On the homonymy of subject and object in a synthetic and an analytical language system

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ON THE HOMONYMY OF SUBJECT AND OBJECT IN A SYNTHETIC AND AN ANALYTICAL LANGUAGE SYSTEM

1. Introduction. The present paper concerns the homonymy of the nominative and the accusative,[1] concentrating on its manifestations on the syntactic level of the system of language as well as on the higher levels, i.e. on that of the semantic structure of the sentence and on that of functional sentence perspective (= FSP). On the syntactic level, the mentioned type of homonymy manifests itself in the homonymy of subject and object. It will be attempted to show that in the system of language there are factors neutralizing this type of homonymy without impairing the intelligibility of communication. The first and main part of the inquiry is based on a corpus of Czech scientific and technical texts; the second and closing part compares the situation in Czech with that in English.

Not an Anglicist, but a Bohemicist, the present author views the problem primarily in the light of the Czech language system. His modest aim is to draw the Anglicist's attention to a point in which the grammatical structure of Czech resembles that of English. In this way, he hopes to contribute towards the linguistic characterology of English worked at by Czechoslovak Anglicists (cf. V. MATHESIUS, *Linguistic Characterology*). Moreover, the problem he proposes to deal with is closely related to one of the chief fields of interest of the Anglicists of the Brno Department of English (functional sentence perspective and word order).

2. Homonymy in a language system.[2] Any written or printed text of sufficient length or a spoken passage displays the phenomenon called homonymy. A case of homonymy in a language system may be defined as the formal identity of some linguistic means (stems, suffixes, prefixes, parts of speech, etc.) performing different functions in the system. In accordance with the assigning of linguistic means to particular levels of the language system, various types of homonymy may be ascertained, e.g. morphological homonymy (bratra [of-brother/brother] being both genitive and accusative singular), syntactic homonymy, etc.

From the adduced definition it evidently follows that homonymy pervades all the levels of a language system, various types of homonymy usually displaying dependence in the upward direction. Homonymy originating on a lower level passes onto, and affects, a higher level. Consequently, it is a characteristic of the homonymy of linguistic means that on one level a means has more functions without changing its form.

Morphological homonymy and its consequences on higher levels will be

dealt with first. Or, to put it more accurately, the phenomenon to be discussed may be characterized as follows:

various stems + homonymous ending,

e.g.:

various stems	homonymous ending	function
hrad- (castle-)		a) nominative plural
bod- (point-)	y	b) accusative plural
dom- (house-)		c) instrumental plural

The morphological homonymy of a Czech case form has its consequences on the syntactic level, because in Czech the syntactic functions (e.g. those performed by sentence elements) do not employ any means of their own, independent of morphology. Every case form has its most typical syntactic function; the nominative, for instance, is most frequently the subject of the sentence, the accusative and the dative are objects, the genitive an incongruous attribute or, more rarely, an object, etc. The morphological homonymy of a case form inevitably results in homonymy on the syntactic level, e.g. the homonymy of subject and object. Thus in

Integrál obsahuje koeficient.

('Integral contains coefficient'),[3]

a speaker of Czech will find it quite evident that within the examined sentence, the subject—object relation could be reversed. In regard to form, *integrál* could rightly be regarded as an accusative, and consequently as an object, whereas *koeficient* could be regarded as a nominative, and consequently as a subject. As with the exception of a few sequences to be discussed below, Czech word order is not grammatical, the examined sentence shows syntactic homonymy produced by morphological homonymy.

Needles to say, other kinds of case form homonymy occur leading to syntactic homonymy of the respective syntactic elements. The present paper, however, is primarily concerned with the homonymy of subject and object.

Homonymy occurs also on the level of functional sentence perspective (= FSP).[4] In Czech, for instance, on the level of FSP, the linguistic means employed are also sentence elements, or rather sentence elements arranged in a particular linear order. According to their position in the sentence, their semantic content and contextual dependence, they become thematic or rhematic, i.e. carrying a lower or higher degree of communicative dynamism (= CD). Considered in this light, homonymy occurs if one sentence element, e.g., the object, is capable of performing more functions on the level of FSP, e.g., that of the rheme or that of the theme, without undergoing any formal change.

2.1. Homonymy and synonymy within the system.[5] When dealing with homonymy in a language system, we must pay at least brief attention to the other aspect of the problem — synonymy within the language system. The phenomenon of synonymy occurs in a language system when several linguistic means perform the same function; in other words, when one function is performed by several means. In Czech, for instance, several means may be employ-

ed to perform the function of an adverbial element in a sentence — an adverb, a prepositional, or a simple case. Schematically, the relation of homonymy and synonymy may be expressed as follows:

> homonymy: various functions — the same form
> synonymy: the same function — various forms

These relations bear out the close connection between homonymy and synonymy. This connection becomes particularly obvious if homonymy and synonymy are looked upon from two points of view: that of the speaker and that of the listener. Under normal conditions of language communication, the speaker constructs his utterance in such a way as to make it express some semantic content (the very gist of the communication) intended for the addressee — the listener. In doing so, he usually chooses one from several means capable of performing the same function and uses it in his utterance. It is in this way that the speaker is coping with synonymy in the language system. The listener finds himself in the exactly opposite position when receiving the speaker's communication. Very frequently, the communication comprises a number of means that may, or actually do, perform more than one function. It is up to the listener to decide what function the given linguistic means performs. He is in fact coping with homonymy in the language system. He makes his decision on the basis of the preceding context (linguistic and extralinguistic), as well as on the basis of the meaning of the communication. In a normal language user, these processes take place subconsciously. They do not impair the quality of the language communication. On the contrary, homonymy is, e.g., a very important factor in relation to the economy of language communications.[6]

A very similar kind of relation between homonymy and synonymy can be met with in studying generative and recognition procedures. In regard to generative procedures, we can speak of synonymy (as in the case of the speaker); in regard to recognition procedures we can speak of homonymy (as in the case of the listener). This constitutes the difference between the generative and recognition procedures.[7] In this respect, formalized generative and recognition procedures provide very suitable tools for an inquiry into the two examined phenomena of the system of language. Moreover, it is obvious that while dealing with one of the two phenomena (e.g. homonymy), we should not neglect the other (e.g. synonymy). The two, as it were, constitute two facets of one phenomenon. Only then are we likely to form a complete idea of the character and mutual relation of these phenomena and to acquire a full understanding of their operation in the system of language.

2.2. Types of homonymy. As we have already suggested, we propose to deal in greater detail with two types of morphological homonymy and their consequences on the syntactic and higher levels.

1. The first type of homonymy is that of the nominative (N) and the accusative (A) shown by all Czech inanimate masculine paradigms in both numbers and by the animate paradigm *soudce* (judge) in the singular. As to the feminines, N−A homonymy is shown by the paradigms *žena, nůše* in the plural, the paradigms *píseň, kost* in both numbers. As to the neuters, it is shown by all the paradigms in both numbers. On the morphological level, this means that, e.g., the noun form *jmenovatel* (denominator) admits of the alternative

of the nominative or accusative sg. In some cases, the situation may be even more complicated; e.g., the noun form *domy* (houses) admits of three possibilities in the plural: the nominative, accusative or instrumental. The neuter paradigm *stavení* (house) shows a still higher degree of homonymy; one form admits of eight possibilities.

On the syntactic level, both cases (N—A) have their specific functions. In a Czech sentence, the nominative is most frequently the subject, the accusative the object. For this reason we shall just speak of the homonymy of subject and object (S—O). Sentences coming under this heading are mainly those of the *Jmenovatel má tvar* ('Denominator has form') type, in which the homonymy of N — A gives rise to that of S—O. In the sentences of this type, it is often difficult to decide which of the sentence elements is actually the subject and which the object, which results in impairing the intelligibility of the communication. From the syntactic point of view, some other cases of S — O homonymy, statistically insignificant, belong here, such as those of the *Tyto prvky nemusí být čísla* ('These elements need-not be members') type, in which the linking elements are a modal verb and an infinitive. Further (in regard to object), combinations of the type *rovnost splňující axiomy* ('identity complying-with axioms'), in which the linking element is a verbal adjective, also partly belongs here. Two infinitives, occurring in a sentence, may appear as homonymic means, one functioning as subject, the other as object. Sentences of the type *Definovat zobrazení f znamená určit nějakou podmnožinu t.* ('To-define mapping of-f means to-determine some subset t.') belong here as well.

2. The other type of homonymy is due to the fact that in a Czech sentence the nominative can have several syntactic functions: it may be the subject (most frequently), nominal part of the verbo-nominal predicate, or complement. (In some cases it is difficult to determine what syntactic function the nominative performs.) This kind of homonymy will be referred to as S—P homonymy, including instances of the *Body jsou čísla* ('Points are numbers') type, in which the first and the second nominative respectively perform the functions of the subject and that of the nominal part of the verbo-nominal predicate. Further, sentences of the type *Zobrazení se nazývá vzorec* ('Mapping [reflexive pronoun] it-is-called formula'), where the nominative *zobrazení* is the subject, the nominative *vzorec* a noun complement. From the point of view of Czech syntax all the sentences with a noun complement in the nominative belong here.

In our material, numbering altogether 2000 sentences, S—O homonymy occurred in 124 cases, i.e. 6.20 %; S—P homonymy occurred in 63 cases, i.e. 3.15 %. A complete statistical survey is offered by Tables 1 and 2. The tables show that the mentioned types of homonymy are not mere marginal phenomena as they might seem at first sight. Nevertheless, their occurrence does not virtually cause any difficulty in language communication.

3. The character of S—O homonymy as established by the analysis of the examined material. The analysis of the examined Czech scientific and technical texts has revealed a number of interesting facts about the character of S—O homonymy. (Calling for a separate detailed analysis, S—P homonymy will not be pursued any further in the present paper.)

a) There are cases of S—O homonymy in the text that become unambiguous through the operation of the morphological context of the homonymic

TABLE 1

	Absolute Frequency	Relative Frequency
Total number of all examined cases	2 000	100%
Total number of sentences with S—O homonymy and those with S—P homonymy	187	9.35%
Sentences with S—O homonymy	124	6.20%
Sentences with S—P homonymy	63	3.15%

TABLE 2

	Absolute Frequency	Relative Frequency
Total number of all examined cases	2 000	100%
Total number of sentences permitting of both types of homonymy	614	30.70%
Sentences permitting of S—O homonymy (i.e. both potentially homonymic sentences and actually homonymic sentences)	385	19.25%
Sentences permitting of S—P homonymy (i.e. both potentially homonymic sentences and actually homonymic sentences)	229	11.45%

nouns. In these instances the' homonymic nouns are qualified by adjectives that are in agreement with them, but whose endings are not homonymic. The form of the adjective exactly indicates the case of the homonymic noun. The following sentence is a typical example.

Výsledná periodická funkce vyjadřuje složené harmonické kmitání.
('Resulting periodic function expresses complex harmonic oscillation.')

N	N	N—A	A	A	N—A
S	—	P	—		O

Homonymic are the nouns *funkce, kmitání*, which are linked up with the verb *vyjadřuje*. If no qualifying adjectives were present, the sentence would show full S—O homonymy. By their forms, however, the adjectives indicate that

funke and *kmitání* are respectively a feminine noun in the nominative sg. and a neuter noun in the accusative sg. In this way S — O homonymy is completely eliminated and cannot arise even if there is a change in the order of the homonymic nouns.

Moreover, the morphological context eliminates S — O homonymy through the agreement of the subject with the predicate, which is formally indicated by the ending of the predicative verb. This is illustrated by the following sentence:

<div align="center">

Body určuj-i/-e průběh funkce.

('Points it they-determine variation of-function.'),

</div>

where the ending *-i* indicates the agreement of the predicative verb with the noun *body*, which becomes the subject. If the predicative verb ends in *-e*, it agrees with the noun *průběh*, which under the circumstances is not the object but the subject.

The elimination of S — O homonymy through the agency of the morphological context of the homonymic nouns is always unambigous, but cases of this kind are not very frequent, there being only 6 (1.5 %) of them out of the total number of 385 cases of S — O homonymy.

b) The analysis of the corpus has shown that (except the cases described under a)) sentences with S — O homonymy have normal word order, or, to put it more accurately, a fixed order of the homonymic sentence elements — the subject and the object. In such sentences, the subject is always placed first, the object second. Exceptions to this rule will be discussed in greater detail in the section to follow. Word-order patterns displayed by the sentences with S — O homonymy are tabulated in detail below.

<div align="center">

TABLE 3

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Group	Parts of Speech	Syntactic Functions	Note
a	N_{1-4}—V_f—N_{1-4}	S—P—O	
b	V_f—N_{1-4}—N_{1-4}	P—S—O	
c	N_{1-4}—N_{1-4}—V_f	S—O—P	
d	N_{1-4}—$\emptyset$—N_{1-4}	S—$\emptyset$—O	ellipsis of P
d1	N_{1-4}—V_f—$\emptyset$	S—P—$\emptyset$	ellipsis of O
d2	$\emptyset$—V_f—N_{1-4}	$\emptyset$—P—O	ellipsis of S
a1	N_{1-4}+N_{1-4}—V_f—N_{1-4}	S+S—P—O	
a2	N_{1-4}—V_f—N_{1-4}+N_{1-4}	S—P—O+O	

Table 3 shows that the order of the homonymic sentence elements, subject and object, remains fixed, however varied the word-order modifications may be. This does not mean that all the sentences displaying S — O homonymy have the same word order (to be understood as the order of all the words occurring in the sentence). But it is only the position of the predicative verb that is changed. The verb may precede the homonymic nouns, stand between

them (which is the most frequent position), or follow them. The position of the predicative verb deserves particular attention because, formally and semantically, it constitutes a structural point of considerable importance.

At this point, it may be of interest to note that the characteristics just established are equally applicable to the corresponding type of homonymy in Russian. An analysis of Russian mathematical text has revealed 75 % of homonymic N−A forms. These homonymic forms can be covered by rules unequivocally determining the syntactic functions of homonymic forms. The rules are based on an analysis of word order, which is a sufficient determiner of N−A (S−O) homonymy. A solution of case homonymy in its entirety must have recourse to other formal features: an auxiliary word accompanying the noun, part of speech characteristics, morphological form, syntactic valence of the adjacent context, position of homonymic nouns with regard to the other words in the sentence. The same results have been achieved in the U.S.A. where similar problems concerning Russian have been studied. Both in the U.S.S.R. (J. V. PADUČEVA, *Zamechaniya*) and in the U.S.A. (D. G. HAYS, *Order*) these inquiries have been carried out for the use of machine translation.

3.1. Exceptions. In the corpus a small number (8) of sentences with S−O homonymy have been found which differ in word order from the sentences in Table 3. As to the parts of speech, these sentences show the same structure as those of group a) in Table 3, but reveal an essential difference in the order of the syntactic functions − the order of subject and object is reverse. The object comes first, the predicative verb second, the subject third, the verb being occasionally shifted before the two homonymic nouns. The noun coming first functions as object, the noun coming second as subject. In describing the exceptions the same word-order patterns will be used as in the preceding case.

TABLE 4

Group	Parts of Speech	Syntactic Function	Note
a	N_{1-4}—V_t—N_{1-4}	O—P—S	
b	V_t—N_{1-4}—N_{1-4}	P—O—S	

No further types of reversed order of the subject and object have been yielded by the corpus, though the occurrence of patterns similar to those shown in Table 3 under c), d), d1), d2), a1), a2) cannot be ruled out. Theoretically speaking, this possibility exists.

Nevertheless, it is necessary to state that, in comparison with the total number of all the homonymic sentences, the occurrence of sentences with the mentioned type of S−O homonymy is very rare, the ratio being 2000/8. But this is not the most essential fact. What is of importance is that not even sentences with this type of S−O homonymy lead to any misunderstanding in language communication, the system of language having a number of means at its disposal which counteract S−O homonymy and eliminate its influence.

3.2. FSP in the sentences with S—O homonymy. In attempting to elucidate the problem of such sentences, we have given attention also to FSP. The analysis has shown that, without exception, sentences with S—O homonymy show basic distribution of communicative dynamism (CD). This means that they begin with elements carrying the lowest degree of CD and gradually pass on to, and end with the element conveying the most important item of new information and therefore carrying the highest degree of CD (cf. J. FIRBAS, *Comparative Studies; Non-Thematic Subjects*). Provided they are contextually dependent, the sentences show — in accordance with what has just been said — the basic type of contextual dependence, i.e. its thematic elements carrying the lowest degree of CD are always contextually dependent, whereas the rhematic elements carrying the highest degree of CD are contextually independent. This is in keeping with the fact that the corpus is formed by scientific and technical texts, which are practically devoid of emotionally coloured communication.

4. Elimination of S—O homonymy. The preceding sections have characterized the situation in sentences with S—O homonymy. In our opinion, the inquiry is to proceed from the following basic and current fact of language communication: sentences with S—O homonymy (or sentences with other kinds of homonymy) are not considered defective by the user of language; like sentences without S—O homonymy, they are accepted by him and are perfectly intelligible to him. The main conclusion to be drawn from this is that S—O homonymy (and all other types of homonymy — cf. M. TĚŠITELOVÁ, *Morfologická homonymie*) is not a defective phenomenon in a language system. On the contrary, homonymy is to be regarded as an integral quality of the system of language (and is, in this sense, a language universal) indispensable to the achievement of economical communication (cf M. TĚŠITELOVÁ, *Ekonomiya*). Even the close relation of homonymy to synonymy corroborates the fact that homonymy (of all types) is connected with the flexibility and richness of a language system.

Consequently, in the section to follow, we shall attempt to inquire into the agents and factors that assist the user of language in correctly perceiving homonymic sentences in general and those with S—O homonymy in particular. There are several factors of this kind; they are interrelated and co-operate. Neglecting any of these factors, the investigator may impair the correct understanding of the functioning of the system of language and weaken the adequacy of its description.

In our opinion, S—O homonymy is eliminated by the following factors:

1. Linearity, i.e. the linear arrangement of elements (words) constituting the utterance (sentence); in other words, word order: the fact that the elements of the communication follow one another in chronological succession (in the spoken language), or that they are arranged linearly from left to right (in the written forms of European languages);

2. FSP — through the basic distribution of CD in sentences with S—O homonymy, and contextual dependence of homonymic sentences in general;

3. The semantic contents of elements (words) constituting the utterance (sentence) displaying S—O homonymy; or to put it more accurately, in regard to sentences showing S—O homonymy, the semantic contents of the homonym-

ic nouns (on the syntactic level, the semantic contents of the subject and the object) and the semantic content of the predicative verb.

Although each of the listed factors will first be given separate treatment, it should be emphasized that in eliminating S—O homonymy, none of them functions on its own, but always in co-operation with the others. Factors 1, 2, 3 are explicitly present in any sentence that shows S—O homonymy and is part of some rational communication (or is constituting it itself) which may occur in ordinary human communication.

4.1. Analysis of factors 1, 2, 3. 1. Linearity. The word order in sentences with S—O homonymy has already been touched upon (on p. 154), but deserves further and more detailed treatment.

It is typical of a spoken or writen utterance that its elements are arranged in some regular order. The arrangement of written utterances is linear from left to right (e.g., in European languages); spoken utterances are a series of sound signals following each other in chronological succession. Linguists denote such an arrangement as word order. These are all commonplaces, but nevertheless worth recalling.

If S—O homonymy is present in a sentence, then from the point of view of the linear arrangement of linguistic elements in a sentence, several possibilities arise:

(A) The linear arrangement of linguistic elements (words) becomes the main criterion by which the syntactic functions of the homonymic nouns can be determined, i.e. the only criterion capable of eliminating S—O homonymy from the sentence. For instance, in the following sentence

(i)   Systém A modeluje systém B.
                   ('System A models system B.'),

in which S—O homonymy is particularly striking (in the examined sentence, it is really difficult to determine which homonymic noun is the subject and which the object), it is only the order of words that enables us to regard the first homonymic noun as the subject and the second as the object. Consequently, the word-order pattern of the sentence is S—P—O, and according to the preceding classification falls under group (a) of Table 3. The linear arrangement of the linguistic elements causes the first element to become the subject, the second the object. As can be seen from Table 3, the position of the verb can vary; these changes, however, are not decisive. Linearity (word order) assigns syntactic functions to homonymic nouns and in this way determines the correct perception of the entire sentence.[8] This gives rise to a phenomenon — well-known, for instance, in English —, viz. that of grammaticized word order, which is raised to a grammatical principle. This also means that in Czech sentences with S—O homonymy word order, othervise so variable, becomes fixed and a means of distinctive syntactic functions. In this point, the system of Czech comes very close to that of English, in which the linear arrangement (word order) becomes the basic grammatical factor determining the syntactic functions of the words in a sentence.

(B) Though always present in the communication, linear arrangement does not function as determiner of the syntactic functions of homonymic nouns. In the sentences with S—O homonymy, there are factors that work counter to the linear arrangement of communicative elements. This means that these

factors are also capable of eliminating S−O homonymy. The following sentences may illustrate.

(ii) Činnost koordinuje počítač. ('Operation co-ordinates computer.')
(iii) Cukr jí dítě. ('Sugar eats child.')

   O−P−S

If the principle of linearity were invariably applied, the order of words within sentences (ii) and (iii) would have to be unequivocally interpreted as S−P−O. Under the circumstances, however, the very opposite interpretation is valid. Nevertheles, the user of language understands the sentences correctly, and correctly interprets the syntactic functions of the homonymic nouns. What linguistic signals is he guided by? Putting it briefly and tentatively, within sentences (ii) and (iii), the principle of linearity is counteracted by:

a) the semantic contents of the homonymic nouns and the semantic content of the linking element − the predicative verb;

b) some formal properties of the sentence (or clause) with S−O homonymy or the formal properties of the compound (or complex) sentence of which the sentence (or clause) with S−O homonymy is a part. The reverse order of the sentence elements is usually necessitated by the manner in which the homonymic sentence (or clause) is incorporated in a structure of higher order, e.g.:

(iv) U strojů vybavených sdílením času se díváme na vstupní a výstupní jednotky jako na samostatná přídavná zařízení, jejichž činnost koordinuje počítač.

('With machines equipped with-sharing of-time [*refl. pron.*] we-look upon input and output units as on separate additional devices, whose operation co-ordinates computer.');

c) the manner in which the sentence (or clause) is affected by the preceding context (i.e. the way in which one part of it becomes contextually dependent and the other remains contextually independent) and FSP in general. Special means may be used to signal contextual dependence or independence. Let us mention here at least the so-called rhematizers such as Czech *i, také, rovněž (even, also, too)*, i.e. words that signal the element accompanied by them as rhematic.[9] E.g.:

(v) Čtenáři přiblíží toto přirovnání *také* obrázek 1.2.

('To-reader it-will-explain this comparison also picture 1.2.')

2. Contextual dependence, and FSP in general, operates in eliminating S−O homonymy and facilitates a correct understanding of the homonymic sentences in regard to their semantic content. Sentences with S−O homonymy always show the basic distribution of CD, at the same time displaying basic contextual dependence. (In displaying such dependence, they open with contextually dependent elements, naturally carrying the lowest degrees of CD, and pass on to, and close with, contextually independent elements, carrying the highest degrees of CD.) This basic and unmarked distribution of CD, together with the basic type of contextual dependence, operates counter to S−O homonymy. If necessary, the special means referred to above are resorted to.

3. Semantic content is the basic and inseparable part of all rational language communications. In homonymic sentences, it acquires a particularly important role, having a very significant share in eliminating homonymy from the communication. As has been already suggested, it is the semantic contents

of the basic sentence elements, i.e. the subject, predicate, object, that counter-
act the linear arrangement of sentences (ii) and (iii). The semantic contents,
however, may act in accordance with the principle of linearity, or even intensify
its operation, as e.g. in sentence (i). Let us now discuss the two mentioned
alternatives.

(A) If the syntactic functions of homonymic nouns are not determined by
the principle of linearity, other criteria must be resorted to, especially such as
are based on the semantic qualities of the homonymic nouns and the predicative
verb. Let us have a look at the following two sentences:

(vi)   Dítě sežralo lvíče. $(O-P-S)$
       ('Child ate lion's cub.')
(vii) Lvíče snědlo dítě. $(O-P-S)$
       ('Lion's cub ate child.')

Sentences (vi) and (vii) have no grammatical features signalling the syntactic
functions of the homonymic nouns and in this way eliminating $S-O$ homon-
ymy. It is obvious that the principle of linearity does not apply. The homo-
nymic nouns and the predicative verbs of sentences (vi) and (vii) show some
concrete semantic relations: every native speaker of Czech knows that the
predicative verb *jísti* (to eat) can have as its subject only a noun denoting
a human being; in other words, *jísti*, a verb of semantic category A, can collo-
cate only with a noun of semantic category I. (Let us suppose for a moment that
there is a semantic classification of Czech nouns and verbs.) The verb *jísti* may
have various objects — either living creatures (animals) belonging to semantic
category II, or inanimate things denoted by nouns belonging to category III.
On the other hand, the verb *žráti* (to devour) can have as its subject only
nouns belonging to semantic category II, i.e. nouns denoting living creatures —
animals. Objects collocating with *žráti*, a B-category verb, may be nouns be-
longing to categories I, II, III. As has just been described, the semantic relations
between homonymic nouns and the verbs connecting them constitute rules
determining the syntactic functions of homonymic nouns. It has become
obvious now how these rules counteract the linearity principle. Let us point
out that it is not absolutely necessary that the syntactic functions of both

TABLE 5

(vi)	Semantic structure	Dítě sežralo lvíče. ('Child it-devoured lion's cub.')
	Parts of speech	N_{1-4}—V_f—N_{1-4}
	Syntactic functions	O—P—S
	Semantic categories	I—B—II
(vii)	Semantic structure	Lvíče snědlo dítě. ('Lion's cub it-ate up child.')
	Parts of speech	N_{1-4}—V_f—N_{1-4}
	Syntactic functions	O—P—S
	Semantic categories	II—A—I

nouns should be determined. There being only two possibilities, it will suffice if the syntactic function of one of the two homonymic nouns is determined. If one of the two homonymic nouns is to be regarded as the subject, the other must be the object.

Consequently, in the Czech language system, semantic rules exist that determine the compatibility of words. These rules are part of the linguistic consciousness of every normal language user. We shall now attempt to express these rules explicitly.

The formulated rules are a reliable guide in eliminating S−O homonymy, bearing out that, in the absence of formal (syntactic or morphological) features, the semantic properties of words are frequently quite adequate to the task of determining the syntactic functions.[10]

To our knowledge, a systematic classification of nouns and verbs into semantic categories does not yet exist. (There is definitely no such classification of Czech nouns and verbs.) For the further development of linguistics, a detailed description of the semantic properties of words is an absolute necessity, for it is probable that, in all languages, situations frequently arise when the syntactic functions are determined by the very semantic contents (meanings) of words.[11] The non-existence of such description makes a sufficiently adequate description of the system of language impossible.[12]

Sentences with S−O homonymy qualified as exceptions at the beginning of the present paper (par. 3.1, p. 155) are in fact no exception at all; their occurrence only proves that the system of language can cope with S−O homonymy with perfect adequacy.

(B) The semantic properties of words constituting a sentence are in agreement with the principle of linearity, the syntactic functions of homonymic nouns being determined by this very principle. Cases coming under this heading have been discussed in connection with the problem of linearity (sentence (i) may serve as an illustration). We do not therefore consider it necessary to reopen the discussion of such cases.

(C) Within the sphere of the semantic structure of the sentence, one more possibility deserves consideration: the situation may arise when even the meanings of the homonymic nouns do not offer a sufficient clue to their syntactic functions. We consider such a situation exceptional. In our opinion, it arises when the user of language does not understand the meanings of the homonymic nouns and of the verbs connecting them. The very fact that he lets himself be guided solely by the principle of linearity may result in his completely wrong comprehension of the sentence with S−O homonymy. A non-mathematician, for instance, who does not know the meanings of the homonymic nouns of exx. (viii) and (ix) cannot determine the syntactic functions of these nouns unambiguously.[13]

(viii) Zobrazení definuje posloupnost.   (S−P−O)
        ('Mapping defines sequence.')
(ix)   Zobrazení g definuje zobrazení g.h.   (O−P−S)
        ('Mapping g defines mapping g.h.')

4.2. Co-operation of factors 1, 2, 3. The interconnections and operation of factors 1, 2, 3 can readily be seen from Table 6.

TABLE 6

(x)	Sentence:	Příklad uspořádání páskové paměti ukazuje obrázek 7.3. ('Example of-arrangement of-tape of-memory shows figure 7.3.')		
	Parts of speech	N_{1-4}—N_2—A_2—N_2—V_f—N_{1-4}		
	Order of syntactic functions	O—At—At—At—P—S		
	FSP	theme, contextually — transition — rheme, contextually dependent independent		
	Semantic structure	The semantic structure counteracts the linear arrangement and determines the syntactic functions of the homonymic nouns. The existence of semantic categories must necessarily be taken for granted.		
(xi)	Sentence:	Organizátor správně řídí počítač. ('Organizer correctly controls computer.')		
	Parts of speech	N_{1-4}—Ad—V_f—N_{1-4}		
	Order of syntactic functions	S—ADm—P—O the syntactic functions are determined by linearity		
	FSP	theme, contextually — transition — rheme, contextually dependent independent		
	Semantic structure	The semantic structure operates in agreement with the linear arrangement and co-operates with it in reliably determining the syntactic functions of homonymic nouns. The existence of semantic categories is evident.		

The conclusions arrived at in the preceding sections and tabulated above may be summed up in four points.

a) None of the factors can be regarded as main or most important. Factors 1, 2, 3 co-operate in eliminating S—O homonymy, in most cases appearing as complementary to one another.

b) In some cases, a tension exists between Factors 1 and 2 in that, in some type (ii) or (iii) sentences with S—O homonymy, the operation of Factor 1 is limited through the operation of Factor 3. In uncertain cases, the (Czech) user of language lets himself be guided by Factor 1, which may impair the communication, resulting in double, or entirely wrong interpretations.

c) In our opinion, Factor 2 is a fairly complex phenomenon. An important subfactor is constituted by various types of contextual dependence, an open problem worth intensive further inquiry. Contextual dependence is naturally interrelated with various types of distribution of CD, which in its turn is in a far closer connection with Factor 3 than we have managed to show here.

d) In the examined sentence types, through the co-operation of Factors 1, 2

and 3, S—O homonymy (and probably also S—P homonymy) is subject to complete elimination.

The user of language uses all these factors subconsciously.

5. Comparison of English and Czech from the point of view of S—O homonymy. From the comparative view-point, Czech sentences with S—O homonymy, type (i), are of particular interest as they display a grammaticized order of words — a phenomenon characteristic of English, which indicates the basic syntactic relations by means of linear arrangement. (As is well known, the grammatical factor, availing itself of sentence linearity, is the leading principle in the English system of word order.) (Cf. V. MATHESIUS, *Srovnávací studie* and J. FIRBAS, *Comparative Studies.*) In the indicated point, Czech and English come very close to each other. In spite of this striking similarity, the two systems considerably differ in that the described phenomenon is typical of English, but atypical of Czech, appearing in it as a merely marginal phenomenon. Although the linear arrangement of words is invariably present in Czech as well (it cannot be otherwise, for it is a natural consequence of the form of language communication), it does not usually become grammaticized. It becomes so only under particular circumstances; for instance, when the sentence (or clause) displays N—A, i.e. S—O homonymy. In Czech, under normal conditions, linearity is counteracted on the morphological level, the case endings determining the separate case forms as well as their syntactic functions. This applies to the overwhelming majority of Czech sentences. English, too, has means capable of counteracting linearity; they usually differ, however, from their Czech counterparts, being of a different kind and operating in other places within the language system. The Czech and English systems come closest to each other when linearity is counteracted by semantic means. Czech sentences of types (vi) and (vii), given and analysed above, might be adduced here in illustration.

Not without interest is the following structure.

(xii) Candy like children.[14]

It is obvious that it is definitely uncommon. It can hardly be supposed that a native speaker of English would use it. Yet, owing to to the meanings conveyed (i.e. owing to the operation of semantic contents of the homonymic nouns), it certainly remains intelligible.[15]

In order to verify our opinion concerning the different tasks linearity may perform in the two language systems, we undertook a limited statistical inquiry. For the sake of comparison, we selected 300 English and 300 Czech sentences respectively taken from a book treating of linguistic problems and from scientific and technical texts.[16] In regard to Czech we were interested in establishing the frequency of sentences showing the S—P—O pattern and S—O homonymy; in regard to English, the frequency of S—P—O sentences. (The O of the English sentences had to be direct and non-prepositional, as in *Some grammarians were making comparative studies*, in order to facilitate a comparison of the English sentences with their Czech counterparts, which contained a direct accusative object.) Theoretically speaking, the English S—P—O sentences may be regarded as homonymic, although we are well aware that this theoretical homonymy is being eliminated through the linear arrangement, which determines the syntactic functions of the respective words. From the point of view of English structure, the examined English sentences do not

TABLE 7

	Total number of sentences	Absolute frequency of S—P—O sentences (Czech sentences showing S—O homon.)	Relative frequency of sentences
Czech	300	25	8.3%
English	300	101	33.6%

show N—A homonymy, for in contrast with Czech nouns, English nouns are not declined, and in consequence have no case forms. The results of the statistical comparison are given in Table 7.

Table 7 convincingly proves that English and Czech S—P—O sentences (the Czech specimens showing S—O homonymy) occupy different places in the respective language systems. The Czech sentences of the examined type may be regarded as a peripheral phenomenon in the system of Czech, whereas the English sentences of the corresponding type are in the centre of the English language system.[17] We are aware of the fact that the number of English sentences could have been higher, but considering the high frequency of the English S—P—O type, even a smaller selection could have been used with sufficient reliability. In regard to Czech, on the other hand, the selection is comparatively small, but the frequency of sentences with S—O homonymy in the entire corpus amounts to 6—8 per cent (see Table 1 above). For the present purpose, the selections used may therefore be considered representative enough.

It may be concluded that the system of Czech differs considerably from that of English. Nevertheless, it seems to be profitable to pay attention to points where the two systems, upon the whole so different from one another, show a striking resemblance. We believe that an examination of such points may have its share in advancing the comparative studies of the two languages.

NOTES

[1] For a brief survey of these problems, see P. Sgall, et. al., *Syntaktická analýza*. This survey provides a starting point for our discussion. In addition to the material offered by it, we have excerpted the corpus from the following texts: M. Valach, *Stroje pomáhají myslet* [Machines Help to Think], pp. 11—141 (Prague 1962); *Učebnice fyziky pro 11. třídu* [Textbook of Physics for the 11th Form], pp. 68—118 (Prague 1956); V. Dupač—J. Hájek, *Pravděpodobnost ve vědě a technice* [Probability in Science and Technics], pp. 63—70 (Prague 1962).

[2] The problems of homonymy have been dealt with in a number of papers: B. Trnka, *Homonymie;* T. N. Moloshnaya, *Voprosy;* J. V. Paducheva, *Zamechaniya;* V. V. Vinogradov, *Omonymiya,* P. Sgall, *Soustava.* Two recent studies by M. Těšitelová *(Morfologická homonymie, Ekonomiya)* are of particular importance for us. They deal with morphological homonymy in Czech; using statistical methods they offer a detailed analysis of all Czech homonymic case forms. M. Těšitelová's second study convincingly shows that homonymy is not a defective phenomenon of the system of language, but

an important factor affecting the economy of utterance. Her definition of homonymy is basically the same as ours. In the present paper, we are making use of some of her conclusions. Syntactic homonymy is taken up by F. DANEŠ's study *Opyt*, in which, syntactic homonymy is dealt with in the light of the author's syntactic theory, propounded in his *Three-Level Approach*. In our opinion, some of F. DANEŠ's conclusions are open to discussion (e.g. his disregard of FSP, context and situation; limitation of the the analysis to the syntactic level and neglect of the semantic level).

⁴ Problems of FSP are discussed in J. FIRBAS's papers; see, e.g.,*Transition Proper, Theme, Non-Thematic Subjects*.

³ For the benefit of the reader who may not have a ready command, we offer a literal translation.

⁵ See L. NEBESKÝ — P. SGALL, *Forma a funkce*.

⁶ This problem is discussed in detail by M. TĚŠITELOVÁ, *Ekonomiya*.

⁷ F. DANEŠ has touched upon this difference in *Opyt*, but his (generative) model A (he denotes it as 'synthetic') and his recognition model B (he denotes it as 'analytic') cannot be regarded as formalized in the proper sense of the word.

⁸ We suppose that this fact may be verified by a psycholinguistic experiment in which the informants are to determine the syntactic functions of words on the basis of specially selected homonymic sentences. As part of our further research, we intend to perform an experiment testing the perception of sentences with S — O homonymy.

⁹ On the function of these words in FSP, see J. FIRBAS, *Nezákladové podměty*, p. 29; V. Mistrík, *Realizácia*, p. 13.

¹⁰ This problem is discussed in the excellent paper of L. WUNDHEILER and A. WUNDHEILER, *Logical Concepts*.

¹¹ See L. WUNDHEILER and A. WUNDHEILER, *Logical Concepts*.

¹² This has been pointed out by N. CHOMSKY (see his *Aspects*, pp. 148 — 184). The solution as proposed by him and his group is fully based on his conception of transformational generative grammar. We do not think, however, that his is the only possible solution of the problem.

¹³ In our further research we intend to verify this conclusion by psycholinguistic experiments. Experiments of this kind (see also note⁸) are likely to yield a number of new and interesting data not only as regards S — O homonymy, but also the syntactic and semantic levels of the systems of language.

¹⁴ This example has been adduced by L. WUNDHEILER and A. WUNDHEILER in *Logical Concepts*, p. 276.

¹⁵ In this respect, it is necessary to distinguish between sentences that are intelligible, but not admissible by the norm of the language (cf. S. POTTER, *Word Order*, p. 296).

¹⁶ Our corpus has been drawn from O. THOMAS's *Transformational Grammar*, pp. 1 — 13. Attention should be drawn to the fact that the selection comprises 300 simple sentences, which have occurred as such in the text, or have been obtained from compound or complex sentences. This procedure has been adopted because of our regarding FSP as one of the most important factors. (An examination of FSP necessarily calls for a coherent text.)
For the list of the Czech texts excerpted from, see note².

¹⁷ The problem of centre and periphery in the system of language has been raised by J. VACHEK in *Peripheral Phonemes* (see esp. Chap. One) and taken up by the papers constituting Vol. 2 of TLP.

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SOUHRN

O HOMONYMII PODMĚTU A PŘEDMĚTU
V SYNTETICKÉM A ANALYTICKÉM JAZYKOVÉM SYSTÉMU

V tomto článku se zabýváme problematikou homonymie nominativu a akuzativu (N—A), částečně také problematikou homonymie nominativu. Hlavní pozornost je soustředěna na to, jak se homonymie N—A projevuje v syntaktické rovině jazykového systému a v souvislosti s tím i v ostatních rovinách jazykového systému, tj. v rovině sémantické stavby věty a v rovině funkční perspektivy větné (FPV).

V syntaktické rovině se homonymie N—A jeví jako homonymie dvou důležitých větných členů — subjektu a objektu. V článku jsou uvedeny různé typy vět obsahujících homonymii subjektu a objektu (S—O), jejich slovosledné vzorce a syntaktické struktury (tabulky 3, 4, 5). Na základě tohoto rozboru se pak ukazuje, že homonymie S—O nepůsobí obtíže v jazykové komunikaci, přesněji řečeno, v jazykovém systému existují faktory, které zcela spolehlivě zmíněný typ homonymie neutralizují tak, že nedochází k porušení srozumitelnosti sdělení. Faktory vylučující homonymii S—O a působící proti ní jsou v článku rozebrány a zkoumají se jejich vzájemné vztahy a souvislosti.

Pozorování jsou založena na jednak na českém materiálu (vědecko-technické texty — rozsah 2 000 vět), jednak na méně rozsáhlém materiálu anglickém. Srovnáváme české věty s homonymií S—O s jejich anglickými protějšky (věty se strukturou subjekt — predikát — objekt); toto srovnání je velmi užitečné, zejména ve vztahu k slovosledu. Ukazuje se totiž, že ve většině českých vět s homonymií S—O nastává gramatikalizace slovosledu, tj. existuje v nich pevný slovosled, stejně jako je tomu v angličtině. Srovnání tedy ukazuje, že český jazykový systém se v tomto směru značně sbližuje s anglickým, ačkoliv se od něho jinak velmi liší. Statistické porovnání však ukazuje, že v češtině jde o jev periferní, kdežto v angličtině o jev patřící do centra jazykového systému.

V podstatě se na celý problém díváme z hlediska českého jazykového systému (autor je bohemista) a především si klademe za cíl upozornit anglisty na některé styčné body, v nichž se český jazykový systém sbližuje s anglickým systémem.