



Tartu Riiklik Ülikool

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**AASTAKOOSOLEK
ANNUAL MEETING**

G

1969

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**TEESID
ABSTRACTS**

Tartu 1969

TARTU RIIKLIK ÜLIKOOI
Eesti keele kateeder

GENERATIIVSE GRAMMATIKA GRUPI
AASTAKOOSOLEKU TEESID

ANNUAL MEETING OF THE
RESEARCH GROUP FOR
GENERATIVE GRAMMAR

1969

ABSTRACTS

Tartu 1969

ТЕЗИСЫ ОТЧЕТНОГО СОБРАНИЯ
1969 г. ГРУППЫ ПО ИЗУЧЕНИЮ
ПОРОЖДАЮЩЕЙ ГРАММАТИКИ

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SAATEKS

Aastast 1965 töötab Tartu Riikliku Ülikooli eesti keele kateedri juures peamiselt õppejõududest, aspirantidest ja üliõpilastest koosnev uurimisrühm, kes on endale ülesandeks seadnud eesti keele struktuuri selgitamise kaasaegsete meetoditega, eeskätt generatiivse grammatika meetoditega.

Oma töid on uurimisrühm seni avaldanud kahes sarjas: "Keele modelleerimise probleeme" 1, 2, 3₁, 3₂, 3₃ ning "Keel ja struktuur" 1, 2.

Järgnevas esitatakse 1969.a. detsembris toimuva uurimisrühma aastakoosoleku teesid. Koosoleku eesmärgiks on anda sissevaade käesoleval aastal teoksil olevatesse töödesse. Ettekanded pole seega juhuslikel teemadel, vaid on otseselt seotud aasta jooksul tehtud uurimistöödega.

FOREWORD

A research group consisting mainly of lecturers, post-graduates and students has been active at the Department of the Estonian Language of Tartu State University since 1965. The aim of the group is to investigate the structure of the Estonian language by means of modern methods, first and foremost with those of generative grammar.

The group has published some results of their work in two series: "Keele modelleerimise probleeme" (Some Problems of Language Modelling) 1, 2, 3₁, 3₂, 3₃ and "Keel ja struktuur" (Language and Structure) 1, 2.

The present publication contains the theses of the annual meeting of the group to be held in December 1969. The purpose of the meeting is to provide an insight into the current research work of the group. Thus the reports do not deal with incidental subjects but are directly connected with the research carried out during 1969.

A NOTE ON THE COMPARATIVE IN ESTONIAN

Mati Ereht

0. It has become apparent from the recent works on generative grammar that the structures which underlie sentences must be of a much more abstract kind than was previously supposed.

Three main points with respect to which the current GG differs from the previous one will be pointed out:

1) there is no distinction between the lexical categories such as verbs, nouns and adjectives in the underlying structures of sentences; on this level of analysis one must operate with predicates and arguments (Lakoff 1965, Bach 1968, Fillmore 1968c etc.), 2) the predicates are (semantically) complex units, i.e. they are analyzable into the elementary predicates (Lakoff 1965, McCawley 1968b etc.), 3) such relations as Agentive, Instrumental, Dative, etc. are defined on the level of underlying structures, but not the relations of Subject, Object, etc. (Fillmore 1968a, 1968b, 1968c etc.).

Are these abstract structures the ones that may be called the syntactic deep structures or must we consider them the semantic representations of sentences is quite irrelevant for the following discussion. (However, we rather agree with McCawley (1967, 1968a, 1968b) that there is no linguistically relevant level of deep structure and the surface structures of sentences are directly derived from the semantic representations of sentences by transformations.)

1. In the present paper an attempt is made to describe some problems of comparison of the (Estonian) adjectives. Here we shall consider only such sentences as (i) Jüri on pikem kui Mari 'George is taller than Mary' and Mari on lühem kui Jüri 'Mary is shorter than George', i.e. the sentences which involve the true comparative.

1.1. It is quite clear that the comparative marker EM is the surface realisation of the element which may be called the predicate of comparison. I suppose that in the sentence (1) there is the predicate rohkem kui 'more than' and in the sentence (2) the predicate vähem kui 'less than'.

1.2. We suggest that there are under the argument NPs of the sentences (1) and (2) the structures containing the dimension-marking element rather than the adjectives pikk and lühike. Taking into account that in certain contexts the form pikk (but not the form lühike) is also used to mark the dimension of length (for example in the sentence Jüri on 2 meetrit pikk 'George is 2 meters tall') we should give the shape pikk 'tall' to this element. Thus, the underlying scheme of the sentences (1) and (2) would roughly be the following: (Jüri on pikk) rohkem kui (Mari on pikk) and (Mari on pikk) vähem kui (Jüri on pikk).

1.3. The underlying sentences Jüri on pikk and Mari on pikk have no sentential realisations in the surface structure; only the nonpredicative phrases such as Jüri pikkus 'George's length', Mari pikkus 'Mary's length' are possible. It is so because the information asserted by the predicate tall is already contained in the subject-nouns of these predicates and the resulting sentences are to be analytic (cf. Jüri on pikkus 'George has the length'). What has been said is characteristic not only of the dimension-marking predicates but evidently also of such words as kuju 'shape', tuju 'mood' and others.

1.4. The facts expressed by the sentences (1) and (2) are actually identical. Therefore it may seem that there must be the same comparative predicate in both sentences and it is the topicalisation of the different arguments that determines the surface differences between (1) and (2). In my opinion there is no difference in the case relationships of the arguments of the comparative predicate. I rather tend to suppose that topicalisation is the underlying peculiarity of the comparative construction and it is

difficult to find more elementary predicates than rohkem kui and vähem kui.

1.5. I should like to show that it is just the topicalisation that makes it possible to regard the comparison as a certain type of grading.

E.Bach 1968, Nouns and noun phrases. E.Bach, R.T.Harms (eds.), *Universals in Linguistic Theory*. New York, 90 - 122. - Ch.J.Fillmore 1968a, The case for case. E.Bach, R.T.Harms, ..., 1-88. - Ch.J.Fillmore 1968b, Lexical entries for verbs. *FoL* 4 (4), 373-393. - Ch.J.Fillmore 1968c, Types of lexical information. *Working Papers in Linguistics* 2. Columbus, Ohio, 65-103. - G.Lakoff 1965, On the nature of syntactic irregularity. Cambridge, Mass. - J.D.McCawley 1967, The respective downfalls of the deep structure and the autonomous syntax. Paper read at LSA meeting. - J.D.McCawley 1968a, The role of semantics in a grammar. E.Bach, R.T.Harms (eds.), ..., 124-169. - J.D.McCawley 1968b, Lexical insertion in a transformational grammar without deep structure. *Papers of the 1968 regional meeting. Chicago Linguistic Society. Chicago*, 71-80.

PHONOSTATISTICS BASED UPON TEXTS FROM
ESTONIAN FICTION

Mati Hint

During the year 1969 an extensive programme of phonostatistics based upon texts from Estonian fiction was realized as co-operative work of the Institute of Language and Literature of the Academy of Sciences of the Estonian S.S.R. and the Computation Centre of the Tartu State University.

The analysed material consisted of two separate samples. The first sample (15,700 words) contained passages (5-6 pages selected at random) from novels and short stories by ten writers of the 1960s, 1,570 words from each book; the second sample (31,500 words) consisted of an entire novel, published in 1968 (Eno Haud, Etturid, Tallinn 1968).

The analysed unit was the simple word: all components of compound words were analysed as separate simple words; in addition derivational suffixes with grade alternation and phonological component words of foreign words having phonologically the structure of compounds were punched as simple words. The analysable units were established using semantical, morphological, morphophonological and phonological criteria: an analysable simple word was in effect a word or part of a word that requires assignment of degree of quantity.

The material was punched in phonological transcription which contained the following symbols:

/k p t f h s š š l ŷ m n ŋ ŋ v j w , a o u õ e i ä ö ü '+/,
where /,/ is a syllable boundary marker between two vowels,
/+/ is a marker of word boundaries, and /' / is a marker of
the third degree of quantity transcribed before the syl-
lable, e.g. /+'pennsi,on+/.
Examples of transcription:

/+'maantt+'tee+/,
/+'seŷtts + konna+/,
/+'akro + 'noom+ / etc.

The transcription used in this work is narrow enough to preserve all quantity contrasts even when the syllables are divided up into syllable onsets, nuclei and terminals.

The spelling is based on literary pronunciation. In cases where the orthoepic norms are debatable we have relied on the author's "Ortoepia normeerimise probleeme" (Tartu 1968).

The automatical palatalization before /i/ and /j/ is treated in two ways: first the palatalized /t̃ s̃ l̃ ñ/ are counted in environments before /i/ and /j/ and secondly the non-palatalized /t a l n/. So all the data concerning palatalization are presented twice: the first count presents the maximum of consonants that should be interpreted as palatalized and the second count reflects the minimum of these.

The following statistical indices were computed for every entry: number of occurrences, percentage, absolute error (1.96 fold standard error), confidence limits and relative error in percentage (all at a confidence level of 0.95).

The following general data were obtained from statistical analysis of the samples.

1. The frequencies of phoneme symbols.
2. The frequencies of binary combinations of phonemes.
3. The frequencies of words with different number of syllables (the whole number and that when differentiated by degrees of quantity).
4. The correlation between the number of phonemes and syllables (1 syllable - 2 phonemes, 1 syllable - 3 phonemes ... 2 syllables - 3 phonemes, 2 syllables - 4 phonemes, etc.).

In addition to these general data the more detailed data concerning the syllable structure of the analysed words were obtained. These data will be presented separately for each degree of quantity (for words of the first, second and third degrees of quantity). The short forms of personal pronouns ma, sa, ta, me, te, nad, mu, su, conjunction ja and adverbial ju, no are not treated as words of quantity three

but as clitics.

The following are the data on the syllable structure.

1. The frequencies of the consonants and consonant clusters as the onsets of the first syllable.

2. The frequencies of the nuclei of the first syllable (vowels and vowel sequences).

3. The frequencies of the consonants and consonant clusters as the terminals of the first syllable.

4. The frequencies of the consonants as the onsets of the second syllable.

5. The frequencies of the vowels and diphthongs as the nuclei of the second syllable.

6. The frequencies of the consonants and consonant clusters as the terminals of the second syllable.

7. The frequencies of the onsets of the non-first syllables (from 3rd to 6th syllables).

8. The frequencies of the nuclei of the non-first syllables (from 3rd to 6th syllables).

9. The frequencies of the terminals of the non-first syllables (from 3rd to 6th syllables).

The statistical indices are computed as summary data for all non-first syllables, but the number of occurrences is registered in each syllable (e.g. in the 3rd, 4th, 5th, etc. syllables).

The data on the syllable structure are supplemented with statistical counts of syllable-terminal vowels (open syllables) and word-final vs. syllable-final consonants and consonant clusters.

Several kinds of distributional data concerning the combination and co-occurrence of vowels and consonants and the occurrence of consonant sequences between vowels of the first and the second syllables were obtained.

All the data will be presented for both samples separately.

Phonostatistics will be supplemented with lexicostatis-

tical characterizations of both samples and with an extensive introduction where several theoretical and technical problems concerning mainly the transcription are dealt with.

The Estonian phonostatistics based upon the texts from Estonian fiction will be published in 1970 or 1971 (with a summary in English).

SOME REMARKS ON THE DESCRIPTIVE WORDS
IN ESTONIAN

Jaan Kaplinski

The Estonian language makes an extensive use of descriptive words, in this way surpassing the boundaries of onomatopoeics proper. So e.g. the words for 'corner', 'thicket', 'mud', 'quickly', 'flake', 'meagre' are descriptive, at least not un-motivated. The resemblance between the phonetic shape of the word and the phenomena they stand for may find some explication in the recent studies of synesthesia.

This relevance of synesthesia in Estonian is a very salient difference between the Western and Central European on the one and Balto-Finnic and other ancient Eurasian languages on the other hand. As the grammatical tradition originates from the former, the phenomena of descriptivity are rather poorly dealt with in Estonian grammars and linguistic studies. The situation is not much better in the Finno-Ugric and Siberian linguistics in general and it is almost impossible to find adequate data on descriptive words in existing grammatical works on these languages.

Accordingly, if treated, these words create many theoretical problems on the descriptive as well as historical level. Some kinds of descriptive words have no proper place in the word classes of the grammars as they have common traits with adverbs as well as with so-called interjections or even nouns. This points to the shortcomings and general inadequacy of our word taxonomies.

To the theorist of generative grammar, the abundance of the descriptive words in the Balto-Finnic languages ought to recall that the language is not quite a grammatical network carefully enclosed in a black box; phonetics and semantics have a lot of more intimate "short-circuit" con-

nexione which must equally be studied and taken into consideration in an adequate description of a language.

For historical linguistics the descriptive words also raise some interesting, even important problems. At present these words, i.e. their roots are considered an exclusive feature of the Balto-Finnic languages and of a comparatively late origin, for, as a rule, they do not occur in other Finno-Ugric languages. There exists also a well founded opinion that all the adverbs in Finno-Ugric languages are of late origin. But, amazingly enough, words phonetically and functionally similar appear even in such remote Eurasian languages as Japanese and Korean; some rather similar phenomena are noted also in Dravidian. It may well be that all old Eurasian languages share some very ancient and common sound patterns generating descriptive words. The roots need not necessarily be common: it is well known that onomatopoeic words being generally ephemeral do not follow exactly the sound rules of language history. As in the above mentioned languages there is a lot of descriptive adverbs, it is not impossible that they represent the most ancient type of manner adverb in Finno-Ugric, Altaic and other Eurasian languages.

THE TYPES OF DERIVATIONAL STRUCTURE
OF ESTONIAN DEVERBAL NOUNS

Reet Kasik

In Estonian there are relatively many derivational affixes which derive substantives from verbs. Absolutely productive are the affixes -mine (kirjutamine 'writing'), -ja (õmbleja 'one who sews', 'dressmaker'; ratsutaja 'rider', 'one who is riding'), -nu (olnu 'something which has been'; upunu 'one who is drowned'), -tu (only in the case of transitive verbs: räägitu 'something spoken about', tehtu 'something done'). The affix -us produces derivatives regularly from v-, tav- and tud- participles of all verbs (erinevus 'difference', sõidetavus 'driving conditions', haritus 'educatedness'). Concerning the usage of other derivational affixes a number of restrictions exists. Derivation of verbal substantives (DS) depends significantly on the morphological structure of the original stem; in particular, on whether the underlying verb stem is simple (i.e. a root) or a derivative; and also on whether the stem is subject to gradation or not.

In addition to simple and derived stems some non-finite forms of verbs may also serve as the basis for derivation of DS-s; these are participles and ma-infinitive.

Only in the stems (simple or derived) which are not subject to gradation can suffixes adhere to the inflected forms of verbs. The suffixes -e, -ng, -k, -m, -u, ik, -ar, -ts, -sk, -rd can adhere only to the simple stems. From these, -ar and -sk adhere only to the gradationless stems (joomar 'drunkard', logask 'loafer'), -ts to the gradational stems (hüpits 'skipping-rope'), -ik only to the gradational stems and to the inflections verbs which are not subject to gradation (jooksik 'fugitive', minevik 'preterite'). The suffix -e, too, produces derivatives mainly from gradational alternating stems (hüpe 'jump' .

katse 'trial'), there is only one word where -e has been attached to a gradationless stem (aje 'impetua').

Beaside the suffixes of absolute productivity also the suffixes -us (ōpetus 'teaching', 'doctrine', nōidus 'witchcraft'), -is (tuletis 'derivative', hoidia 'preaerve', 'bottled food'). -nd (rakend 'team', loend 'list'), and -i (ko-puti 'knocker') can adhere both to the simple and derived stems. Among these, -i and -nd cannot adhere to gradationless simple stems; while -us and -is do so in the case of the type mentioned above stems only to inflections (olevus 'being', 'creature', tagatis 'guarantee'). In case of -ne and -ise stems the suffix -us can adhere only to inflected forms (erinevus 'difference', kōlisevus 'sounding ability'). -is, -nd and -i can adhere to stems derived by means of the suffix -ta (or -da).

n-derivatives are connected only with verbs containing the suffix -iae-, a-derivatives only with verbs having the suffix -a. In case of a- and n-derivatives we cannot determine exactly to which part of speech the stem belongs (one may doubt the direction of derivation kohama → koha, kohisema → kohin). However, in virtue of the syntactic and semantic characteristics of these derivatives, which are analogous to these of DS-s, they are nevertheless treated as DS-s.

Comparing the suffixes adhering to the simple stems and those adhering to the derived stems one can see that the smaller but the more productive part of DS suffixes can adhere to the derived stems, and that is why the majority of DS-s belongs here.

EINIGE VERTEXTUNGSMITTEL IN DER POPULÄR-
WISSENSCHAFTLICHEN LITERATUR

Maie Raitar

Der Text ist keine mechanische Summe der Sätze, sondern bildet eine Struktur. Die Erscheinungen der Textstruktur kann man nicht mit einer nur auf die Domäne des Satzes beschränkten Grammatik erklären. Mit der Textstruktur beschäftigt sich die Texttheorie.

Das Verknüpfen der Sätze zum Text vollzieht sich mit Hilfe verschiedener sogenannter Vertextungsmittel. Die Verknüpfungen im Text zerfallen in zwei Arten:

1) Verknüpfungen semantischer Art (der wiedervorkommende Referenzträger wird verschieden ausgedrückt),

2) Verknüpfungen syntaktischer Art (zwischen den Sätzen in der Satzreihe oder im Satzgefüge).

1. Für die Äußerung der mehrfach genannten Referenten gebraucht man die Thematisierung und auch die Metathematisierung.

Es gibt folgende Thematisierungen:

1) die Wiederholung (das Wiederholen genau desselben Ausdruckes):

"Matemaatika - teaduste kuninganna - on meie mõistuse kõige elegantsem ja ühtlasi ka kõige rangem relv. Mate-

maatika on meie teejuht kaugetel rännakutel teadmatus-
se (SV,29, 1968.)⁺

2) die Pronominalisierung (bei nochmaliger Äußerung
wird ein Pronomen gebraucht, zum Beispiel: tema, nemad, see):

"Kõik läheks oma rada - ja armastus samuti. Teda ei saa
tagant surkida ega pidurdada - tal on omad eriskummali-
sed seadused." (SV, 52, 1968.)

3) die Proadverbalisierung (zum Beispiel mit Adverbien
siin, siia, siit; siis, seejärel; nii):

"Maailmaruum on lõpmatu. Igatahes, ta on väga suur. Vä-
ga pime. Ja väga külm. Siit pärineb vaistlik püüe leida
tolles kõleduses mingi väike, soe nurgake, varjupaik,
olgu selleks siis Naine, Hobby, Töö või Midagi. Siia kuu-
lub nähtavasti ka usk." (SV, 29, 1968.)

4) die Proverbalisierung:

"Meie esivanemad ülistasid oma suurepäraseid - sooje ja
kuivi - koopaid kui progressi sümboleid. Et nad seda te-
gid, see oli väga hea - nende jaoks."(SV, 29, 1968.)

5) die Thematisierung mit Ordnungszahlen:

"Asi on seda väärt, silmaringi laiendamise nimel tasub
üle saada nii igavusest, solvumisest kui ka hirmust.
Esimene pole vahest eriti raske. Teine on tunduvalt
raskem... Kõige raskem juhtum on kolmas..."(SV,15,1968.)

⁺ Die Belege entstammen den Artikeln G. Naan, erschienen
in der Zeitung "Sirp ja Vasar" nr. 15,29 und 52 1968.

Die Metathematisierung ist die Vertextungserscheinung, bei der der aus mehreren Sätzen bestehende Textabschnitt im letzten Satz metasprachlich zusammengefaßt wird:

"Teadmishimu ajab meid ikka edasi, lõpmatuse poole. Esi-
algu ehitasime selleks parvi, siis jäälõhkujaid, nüüd
konstrueerime kosmoselaevu. Midagi loome me alati."
(SV, 29, 1968.)

2. Die Verknüpfungen syntaktischer Art zwischen den Sätzen des Textes sind:

1) die kopulative Verknüpfung (mit der hinzuzufügenden, steigernden oder bestätigenden Schattierung; gewöhnlich gebraucht man für die Verknüpfung der Sätze keine kopulativen Konjunktionen):

"Kuid ka sellest on vähe. Peab olema veel võimas intui-
sioon, et kahelda just õiges punktis ja õiges suunas."
(SV, 29, 1968.)

Von stilistischen Überlegungen ausgehend, kann man einen Satz auch mit einer kopulativen Konjunktion beginnen:

"Universumi lõpmatus tagab raudse paratamatusega para-
doksides olemasolu meie ümber ja meis endis. Ja muidki
asju." (SV, 29, 1968.)

2) die adversative Verknüpfung (oft mit einer adversativen Konjunktion oder auch ohne Konjunktion):

"Räägitakse, et jäneste normaalseks arenguks on tarvis
hunte, kes neid taga ajaksid. Meid ajavad taga raskused."
(SV, 15, 1968.)

"Valisin meelega süngeima variandi. Kuid on olemas ju

veel palju teisi perspektiive." (SV, 15, 1968.)

3) die konklusive Verknüpfung (am Anfang des Satzes stehen die Konjunktionen järelikult, niisiis, seega);

4) die explanative Verknüpfung (der folgende Satz beginnt mit den Konjunktionen seepärast, nimelt);

5) die Kausalverknüpfung:

"Meie koduplaneedil saavutatakse vastastikune mõistmine suure vaevaga. On igasuguseid suuri ja väikesi barjääre - sotsiaalseid, rahvuslikke, vanuselisi ja veel palju teisi." (SV, 15, 1968.)

ON VITALISTIC PRINCIPLES

Mart Rimmel

Some recent studies in historical linguistics are reviewed. A brief comment is presented to clarify the possible consequences of vitalistic principles for linguistic theory.

ON THE FORM OF GOVERNMENT STRUCTURE TYPES
OF ESTONIAN SIMPLE VERBS

H. Rätsep

1. In fixing the government structures the proposition that the existence and form of certain complements of the verb depends upon the nature of the verb's meaning has been the point of departure. In virtue of this when defining the government structure types of the verbs we discard all these members of the verb group whose presence (or form) is not directly conditioned by the presence in the sentence of a verb having a certain meaning. These members are called free complements as they can freely co-occur with any verb except the modal verbs. The complements depending upon the semantics of the verb are considered to be the elements of government structure and only between them and the verb the relation of government will be established.

2. A verb with a certain meaning may have several government structures since the elements of a government structure may be either obligatory or facultative with regard to the verb and there can be different relations between the elements themselves.

3. The government structures which are possible in case of a verb with a certain meaning are joined into a government structure type and are considered to be the variants of the type. A polysemic verb has usually several government structure types, a different type for each meaning.

4. Besides the principal member, the verb, the declensional forms of the class of substantives (N) or adjectives (A) as well as those of verbal substantives (Vn), several postpositional and prepositional combinations, infinite forms of verbs, subsentences and a number of substitution classes serve as elements of a government structure.

5. The differentiation of substitution classes is con-

ditioned by the fact that in certain cases the grammatical form of an element does not depend upon the meaning of the verb as the verb demands but the presence of a form class possessing a certain semantic feature. Form selection in a class does not depend upon the semantics of the verb but either upon the semantic structure of the sentence or upon the semantic peculiarity of the corresponding substantive.

6.0. In analyzing and describing the government structures of Estonian simple verbs the following substitution classes were needed.

6.1. Extralocal directional (De), whose interrogative adverb is kust 'where from' and which is substituted by proadverbs siit 'from here, hence', sealt 'from there, thence'. E.g. Jänessed närisid koore puutüvedelt 'Hares gnawed /off/ the bark from tree-trunks'.

6.2. Intralocal directional (Di), which can be substituted by proadverbs siia 'here', sinna 'there' and in interrogative sentences is substituted by the interrogative adverb kuhu 'where to'. E.g. Stuudiod on kuhjunud pealinna. 'The studios have accumulated in the capital'.

6.3. Translocal directional (Dt). This class has no proadverbs in common, it lacks even the interrogative adverb common to all the forms. Instead it is possible to establish the members of the class by means of diagnostic constructions. Cf. e.g. the following sentences.

Rongkäik kulgeb peatänavast mereranda. 'The procession takes its course along the main street to the sea-shore'.

Rongkäik kulgeb peatänavat mööda mereranda. 'id.' Rong-

käik kulgeb mööda peatänavat mereranda. 'id.' Rongkäik

kulgeb läbi peatänavava mereranda. 'The procession takes its course through the main street to the sea-shore'.

In this class there is the relation of substitution between a part of its members while the more limited relation of equivalence exists between another part of the members. When designating the relation of substitution by means of

the symbol ~ and the relation of equivalence by means of the symbol = the relations between the members of class Dt are as follows.

/N+el. = läbi 'through' N+gen. = N+gen. kaudu 'by, via' /~ /
N+part. mööda 'along, by' = mööda N+part. = N+part. pidi 'by, along' = piki 'along' N+part. /~ üle 'over, across' N+gen. ~
/ ümber 'around' N+gen. = N+gen. ümber 'around' /

(el. - relative, gen. - genitive, part. - partitive)

The class Dt splits into two subclasses relevant for a great number of verbs: Dt₁ (consisting of forms N+part. mööda = mööda N+part. = N+part. pidi = piki N+part.);

Dt₂ (all the rest).

This is namely so because of the fact that several verbs do not demand the class Dt as a whole but only one of its subclasses.

6.4. Besides the substitution classes referring to place two local classes indicating the collective activity are to be distinguished: the extralocal class Ce and intralocal class Ci. Only the nouns indicating a collective action may serve as its members. These classes are to be separated from the directionals as there are verbs which admit the presence of directionals but never that of classes Ce, Ci, E.g.

Ce - Poiss tuli pulmast 'The boy came from a wedding feast', Isa tuli koosolekult 'Father came from an assembly'.

Ci - Poiss läks pulma 'The boy went to a wedding feast', Professor sõitis konverentsile 'The professor went (lit. 'drove') to a conference'.

6.5. Intralocal modal (Modi), indicating a state which is proceeded to. Here, too, the members can be established, primarily, in diagnostic constructions. Even here the existence of two relevant subclasses becomes evident:

Modi₁ (Lehed hoidsid kummi. 'The leaves kept vaulted'. Juuksed tõmbusid krussi. 'The hair became frizzly'.)

Modi₂ (Sipelgas kukkus selili. 'The ant fell on its back'.)

The members of both classes can be listed and may be considered as special kinds of adverbs.

Modi₁ - sassi '/get/ mussed up', krimpsu '/become/puckered'; kortsu '/become/ wrinkled, creased', kummi '/become/ arched, vaulted, bulged out', kiiva '/become/twisted'; vingu '/become/ sulky', kägarasse '/become/hunched up', krampi '/become/cramped', norgu '/become/downcast; drooping', longu '/become/ drooping', längu '/fall/ aslant', kõssi '/become/ huddled up', tõllakile '/become/ dangling', etc.

Modi₂ - kummuli '/become/ overturned', kõhuli '/lie down/on one's belly', käpili '/drop/ on all fours', külili '/lie down/ on one's side', pikali '/be/ in a lying position', etc.

There are verbs admitting the occurrence of the whole class and verbs admitting that of one subclass only.

6.6. Local modal (Modl) also splits into two subclasses:

Modl₁ - sassis 'mussed up', vimmas '/be/ humped', uppis 'toppled over', purjus 'drunk', liikvel 'astir', pingul 'tense, on the stretch', krimpsus 'puckered', vingus 'sulky', longus 'drooping', tõllakil 'dangling', etc.

Modl₂ - kõhuli 'on one's belly', põlvili 'on one's knees', selili 'on one's back', pikali 'in a lying position'; etc.

E.g. Mees oli purjus 'The man was drunk' (lit.: in a drunken state), Mees lamas selili. 'The man lay on his back'.

6.7. Together with the *v e r b a d i c e n d i* the substitution classes indicating the language used occur. These are the extralocal class *Le*, intralocal *Li*, local *Ll*. E.g.

Büroo tõlkis kirja vene keelest (*Le*) esperantosse (*Li*) 'The office translated the letter from Russian into Esperanto'. Ametnik kõneles kodumurdes (*Ll*). 'The official spoke his native dialect'.

6.8. In case of reciprocal verbs the substitution class *R* indicating the reciprocity of action occurs. This class contains only a few members (teineteisega 'with each other',

üksteisega 'one with another', omavahel 'between (among) ourselves (~ yourselves, ~ themselves)', isekeskis 'among ourselves (~ yourselves, ~ themselves)') and occurs only in case of the subject which is plural in essence. E.g.

Mehed maadlesid isekeskis, 'The men wrestled among themselves'. Mehed võitlesid üksteisega 'The men fought one with another'. Poisid vestlesid omavahel 'The boys talked among themselves'.

6.9. Also some groups of subordinate clauses (KL) and utterances of direct speech in government structures are to be considered as substitution classes.

7. A number of substitution classes usually occur outside the government structures as free complements. In this case they are facultative.

But if a certain verb demands the obligatory presence of the substitution classes those are to be considered as belonging to the government structure of the verb because their obligatoriness is, simply, conditioned by the semantic features of the verb. Hence, unlike the government structure elements which may be both obligatory and facultative these elements are only obligatory; while facultative they usually do not belong to the government structure. The classes of free complements belong, as facultative ones, into the government structure only when being in the relation of equivalence with an element of the government structure.

8.0. Thus the following substitution classes are added to the previous ones.

8.1. Local (Loc) indicates the place of occurrence of an action, its interrogative adverb being kus 'where' and its proadverbs being siin 'here', seal 'there'. It serves as an element of the government structure e.g. in case of the verb asetsema 'be situated, be placed, be located, lie, be' (Lamp asetseas keset lauda 'The lamp was placed in the middle of table').

8.2. Modal (Mod), indicating the manner of an action

and being substituted in interrogative sentences by the interrogative adverb kuidas 'how'. E.g. in government structure of the verb käituma 'behave' (Noormees käitus ebaviisakalt. 'The young fellow behaved impolitely'. Noormees käitus aumehena 'The young fellow behaved as a man of honor'.)

8.3. Temporal (Temp) can be substituted by proadverbs siis 'then', sellal 'at the time when, while', tollal 'at that time /long ago/, then' and by the interrogative adverb millal 'when'. E.g. in case of the verb juhtuma 'happen' (Kaklus juhtus palgapäeval 'The scrap happened on pay-day'.)

8.4. Temporal measural (Tempmes) which can be substituted by the proadverb niikaua 'as long /as/' and by the interrogative adverb kui kaua 'how long'. E.g. in the case of the verb vältama 'last, continue' (Koosolek vältas viis tundi 'The assembly lasted five hours'.).

8.5. Measural (Mes) indicates the amount, measure and is in interrogative sentences substituted by the interrogative form kui palju 'how much, how many'. It is an element of the government structure in case of the verb kaaluma 'weigh' (Kohver kaalub kümme kilo 'The suit-case weighed ten kilograms').

8.6. Distributional (Distr) indicates the number of participants and is an element of the government structure e.g. in case of the verb jääma 'remain, stay, become' (Me jäime kahekesi 'We remained two').

8.7. The situation is entirely different in case of the causal (Caus). Usually it is a class of free complements and never occurs as obligatory. However, there are several verbs inducing different forms of its members (N+el., N+gen. kätte, etc.) and thus they are to be connected with the government structure as the form is, after all, conditioned by the verb. Cf. e.g. Haige suri janu kätte 'The patient died of thirst'. Nägu paistetas näljast 'The face swelled of hunger'. The problem of causal belongs to the most complicated ones when establishing the government structures.

9.0. In a government type there appear to be relations between the verb and other elements of the government struc-

ture but also among the elements themselves. Now some most usual cases of relations between two elements, resp. complements, are examined.

9.1. In case of certain verbs the elements always occur together, belonging, thus, to the government structure. E.g.

...V N+ngp. N+all. (Luuletaja pühendas luuletuse sõbrale. 'The poet dedicated the poem to /his/ friend'.)

(ngp. - nominative or genitive or partitive; all. - allative)

9.2. There are cases when an element demands the presence of another element but not necessarily vice versa. E.g.

... V N+ngp. (N+all.) (Üliõpilane sooritas professorile eksami 'The student passed an examination with the professor').

9.3. There can be disjunction between two elements: either both or at least one element must occur, e.g.

... V¹/ V²+ma v Di/ (Mees mahtus pesuruumi pesema 'The man found room for washing in the wash-room').

9.4. Both elements may be absent or present. E.g.

...V (N+ngp.) (N+all.) (Preester ohverdas jumalale lamba 'The priest sacrificed a lamb to (the) god').

9.5. Both elements either occur together or are absent together. E.g.

...V¹ (N+ngp. V²+ma) (Ema laulis tütre magama. 'Mother lulled (her) daughter to sleep').

9.6. Both elements may be absent but one of the elements can occur only when the other is present. E.g.

...V (N+ngp.(N+all.)) (Miina sünnitas Mihklile tütre 'Miina bore a daughter to Mihkel').

9.7. There can be substitution between the elements in the government structure type. E.g.

...V / N+ngp.~KL / (Komitee selgitas parimad esinejad 'The committee made sure of the best performers'. Komitee selgitas, kes on parimad esinejad 'The committee made sure who are the best performers'.)

9.8. There can be equivalence between the elements in the government structure type. E.g.

...V / N+all. = N+kom./ (Rõõmule seltsib tänutunne. 'The joy is joined by gratefulness'. Rõõmuga seltsib tänutunne 'id.') (kom. - comitative)

9.9. An element may have several variants whose selection does not depend upon the meaning of the verb but upon other factors. Such an element always occurs together with another element; neither can be absent. However, there is a variant that can occur alone, without any other element. Such a somewhat more complicated case will be presented in two rows.

...V N+ngp.N+all.

...V N+part. (N+all.) (Instituut laiendas katsed kolhoosidele 'The institute extended the experiments to collective farms'. Instituut laiendas katseid 'The institute extended the experiments'.)

In this case the element N+ngp. has three variants: N+nom., N+gen., and N+part.

9.10. An element of the government structure can be in relation with an element outside the structure so that they can substitute each other in these different structures, such a substitutability being due to the meaning of the verb. In such cases the government structure type includes several constructions. E.g.

N^1 +nom. V N^2 +part. (N^3 +kom.)

N^3 +nom. V N^2 +part.

(In the case complement is transferred into subject -

Mees lõikas leiba noaga. 'The man cut up bread with a knife'. Nuga lõikas leiba 'The knife cut bread'.)

N^1 +nom. V N^2 +kom.

N^1 +nom. ja N^2 +nom. V

The complement in comitative in the second construction is the second subject in nominative.

(Sirge moodustab teise sirgega täisnurga 'The straight line constitutes a right angle together with another straight line'. Sirge ja teine sirge moodustavad täisnurga 'The straight line and another straight line constitute a right angle'.)

10. All these relations can be met while establishing the Estonian government structure types. By the way, in a single government structure there can occur only the relation presented in 9.1. In such a manner the author established the government structure types for all the most usual Estonian verbs (about 3,000). In the following two examples about the presentation of types.

- (a) $N^1 + \text{nom. V } N^2 + \text{ngp.} / N^3 + \text{ill.} = N^3 + \text{gen. sisse} / (N^4 + \text{kom.})$
 $N^4 + \text{nom. V } N^2 + \text{ngp.} / N^3 + \text{ill.} = N^3 + \text{gen. sisse} /$

V=kõitma 1 ('bind'), mähkima 1 ('wrap'), mässima 1 ('wind'), siduma 1 ('tie').

Examples: Naine kõitis asjad rätikusse. 'The woman bound the things in a kerchief.' Naine kõitis asjad rätiku sisse. 'id.' Naine kõitis asjad terve käega rätiku sisse. 'The woman bound the things in a kerchief with her sound hand.' Ossavad käed kõitsid asjad rätikusse. 'Neat hands bound the things in a kerchief.'

- (b) $N + \text{nom. V} / N + \text{ngp.} = N + \text{gen. üle} \sim \text{KL} = \text{OK} /$

V = otsustama 1 ('decide, estimate').

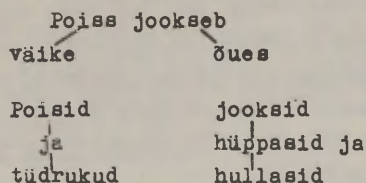
Examples: Ravi vajaduse otsustab arst. 'The need for treatment is decided by a doctor.' Ravi vajaduse üle otsustab arst. 'A doctor decides about the need for treatment.' Arst otsustas, et ravi on vajalik. 'The doctor decides that treatment is needed.' Arst otsustas: "Ravi on vajalik." 'The doctor decided: "Treatment is needed."'

CO-ORDINATION IN A SIMPLE SENTENCE

Helle Saluveer

1. Any part of the simple sentence can be expanded not only by means of subordination, but also by means of co-ordination.

Compare:



2. The connection of co-ordination is a relatively free connection between two or more word-forms or word-combinations. Connected components are of the same value. Their number is not limited.

3. The connection of co-ordination is expressed by 1) intonation, 2) conjunctions and 3) word-forms.

The intonation of the enumeration is an inevitable means of expressing co-ordination, it characterizes untypicalness of all parts.

The different shades of meaning of co-ordination are expressed by means of co-ordinative conjunctions (ning, ja, ega, ehk, või, aga, kuid, ent and others).

Co-ordinated word-forms must be mutually substitutable, i.e. they must belong to the same syntactical class of substitution. Units of the same syntactical function can therefore take part in co-ordination. Usually they are also the same parts of speech and in the same form.

4. Though to a certain extent co-ordination enables word-class and morphological variation, but it is on a considerably narrower scale than the limits of the traditional parts of the sentence of the Estonian language. Forms of the nominal subject can be co-ordinated

in the forms of the subject, i.e. in the nominative and the partitive cases both in the singular and in the plural (Aknast tuli värsket õhku ja sääski. Seal oli üksik talu, vana saun ja teisi maju.)

Any form of the predicate in the same person can be co-ordinated, i.e. it can be in the negative and the affirmative forms (Poiss ei näinud hunti ja huilgas edasi), in the Present Tense and the Past Tense (Sa oled lubanud ja pead nüüd tulema), in different moods (Peeter lõhub või vähemalt lõhuks selle agregaadid otsemaid).

The number only can vary in co-ordinating direct objects, not the case (On võimatu kirjeldada selle kõneluse aineid ja arengut).

The noun, adjective (in all degrees of comparison) and participles can be co-ordinated in the function of a predicative (Vastuvõtt oli hiilgav ja südamlük). Cases of the nominal predicative - the nominative and the partitive - cannot be co-ordinated between each other. (Kõrboja oli suur sundija ja kubjas. Pille oli esimesi sportlasi ja õppijaid klassis).

Of different parts of speech, the adjective, the adjectivized pronoun, the ordinal numeral, participles and the noun in the comitative case and in the abessive case can be co-ordinated in the function of an attribute (Roosa, tutiga müts. Niisugune, maitsekas riietus. Viimane, üheteistkümnnes kooliaasta. Vana, väsinud mees. Värvita, pika ninaga nägu). Co-ordinated nominal attributes can vary:

1) the form of the singular and the form of the plural (Inimene ilma arvestuseta ja pretensioonideta).

2) external and internal case forms (Õõ põllul ja alas).

The adjectivized attribute can be in different degrees of comparison (Ei, temal oli intelligentne, palju meeldivam välimus). On the whole the adverbial modifiers can be co-ordinated only within the limits of a subdivision (adver-

bial modifier of place, time, manner and others) and the possibilities of morphological variation depend on the kind of the adverbial modifier. The adverbs of manner des- and mata-forms of the verb, and the noun in the comitative and the abessive case can be co-ordinated in the function of word-class adverbial modifier (¹a hütida häiritult, vihaga. Mõõdukalt ja hullamata on raske elada. ...vaatas põlgusega, tuliseid silmi välgu-tadea. Söödi vaikides, kiirustamata.)

ON THE vat-CONSTRUCTION IN MODERN ESTONIAN

Ellen Uuspõld

1. A sentence with a vat-construction is a phenomenon of surface structure and is based on the subordinative connection between two sentence structures. The sentence structure under subordination nominalizes into the infinitive construction extending the verb of the main clause. The borderline between a vat-construction and the main clause is clear in cases like

(1) Peeter lootis sõidu pea lõppevat.

'Peter hoped for the drive to be over soon.'

Doubts may arise in sentences like

(2) Sõit näis pea lõppevat.

'The drive seems to be over soon.'

where sõit is the grammatical subject agreeing with the verb of the main clause in person and number (sõit näis, sõidud näisid) but being semantically connected with the verb in vat-form (sõit on see, mis lõpeb - drive is what will be over).

2. The synonymous variant to the vat-construction in all cases is the et-subordinate clause. The borderline between the starting structures in the corresponding complex sentences is clear:

(1a) Peeter lootis, et sõit pea lõpeb.

'Peter hoped that the drive would be over soon.'

(2a) Näis, et sõit pea lõpeb.

'It seemed that the drive would be over soon.'

(Cr. the corresponding simple sentences:

Peeter lootis. Sõit lõpeb pea.

Näis. Sõit lõpeb pea.)

* näima (also paistma, tunduma) without complements do not form acceptable sentences.

3. The vat-construction as a complement can occur with a limited number of verba only. Of intransitive verba näima, paistma, tunduma (all of them meaning 'seem') belong here. The et-subordinate clause or vat-construction are primary complements in case of the occurrence of the above mentioned verbs (see (2) and (2a)). Cases where these verba have only an adjective or adjectivized participle as a complement in surface structure, are obviously based on olema-sentence structure (i.e. we have an elliptical case of the olema-verb):

(3) Peeter näib {arukas, ehmunud, üllatatud} (olevat).

'Peter seems (to be) {intelligent, frightened, surprised}.'

Cf. (3a) Näib, et Peeter on {arukas, ehmunud, üllatatud}.

'It seems that Peter is {intelligent, frightened, surprised}.'

The grammatical connection of the verba näima, paistma, tunduma (all of them meaning 'seem') with the subject in such sentences also belongs to the surface structure only.

(4) Poissid näivad arukad (olevat). (Cf. sentence (3).)

'The boys seem (to be) intelligent.'

Cf. (4a) Näib, et poissid on arukad.

'It seems that the boys are intelligent.'

4. Most of the verba extended by the vat-construction belong to these transitive verba whose nominal object is always in the partitive (nägema 'see', kuulma 'hear', arvama 'think', mõtlemata 'think', uskuma 'believe', kujutlema 'imagine', oletama 'suppose', aimama 'guess', tundma 'feel, know', taipama 'understand', tajuma 'perceive', teadma 'know', mõistma 'understand', mäletama 'remember', märkama 'notice', tunnistama 'witness', kartma 'be afraid of', lootma 'hope', etc.).

Besides these there are the verbs which may also be connected with the genitive or nominative object but they are very few in number (e.g. üttelema 'say', leidma 'find'²¹).

²¹As a fact, leidma is a polysemic verb, different meanings of which are in connection with different types of complements (cf. leian raha 'I find some money' and leian, et see on õige 'I find it to be correct').

5. The vat-construction occurs both in the personal and impersonal form. A noun in the objective case always belongs to the personal construction and is in semantical connection with the verb in vat-form. In the corresponding (variant) subordinate clause the noun is the subject word:

(5) Leidsin poisi magavat. (Cf. Leidsin, et poiss magab.)
'I found the boy sleeping! (Cf. 'I found that the boy was sleeping.')

(6) Poiss leiti magavat. (Cf. Leiti, et poiss magab.)
'The boy was found sleeping.' (Cf. 'It was found that the boy was sleeping.')

(7) Nägin poisai hüppavat. (Cf. Nägin, et poiss hüppab.)
'I saw the boy jumping.' (Cf. 'I saw that the boy was jumping.')

If the agent-noun is identical with the subject of the main clause, a reflexive pronoun (which sometimes may be left out) is substituted for it in the construction:

(8) Peeter ütles end hiljaks jäävat.
'Peter said himself to be late.'

(9) Peeter arvas (end) sõpra mõistvat.
'Peter thought (himself) to understand (his) friend.'

The verb in the impersonal construction is impersonal in form (-tavat; -tud+olevat) and without the agent-noun:

(10) Peeter ütles oma klassis hästi õpitavat.
'Peter said they learn well in their class.'

Cf. (10a) Peeter ütles, et tema klassis hästi õpitakse.
'id.'

(11) Peeter ütles oma klassis hästi õpitud olevat.
'Peter said they had learned well in their class'

Cf. (11a) Peeter ütles, et tema klassis hästi õpiti.
'id.'

6. The case of the agent-noun in vat-construction depends first of all on the verb of the main clause and its form. In case of the verbs näima, paistma, tuduma (all of them meaning 'seen') the agent-noun is in the nominative

(see sentences (2), (3), (4)). In case of transitive verbs the case of the agent-noun is usually in accordance with the rules of the object, i.e. is always in the partitive in case of the verbs requiring the partial object:

(12) Nägin Peetrit tulevat. 'I saw Peter coming.'

(13) Märkasin Peetrit millegi üle juurdlevat.
'I noticed Peter pondering over something.'

(14) Kujutlesin inimest Kuul kõndivat.
'I imagined a man walking on the Moon.'

Of a total object may be connected with the verb of the main clause, it is reflected in the case of the agent-noun:

(15) Peeter ütles enese ära sõitvat.
'Peter said he was going away.'

(16) Peeter öeldi ära sõitvat.
'Peter was said to be going away.'

(Cf. also sentences (5) and (6).)

Cases where the olema-verb + predicative occur in the starting structure deviate from these general rules:

(17) Peeter teadis oma sõbra haige olevat.
'Peter knew his friend to be ill.'

(18) Ta tundis enese liigse olevat.
'He felt himself to be superfluous.'

(19) Peeter kartis ema pahase olevat.
'Peter was afraid of mother being angry.'

The genitive is directly the case of the agent-noun, i.e. the agent-noun does not depend (in the sense of subordination) on the verb of the main clause. Therefore one cannot consider the agent-noun of a vat-construction to be an object of the transitive verb of the main clause if the analysis starts from purely surface structure.

PRINCIPLES OF WORD INFLECTION IN ESTONIAN

Tiit-Rein Viiteo

0. Here the glossematic principles first presented in Hjelmslev 1943, pp. 12, 18, 56, 63 are accepted. Still the fulfilment of the following more special requirements or principles is considered to be of use:

- (i) there is no sign whose designator is unvoid;
- (ii) the occurrence as well the quality of any phoneme is unpredictable;
- (iii) no phoneme x in the designator of a simple sign can be preceded or followed directly by the same phoneme x.

1. We propose for Estonian the following preliminary phonological transcription. If /n o a õ i e ü õ ä/ are the vocalic prephonemes and /p t t k s š (š) h m n ŋ l r v j/ the consonantal prephonemes, the "length" and "overlength" of prephonemes are considered to be conditioned by mutual influence of four accents: (1) the plain, (2) the grave (symbol: `), (3) the acute (symbol: ´) and (4) the circumflex (symbol: ^), the circumflex accent being a combination of grave and acute. The grave accent is represented by lengthening of the single postvocalic consonantal prephoneme (e.g. /ute/ = [ute] 'ewe, part. sg.') or by lengthening of the (nonfirst) obstruent (i.e. p t t k s š h) in a postvocalic consonant cluster (e.g. /märki/ = [märki] 'mark, sign, token, target; part. eg.'). The acute accent is represented by lengthening of the vocalic prephoneme (e.g. /üte/ = [uDe] 'new; ill.'). The representation of the circumflex accent involves both the representations of the grave and acute accents (e.g. /ürt/ = [urt] 'new, part. eg.' /jürt/ = [jürt] 'root; part. sg.'). Among the representations of the plain stress deserves mentioning that in case of postvocalic consonant clusters the first consonantal prephoneme of the cluster is lengthened if the vocalic prephoneme is the first

of the kind in the word (e.g. /mä^ärka/=[mä^ärGä] 'wet; part.sg.', /mä^äkra/=[mä^äkra] 'badger; part.sg.'): the same is true if the vocalic prephoneme is the third in the word and the accent preceding the plain is circumflex (or, also, grave?). At this stage we ascribe the property of weakening any of the lengthenings conditioned by the ultimate preceding accent in the word to the acute accent, cf. /vä^äka/=[vä^äka] : /vä^äkä/=[vä^äkä] 'bushel; part.sg.:gen.sg.', /tö^öte/=[töt^öte] 'product, production; gen.sg.' : /tö^öté/=[töt^öté] 'bring; 2pl.'

Any SYLLABLE in Estonian consists of one or two vocalic prephonemes, and of one or more consonantal prephonemes. A nonfirst syllable whose vocalic prephoneme is preceded by a single consonantal prephoneme or a cluster begins in the consonantal prephoneme directly preceding the vocalic prephoneme except when there is either the grave or the circumflex accent in the preceding syllable and the consonantal prephoneme in question is either single or the only obstruent in the cluster. If there are three successive vocalic prephonemes, the last one belongs to a new syllable.

2. In virtue of the inflectional paradigms being subject to gradation as, e.g. (here only part.sg.:gen.sg.: "nom" eg.):

A	/küke	: küké	: kük/	'rooster'
	/kärke	: kärje	: kärk/	'honeycomb'
	/soja	: sójá	: soe/	'warm'
B	/hüpët	: hüpe	: hüpé/	'jump'
	/vatët	: vâte	: váté/	'view, sight'

we modify the transcription and write also

A	/kaske	: kasé	: kask~kašk/	'birch'
	/õte	: õé	: õte/	'sister'
	/kata	: kata	: kata/	'slingshot'
B	/ohët	: ohke	: ohé/	'sigh'
	/kõnèt	: kõne	: kõné/	'speech'
	/utët	: uteme	: uté/	'downy hair'

although there is no phonetical motivation for distinguishing accents in /k^äta/ and /ka^äta/, /k^öne/ and /k^öné/, /õ^äte/ and /ut^äé/, /soe/ and /õ^äé/. Thus one can speak about

stems of types A and B and, by the way, of type C consisting of stems like in

/rasket : raske : raeke/ 'heavy, hard'
/matalät : matala : matal/ 'low'
/tähtsät : tähtsa : tähtis/ 'important'.

In case of verbs the types are analogous as one can see when comparing the da-infinitive, 3sg and nud-participle:

A /täpa : täpáp : täpnut/ 'kill'
B /hüpäta : hüpáp : hüpánut/ 'jump'
C /mätuta : mätup : mätunut/ 'be buried under
smth'

In virtue of the cases as

/pesa : pësa/ 'nest; nom.sg.: "short" illative'

we write also

/maja : mäja/ 'house; nom.sg.: "short" ill.'

despite the fact that /mäja/ is phonetically identical to /mäia/ 'fond of dainties; gen.sg.'.

3. Any SIMPLE WORD in Estonian consists of a ROOT which may be accompanied by affixes belonging, at the utmost, to four of the following five sets: (1) a set of prefixes, being composed of one single prefix /n/ which indicates the property of constituting a collective, (2) derivational suffixes, (3) inflectional suffixes, (4) modulative suffixes, namely: /sa/, the reflexive suffix, cf. /kasvültass/= /nn kasvült/ 'what about his stature' where /kasvulta-~/ /kasvült/ 'stature; elat.sg.', and the indefinite suffix /ki/ as in /miski/ 'something', cf. /mis/ 'what', (5) enclitics, namely: /ki/ 'even, just, at least' and /t/ which is, under certain circumstances, an educated but linguistically unmotivated satellite of part.pl. in /si/. It is to be noted that the modulative /ki/ may in colloquial Estonian in certain cases precede the inflectional suffixes.

4. Among several approaches including that permitting the postulation of a nominative ending as McCawley for Finnish and/or singular marker it is considered as expedient to state that (a) nouns in the so-called nominative sg.

contain no inflectional morphemes, (b) the nud-participles contain no more inflectional morphemes than those in -nud, resp. in /nut/, and following to /nut/ suffixes, (c) there is no singular marker, (d) there are no markers of the present tense, indicative mood and active voice characteristic of a paradigm.

Asserting, empirically, that in order to correctly form any nominal or verbal inflection one has to know, at the utmost and sometimes necessarily, the inflections in (a) partitive and genitive, both in "singular" and plural, "short" illative, and besides those the uninflected form (i.e. the "nominative sg."), (b) da-infinitive, 3sg preterite, tud-participle, nud-participle, 3sg "present". The main problems in describing the word inflection in Estonian, however, are as follows.

- (1) How to explain the manifold representants of suffixes of (a) part."sg.", part.pl., gen.pl., and of (b) da-inf, 3sg prt., tud-people?
- (2) How to explain the manifold representants of the "short" illative?
- (3) Which is the canonic shape to be assumed for noun and verb stems, especially for nouns in the "nominative sg."?

The problem (2), however, has to do with a restricted number of noun types. The problem (3) can be investigated partially as the derivation cannot be discussed yet.

Let /y/ be any vocalic prephoneme not belonging to any inflectional suffix but being used only to indicate the accentuation of suffixes.

In order to get a better idea of the problems (1) and (3) nouns are classified according to the "endings" of (1) part."sg.", (2) part.pl. and (3) gen.pl. Besides the respective examples the "nom.sg." will be presented.

1	2	3	Examples	Noun type				
ta	it	té	a. seta:neit:nenté sé;nét 'this; these' b. teta:neit:nenté tema:ta:nemat~nat 'he; they'	11				
	--	te	ke:ta : --- :kéléte kea 'who'	12				
y	i	yy	a. kát :kási :káté kási 'hand' b. üt :úsi :uté ús 'new' c. kánt :kási :kánté káe 'lid, cover' d. vart :varsí :varté vars 'stalk, handle'	2				
		1	yte	a. sũrt :sũri :sũrté sũr 'big' b. lœnt :lœmi :lœnté lœm 'broth, soup'	31			
		yt	it	yte	a. likœt :likmeit:likmœté likœ 'member, limb' b. hapœt :hapemeit:hapemœté hape 'beard' c. eũtãnt :sũtameit:sũtamœté sũta 'heart' d. kultsœt:kultseit:kultseœté kultne 'golden' e. lihtsãt:lihtsãit:lihteãté lihtne 'simple' f. hirmeãt:hirmsãit:hirmsãté hirmus 'terrible' g. ausãt :ausãit :ausãté aus 'honest' h. jœukat :jœukãit:jœukãté jœukae 'well off' i. parajãt:parajãit:parajãté paras 'eatable' j. kohũt :kohtũit:kohtũté kohũs 'court' k. tuhãntœt:tuhãnteit:tuhãntœté tuhãt 'thousand' l. viœntãt:viœntãit:viœntãté viœa 'fifth' m. pimetãt:pimetãit:pimetãté pime 'dark, blind' n. kurãtãit:kurãteit:kurãtãité kurãt 'devil' o. rãekœt :rãskeit :rãskœté rãske 'heavy, hard'	321		
					te	kãnelœt :kãntleit:kãnelœte kãnel 'zither'	322	
si	te				a. perœt :peresi :perete perœ 'family' b. œlũt :œlesi :œlete œlũ 'beer'	33		
					i	te	a. mœst :mehi :mœstœ mœs 'man' b. last :lapsi :lastœ laps 'child' c. teist :teisi :teistœ teinœ 'second' d. œstlast:œstlasi :œstlastœ œstlane 'Estonian, n' e. lœtust :lœtusi :lœtustœ lœtue 'hope'	41
tœ	sũt :sũit :sũtœveœte sũ 'mouth'						421	
yœ	a. mint:meit:meiœ~me minã~ma;meiœ~me 'i; we' b. sint:teit:teiœ~te sinã~sa;teiœ~te 'thou, you'						422	
yte	hœlãet~ hœlsãt :hœlsãit:hœlsãté hœlãs 'careful'						423	
it	te						a. jũst :jũkseit:jũste jũs 'hair(of head)' b. punãst :punãseit:punãste punãne 'red' c. kãtũst :kãtũseit:kãtũste kãtũs 'roof' d. kãrpœst:kãrpœsit:kãrpœste kãrpœs 'fly'	424
					si	te	a. koit :koisi :koite koi 'moth' b. tult :tulesi :tulete tuli 'fire' c. mœnt~ mœntã :mœnesi :mœnete mœni 'some'	43

1	2	3	Examples	Noun type
		te	põisi:põise :poisté põis 'boy'	511
		üte	õuna:õunn :õunté õun 'apple'	512
i (e u)	te	a.	jalka:jalku :jalkate jalk 'foot,leg'	513
		b.	pesa:pesi :pesate pesa 'nest'	
		c.	sõpra:sõpru :sõprate sõper 'friend'	
		d.	patja:patju :patjate pati 'pillow'	
		e.	sõja:sõje :sõjate soe 'warm'	
		f.	jõutu:jõute :jõutute jõut 'force, strength'	
		g.	rohtu:rohete :rohtute rohi 'grass, medicine'	
		h.	rehte:rehti~ ~reht:rehtesi:rehtete rehi 'threshing; threshing-barn'	
i (e)	te	a.	aetniku:aetnike:aetniké~ aetnikute aetnik 'gardener'	514
		b.	kõike:kõiki :kõiki~ kõikite kõik 'all'	
si	te	a.	nime:nimesi :nimete nimi 'name'	52
		b.	õte:õtesi :õtete õte 'sister'	
		c.	purje:purjesi:purjete puri 'sail'	
		d.	nõu:nõusi:nõute nõu 'advice;vessel'	
		e.	ühte ~üht:ühtesi:ühtete üka 'one'	

Estonian verbs are classified according to the "endings" of (1)da-inf., (2)3sg prt and (3)tud-ppcle. Besides the corresponding examples the so-called ma-infinitive will be presented.

1	2	3	Examples	verb type
a	i	tut	a.tüa:tõi :tõtut tõma 'bring'	11
		s	b.süia:sõi :sõtut söma 'eat'	
		va	c.püha:~pühi :~pühtut näkema 'see'	
va	i	tut	a.püa:põe :põtut põma 'hang'	12
		s	b.müia:müis :mütut müma 'sell'	
		va	c.küia:küis :kütut käima 'walk, go, run'	
ta	i	tut	a.jõsta:jõksis:jõstut jõksama 'run'	411
		s	b.tõusta:tõusis:tõustut tõusama 'rise'	
		va	c.laulsta:laulis:laultut laulma 'sing'	
ta	i	tut	a.sata:sai :sätut sáma 'load, charge'	412
		s	b.pesta:pesi :pestut pesema 'wash, become'	
		va	c.lasta:lasi~ laskis:laetut laskma 'lat;shoot'	
ta	i	tut	a.kéta:kée :kétut kéma 'boil'	431
		s	b.õmelta:õmples:õmeltut õmplema 'sew'	
		va	c.káskita:káskis:kástut káskima 'order, command'	
ta	i	tut	a.ütelta:ütles :üteltut ütleva 'say, tell'	432
		s	b.sáputa:sápuis:sáputut sáputa 'arrive'	
		va	c.káputa:kápuis:káputut káputa 'weigh'	
ta	i	tut	a.káputa:kápuis:káputut káputa 'weigh'	433
		s	b.pitata:pitais:pétut pitama 'keep, hold'	
		va	c.látita:látis:látitut látima 'load, lade'	
ø	is	yut	a.anta:antis:ántut aptma 'give'	5
		s	b.káta:káteis:káetut katma 'cover'	
		va	c.tápa:tápis:tápetut tapma 'kill'	
		va	d.sáta:sáteis:sáetut satma 'send'	

There are two defective verbs occurring only in the imperative: /ärme~ärkém : ära : ärké : ärkü/ 'don't; 1pl : 2sg : 2pl : 3sg-pl', /säh : sähké : sähkü/ 'take it; 2sg : 2pl : 3sg-pl'.

The "short" illative includes cases as (a) /hu~he~ha/, e.g. /suhu/. /pähe/ 'head', /maha/ 'down' - type 321; (b) /vy/, e.g. /käte/ 2a, /estläse/, /lötüse/ 31d-e, /tule/ 33b, /pere/. /pösa/ 513b, /nime/ 52a; (c) Ø, e.g. /üte/. /kante/. /varte/ 2b-d, /teise/ 31c, /mõnta/ 33c, /kohtu/ 421j, /pöisi/. /õuna/ 511-512, /jalka/. /patja/. /sõia/. /rohtu/. /rehte/ 513a, d-e, g-h, /ühte/ 52e, and, maybe, as generally believed, (d) /tv/. cf. /sürte/. /lente/ 41a-b.

5. We set up the following boundaries:

- & - word boundary, e.g. &pu& 'tree',
- ≠ - strong subword boundary, e.g. &kuse≠pu& ['kūze, Bū 'fir-tree',
- = - weak subword boundary, e.g. &õuna=pu& ['õunappu] 'apple-tree',
- ⊥ - strong suffix boundary, e.g. &isa:si/t/ki& 'even the fathers; part.pl.',
- ∴ - nominal stem boundary, e.g. &pu:t& 'trees',
- ≠ - verbal stem boundary, e.g. &õõn& 'I eat',
- + - weak suffix boundary, e.g. &isa+nta:te+l+t& 'master;abl.pl.',
- ⊥ - syllable boundary.

We say that the boundaries are ordered according to their strength, & being the strongest and ⊥ the weakest. Hereinafter we shall write e.g. +! instead of "+" or the boundaries stronger than +".

6. In order to fix the canonic shapes for inflectional suffixes and to discuss the canonic shapes of noun and verb stems the following symbols are used.

S - syllable;

E- vs. -E - the preceding vs. the following environment;

X vs. y - any consonantal vs. any vocalic phoneme;

K - an unidentified consonantal phoneme which cannot assimilate

- late with the following /m n/ in -E = Y;
- H - an unidentified consonantal phoneme which can assimilate with the following /m n/ in -E = Y;
- Q - an unidentified consonantal phoneme which can assimilate with the preceding vocalic phoneme;
- x vs. y - an unidentified consonantal vs. vocalic phoneme;
- A - auxiliary vowel.

7. It is sensible to accept the traditional view in assuming that gradation is conditioned by the openness or closedness of unstressed syllables. In our formulation:

R1 For any $S_{1n}S_{2n}$ ($n=1, \dots, n$) in E = !

(a) if $S_{2n} = XY.$, XY"XY,

(b) if $S_{2n} \neq XY.$, XY"XY'.

(Note that any A"B is to be interpreted as 'A is to be modified into B'.)

Now it is possible to state that at least when R1 has to be applied the stems of type A (cf. section 2) end in vocalic phoneme and stems of type H in consonantal phoneme, both the types consisting of bisyllabic stems while the stems belonging to type C are trisyllabic (note that counting begins from the syllable next to !). This, however, is not sufficient to explain the manifold representation of inflectional suffixes. Assuming first that at least in part.sg. the stems in N (Noun types) 11-12 have the shape &xy: we postulate that type A includes also a number of monosyllabic stems ending in consonantal phonemes and attracting an auxiliary vowel before the R1 is to be applied. Although the morphological structure of stems has not been investigated it is nevertheless possible to assert that stems ending in a vocalic phoneme may belong only to the following noun and verb types: (1) N513, 514, 52; V412, 422, 433 and (2) N312f-g,m-o; V432, the vocalic stems of the group (1) being bisyllabic and those of the group (2) being trisyllabic. (However, it is clear even now that all the e-stema ending in "nom sg" in /i/ (N52a) as well as most of the stems having vxx, vx or vx before the stem-

final e (e.g. N513h, 514b, 52e, V412) and most of the bi-syllabic vocalic stems containing a cluster of /p t k g h/ + /m n l x x j/ (N513c-d) have according to the principle (11), cf. section 0, consonantal stems.)

8. The category of NUMBER is expressed by suffixes whose canonic shapes are +t! and +j!. We have to contest the traditional stand on their occurrence in but one point - the one stating that the number marker in part.pl. is always +j!. Theoretically there can be an exception in case of the stems ending in yx or yyx and in genitive plural attracting A:t+n! where A"e (N33, 43, 52). In the last case one can assume the marker +t!, the partitive plural ending being thus: t:ta! " :si+ta!" :si+a!" :si!". It is to be noted that any morpheme-final t"e or t"sa in -E = +!i +!i :! (R2). In virtue of the principle of generalization this exception, however, is to be excluded.

In case of N513h which consists of one single stem we have to note an unstability and must therefore postulate that R2 is not valid in E- = h+ and assume the stem Aréh+t!. Analogically for N513g we assume the stem Aróh+t!. Note that there is a rule R3 yh"yh, independent of any internal boundaries weaker than !, where, by the way, ý may be the product of the rule ýQ"y and h may be the product of the rule R4 g+!"h+ in any E other than -E = {ty+! !!}.

9. We set up the following CASE FORMALIVES:

1° genitive - <u>n</u>	4° translative - <u>ksY</u>	8° terminative - <u>niX</u>
2° internal - <u>a</u>	5° abessive - <u>HtaX</u>	9° essive - <u>na</u>
3° external - <u>l</u>	6° destinative - <u>a+Y</u>	10° sociative - <u>keX</u>
	7° separative - <u>ta</u>	11° - <u>X</u>

The subformatives of formative 6° being set up in order to place the endings /hu he ha/ under R4 remain undefinable. Formative 11° is actually a parasitic one being caused by an incorrect innovation.

The CASE ENDINGS consist of the following formatives: genitive - 1°, terminative - 1/8°, essive - 1/9+11°, scciative - the so-called oomitative - 1/10°; illative - 2+6°.

inessive - 2+9⁰, elative - 2+7⁰; allative - 3+6⁰, adessive-3+9⁰, ablative - 3+7⁰; translative - 4⁰; abessive - 5⁰; destinative "short" illative - 6⁰; partitive - 7⁰.

It is to be noted that the genitive ending is abstracted in virtue of its occurrence in -E = =t, cf. &mán-té& [mānttē]. The formative 8⁰ in inessive and adessive endings is postulated in order to avoid the application of R2.

10. The verbal categories and the corresponding formatives set up according to the principle (i), cf. section 0, are as follows.

VOICE	ASPECT	MOOD
1 [✕] passive - <u>ta</u>	3 [✕] completive - <u>u</u>	8 [✕] imperative - <u>k</u>
2 [✕] middle - <u>n</u>	4 [✕] incompletive - <u>p</u>	9 [✕] conditional - <u>ksi</u>
	5 [✕] permansive - <u>va</u>	10 [✕] quotative - <u>vatY</u>
	6 [✕] limitative - <u>ma</u>	
	7 [✕] absolutive - <u>takY</u>	

TENSE	LOCATION	PERSON
11 [✕] preterite - <u>j</u>	14 [✕] indirect - <u>o+Q</u>	15 [✕] 1sg/pl - <u>m/m+j</u>
12 [✕] retrospective - <u>t</u>		16 [✕] 2sg/pl - <u>t/t+j</u>
13 [✕] simulfactive - <u>k</u>		17 [✕] 3sg=pl - <u>s+eX</u>

The formatives co-occur as follows: 1+3+9[✕], 1+3+12[✕], 1+5[✕] (verbal adjective occurring in pl and in any case), 1+6[✕]+ 4⁰ (augmentative), 1+8+14+17[✕], 1+9[✕], 1+10[✕], 1+11+17[✕], 1+13+17[✕], 1+17[✕]; 2+3+9[✕] (negative pcple; 3sg), 2+3+9[✕]+t (3pl), 2+3+9+15[✕], 2+3+9+16[✕], 2+3+10[✕], 2+3+12[✕]; 4[✕] (3sg), 4[✕]+t (3pl); 5[✕] (verbal adjective occurring in pl and in any case); 6[✕]+2+7⁰ (cessative), 6[✕]+2+9⁰ (durative), 6[✕]+4⁰ (augmentative), 6[✕]+5⁰ (inflective), 6[✕]+6⁰ (inchoative), 7[✕] (da-infinitive), 7[✕]+2+9⁰ (des-gerund); 8[✕] (2sg), 8[✕]+j (2pl); 8+14+17[✕], 8+15[✕] (15[✕] = m+j); 9[✕] (negative pcple; 3sg), 9[✕]+t (3pl), 9+15[✕], 9+16[✕]; 10[✕]; 11[✕] (3sg), 11[✕]+t (3pl), 11+15[✕], 11+16[✕], 13[✕] (negative pcpl), 13+15[✕], 13+16[✕], 13+17[✕].

It is to be noted that the formatives o+Q (14[✕]) is apparently present also in tó : nót 'that : those', i.e. we assume in this case initial shapes &t+o+Q& : &n+t+o+Q:t& and at the same time the shapes &t+Q& : &n+t+Q:t& for sé : nét 'this:

: these' (N11a) where -Q- still remains unexplained.

11. In order to connect the morphemes fixed above with their representants in speech a set of most important rules concerning the occurrence of the auxiliary vowel will be presented. It is to be emphasized that the rules are still incomplete.

- R5 (a) $\underline{\&x\&}\underline{\&x\&}$ where $\underline{A} = \underline{a}$ (e.g. $\underline{\&m\&}\underline{\&m\&}\underline{\&ma\&}\underline{\&ma\&}$ 'I' (N422a));
- (b) $\underline{\&x:x+!}\underline{\&x\&x+!}$ where $\underline{A} = \underline{u}$ (e.g. $\underline{\&m:l+s+x\&}\underline{\&ma:l\&x\&}$ " $\underline{\&mulle\&}$ = / $\underline{m\ddot{u}le}$ / 'me; allative');
- (c) $\underline{\&x+yx:x+!}\underline{\&x+yx\&x+!}$ where $\underline{A} = \underline{u}$ (e.g. $\underline{\&m+in:n\&}$ " $\underline{\&m+inun\&}\underline{\&minun\&}\underline{\&min\ddot{u}\&}$ ");
- (d) $\underline{\&x'+x+!}\underline{\&x'\&x+!}$ where $\underline{A} = \underline{e}$, if $x' \neq \underline{n}$ (e.g. $\underline{\&t+Q\&}$ " $\underline{\&s+Q\&}\underline{\&sAQ\&}\underline{\&seQ\&}\underline{\&ss\&}$ 'this', cf. $\underline{\&n+t+Q:t\&}$ " $\underline{\&n+n+Q:t\&}\underline{\&n+Q:t\&}\underline{\&nAQ:t\&}\underline{\&neQ:t\&}\underline{\&n\acute{e}t\&}$ 'these' (N11a));
- (e) $\underline{\&x'+x+}\underline{\&x'+x+}\underline{\&x'+}$ (cf. (d));
- (f) $\underline{x'+x+x}\underline{x'\&x}\underline{\&x}$ in $\underline{-E} = \underline{\neq}$ if both $\underline{x'} \neq \{t\ Q\ H\}$ and $\underline{x''} \neq \{t\ n\}$ (e.g. $\underline{\&p\ddot{u}j:l+s+x\&}\underline{\&p\ddot{u}j\&l+h+x\&}\underline{\&p\ddot{u}j\&l+h\&x\&}$ " $\underline{\&p\ddot{u}j\&ll\&x\&}\underline{\&p\ddot{u}elle\&x\&}\underline{\&p\ddot{u}lle\&}\underline{\&p\ddot{u}ls\&}$ 'partridge; allat');
- (g) $\underline{x'+x+x}\underline{x'\&x}\underline{\&x}$ in $\underline{-E} = \underline{\neq}$ elsewhere (e.g. $\underline{\&k\ddot{a}t:t+n\&}$ " $\underline{\&k\ddot{a}t\&n\&}\underline{\&k\ddot{a}tten\&}\underline{\&k\ddot{a}tt\acute{e}n\&}\underline{\&k\ddot{a}tt\acute{e}\&}$ " = / $\underline{k\ddot{a}t\acute{e}}$ / 'hand; gen. pl.' (N2a));
- (h) $\underline{x'\&x'+x}\underline{x'\&x}\underline{\&x}$ if both (i) $x' = \{n\ l\ r\}$ in $\underline{-E} = \underline{\neq}$ or (ii) $x' = \{t\ s\ Q\}$ and $\underline{x''} = \underline{t}$ are invalid e.g. $\underline{\&mer:t+n\&}\underline{\&mer\&t\&n\&}\underline{\&mereten\&}\underline{\&merete\&}$ 'sea; gen. pl.');
- (i) $\underline{x'\&x'y}\underline{x'\&x}\underline{\&y}$ (i) if $\underline{x'} = \underline{k}$ in $\underline{-E} = \underline{\ddot{a}s}$ (cf. V431c);
- (ii) if $\underline{x'} = \{k\ s\ n\ l\ j\ Q\}$ in $\underline{-E} = \{x\ y\ \acute{y}\}$, except when $\underline{x'} = \underline{k}$ in $\underline{-E} = \underline{s}$;
- (iii) elsewhere if both $\underline{x'} \neq \{k\ s\ n\ l\ j\ Q\}$ and $\underline{x''} \neq \{t\ n\}$;
- (j) $\underline{y'\&x':xy}\underline{\&x\&y}$ in $\underline{-E} = \underline{\neq}$ if (i) $\underline{-E} \neq \underline{y}$ and either $\underline{x'} \neq \{m\ n\ l\ r\}$ in case of $\underline{y'} = \{u\ \ddot{o}\ e\}$ or $\underline{x'} = \{t\ s\ y\ j\ Q\ H\}$; (cf. N51a vs. N43 and N2);
- (ii) $\underline{-E} = \underline{y}$ and $\underline{x'} = \{n\ l\ r\ s\}$ (cf. N511-512);

- (k) $\underline{x'x} : \underline{xy} \underline{x'x} \underline{Axy}$ in $\underline{-E} = \underline{\acute{c}!}$ if $\underline{x'} = \{p \ t \ k \ s \ h\}$ and $\underline{x''} = \{m \ n \ l \ r \ y \ j\}$ (cf. N513c-d);
- (l) $\underline{x\%:x} \underline{xAx}$ in $\underline{-E} = \{x \ \acute{c}!\}$ (e.g. $\&tul\%ksi\&\&tulAksi\&\&tuleksi\&\&tul\acute{e}ks\&$);
- (m) $\underline{x\acute{c}!} \underline{xA\acute{c}!}$ if $\underline{E-}$ beginning from the nearest $\underline{\acute{c}!}$ does not contain boundaries stronger than $\underline{\pm}$.

12. In case of the partitive pl. and of the praterite the following rules are valid.

R6 $\underline{j} \underline{iA}$ in $\underline{E-} = \underline{\acute{c}!}$.

R7 (a) $\underline{j+x} \underline{jAx}$ if (i) $\underline{E-} = \underline{x'}$ in $\underline{S_1\acute{c}}$ where $\underline{x'} = \{x \ j \ H\}$ (cf. V12, 431a);

(ii) $\underline{E-} = \{S_2\%S_2\acute{c}\} = \underline{xy\acute{c}}$ (cf. V432, 433);

(b) $\underline{j+x} \underline{AxA}$ if $\underline{E-} = \{\acute{y}x \ \acute{y}x \ \acute{y}x \ yxx\}$ in $\underline{S_2}$ except when $\underline{yxx} = \underline{ask}$ (cf. V431b-d, 5 vs. V421c).

R8 (a) $\underline{:j+xy} \underline{Aixy}$ if $\underline{xy} = \underline{S_3}$ and $\underline{E-} = \underline{x'}$ where $\underline{x'} \neq \underline{H}$ (cf. N423, 424, 321, 322 vs. N33a);

(b) $\underline{:j+xy} \underline{AxAxy}$ if (i) $\underline{xy} = \underline{S_2}$ and $\underline{E-} = \{\underline{yx'} \ \underline{xx}\}$ where $\underline{x'} \neq \{t \ Q\}$ and $\underline{xx} = \{\underline{lH} \ \underline{kt}\}$ (cf. N43, 33b, 52a, e);

(ii) $\underline{xy} = \underline{S_3}$ and $\underline{E-} = \underline{H}$ (cf. N33a);

(c) $\underline{:j+xy} \underline{jAxy}$ if (i) $\underline{xy} = \underline{S}$ and $\underline{E-} = \underline{y}$ (cf. 52b-d).

R9 $\underline{jA} \underline{sA}$ in $\underline{E-} = \{\underline{y} \ \underline{v} \ j \ H\}$.

R10 $\underline{ta} \underline{a}$ in $\underline{S_3}$ if (i) $\underline{E-} = \{\acute{y}xy \ \acute{y}xy \ \acute{y}xy \ yxy\}$;

(ii) $\underline{E-} = \underline{y}$ and $\underline{-E} = \underline{\acute{c}!}$.

13. It deserves mentioning that any other rules than those concerning the auxiliary vowels are either known from historical grammar or are modifications of such rules in accordance with the points of view presented above.

ÜBER DIE SUBSTANTIVISCHE PRONOMINALISATION
IN DER ESTNISCHEN SPRACHE

Ülle Viks

1. Die Pronominalisation gehört zu den Phänomenen des Textes. Bei dem Wiedervorkommen eines schon erwähnten Referenten kann ein entsprechendes Pronomen gebraucht werden, z.B.

Mari läks metsa. Tal oli korv käes.

Die Pronomen gehören zu den sogenannten Pro-Formen. Den durch ein Pronomen ersetzten Ausdruck nennen wir Ausgangsform (z.B. Mari); den Satz, in dem die Ausgangsform vorkommt, nennen wir Ausgangssatz (z.B. Mari läks metsa.), den Satz mit der Pro-Form aber - Folgesatz (z.B. Tal oli korv käes.).

2. Im Vergleich zu den anderen Nomina haben die Pronomen am wenigsten semantische Merkmale, denn in ihnen sind nur allgemeine Merkmale der formalen Klasse enthalten. Deshalb können alle zu der entsprechenden Klasse gehörenden Wörter Ausgangsformen eines Pronomens sein. Um den Text zu verstehen, muß man die Pro-Form mit ihrer Ausgangsform richtig identifizieren. Die gemeinsamen Merkmale der Ausgangs- und Pro-Formen bilden die Grundlage dieser Identifizierung. Die Pro-Form muß also so viel semantische Merkmale haben, daß die eindeutige Identifizierung möglich ist.

3. Die substantivischen Pronomen (ta, see, kes, mis, mõlemad, kumbki, kõik, igäiks, enesevenda, teineteise, üksteise u.a.) sind gewöhnlich Pronominalisationen von Nominalphrasen (Mari → tal). Das Pronomen see kann auch die Pronominalisation eines Satzes oder eines längeren Textabschnittes sein (Päike paistis ja puudel vilistasid linnud. Sellest läks teekäija meel rõõmsamaks.).

4. Die Wahl des Pronomens wird durch die Bedeutung der Ausgangsform und durch die syntaktische Position der Pro-Form bestimmt. Z.B. bestimmen den Gebrauch der Pronomen ta~see die semantischen Merkmale 'belebt'~'unbelebt' der Ausgangsform (z.B. Mari läks joostes. Ta kartis hilineda. Nägin maas paberit, kuid ei võtnud seda üles.). Aus syntaktischen oder stilistischen Gründen können diese Pronomen auch anders gebraucht werden (z.B. Raamat on laual. Anna ta siia. Isa kutsus poega tuppa, aga see ei tulnud.).. Ob das Pronomen im Singular oder Plural stehen muß, hängt vom Numerus der Ausgangsform ab (z.B. poiss → ta, poisid → nad). Wenn die Ausgangsform zwei Referenten bezeichnet, dann werden diejenigen Pronomen gebraucht, die das entsprechende Merkmal haben: mõlemad, kumbki, teineteise.

Doch ist das semantische Merkmal nicht allein entscheidend. Zum Beispiel bestimmt den Gebrauch der Pronomen ta, see~kes, mis die syntaktische Position der Pro-Form: in ei-

nem vom Ausgangssatz grammatisch unabhängigen Satz oder in einem ihm beigeordneten Satz wird das Personalpronomen ta oder das Demonstrativpronomen see gebraucht (z.B. Tervitasin Peetrit, kuid ta ei märganud mind. Mari jäi tänä kauaks. Sellega ei olnud ta vanemad harjunud.), am Anfang des unmittelbar folgenden Nebensatzes aber stehen in derselben Funktion die Relativpronomen kes, mis (Tervitasin Peetrit, kes mind nähes seisma jäi. Püüdsin teda tänada, mille peale ta vaid käega löi.).

SEMANTIC THEORY AND THE CATEGORY OF PREDICATION

Haldur Öim

O. This (and the following) paper are intended to develop some of the ideas of the present semantic theory of generative grammar, especially those expressed in Fillmore 1968b.* We accept the view of the so-called generative semantics (most elaborated in many works by J.D.McCawley, of which we are acquainted with McCawley 1967, 1968a, 1968b). Semantic representations of sentences are understood by us as construed primarily of elementary semantic predicates and 'reference indices' (individual variables) as their arguments (along the lines suggested in the already mentioned works of McCawley and also in Fillmore 1968a, 1968b, Bach 1968, Langendoen 1967, Bierwisch 1969, and others; we have ourselves touched upon this problem in Öim, to appear).

As it should be clear, the present semantic theory needs conceptual elaborations in many questions, both in its form and in its substance.

First of all, we have no clear picture of what the semantic representation of a sentence has to include. Moreover, we have no clear idea of what a sentence is from the semantic point of view: what should there be in the semantic content of a sentence, that we could speak of sentences but of no other linguistic units as being true or false, being analytic, tautologous, contradictory, etc? As a consequence of this, we are unable to say (i.e. give the general principles which would determine it) how exactly the semantic description of concrete units - words, first of all - is to be given, what is to be included into these descriptions, and how these descriptions explain the semantic properties

*For the bibliography see H.Öim. On the semantic representations of predicates (in this volume).

of the corresponding concrete unite.

As we can see, what is lacking is the general framework where the categories of semantics can be characterised and arranged on its own ground. The semantic theory of generative grammar has formed as a supplement to and - consequently - as dependent upon the theory of syntax. But now, when treating the syntactic structures as derived from the corresponding semantic structures, we, apparently, have to construe these semantic structures on the ground of their own underlying principles.

In the present paper we want to suggest that the category of predication yields just such a general framework, i.e. in fact, that the semantic theory has to be built up as a 'theory of predication'.

1. We understand the term predication in its usual sense (as 'saying something about something', 'adding new information to something already known'). In fact, it may be said, the notion of predication in our system takes finally over the role of Fillmore's notion of 'assertion' (Fillmore 1968b); although the content of our term, apparently, will differ considerably from the one put into the term 'assertion' by Fillmore, the idea of such treatment of predication is in fact suggested by Fillmorean treatment of predicate words. (Note, however, that 'assertion' would not be a very happy term here; its use would cause many complications which the use of 'predication', for instance, does not, see, e.g. Geach 1965).

2. It hardly needs any justification that predicativity is one of the most fundamental features of natural languages. Although there can be (and there are) many languages where the grammatical categories of subjects and predicates, or nouns, verbs, etc. are lacking, we cannot imagine any natural language where speaking does not contain speaking about something, where there is no new information added to something already known, and so on.

3. In this sense the problem of predication has, of

course, always been of interest for linguists (and is at the present time), but mostly under such names as 'functional sentence perspective' or 'topic-comment relation'. Some authors have also dealt with the possible role of this latter relation in the framework of generative grammar (Sgall 1967, Staal 1967, Dezsö 1968, Kiefer 1968).² However, in this context the problem has always been approached from the side of concrete sentences. The question is generally put as following: what parts of sentences can be their topics (i.e. the parts that present the known information) and what parts can be comments (i.e. that convey the new information), or even: when we have a concrete sentence, how can we determine what is its topic and what is its comment? But we are of the opinion that there is little hope to solve the problem of the semantic nature of predication (or topic-comment relation) considering it from this side. Instead of such a 'phenomenological' approach we rather need a 'logical theory' of topic-comment relation (of predication). We need not at once try to describe the real - incidental - sentences (or even sentence types) in order to say which of their parts can function as topics and which as comments. If we put ourselves into the position of generative semantics, we also have to find such semantic categories and principles, on the ground of which all the actual cases of topic-comment relation - of predication - presented by real sentences in a language can be explained (derived as consequences). As it seems to us, the present semantic theory of generative grammar already has most of the crucial categories that are needed for this end; these are only to be put into the corresponding logical order.

4. Let us characterize now, in short, how we conceive the main lines of such a theory.

²In general the problems connected with the notions of predication and 'topic-comment' cannot be identified, of course. But when we consider these notions from the point of view of semantics, the problems become essentially the same.

4.1. The notion of predication, of 'adding new information to something already known' itself is to be taken as primary, as something intuitively given. It can be characterized only through the description of all instances of predication (of 'adding new information') possible in a given language (in much the same sense as the notion of sentence has been characterized in generative syntax).

4.2. For doing this, we have to find, first of all, the elementary, 'atomic' instances of predicative structures (or 'elementary situations' where we may speak of predication) in the given language; and through these atomic instances all the possible complex instances of predication should be defined.

4.3. Apparently, we have (in some sense) these 'atomic' instances of predication when we have all the units which can be used (in the given language) to predicate some new information - the predicates.

In fact, it may be said, we have already the class of such units in the present semantic theory. As it has been shown, all the contentful units of a language are to be treated (from the point of view of semantics) as belonging to one general category called verbs, contentives, or predicates. This includes all the words (which have some semantic content), but also a great number of 'abstract predicates' which are represented by no concrete word or even morpheme (but, for instance, by some grammatical constructions only). It should be clear that these are also just the predicates in our sense. In fact, one may be sure that the general idea which implicitly has underlain the establishment of this category is just the idea that every piece of information (presented by some word, 'abstract predicate', etc.) is to be introduced predicatively into the underlying structure of a sentence.

4.4. But, as we very well know, most of these units are semantically complex and we have to analyse them in order to establish what it is exactly that every one of them

'adds new information' when used predicatively, and what are the conditions where (in what situation) it can be used so. This analysis is, of course, the main work to be done practically in semantics. As the present semantic theory holds, the analysis must establish the semantic representation of every individual predicate, and this semantic representation must be construed in the way that it explains the semantic properties of the corresponding predicate. We know already much of what is to be included into semantic representations of predicates and how these are to be formed, but there is also much to be determined. The problems connected with semantic representations of predicates are our concern in the second paper in this volume.

4.5. When we have described in the case of every item (predicate) separately, what are its conditions of use and what exactly is the new information it introduces, we shall have described, apparently, all the possible singular ('atomic') instances of predication (i.e. the instances where just one predicate is involved) in the given language. And only now can we begin to determine how the real sentences of the given language are built up of these 'atomic' instances, i.e. begin the analysis of the 'phenomenological' aspect of the predication.

The main fact we want to point out here is that there is no (and there cannot be any) direct and simple correspondence between what can be said as new information by a particular sentence in a real situation and what shows the logical structure assigned to this sentence by the theory. To give a brief illustration, let us take the following example.

Suppose two persons, A and B, are conversing, and one of them, A, mentions a name of a third person, say C, but B has not heard formerly of such a person. He asks: 'who is C?'. And let A answer to him:

(1) C is the youngest son of the N's.

Suppose that in fact B knows who these N's are, but he does

not know anything about their family staff. Given this, we may certainly say that the sentence (1) is wholly normal in the given situation (in the sense that, first, the use of this sentence would be quite usual in such a situation and, second, B can perfectly understand what A has intended to tell him). Now we may ask what is the new information which B in fact acquires from this sentence? As it should be clear, this information comprises at least the following facts (which by themselves are, of course, not at all elementary, but may be taken as such in this illustrative example):

- (a) N's have children;
- (b) there are some sons among the children;
- (c) among the sons there are at least three who are of different age;
- (d) C is one of the sons;
- (e) C is the youngest one of these sons.

As we see, B becomes acquainted with all these facts 'at once' through the sentence (1) (there is no doubt either, of course, that B becomes acquainted with these facts; after he has heard - and understood - the sentence (1), he certainly knows that N's have children, that there are some sons among them etc.)

But what this example shows us is only how concrete sentences can be used in the real process of communication. However, if we try to give a logical explanation of how such sentences are conceptually possible (i.e. when we consider them from the standpoint of the theory of predication), so there inevitably appears a logical arrangement among the facts which otherwise seem to be said 'at once' by a sentence. So, when we consider (a)-(e) as some 'elementary propositions' each of which introduces a 'piece of new information', so it is clear that they are logically possible just in the order they are given, i.e. it is possible to introduce every subsequent 'piece of information' only after the previous ones on the list are introduced (known to

B). We could say, when A had told all these facts 'piece by piece', so he had to tell them just in the given order. And note that it is not incidental at all that the only fact which is explicitly told in the sentence (1) (that C is the youngest son of the N's) appears as the last one on the list. This is just the fact that necessarily presupposes all the others; and it is just this necessity that enables us (and B of course) to establish these other facts (and the hierarchical ordering of them). As it appears, it is more appropriate to consider such a sentence as presenting a piece of (logically arranged) discourse rather than a single act of communication. And if we still remind ourselves of the fact that the units used in stating (a)-(e) - the words - are themselves to be analysed in terms of far more elementary units, it becomes evident how complex such a 'logical explanation' - the semantic representation - of a real sentence may be.

But at the same time, in virtue of the fact that we always have here a definite logical arrangement, it is not hard to imagine how in principle the structures presenting these explanations are to be determined. Within every complex structure there is always an 'utmost' predicate, i.e. the predicate which is introduced as the last one, and the whole structure has to satisfy the requirements of this predicate. In this sense every predicate determines a class of possible structures (sentences) where it is just this last one. Using this fact recursively we can in principle determine all the possible structures. But, indeed, this is only the determination in principle. In order to get the concrete sentences of a language we have to use the usual means of generative grammar.

ON THE SEMANTIC REPRESENTATIONS OF PREDICATES

Haldur Óim

In the previous paper we envisaged the general lines of the framework into which the semantic theory is placed when it is considered explicitly as the 'theory of predication'. The main advantage of this framework, as we see it, is that all the semantic categories and principles get ordered in a definite way, and so many general constraints which naturally follow from this framework, can be laid on the possible semantic structures. In the present part we will consider from this point of view the semantic representations of predicates.

Most of the predicates (the concrete words, etc.) are semantically complex, as we know. We have to analyse them in order to find out exactly what can every one of them be used to predicate (to assert) and what is the other information they contain. According to the present semantic theory this analysis consists, first of all, of the following points: (a) we have to establish the arguments which the given predicate ('conceptually') takes; (b) we have to identify the 'cases' (the semantic roles) of these arguments; (c) we have to find out what is the proper meaning of the predicate (the meaning that it asserts - or predicates in our sense - as new information) and what it presupposes when used appropriately; (d) on the ground of such an analysis the semantic representation of the corresponding predicate is to be construed, and (e) this semantic representation is to be formulated in terms of elementary semantic predicates and variables (as their arguments).

All this may seem clear and simple enough. But in fact there are many questions which will arise immediately when we try to apply this scheme in the analysis of conc-

rete words. The main point is that we lack any general principle which would serve as a criterion in the case of concrete instances of construing semantic representations. First of all, how can we decide, just what arguments are required by the given predicate and just what elementary predicates (resp. propositions) have we to include into its semantic representation?

As for the arguments, it has been pointed out that there is no one-to-one correspondence between the arguments of a predicate (word) and the syntactic constituents which are obligatorily connected with this word in the surface structure expressions (Fillmore 1968b, section 5). And, of course, these constituents may vary from construction to construction, so that it cannot be decided on the ground of the surface structure only what the arguments of the given predicate are; we have to know just what must be taken into account among these various facts. So, for instance, if we are interested in the arguments of the Estonian predicate word edu 'success', we may find (among others) the following types of sentences with this word

- (1) Tal oli märkimisväärne edu vanade daamide lõbustamisel 'He had remarkable success in amusing the old ladies'.
- (2) See, et teda üldse märgati, oli juba märkimisväärne edu 'That he was noticed at all was already a remarkable success (of his)'.
- (3) Tema edu vanade daamide lõbustamisel ei üllatanud kedagi 'His success in amusing the old ladies did not surprise anybody'.

Here in the sentence (3) it is explicitly pointed out of what the success consists; in the sentences (2) and (4) we do not have the corresponding constituent. In the case of the sentence (2) we might add this information, for instance, in the following sentence or by attaching the corresponding

clause to the sentence (2) by a colon; but in the case of (3) it is impossible to add this information even in such a way. Now, do we have to include the constituent which presents the mentioned information (of what the success consists) among the arguments of the predicate edu or not? What we are interested in here is not, of course, so very much the answer to this particular question but, rather: what are the semantic principles by which we are to be guided in making such decisions? Fillmore often speaks of arguments which the corresponding predicate conceptually takes. However the word 'conceptually' itself does not very much explain until it has not been made explicit what is meant by this word in the present context, and this again is the question of the principles of such a 'conceptual' analysis. Of course, the very same question of principles will also arise in the case of other points of semantic analysis mentioned before. It must be emphasized that what we are after here is not at all the establishment of some useful 'tests' for the concrete analysis but the establishment of some general constraints which are to be laid on the semantic representations of the predicates. Such general principles are lacking in the present semantic theory (at least they have not been stated explicitly).

We shall try to show now what are some of the 'general constraints' which appear naturally when we approach the semantic problems in the context of predication. Remind that in this case we are primarily interested in the principles which would allow us to describe all particular instances of predication (of 'adding new information to something') possible in a language. The class of predicates is settled out as the class of the units which can be used to predicate something in the corresponding language.

One of the most important facts that immediately follows from what has been said is that every individual pre-

dicade is to be analysed just in the predicated ('asserted') position; we have to choose the sentences where the given word is predicated (introduced in the logical sense). In fact, what we have to analyse are 'situations' rather than sentences, since for many words it may be hard to find any real sentence where it is just the only item which introduces the new information (as suggested already the example analysed above). But logically, as it is clear, there must exist such a situation for every predicate; and we have to analyse it just in the context of this situation.

According to that we may say at once, for instance, that in the case of our word edu 'success' at least the sentence (3) is not to be taken into account; we need not worry about what holds and what does not hold in connection with the word edu in this sentence (but this by itself does not solve the question of the arguments of the word edu, of course).

The task of the semantic analysis of a predicate is to establish its semantic representation. It should be the general aim of the semantic theory to offer the basis for formulating the relation between a predicate and its semantic representation in such a way that the concrete semantic properties of the given predicate would necessarily follow from the corresponding semantic representation. In such a case could we say that the semantic representation explains the semantic properties ('the semantic behaviour' etc.) of the given word. In order to achieve at such an explanatory connection we have to set up the corresponding principles which will make necessary the connection between a semantic representation and the specific properties of the corresponding concrete item. So namely here we need some 'general constraints' to be laid on handling the semantic material. In the following we shall consider one of such principles (which we take to be one of the most basic principles of semantics) and show how we may by means of that explain (some of) the semantic properties of predicates. We shall call the principle in question the principle of identifi-

cation (see Strawson 1959, 1961. Note that, in our view, Strawson's analysis of 'necessary conditions of (having) language', as presented, in particular, in his book "Individuals", is, as a whole, of the highest value to the present semantic theory of linguistics.) This principle may be explained as follows.

The main feature of every communicative - predicative - act is that the speaker's intention is, as a rule, not merely to say something but to tell the hearer some quite definite, particular facts (or events etc.). Communication is successful when the hearer understands what fact, event etc. it was, of which the speaker had spoken to him. And in this case, i.e. when the hearer is able to understand it, we say that he is able to identify the fact or event spoken to him as this-particular-fact (event, etc.). So, for instance, it is clear that such sentences as

(4) John sleeps

(5) John saw Mary yesterday

(6) John had remarkable success in amusing the old ladies when used in a proper communication situation, are all intended by the speaker to inform the hearer of some definite, particular instance of John's sleeping, of John's having seen Mary at the time mentioned etc. And the communication cannot be called successful (and so, of course, any communication at all) unless the hearer can identify this particular instance of John's sleeping, etc., of which the speaker has intended to inform him.

This principle will explain very much to us. In particular, we may say on the ground of this principle, apparently, that anything that is present in a sentence beyond the part(s) which immediately carries the new information, is there in order to enable the hearer to identify the new information. The predicates - the units which are intended to carry the new information - (such as sleep, see, success) in itself are unable to refer to any particular fact. The predicates are 'incomplete', 'universal', etc. We

have to supply them with some definite material in order to make concrete what they say. So, as we may say, the need for identification (in the given sense) is just the raison d'être of what are called the arguments of the predicates (and, accordingly, we had just on the ground of this principle to try to determine the arguments of concrete predicates).

Now, when we consider all this from the point of view of individual predicates, it is apparent that in the case of every predicate there must exist definite facts which unambiguously identify what this predicate says whenever used as predicate (and so, we may say, identify this predicate). Therefore, if we are interested in the semantic representations of individual predicates and we want to know just what is to be included into these representations we may say that the semantic representation of a predicate must in the explicit form (at least) show all the information which is necessary for identifying (understanding) any particular fact which the given predicate can be used to assert; or, to put it in other words: the semantic representation must state the necessary conditions which every sentence ('situation') where the given predicate is predicated must satisfy in order to enable the hearer to identify the corresponding particular fact, event, etc.

These conditions are to be formulated in terms of elementary semantic predicates; they take the form of 'elementary propositions' which state the facts ('pieces of information') to be known (identified) by the hearer in order to understand the corresponding sentence.

Let us have a concrete example to see what these conditions of identification are like. Take the same predicate success which we have touched upon earlier (as it is apparent that the English word success is understood principally in much the same way as the Estonian edu, so let us operate here with the English word).

What are the 'elementary facts' which the hearer has to know in order to be able to identify a concrete fact of (someone's) having success in doing something (of which we are told) as 'this-particular(-instance-of)-success'? As we see it, at least the following facts are necessary (the following will be, of course, only a brief illustration of what in fact should be described).

(1) In case of concrete sentences the hearer has to identify, first of all, the concrete person of whom it is said that he had success. Here, in the general conditions we have to represent him, of course, by a variable; let it be x . (Note, however, in this connection that it is not necessary at all that the hearer were able to identify x as some real person whom he personally knows; it is not even necessary for him to know whether x exists in reality or not. He must only be able to identify x as the same person (real or imaginary) with whom he can connect some previously known fact (real or imaginary)).

(2) In order to understand what has been meant by saying that x had success, the hearer, apparently, has to know that x wanted something, and namely wanted something to be the case. So, for instance, in the case of the sentence (6) (John had remarkable success in amusing the old ladies) the hearer has necessarily to understand that John wanted to amuse the old ladies (wanted to cause the ladies to be amused). The concrete state of affairs which x may want to bring about varies from case to case, and we have to represent it here again by a variable, say y . So, introducing the corresponding elementary predicates 'want' and 'cause' we may state the given condition as:

' x wants to cause y '

Again, in the case of concrete sentences the hearer necessarily has to identify the particular content of y , i.e. the particular state of affairs which x wants to bring about. The elementary predicates 'want' and 'cause' only state a general (but necessary) connection which must hold between

some particular person x and some particular state of affairs y in every particular case of success.

(3) It is also apparent that one cannot understand (identify) something as success (and, consequently, as any particular case of success of course) unless he knows beyond the fact that x wanted to cause y, that x was doing something (in order to cause y); let us present this activity by z. So, in the case of the sentence (7) we undoubtedly have to know that John was doing (had done) something in order to amuse the old ladies; otherwise the word success would be inappropriate. And it is clear again that in particular instances z must be some concrete activity, and we have to know it in order to identify x's success as 'this particular instance of success'. But note also that there is a principal difference between x and y on the one hand and z on the other. Of course, it is necessary to know that x was doing something (for causing y), in order to use the word success at all; but we have not necessarily to know the particular content of z (i.e. the particular activity of x) for taking something to be success at all. On the other hand, we can hardly speak of (and understand) 'having success' at all without knowing the particular x, i.e. who it was who had success, and the particular y, i.e. what it was that x wanted to cause. Without knowing that we would be unable to decide whether there was some success at all or not (in some activity), i.e. we would be unable to identify something as success. (Following Fillmore 1968b we may say that in real sentences z can be lacking when it is definite as well as when it is indefinite, but x and y can be lacking (if they can be lacking at all) only if they are definite.) We may formulate the condition under consideration as following:

'x is doing z in order to cause y'

(4) But in addition to the facts that x wanted to cause y we still have necessarily to know an additional piece of information about x in order to characterize him as having

success; this is the fact that x really did cause y. From the sentence (7) it follows necessarily that John in fact did amuse the old ladies; if this were not the case, we could not speak of any success either (given that John wanted to amuse the ladies and he also did something for this end). The given fact we may formulate as

'x causes y'

Now we have established the following 'elementary propositions' as stating the conditions of identification of the predicate success:

(1) 'x wants to cause y'

(2) 'x is doing z, in order to cause y'

(3) 'x causes y'

On the other hand if we know that the facts stated by the propositions (1)-(3) in fact hold we may always say (on the ground of this knowledge only) that x had success. So the conditions (1)-(3) are also sufficient for identifying the predicate success, and according to our general approach these 'elementary propositions' can be taken as making up just the semantic representation of this predicate.

We may describe the relation between the predicate success and the propositions (1)-(3) also in another way. Observe that whenever the predicate success holds (i.e. what is asserted by the corresponding sentence is true), so it is necessary that these propositions also hold, i.e. we may say that the proposition stating the conditions of identification of a predicate follow necessarily from any sentence where the corresponding predicate is asserted. It is apparent that also the converse holds: there cannot be any other ground for making the knowledge of some special fact necessary in knowing the fact stated by a predicate as the ground that the corresponding special fact is necessary for understanding (=identifying) what the given predicate states. And thus we may also say that the semantic representation of a predicate is made up just of the 'elementary propositions' which necessarily follow from any sentence

where the given predicate is asserted (or, as we might say, follows from this predicate).^{*} This fact may be particularly useful from the point of view of practical establishment of semantic representations (assuming that the notion of necessary following is intuitively more clear than the notion of identification).

We have not yet distinguished different types of the elementary propositions in the semantic representations of predicates, but even before we do so, we can make clear an important point in the relation between a predicate and its semantic representation. As we have pointed out before, according to the 'principle of identification' the arguments of a predicate function (have sense) as just the 'points' the particular content of which makes the fact expressed by means of the predicate a particular fact (i.e. so to speak, as the 'points' through which the predicate is 'tied to the reality'). In the case of the predicate success, as we see, the 'points' which in every particular case of the use of the predicate have their particular content to be identified are presented by the variables (arguments of the corresponding elementary predicates) x, y and z . It must be possible in the surface structure in one way or another to express (to refer to) the particular content of x, y and z , since otherwise it would be impossible to identify the particular fact stated by the predicate. Therefore, we may speak of these three variables as, in fact,

^{*}It may seem that there is a confusion of the object language and metalanguage in this formulation: the 'elementary propositions' under consideration here are stated in terms of elementary predicates which belong to metalanguage, whereas the corresponding predicate itself (and also the corresponding sentences) belongs to an object language (i.e. to the corresponding natural language). But, of course, we may understand it even so that both the elementary propositions and the predicates themselves are taken either as belonging to the metalanguage or as belonging to the object language, when we deal with the mentioned relation between them.

presenting the arguments of the predicate success. What it means is that we can define the arguments of a predicate through its semantic representation, and namely as just the arguments of the elementary predicates in its semantic representation which are presented by (different) variables. So it can be said also that in this sense every semantic representation explains why the corresponding predicate has just the arguments it has: its arguments are necessitated by its conditions of identification.

One fact is still worth nothing. In the case of the predicate success we can observe that if its conditions of identification are satisfied in some particular situation, the predicate success is necessarily true in this situation: if John wanted to amuse the old ladies, if he did something do in order to amuse them, and if he really amused them, it is true, of course, to say that John had success in amusing the old ladies. It is clear enough that this is the general rule: if the conditions of identification of the predicate are satisfied in some particular situation, the predicate is necessarily true in this situation. So we may say that the conditions of identification of a predicate include, in fact, its truth conditions. But which of the conditions of identification of a predicate are its truth conditions? It should be clear that in some sense all conditions of identification are relevant for the truth of the predicate. If some of these conditions are not satisfied, the predicate cannot be true either, since, if the predicate - the corresponding sentence - was true, so, as we have pointed out earlier, all the elementary propositions stating (or, rather, corresponding to) the conditions of identification of this predicate should necessarily follow from it, i.e. be true also. In this sense we could say, consequently, that the semantic representation of a predicate is made up just of its truth conditions stated in terms of elementary semantic predicates. If we distinguish in the semantic representation of a predicate those 'elementary propositions' which represent its presuppositions

from those (or this) which represent its 'asserted meaning', it would be inaccurate to say that all the conditions of identification of a predicate are its truth conditions in one and the same sense: the presuppositions of a predicate state, rather, the conditions the holding of which is necessary for the predicate to be true or false, i.e. to have a truth value at all. But, nevertheless, what is important here is the fact that all conditions of identification are significant with respect to the truth of the corresponding predicate.

Here we have discussed some problems connected with the semantic representations of predicates. There are, of course, still many problems to be discussed in this connection. Thus, following our line of reasoning we should ask, how to distinguish in the semantic representation of a predicate the information what the predicate properly 'asserts' ('adds as new information') from the other information contained in the semantic representation. But we shall not consider here the questions of the internal structure of semantic representations. It is just here that, for instance, the Fillmorean distinction between the 'meaning proper' and the 'presuppositions' of a predicate is relevant. We shall not consider here the problem of forming a semantic representation into some 'connected structure' either. Note, however, that the fact that a semantic representation is given as a 'set of propositions' does not mean that the corresponding propositions are unconnected. Thus, in the semantic representation of the predicate success the elementary propositions (1)-(3) undoubtedly are semantically connected, namely through the respectively identical arguments x and y which occur in every proposition there.

What we have pointed out here is, in short, that

(1) When we want to know whether a given elementary predicate (resp. proposition) is to be included into the semantic representation of a predicate, we have to

decide whether the knowledge of this proposition (of the corresponding fact) is necessary for identifying the particular facts represented by the given predicate in particular sentences or not; or - what is the same - whether this proposition follows necessarily from the given predicate or not; or - what is the same again - whether this proposition does belong to the truth conditions of the given predicate or not; and

(2) the arguments of a predicate can be determined as those arguments of the elementary predicates in its semantic representation that are represented by variables.

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