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ICONICITY OF NOUNS AND VERBS IN THE INFORMATION STRUCTURE OF THE SENTENCE

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1. Preliminary remarks

Information organization in terms of given/new elements of the sentence, and the categories of nouns and verbs are two well known universals (or near universals) (Haiman 1985: 151 and 73 respectively).

In a number of works (e.g. Szwedek 1976, 1986a, 1986b) I have analysed English and Polish simple clauses of neutral, non-contrastive interpretation (emphatic/contrastive interpretation has also been discussed in a number of other works, e.g. Szwedek 1976, 1986a). The analysis clearly shows that, in neutral interpretation, only nouns play a role in the organization of information in that it is the presence or absence of the sentence stress on them, as well as their position in the sentence that matter. The position of verbs in the sentence and the presence or absence of the sentence stress on them are default marking, in that their position in the sentence and relation to the sentence stress are only consequences of the marking of nouns through their position and relation to sentence stress.

In the present paper, on the basis of intransitive and transitive clauses, I intend to show a) that in the information structure, viewed in terms of given/new information, this relation between nouns and verbs is iconic of the cognitive relation between things and relations (cf. Langacker 1986); b) that sentence stress plays a more important role than word order, which, perhaps, reflects the earliest (pre-structural) development of language from short cries, necessarily stressed, to more elaborate structures involving ordering of elements. It is also pointed out that one stress per one neutral, non-contrastive clause (cf. Szwedek 1987) reflects limitations of our attention and focusing capabilities.

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Before discussing those issues I would like to make a few remarks explaining my methodological position. There is no doubt that language structure is very complex, from long texts to single clauses to single words, and each of those structures can be analysed from various angles. For example, a clause, among others, can be analysed as a component of a larger text, as well as a composition of grammatical functions, thematic roles, information (given/new) structure, and semantics (cf. Givón's 1983: 5ff. "Micro" and "Macro traditions"). Each of those aspects requires analysis of individual elements (e.g. clause, Subject, Agent, given information, lexical meaning of the item), as well as combinations thereof.

The primary aim of the present paper is to investigate only one aspect of clause structure, i.e. its structure which is described in terms of given/new information. I believe that such a narrow analysis can shed light on the roots and essence of the phenomenon, in consequence enabling us to fit it better into the network of interrelationships with other components of text structure. Placing the present study within the framework of discourse continuity discussed by Givón (1983), this is an attempt of a micro problem (given/new information distinction) in a minimal macro setting (two sentences).

The task is by no means easy. Givón (1983: 7) writes:

"There are, broadly, three major aspects of discourse continuity which are displayed in or mediated through the thematic paragraph, and which in turn receive structural/grammatical/syntactic expression within the clause. These three continuities thus bridge the gap between the *macro* and *micro* organizational levels of language.

- (a) Thematic continuity
- (b) Action continuity
- (c) Topics/participants continuity
- ... the three are ... deeply interconnected within the thematic paragraph."

He further adds that "... the area of topic identification in discourse is a complex functional domain rather than a single 'function'" (Givón 1983: 16).

This complexity, and in result often a lack of clarity, makes isolation of a particular component extremely difficult, and yet may lead to interesting conclusions which can be put on the 'map' of the "the complex functional domain". Another difficulty, as well as a source of dissatisfaction, is the fact that the phenomenon under discussion, as probably many or all others, rarely occurs in its pure form. To use a comparison: we all know that the essence of any sentence is the SV(O) (or NV(N)) structure, and yet a simple clause in its "barest" form is used very rarely in discourse.

Despite those difficulties, I firmly believe that isolation of a language phenomenon, like the one to be discussed, and its radical analysis is an enterprise

which should be endeavoured in an attempt to take us to the very roots of communication and thinking.

First I would like to signal three problems concerning information organization in the sentence.

1.1. The first one has to do with the dichotomous vs non-dichotomous nature of the phenomenon. Information organization, as an aspect of sentence composition, has been addressed for a long time, beginning most clearly with Mathesius (e.g. 1929) (though various interesting earlier accounts are known, for example Weil 1844, Barsov 1783-1788).

The followers of Mathesius have developed his rather confusing distinctions - "known information, initial position, and 'what the sentence is about" (Mathesius 1947: 234) (for discussion see Szwedek 1990) in various directions, for example, in terms of "aboutness" (cf. van Dijk 1977, and its criticism in Szwedek 1990; and quite recently Lambrecht 1994), but most notably in the direction of Communicative Dynamism expounded primarily by Firbas in numerous works (though only two will briefly be referred to here: Firbas 1975 and 1983). Without embarking onto a detailed discussion (for which see Szwedek 1985a, 1985b, 1990), in 1975 Firbas proposed as many as six elements of FSP sentence structure (Theme Proper – rest of Theme – Transition Proper - rest of Transition - Rheme to the exclusion of Rheme Proper - Rheme Proper (Firbas 1875: 331). However, in a later paper (Firbas 1983), he takes a weaker stand (or a stronger "bipartitional" stand, if I understand his 1975 paper correctly, as taking a strong "sexpartitional" point of view), when he says: "But tripartition, or pluripartition for that matter, does not do away with bipartition. Owing to the central position of the TMEs [temporal and modal exponents of the finite verb] serving as a boundary between the thematic and the non-thematic section of the sentence, bipartition hierarchically ranks above tripartition and pluripartition in general." (Firbas 1983: 14-15). Each of those elements of the FSP structure of a sentence is assigned a certain degree of Communicative Dynamism on the basis of: context (dependence/independence), linear modification, and semantic structure (Firbas 1983: 27).

It is, of course, true that the structure of the sentence is very complex. Ignoring the semantic structure (involving among others, the discussion of roles and grammatical functions, or in other words, syncretism of language expressions) — an issue dealt with quite extensively in many other places (cf., for example, Givón 1983) — I would only like to point out that linear modification cannot be listed on a par with context dependency or semantic structure, since linear modification, together with other structural means, is used to signal context dependence/independence and other functions/meanings.

1.2. The second problem, intimately connected with the first, is the context dependence of sentence elements adopted as a criterion for the identification of elements of the information structure (Szwedek 1990), as part of FSP. The effect of context dependence is the distinction between given and new information elements of the sentence (context dependent/context independent respectively), and in my opinion (e.g. Szwedek 1990), allows no gradation, i.e. is strictly dichotomous – an element either is or is not dependent on the context. What is more difficult to specify is the nature of the context itself, and here we have to do, quite naturally as with everything else, with prototypical effects: from text to situation, to eventually the context in the speaker's mind (Chafe 1974, Lanin 1977).

I would like to emphasize again, however, as I have always held (e.g. Szwedek 1990), that context dependency is necessarily dichotomous in nature in a non-gradable way which in consequence means that given/new information distinction also has that dichotomous, non-gradable nature. A lot of confusion has arisen from syncretism of sentence elements, and, among others in this particular problem, from lack of distinction between actual context 'givenness' and world (knowledge) 'knownness'. As I indicated earlier, context 'givenness' may have a textual or situational nature (cf. for example, extra-linguistic definitization in Stockwell – Schachter – Hall-Partee 1968: 213), eventually being the speaker's assumption that something either is or is not in the addressee's consciousness. World knowledge may range from one's knowledge of his family to his knowledge of car structure, to the knowledge, or rather complete ignorance, of chrematonymy or quarks. Proper nouns can serve as an illustration; from the world knowledge point of view, their referents can be viewed as 'known'; from the point of view of the context, however, they can be either 'given' or 'new', as the discussion of Schmerling's (1976) examples in section 2 clearly shows. At this point "the speaker's assumptions as to what is in his addressee's consciousness at the time of speech" (Chafe 1974: 111) would come into play, as frequently textual contexts may not be explicit, and consequently context dependence may become a little difficult for the addressee to establish. In such cases it is the speaker who imposes, or tries to impose, his 'givenness' on the addressee.

- 1.3. The third difficulty is connected with the so-called 'scope of focus'. I will only say here that in neutral interpretation the sentence stress is placed within the focus, it is not, however, determinative of the scope (on that issue cf. also Jackendoff 1972, and Szwedek 1990).
- 1.4. Nouns and verbs have also been described in a variety of ways. Their different internal structures have been described by Graesser Hopkinson –

Schmid (1987). Hopper – Thompson (1985) discuss the internal organization of those categories in terms of the Iconicity of Lexical Categories Principle, i.e. in terms of a form's success or lack of success in achieving full nounhood or verbhood in the discourse.

The differences between the two categories have been reflected in the place they have been assigned in a language model. For example, in the syntactic model of Chomsky, the two categories have a syntactically equal status in the sentence; however, in the semantic description, noun specification is part of the verb's Complex Symbol. In other words, semantically, nouns are described without recourse to verbs, while verbs require noun specification as part of their description. Fillmore (1969) proposed that the Verb should be taken as a pivotal category in the propositional structure. A host of other observations relevant to the problem discussed here have been made, e.g. Stockwell – Schachter – Hall-Partee (1968: 808) and Quirk et al. (1972: 952) offer the same observation for American and British English that "V's cannot be clefted" and "do not occur at all as focus" respectively.

An analysis of English and Polish examples reveals that the different nature of nouns and verbs is also reflected in the information organization of the sentence particularly in relation to the sentence stress, and partly word order. Moreover, this different behaviour appears to have, on reflection rather unsurprisingly, very deep cognitive roots.

I would like to begin with a strong claim that in the information structure of the sentence, in neutral, non-contrastive interpretation, described from the narrow point of view of actual context dependence, verbs play no role at all, and it is only nouns that do. This claim differs radically from Fillmore's which is natural, given the fact that two different levels of language structure are involved in the two descriptions, but as I suggested in a recent paper (Szwedek 1995), the central role of the verb is easier to capture in a language model, because the verb is conceptually dependent (cf. Langacker 1986). As I wrote then, "... once the relation between the objects has been encoded/lexicalised on the basis of their properties, the lexicalised relation will necessarily entail/invoke those properties" (Szwedek 1995:73), and by way of an example, "... since the character of the two entities and the relation between them are the determining/ identifying features of the verb *chase* (which symbolises this relation), whenever the verb chase is used (even without the nominal context) it necessarily entails the entities which were the basis for conceptualisation of the perceived relation between them. Hence the necessary inclusion of NP characterisation in the CS of the verb in Chomsky's model, and the illusion of the centrality of the verb in Case Grammar." (Szwedek 1995:73). I made a weaker claim of a similar nature as early as 1976: "in the Polish sentence ... the relation between the segmental and suprasegmental structures in general, and the position of the noun in particular, no matter what its grammatical function is, are determined by whether the noun is new or given information. A new noun is stressed and is usually put in sentence final position; a given noun is unstressed and usually appears in sentence initial position." (Szwedek 1976: 130).

I hope that the following discussion of the information (given/new) structure of intransitive and transitive clauses in English and Polish will testify to the correctness of the above claims.

2. Intransitive clauses

Relevant to the discussion of the role of sentence stress in intransitive clauses is Schmerling's 1976 paper in which, discussing the possibility of every sentence having to have a normal intonation pattern, besides contrastive ones, she asks which of the two, (1) and (2) has 'normal' intonation.

- (1) Jôhn died.
- (2) John dîed.

She concludes that "it is not obvious that adopting a notion like 'normal stress' is going to prove useful; it is more likely that it can only blind us to properties of the sentences we label 'normal'" (Schmerling 1976: 56).

In a rather curious paper, Allerton (1978: 148) subscribes to Hallidayan rule that "in an unmarked sentence, the nucleus falls on the last full lexical item." It means that in intransitive clauses it will be the verb that takes the nucleus, e.g.

(3) John's `fainted.

He immediately adds, however, that "there is no doubt that in some cases the nucleus most naturally falls on the subject", e.g.

- (4) The `kettle's boiling.
- (5) The `professor telephoned.

He explains that: "Such nucleus placements typically occur when the sentence draws attention to an event of great news value that is or recently was accessible to the senses" (Allerton 1978: 148).

Allerton attributes the differences in stress placement to (I) predictability of the verb in terms of the subject, (II) the semantics of the verb: when the verb refers to appearance or disappearance from the scene, or when it denotes damage or injury.

While we could agree that the kettle (by metonymy) predictably is expected to boil, I do not think that what we would most likely want to predict about the professor is that he telephones; notice that the two sentences have the same

stress pattern. One could also ask why "the kettle's boiling" should typically be of great news value, while "John's fainted" would be of little news value.

In what follows I would like to present a contextual analysis of Schmerling's sentences (1) and (2), and equivalent Polish examples. Notice first that John is known (identified) from the point of view of world knowledge. Notice further the correctness of (2), and incorrectness of (1) in the context of (6), and then correctness of (1) and (2) in the context of (7), but with different contextual presuppositions.

- (6) A: Could I see John.
- (2) B: John 'died.
- (1) *B: `John died.
- (7) A: What happened?
- (1) B: John died.

Native speakers point out that it would also be possible to have

- (7) A: What happened?
- (2) B: John `died.

in which case, however, prior mention of John being ill and expected to die would be assumed.

The same behaviour is observed in Polish examples. The following sequences are correct:

- (8) Czy jest Janek? Is Janek (in)
- (9) Janek nie 'żyje. Janek not lives

and

- (10) Co się stało?
 What happened
- (11) 'Janek nie żyje.

 Janek not lives

but not

- (8) Czy jest Janek? Is Janek (in)
- (12) * Janek nie żyje.

 Janek not lives

Iconicity of nouns and verbs ...

Notice, please, that context dependence is an either/or choice, and that (1) in the context of (7), and (11) in the context of (10), violate the 'end weight' principle which, in the case of the two elements being contextually new, should most naturally assign the stress to the last full lexical item, i.e. the verb. To me this is a clear evidence that what gets manipulated in relation to the sentence stress is the noun, the verb getting its marking by default.

I will conclude this section by answering Schmerling's question: both patterns are correct, but in different contexts which determine the given/new information structure, signaled here by the absence or presence of the stress on the noun.

3. Transitive clauses

In a number of works (Szwedek 1976, 1986a, 1986b, 1987) I claimed that transitive clauses in English and Polish provide solid evidence of the priority/superiority of nouns over verbs in the information structure of the sentence. Consider the following Polish examples:

- (13) A: Co robiłeś wczoraj wieczorem? What did-you yesterday evening
- (14) B: Czytałem `książkę. Read-I book (Acc)

That example is in full agreement with conditions of the end weight principle; new item in sentence final position (the verb also being contextually new here), nuclear stress on the last full lexical item. As a so-called free word order language (i.e. syntactically) Polish should also allow the following dialogue:

- (13) A: Co robiłeś wczoraj wieczorem? What did-you yesterday evening
- (15) B: *Książkę `czytałem. Book (Acc) read-I

Formally the example conforms to the same principle: contextually new item (this time the verb) is placed in sentence final position and stressed, and yet the example has been unanimously judged unacceptable in the context of (13).

Using the free word order potential and movability of sentence stress I tested the following sequence:

- (13) A: Co robiłeś wczoraj wieczorem? What did-you yesterday evening
- (16) B: `Książkę czytałem. Book (Acc) read-I

which has been found as good as (15) though it definitely violates the end weight principle, unless we claim that the verb does not qualify for a full lexical item.

At the same time the following sequence was firmly rejected:

- (13) A: Co robiłeś wczoraj wieczorem? What did-you yesterday evening
- (17) B: *`Czytałem książkę. Read-I book (Acc)

This shows that as long as there is a contextually new noun in the sentence in neutral interpretation, the verb plays no role in signaling the given/new organization. At the same time it also shows that the role of word order has been overestimated, as it seems to be overridden by sentence stress placement.

Due to fixed word order, English transitive clauses do not demonstrate my point to the same extent, but are consistent with my observations for Polish, so that instead of supplementary comments to the end weight principle, one rule of noun-stress relation can take care of both English and Polish.

4. Interpretation

All those observations (and some more described, among others, in Szwedek 1986a) call for an interpretation.

In Szwedek (1986b) I concluded that the reason for the difference between nominals and verbs in the information structure is the different nature of the two categories:

- a) nominals are referentially independent,
- b) verbs express relations between nominals and thus acquire their reference only through the reference of the nominals,
- c) nominals are potentially ambiguous in their reference,
- d) since it is imperative for successful communication that language users know at all times whether they are talking about the same (given) or different (new) referent, nominals must be equipped with devices (more than one) to guarantee unambiguous interpretation in all circumstances.

I think that cognitive linguistics takes us very close to the explanation of the phenomena under discussion. Langacker (1986: 183) distinguishes "two fundamental classes of predicates ... definable in terms of the nature of the designated entity: a nominal predication designates a thing, while a relational predication designates either an atemporal relation or a process." He later explains that "a noun designates a thing", while a verb designates a process, and adjectives and adverbs designate different kinds of atemporal relations (Langacker

1986: 189). This fundamental distinction is in perfect consonance with the conclusion in point b) above that verbs express relations between nominals and therefore acquire their reference through the reference of the nominals. There is no doubt that this organization of language has its roots in our cognitive processes.

It is quite clear that, cognitively, relations do not exist without things/objects between which those relations hold, and therefore cannot be perceived before or without objects. Thus, from the cognitive point of view things are prior to relations. This is reflected in the structure of language in the sense that in the information structure, nouns (designating things) have priority over verbs (designating relations), or as Langacker (1986: 215) writes "Relations are conceptually dependent"; in fact, as research discussed above shows, in neutral interpretation, only nouns participate in the information organization.

Another question connected with information organization is why 'given' information ('given' nouns) precedes 'new' information ('new' noun). Again I think this is cognitively justified. It is perceptually natural that an object first appearing in a situation (cf. Osgood 1971 on the use of the indefinite article in English) is treated as new in comparison with objects that appeared earlier. It is quite obvious that for the speaker/producer all objects that he intends to talk about are known. By arranging the nouns in a particular order he imitates the natural order of cognition in order to create for the addressee perceptually natural conditions; placing 'given' nouns before 'new', the speaker creates a background for a new referent.

The last problem that I only want to mention briefly is the quantitative relation between 'given' and 'new' nouns. Experiments (e.g. Szwedek 1987) show clearly that in sentences of neutral interpretation normally only one noun is interpreted as new.

It has also been observed that in neutral interpretation there is only one sentence stress (on the 'new' noun) per clause. Any additional stresses render the clause interpretation emphatic (contrastive).

The problem of the quantity of 'new' information (cf. also Szwedek 1987) is no doubt connected with the limitations of our attention and focusing ability. Those problems have also been discussed, for example by de Beaugrande – Dressler (1981: Ch. 5 and Ch. 7) in terms of processing ease and Langacker (1986: Ch. 3) in the chapter on cognitive abilities.

5. Concluding remarks

The analysis of simple intransitive and transitive clauses in English and Polish shows that in utterances with neutral interpretation:

a) things are perceived as independent, while relations between them as

conceptually dependent. Accordingly only nouns, designating things participate in the information organization of the sentence; this is most evidently reflected in the sentence stress assignment. The most fundamental categorization into nouns and verbs is then reflected in the information organization of the sentence. I think it would not be unreasonable to assume that nouns would be distinguished in a similar way from other relational categories.

- b) the order: 'given' before 'new' reflects the natural order of cognition;
- c) one 'new' noun per clause is in consonance with our cognitive abilities, particularly attention and focusing.

Thus, a more fundamental instance of iconicity than, for example normal ordering strategy, is the organization of information in a sentence in terms of the presence/absence of sentence stress in relation to the category of nouns, as well as such related phenomena as quantitative aspect (which can be described in a number of ways, relative to attention (Langacker 1986), in terms of processing ease (de Beaugrande – Dressler 1981) or urgency of task (Givón 1985). The fundamental nature of the information structure should naturally lead us to the assumption of its universality, though paraphrasing Bolinger's (1985: 100) remark on intonation:

To maintain that information structure is basically iconic is not to maintain that its implementations from language to language will be identical.

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