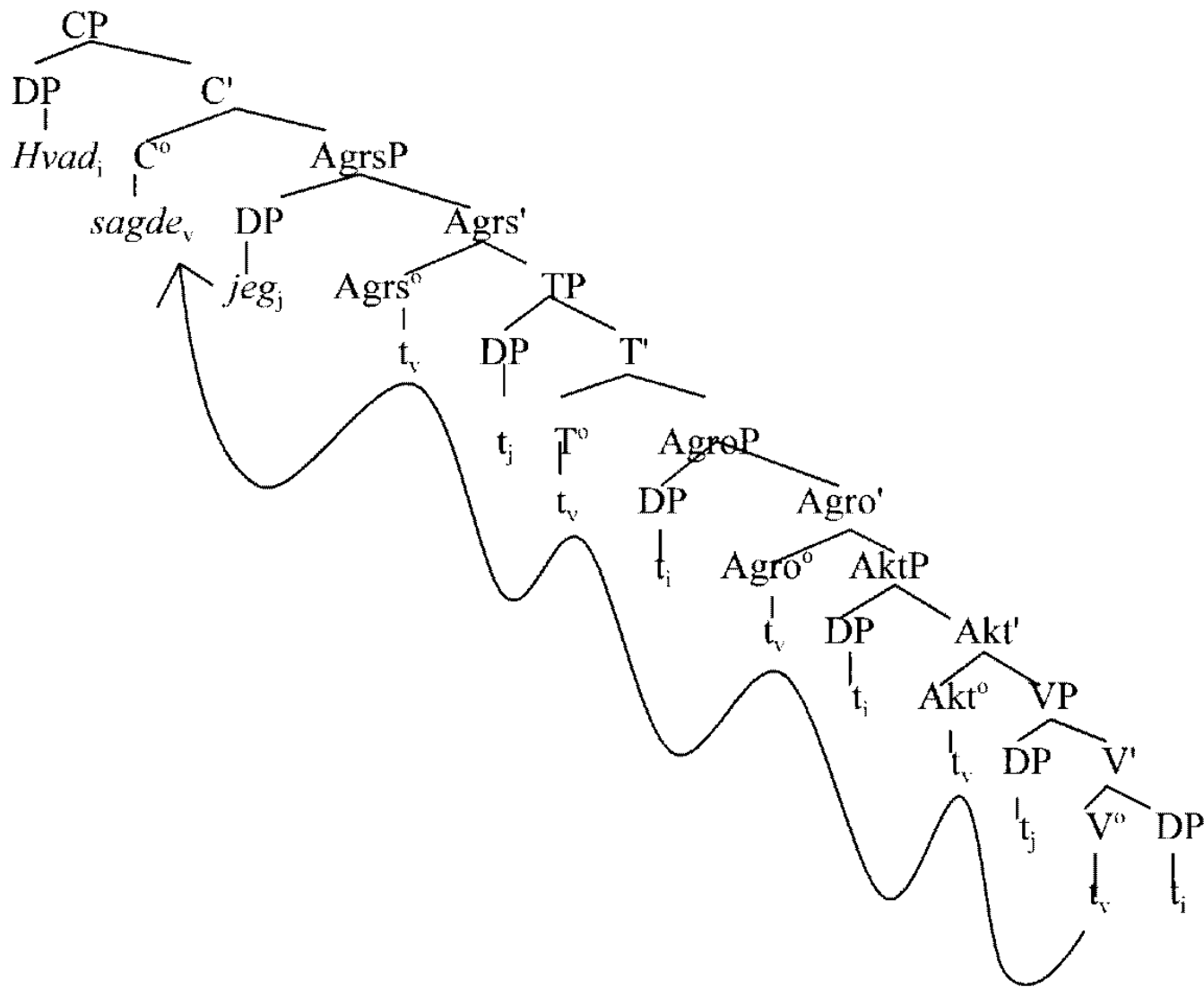


Word order:

Explanatory adequacy

- Apart from declarations of intent (about biology), what do generative grammarians in fact say about movement?
- Do they explain the color of the flower by the chemical composition in the cells
- Or
- Do they explain the colors as something by which the flowers attract insects?





Hvad sagde jeg



Word order:

Explanatory adequacy

- The verb is said to move from the lowest t position in five steps to the position it occupies in the sentence that is the empirical data of the analysis (and the two other constituents have moved accordingly).
- This itinerary is an indication both
 - (1) that *Hvad* is the object and is placed in the front position, and that *sagde* is the finite verb, placed in the second position, and
 - (2) that the object is analysed as structurally higher than the verb, which is structurally higher than the subject - with what it implies.



Word order: Explanatory adequacy

- The problem in both cases - and in many other analyses made by generativist grammarians - is basically that they don't care about meaning in real social interaction. In their analyses generativist grammarians have no heuristics concerning the essential question: **what is the meaning of this sentence?** How do the listeners come from the perception of the behaviour of the other, to what he or she meant to communicate by this behaviour? The analysis is just claimed and the distributional evidences for the suggested analysis are listed. That does not come up to the first standard of adequacy, namely descriptive adequacy.



Word order: Explanatory adequacy

- **You can not make explanatory adequacy if you haven't got a descriptively adequate analysis, not only of the form of a sentence, but also of its meaning.** Especially when you investigate different languages in order to find linguistic universals; in this case you cannot take for granted that the same form should have the same analysis in different languages.



Word order:

Explanatory adequacy – Acc + inf

Take the accusative + infinitive construction as an example. In Danish it is only found after verbs of perception:

- *Jeg så hende komme* (I saw her come),
- In Latin it is also found after verbs of meaning and utterance
- *præterea censeo Carthaginem esse delendam*
- (besides I hold Carthago (to) be destroyed).

- In Latin the construction may express a proposition, while it in Danish only expresses a state of affairs in which someone perceives some entity (the accusative) and something that this entity is or does at the time of perception.



Explanatory adequacy: The meaning of the notation

- Is it true that the finite verb moves from V to IP-spec in main clauses and not in embedded clauses?
- Well it is true that main clauses and subordinate sentences have different word order in Danish: *Hun kom ikke* (She came not) : ... *at hun ikke kom* (... that she not came).
- If that is the impact of the theory of movement it is true, as well as the description made with Diderichsens sentence scheme, and the descriptions made in all other grammars of Danish are true.



Explanatory adequacy: The meaning of the notation

- **From an ontological point of view nothing is moved.**
- The differences in the two sentences are differences in the order of which some processes of interpretation or productions of utterances run in the brains of speaker and listener. Linguistic structures have no extension in space, only in time. There is no left or right in linguistic structures, only first, second ... and last.
- The term ‘movement from V to IP-spec’ can not be anything but a metaphor for ‘not last but second’, and if this difference should be measured by brain scanning, it would show up as some processes running earlier than others, not as something moving round in the brain. If it is found in Brocca’s area, it is not a spacial difference, but a temporal one.



Explanatory adequacy: The meaning of the notation

- Taken as a metaphor the notational meta language in minimalist theory is intended to express much more than the fact that the word order is different in main clauses and embedded clauses in Danish.



Explanatory adequacy

The meaning of the notation

- Platzack's tree diagram also expresses the following statements about the sentence:
- (a) it is imperfective aktionsart (expressed by the visit at Akto),
- (b) it is *Hvad* (what) which is the patient (Vo DP) (c) that the sentence is in past tense (To),
- (d) that it is *jeg* (I) that is the subject (Co AgrsP) (e) that the sentence is not subordinate (Co),
- (f) that it is a *hv*-question (DP C').
- That is the returns of the enormously deep tree structure; all these things are stated in one diagram by the metaphor that *sagde* moves from Vo to IP-Spec.



Explanatory adequacy: The meaning of the notation

- All this is what I call characterisation of the meaning of the sentence. The minimalist approach in this way make a lot of semantics; they only disguise it as structure. It is a pure color-attract-insects-explanation and not a causal explanation.
- Compare Ken's Structure-to-meaning diagram with my own diagram of types of meaning of a communicative utterance:



Explanatory adequacy: The meaning of the notation

- A minimalist analysis like Platzacks also permits generalizations. Based on the minimalist theory, it can be claimed that NEG-shift and *wh*-movement are two examples of the same generalized phenomenon, namely movement, a generalization that allow predictions that can be falsified by experiments - and that is what Ken does.



Explanatory adequacy

The meaning of the notation

- **All these statements expressed by the metaphor of the formalization are in fact about the meaning of the sentence, and they are both true and relevant** (but not, as I mentioned, the whole truth about it). In other words the analysis is (almost) descriptively adequate: it states the structure of the form, and it states most of the meaning of the sentence.



Explanatory adequacy

The meaning of the notation

- In this respect this analysis is descriptively equivalent to the analyses made by a sentence scheme (which gives an account of the word order) supplied by an analysis of what Diderichsen calls sentence members (subject and object and so on), of semantic roles (2-roles), of tense and aktionsart and of information structure, the only difference being that the generativist metalanguage is throughout metaphoric, while the Didericsenian metalanguage is sober with a single innocent metaphor. They are equally descriptively adequate, and can be translated to each other. It is the same true story told in different languages.



Explanatory adequacy

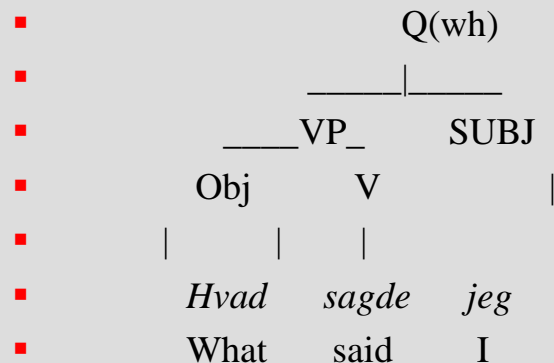
Johnson Laird

- The problem with the generativist metaphors is that they are psychologically misleading. Temporal word order - which is the real ‘ding an sich’ which is to be described as form and interpreted as meaning, could be described by a tree diagram and a left corner parser suggested by Johnson Laird. It could look like the following:



Explanatory adequacy

Johnson Laird



- In a left corner parser you
- (1) start at the first word *Hvad*, find it in the lexicon, go up to the first left corner and guess it's category (subj, complement or object),
- (2) you then read the second word, *sagde*, go up to the first new left corner, guess it's category (VP) and cancel all the wrong guesses from the first step (all but obj.),
- (3) read the last word, guess it's category and find the last left corner, viz Q for wh-question.
- Combined by such a psychologically realistic parser a tree diagram can say probable things about the biological processes in the brain, and make prediction that can be tested.



Explanatory adequacy: Embedded clauses

- But the style of tree growing in minimalist theory is, to put it mildly, not very psychologically realistic and not an eye opening metaphor. You start creating a weeping willow from the outermost tiny twigs, and then you build up branches and the trunk by copying material again and again until you reach the first word of the sentence, the very seed from which the whole tree is supposed to be generated. So the order of the analysis is systematically turned around compared to the psychological reality.



Explanatory adequacy: Embedded clauses

- If we look at the ways minimalist theories explain language development it becomes even more absurd. In the good old Old Danish times we had Vo-IP-Spec movement in both main clauses and embedded clauses. Then the verb suddenly in the Middle Age stopped wandering in subordinate clauses, while it still were extracted, repelled, moved around on long itineraries in main clauses until this very day. Optimality Theory explains that this change happened because the constraints ‘Vo-right’ and ‘Verb-in-Vo’ changed rank when the person morphology was worn out.



Explanatory adequacy: Embedded clauses

- If I should explain the fact that Danish has **F-v-n-a-V** word order in main clauses, and **k-n-a-v-V** word order in embedded clauses, I would do it in this way:
- If you want to analyse how we interpret an embedded sentence like
- *at hun ikke ville give drengene bøgerne i går*
- that she not would give boys-the books-the yesterday,
- ‘that she wouldn’t give the boys the books yesterday’
- you start with first word and put it in the first slot with a feasible category name (*at* only fits in the **k**-slot - *k* for conjunction - not in F or v), then you continue with the next word further in the scheme (*hun* in the **s**-slot - *s* for subject, *ikke* on **a** - *a* for adverbial), and then you have to put both *ville* and



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Explanatory adequacy: Embedded clauses

¶

		Konjunktional		++	Omsagnsfelt				Uds.adv.			
F	v	k\→	s y	a\→	V	++	R1	M	++	R2	++	A
		<i>fordi</i>	<i>hun</i>	<i>altid</i>	<i>var</i>							
		→	<i>der</i>	→	<i>stod</i>					<i>ved siden af dem</i>		
		<i>at</i>	<i>hun</i>	<i>ikke</i>	<i>vile give</i>		<i>drengen bøgerne</i>					<i>i går</i>
		<i>hvad</i>	<i>jeg</i>	<i>ikke</i>	<i>havde ventet</i>							
		<i>hvent</i>	<i>Gud</i>	→	<i>giver</i>		<i>embede</i>					
		<i>jo mere</i>	<i>vi</i>	→	<i>er sammen</i>							

¶



Explanatory adequacy: Embedded clauses

- That the finite verb is placed at the **V**-slot, and not at the **v**-slot where finite verbs in main clauses are placed, indicates the embedded sentence has no reality status (truth value) of its own, but is dependent on the meaning of the reality status of the matrix sentence and the type of syntactic function it has in this sentence. If we take the main clause
- *Hun benægtede at hun ikke ville give drengene bøgerne i går*
- she denied that she not would give boys-the books-the yesterday
- not only the reality status (truth value) of the embedded clause *at hun ikke ville give drengene bøgerne i går* is undecidable because *benægte* (deny) is a non-factive verb; but the meaning of the clause is also dependent on the meaning of the matrix verb, the meaning being:
- ‘she said that she (in fact) would give the boys the books yesterday



Explanatory adequacy: Embedded clauses

- This analysis reflects the fact of a certain word order in embedded clauses signals to the listener that it has no reality status for itself.
- If I should explain why the Danes in the Middle Age suddenly changed the word order of subordinate clauses from **FvnaV** to **knavV**, I think that the most probable explanation is the following:



Explanatory adequacy: Embedded clauses

- At that time it was not possible to express the meaning difference between sentences stating reality and sentences expressing state of affairs with no reality status the way it had been done until that time, viz. by subjunctive mood, because the subjunctive inflexions had been worn out during some centuries.



Literature

- Literature:
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