A SEMANTIC ANALYSIS OF *WHO, WHAT, WHOSE, AND WHICH* AND THEIR COUNTERPARTS IN POLISH

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Question Words (QW) in English have often been derived from indefinite NP's. In most transformational treatments these NP's have been assigned the status of pro-forms with *Wh* as a scope indicator or indexer attached to them.

The arguments for deriving (QW's from indefinite NP's have been discussed by numerous authors; Ross (1967), Bach (1971), Lewandowska (1971), and Stockwell et al (1973), among others.

However, the indefiniteness of QW's in English has been put into question by some linguists. Koutsoudas (1968), Kuroda (1968), and Lewandowska (1975), for example, argue that Wh constituent for interrogative can be either (+Definite) or (—Definite), yielding either 'at which place' or 'at what place' if place is (—Attach) or 'where' if place is (+Attach).[1]

Browne's (1970) study on QW's in Macedonian demonstrates that a distinction must be made between *koho* (who/whom) which appears in questions both with and without the definiteness-indicator clitic *go* and is thus definite or indefinite, and *sto* (what) which is always indefinite.

Also Hewer (1976 : 10) points out that in Kasem the determiner in a NP may be replaced by the question determiner *-ó* (which) if "... the question determiner also agrees with the noun, by bearing the initial consonant of the definite article that agrees with the particular class and number of the noun".

As is well known most transformational analyses relate surface occurrences of QW's to two constituents; *Wh* and N. *Wh*, common to all QW's ,has been usually suspended from Determiner node, e.g. Article, and has been the underlying form for the phonological shape of QW's in English. N, which is sister

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[1] For details cf. Lewandowska (1974 : 25).

adjoined under Determiner node, has been assigned the feature (+Pro) and has been the constituent which distinguishes among different QW's by virtue of possessing different lexical meaning.[2]

However, as has been pointed out by Koutsoudas (1968 : 268), some QW's, e.g. *When, Where, Why,* and *How* have been derived from a slightly different underlying structure than *Who, What,* and *Which* in the analysis proposed by Katz and Postal (1964); the former, but not the latter, contain a Preposition in their underlying structures. Moreover, Katz and Postal (1964) derive *When, Where, How,* and *Why* from 'at what time', 'at what place', 'in what manner', and 'for what reason', respectively, whereas Kuroda (1968) derives these QW's from 'at which time', 'at which place', 'in which way', and 'for which reason'.

The above discussion seems to indicate that in the current literature the problem of definiteness versus indefiniteness of Wh, and consequently of NP underlying QW's, is still an open question. We saw above that the assignment of the feature (+Definite) to NP's underlying QW's was based upon the assumption that this feature could be used to characterize 'which' underlying surface occurrences of *When, Where, How,* and *Why.* Despite the fact that exactly the same surface occurrences of the above mentioned QW's were characterized as being (-Definite) by those linguists who proposed to derive *When, Where,* etc., from 'at what time', 'at what place', etc., the former approach was inconsistent in deriving *When, Where,* etc., from definite NP's and *Who, What,* etc., from indefinite NP's.

In our opinion the controversy stems from a confusion of underlying semantic features, (+Definite) and (-Definite) in this case, with the real occurrences of *Which* and *What* in the surface forms of Special Questions (SQ) in English, and from the fact that the semantic characterization of QW's has been equated with the pragmatic presuppositions that can be associated with QW's occurring in SQ's. We shall dwell a little on the latter issue.

It has been widely acknowldged that QW's occur in SQ's to indicate the ignorance of the speaker about someone's identity or the place of event, etc.; hence the occurrences of *Who, Where,* etc., in the surface forms of SQ's. *Who, Where,* etc., occur in SQ's whenever the speaker is assuming that the entities about which these QW's are asking do exist but it is the addressee (the one who provides the answer, in this case) who has the sufficient knowledge of their identity or place of existence, etc.[3]

The acceptance of the view that NP's underlying QW's are marked as (+Definite) would eventually lead to contradiction; the speaker in uttering a SQ containing, for instance, *Who,* would be referring to some entity in the outside

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[2] Cf. Grosu (1975) on the structure of fronted Wh phrases.
[3] Cf. Chafe (1970 : 325 - 326).

world as being definite. However, it is difficult to see how one can refer to something as being definite without knowing what it is. More precisely, how can the speaker refer to an NP as being definite if he does not know the referent of this NP. In other words, an analysis that postulates (+Definite) as a feature for NP's underlying QW's must explain on what grounds NP's underlying QW's can be assigned the feature (+Definite) if the referents of these NP's are not given.

Let us now consider a case where *Who* in English and *Kto* in Polish occur in SQ's which contain definite NP's although the two QW's are asking about the definite NP's in question. An interesting case is discussed in Donnellan (1971). The discussion is focused on the two uses of *Who* as exemplified in 1 and 3 below.

1. Who is the man drinking a martini?
2. Kto jest ten człowiek/kto jest tym człowiekiem, który pije martini?

If 1, according to Donnellan, is uttered by someone at a party upon seeing an interesting-looking person holding a martini glass, then Y is asking about a particular person. However, says Donnellan, the same question can be asked in a different context. Suppose, for example, that the same question (we shall label it as 3) is asked by the chairman of the local Teetotallers Union who has just been informed that a man is drinking a martini at their annual party. He responds by asking his informant 3.

3. Who is the man drinking a martini?
4. Kto to jest ten człowiek/..., który pije martini?

The chairman in asking 3 does not have some particular person in mind. Donnellan then explains that the use of *Who* in 1 can be related to the referential use of definite descriptions and the use of *Who* in 3 can be related to the attributive use of definite descriptions (Donnellan 1971 : 104).

Leaving the problems involved in the discussion of definite descriptions for philosophers let us now see how the two uses of *Who* can be accounted for in a linguistic theory.

We shall begin by adding one more question with *Who* to those already mentioned in Donnellan (1971).

5. Who is drinking a martini?
6. Kto pije martini?

To explain differences among (1 - 6) we shall investigate the presuppositions that the speaker is making upon uttering (1 - 6). (7 - 12) below are the respective presuppositions for (1 - 6).

7. The man drinking a martini is someone.
8. Człowiekiem, który pije martini jest ktoś.

9. Someone is the man drinking a martini.
10. Ktoś jest człowiekiem, który pije martini.
11. Someone is drinking a martini.
12. Ktoś pije martini.

For the sake of clarity of the argument let us substitute the English term *the man* and its Polish translation *człowiek* by a more neutral pair; *the person* and *osoba* for English and Polish respectively. We can do that because *the man* in the English examples as well as *człowiek* in the Polish counterparts do not necessarily have to be used to mean a person who is male. On the other hand *person* in English and *osoba* in Polish can be used to mean both sexes so that no harm is done with regard to the meaning of (7 - 12). Thus we obtain (13 - 18).

13. The person drinking a martini is someone.
14. Osobą, która pije martini jest ktoś.
15. Someone is the persn drinking a martini.
16. Ktoś jest osobą, która pije martini.
17. Someone is drinking a martini.
18. Ktoś pije martini.

We can now see that 15 and 17 in English, and 16 and 18) in Polish are, in fact, identical for the difference between 'someone' and 'someone is the person' on the one hand, and the difference between 'ktoś' and 'ktoś jest osobą' on the other, can be disregarded. This is not surprising since both 15 and 17 in English and 16 and 18 in Polish are the respective presuppositions for 3 and 5 and 4 and 6, which are asking about the identity of the person who is drinking a martini.[4] This is not, however, the case with 13 and 14; they are not asking about anybody's identity, i.e., 1 and 2 as SQ's presupposing 13 and 14, respectively, are not asking about anybody's identity.

1 in English, if uttered in the context described by Donnellan, would mean something like 19.

19. What is the name (profession) position, etc., of the man drinking a martini?

The corresponding form in Polish is 20.

20. Jakie jest nazwisko (zawód) pozycja, etc., tego człowieka, który pije martini?

The above discussion seems to point out to the fact that sometimes *Who* in English SQ's and *Kto* in Polish SQ's can be used where, in fact, *What* and Jaki/a/e is meant. We can add that 'who' can be found not only in environments where

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definite descriptions occur but also in environments where proper names occur.

21. Kto to jest ten Kowalski?
22. Who is it this Kowalski?

Here again, *who* and *kto* are not used to ask about someone's identity (we know that it is Kowalski) but rather to ask about Kowalski's features as a man.22 can thus be paraphrased as 23 and 21 can be paraphrased as 24.

23. What sort of man is Kowalski?
24. Jakim człowiekiem jest Kowalski?

We saw above that the two uses of 'who' in English SQ's and the two uses of 'kto' in Polish SQ's can be accounted for if they are related to two different pressuppositions.

It will be demonstrated later in this paper that the two uses of 'who' and 'kto' can be explained if a different set of semantic features is assigned to NP's underlying a particular use of 'who' and 'kto' in SQ's.

Let us now return to the discussion of definiteness versus indefiniteness of NP's underlying QW's. It seems that Donnellan's (1971) discussion of the two uses of who in English gives further support to the claim that QW's should be derived from indefinite NP's. The fact that 'who' as used in 1 refers to a definite NP and for this very reason could be conceived of as being derived from a definite NP was explained by showing that 'who' in 1 did not ask about anybody's identity and was thus different from the normal use of 'who' in SQ's in English. The argument holds true for SQ's in Polish as well.

It must be pointed out that the analysis of the two uses of 'who' that we proposed above can be additionally supported if a question-answer system is taken into consideration. As has been noticed above the referents of the NP's underlying QW's are not given in the question itself (it would be illogical to ask about a referent which is, at the same time, given) if the QW's occurring in SQ's are asking about the identity of some NP's. At least the speaker in uttering a SQ is assuming that the referent of the NP underlying the QW which has been used in the SQ will be given in the answer.[5]

But even here we can not say that the speaker has a particular referent in mind since the relationship holding between a QW and the answer to the question in which the QW occurs is not one-to-one.[6]

We cannot but agree with Horn (1969 : 98) that the set of possible answers

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[5] Cf. Ajdukiewicz (1974 : 87), especially his remarks on datum quaestionis.

[6] Cf. Brown (1968) and Sarles (1970) for a discussion on the question-answer system. An exhaustive discussion on the question-answer system can be found in Pope (1972), and Keenan and Hull (1973). A contrastive analysis of the question-answer system in English and Polish has been offered recently by Iwanicka (1976).

to a SQ can be defined as "... the set of permissible existential instantiations of the appropriate presupposition". Although the speaker is assuming that only one member of the set of possible answers is the proper answer to his question he is not able to find out which one it is before the answer has been supplied.

In the above discussion we have tried to show that the definiteness of NP's underlying QW's is not stated but presupposed. Accordingly, it will be proposed that the NP's underlying QW's be marked with the feature (-Definite).

In English the feature (-Definite) has been attributed to NP's underlying QW's via Wh, i.e., it has been attached to Wh. The postulation of Wh in underlying representation of QW's coincides with the phonological shape of QW's in English.[7]

However, it is worth pointing out that it is not at all clear how Wh functions in the grammar of English. There have been numerous, often conflicting, proposals advocated in the current literature and the discussion on the status of Wh is still continuing : compare, for example, Katz and Postal (1964), Bresnan (1970), Bach (1971), Kuno and Robinson (1972), Chomsky (1973), and Langacker (1974).[8] Langacker (1974 : 3) observes the following; "Analyses differ as to whether or not Wh is to be considered meaningful ... and they differ also in regard to whether Wh is present in deep structure or inserted transformationally". Then he argues that Wh in English is an overt morphological element but its "... deep structure status is unresolved" (Langacker 1974 : 8).

In our treatment of QW's in English and Polish it will be assumed that QW's are derived from indefinite NP's occurring in the underlying representations of SQ's. It must be stressed that the term underlying representation is not understood in the sense of Chomsky's (1965) *deep structure* but in the sense of semantic structure, e.g., Krzeszowski's (1974) *input structure*.

In this paper we shall use the term semantic structure (SS) in the above sense. Moreover, we shall assume that each SS underlying a QW contains a noun N and a feature matrix FM. N is not a real word but a pro-form. SS's contain all information that is necessary for the semantic intepretation of QW's.

It will be postulated that FM's contain the following features; (+Interrogative), (-Definite), and (+Identifying), hereafter (+Int), (-Def), and (+Ident), respectively.

It can be pointed out that the two features (+Int) and (-Def) will be res-

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[7] In Polish QW's show more diversity with respect to their phonological shape, e. g., 'kto', 'dlaczego', 'czyj', etc., and it seems difficult to postulate anything for Polish that would match the handiness of Wh in English.

[8] As is well known Katz and Postal (1964) consider Wh to be the element marking the constituent to be questioned. Bresnan (1970) equates Wh with the Q of Katz and Postal's conceives of Wh as a complementizer. For Bach (1971 : 157) Wh "... stands for some abstract language independent representation of the question-word formative...". Chomsky (1973) develops Bresnan's (1970) conception of Wh.

ponsible for the triggering of QW-Movement Transformation in English and Polish as well as for the phonological shape of QW's in both languages.[9]

It must be emphasized that the postulation of the features (+Int) and (-Def) makes it possible to distinguish between QW's on the one hand and Relative Pronouns (RP) on the other. Although a discussion on RP'S would go far beyond the scope of this paper it is worth mentioning that RP's can be derived from SS's containing N's identical to the ones postulated for SS's from which QW's are derived. However, the FM's for RP's will be different from the FM's for QW's in that the former will not contain the two features (+Int) and (-Def) but (-Int) and (+Def).

The feature (+Ident) is proposed in order to account for the unique function QW's perform in SQ's; they ask for the identification of individuals or states whose existence is presupposed by the speaker. QW's can thus be conceived of as devices used by the speaker to help the addressee identify these portions of context that must be specified in the answer. However, as is well known, one and the same syntactic form may be used in linguistic communication to express various discoursive functions. It is not surprising that 25 and 26 can be used to convey a request for information, i.e., they can be used as questions.

25. What is she writing?
26. Co ona pisze?

But it is also true that 25 and 26 can be used to convey a surprise. The traditional way of dealing with such cases has been to point out that 25 and 26 are questions and that the suprise value of interrogative structures that are present in 25 and 26 is carried out by means of exclamatory sentences, e.g., 27 and 28, respectively.

27. What is she writing!
28. Co ona pisze!

It will be claimed here that the 'what' of 25 and the 'what' of 27 are not identical and thus they must be assigned distinct semantic description. The same refers, needless to say, to 'co' in 26 and 'co' in 28. In the case of 25 the speaker wants the addressee to identify and specify in the answer whatever constitutes the pragmatic counterpart of 'what'. There is nothing that must be identified in the case of 27, and 28. 27 can be uttered upon seeing something that has already been written; what is surprising is either the outcome of writing, e.g., a letter, or the contents of whatever has been written. Nothing of the kind can be said of 25 where neither an outcome of writting nor the contents of whatever

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[9] Cf. Fisiak et al. (1978) on details concerning a contrastive analysis of SQ's in English and Polish. Also cf. Oleksy (1976).

has been written are given. One way of accounting for the difference in use of 'what' and 'co' as exemplified in 25 and 27, and 26 and 28 is to assume that 'what' and 'co' occurring in 25 and 26, respectively, are marked with the feature (+Ident), which properly describes the function of what and 'co' in SQ's.

The three features (+Int), (—Def), and (+Ident) are postulated for all SS's underlying surface occurrences of QW's in English and Polish. Besides the three features dealt with above we shall postulate the next two features; (+Selective) and (±Possessive), hereafter (±Select) and (±Poss). Some QW's will be characterized by possessing the feature (+Select) or (+Poss) and some others will be characterized by possessing the feature (—Select) or (—Poss).

The feature (+Select) is postulated in order to account for the difference between 'which' and 'what' on the one hand and between 'który/a/e' and 'jaki/a/e' on the other. The problem is by no means new. Katz and Postal (1964) account for the difference by analysing 'which' as being derived from 29 and 'what' as being derived from 30; 29 and 03 below represent underlying structures for 'which' and 'what', respectively.

29.

30.
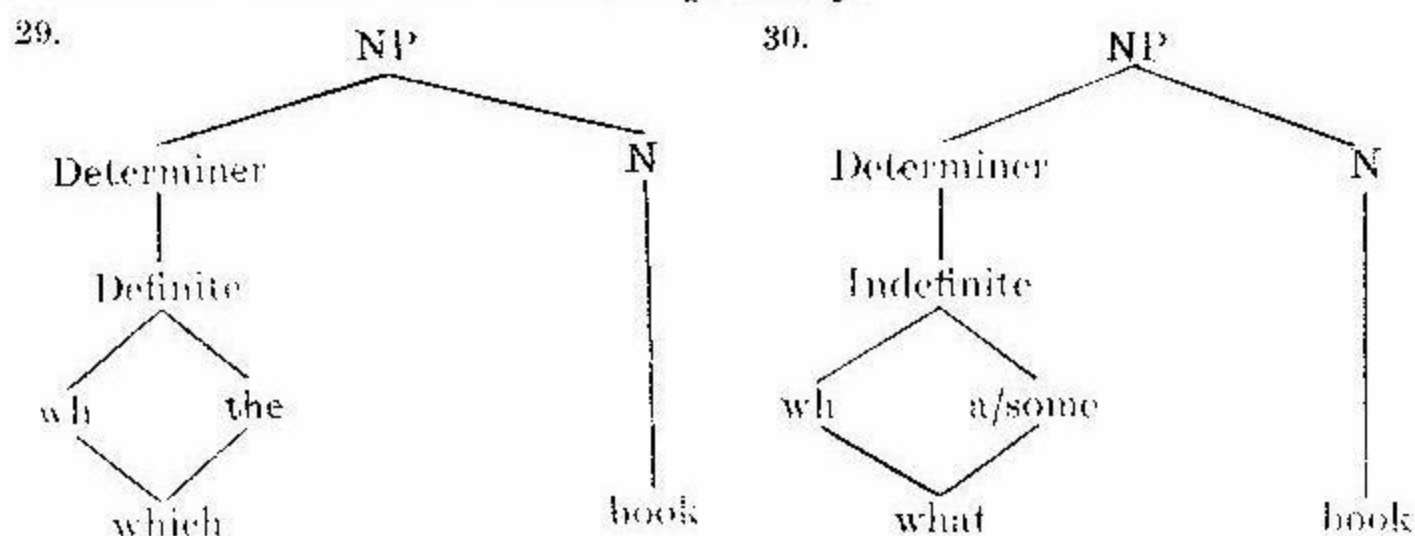
Huddlestone (1971 : 24) following Jackendoff's (1968) analysis of quantifiers in English proposes two possible sources for the derivation of 'which books' and 'what books', respectively 31 and 32, and 33 and 34.

31.

32.

33.

34.
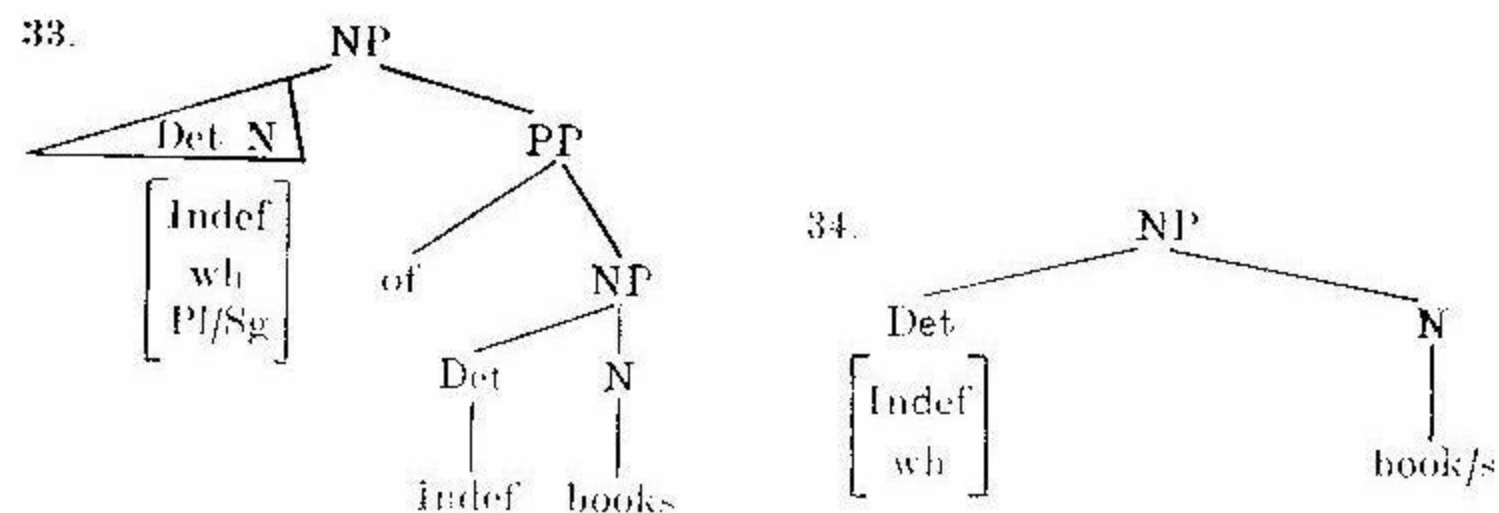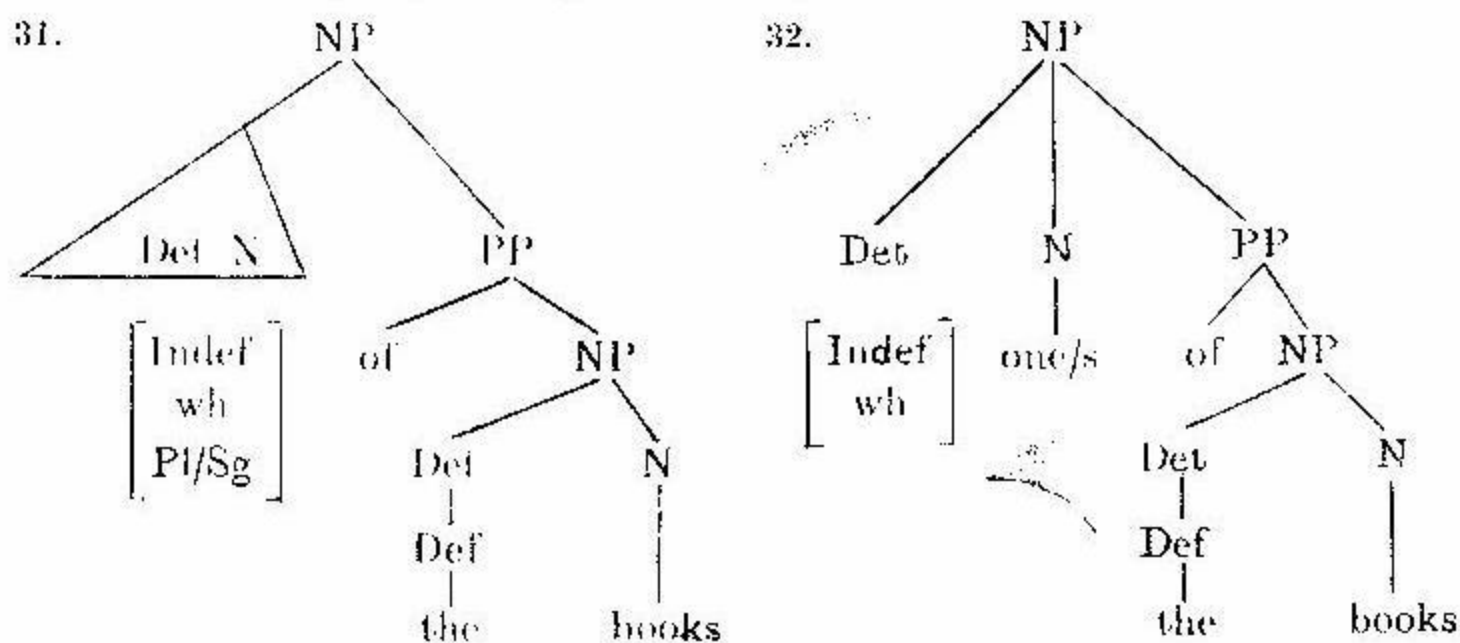
It is clear from (31 - 34) that the difference between 'which books' and 'what books' has been accounted for by assigning different underlying structures for the noun 'book' whereas both 'which' and 'what' have been derived from exactely the same underlying source, i.e., an indefinite NP. Then, Hundlestone argues that 'which' is restricted to domains with definite NP's and 'what' is restricted to domains with indefinite NP's (Huddlestone 1971 : 23).

We shall, of course, agree with Huddlestone (1971) that Wh element is associated with indefinite NP's. However, we shall not agree that the structures (31 - 34) proposed by Huddlestone account for the difference between 'which books' and 'what books'. Leaving the NP 'book' aside, we shall claim that the difference can be explained by postulating the feature (Select) which is present in the FM for 'which' but which is absent from the FM for 'what'. To be more precise, we shall claim that the FM for 'which' contains the feature (+Select) whereas the FM for 'what' contains the feature (—Select).

The features (+Select) and (—Select) are also postulated for the Polish counterparts of 'which' and 'what'; respectively 'który/a/e' and 'jaki/a/e'.

It must be emphasized that the feature (+Select) also accounts for the difference between 35 and 37, and 36 and 38.

35. Where will you stay in Warsaw?
36. Gdzie zatrzymasz się w Warszawie?
37. Which hotel will you stay at in Warsaw?
38. W którym hotelu zatrzymasz się w Warszawie?

Although 35 and 37 in English, and 36 and 38 in Polish can be answered in the same way, for example, 39 for English and 40 for Polish, yet the questions containing 'which/który/a/e' are felt to be more specific than the questions containing 'what/jaki/a/e' : for this reason 41 and 42) cannot be proper answers to 37 and 38.

39. At "Forum".
40. W "Forum".
41. I'll stay with my aunt.
42. Zatrzymam się u ciotki.

Also notice that the speaker uttering 37 or 38 presupposes 43 or 44, which is not the case with 35 and 36.

43. You will stay at a hotel in Warsaw.
44. Zatrzymasz się w /jakimś/ hotelu w Warszawie.

Before we pass on to the discussion of the feature (Poss) it must be pointed out that not all occurrences of 'what' in English SQ's can be related to one and the same SS. Notice the difference that exists between 45 and 46.

45. What are you reading?
46. What book are you reading?

45 is asking about the identity of something that is being read, while 46 is asking about the features of the book that is being read: 46 can be roughly paraphrased as 47.

47. What are the features of the book you are reading?

Also notice that the difference in meaning present in 45 and 46 shows up overtly in Polish: 48 is asking about the identity and 49, where the QW has a distinct phonological shape, is asking about the features of the book and can be roughly paraphrased as 50.

48. Co czytasz?
49. Jaką książkę czytasz?
50. Jakie są cechy książki, którą czytasz?

It will be proposed that 'what' corresponding to 'co' in Polish and 'what' corresponding to 'jaki/a/e' be derived from distinct SS's. How to do this will be shown later in the paper.

Let us now turn to the feature (Poss). This feature has been postulated in order to account for the difference between the use of 'whose' and 'which' on the one hand, and 'czyj/a/e' and 'który/a/e' on the other: respectively, 51, 53, 52, and 54.

51. Whose book are you reading?
52. Czyją książkę czytasz?
53. Which book are you reading?
54. Którą książkę czytasz?

It seems that 51 and 52, besides asking about the identity of the book the addressee is reading, are asking about the possessor of the book the addressee is reading.[10]

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[10] 51) and 52) can be asking about the author of the book if instead of the noun 'book' the question contains such nouns as 'novel', 'poem', etc. For example, 'Whose poem are you reading?'

Thus, 51 and 52 presuppose something like 55 and 56, respectively.

55. You are reading a book which belongs to X.
56. Czytasz książkę, która należy do X-a.

where X stands for the person to whom the book belongs. Needless to say, 55 and 56 canot be said to have been presupposed by the speaker who uttered 53 or 54.

The semantic difference between 'whose' in English and its counterparts in Polish, i.e., 'czyj/a/e', and other QW's can be accounted for if the feature (+Poss) is postulated for FM's characterizing 'whose' and 'Czyj/a/e'. It goes without saying that the remaining QW's will be characterized as possessing the feature (—Poss).

In the above section of the paper we have outlined the semantic features that we think should be present in FM's for QW's in English and Polish. The first two features; (+Int) and (—Def) account for the semantic description of Q→'s and, in addition to that, they trigger QW→-Movement Transformation. The remaining three features; (Ident); (Select), and (Poss) make it possible to distinguish among different QW's in English and Polish.

57, 58, 59, and 60 below represent the respective FM's for 'who', 'whose', 'which', and 'what' as well as their counterparts in Polish, i.e.; 'kto', 'czyj/a/e', 'który/a/e', and 'co'.

57.	58.	59.	60.
+Int	+Int	Int	Int
—Def	—Def	—Def	—Def
+Ident	+Ident	+Ident	+Ident
—Select	—Select	—Select	—Select
—Poss	Poss	—Poss	—Poss

It is easy to see that 'who/kto' is different from 'which/który' ... with respect to the feature (Select). 'Who/kto' is then different from 'whose/czyj' ... with respect to the feature (Poss). 'Which/który', in turn, is different from 'whose/czyj' ... with respect to two features; (Select) and (Poss). Finally, 'who/kto' has the same FM as 'what/co'.

The difference between 'who/kto' and 'what/co' is accounted for by the fact that 'who/kto' is derived from the SS which contains a noun *person/osoba* whereas 'what/co' is derived from the SS which contains a noun *thing/rzecz*.

Earlier in this paper we have alluded to two different uses of 'what' in English SQ's. One of these uses corresponds to 'co' in Polish. This use of 'what' has already been accounted for. It is time now to deal with the use of 'what' that corresponds to 'jaki/a/e' in Polish.

In the first place we must decide whether the 'what' which corresponds to 'jaki ...' in Polish is derived from the SS containing the noun *thing/rzecz*,

or whether it is derived from the SS containing the noun *person/osoba*. As can be seen in 61 and 62 'what' occurs before nouns denoting both persons and things.

61. What book would you like to read?
62. What girl would you like to meet?

Moreover, 61 and 62 are asking about some features of the nouns which follow 'what'; in this case 'book' and 'girl', rather than about the identity. If the latter were the case we would have 63 and 64.
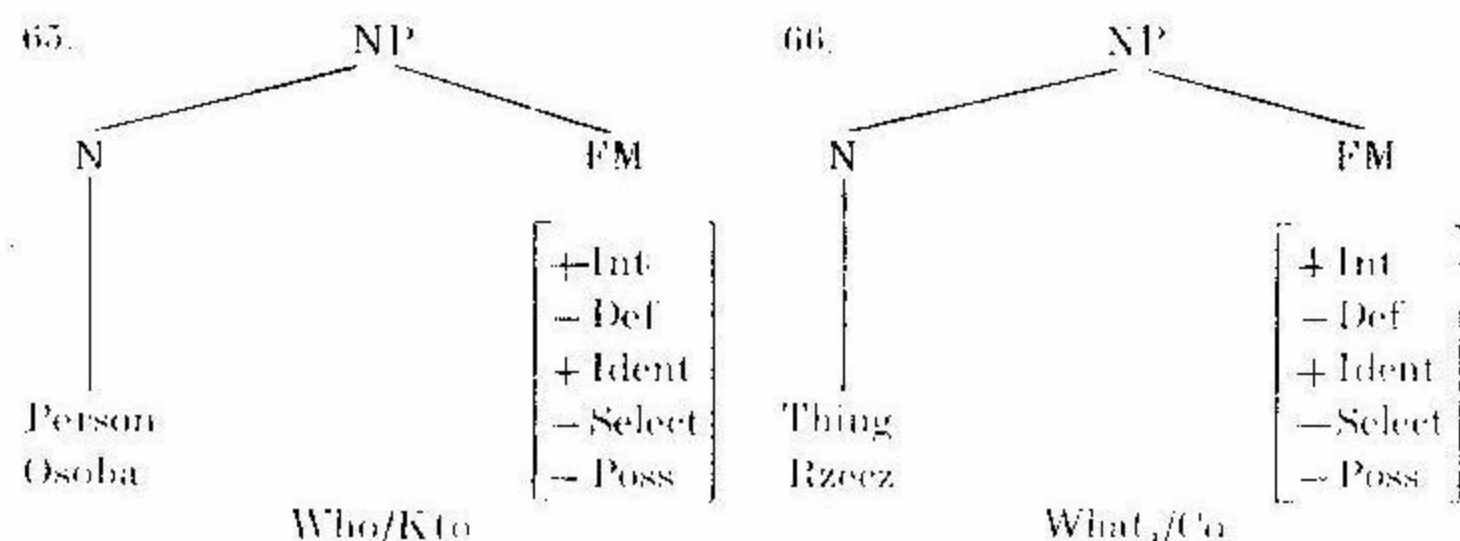
63. What would you like to read?
64. Who would you like to meet?

Thus, it seems reasonable to assume that the 'what' which corresponds to 'jaki ...' in Polish is derived from the SS which contains a dummy instead of *person* or *thing*. The same SS will be proposed for 'jaki ...' in Polish.[11] This 'what' will be marked as what$_2$'.

It must be emphasized that 'whose' and 'which' and their counterparts in Polish, i.e., 'czyj ...' and 'który ...' will be derived from SS's which also contain dummies.[12]

Having presented the basic facts concerning the semantics of QW's in English and Polish it is time now to present SS's from which 'who', 'what$_1$', 'whose', 'which', and 'what$_1$', and their respective Polish counterparts; 'kto', 'co', 'czyj ...', 'który ...', and 'jaki ...' are derived. (65 - 69) represent the respective SS's.
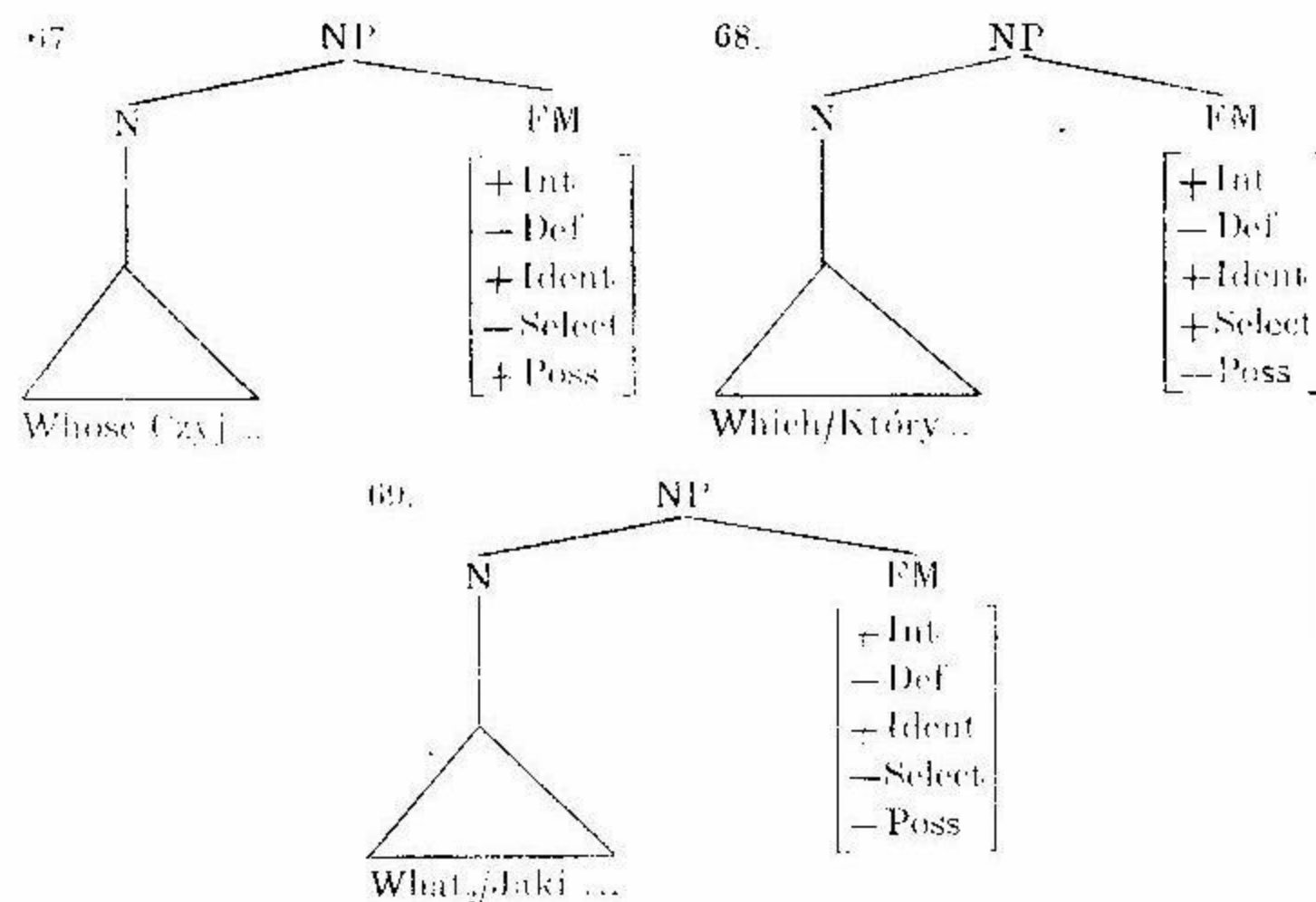
SS's for the mentioned QW's are identical for English and Polish and thus these QW's are found to be equivalent at the level of semantic representation.

Let us now see how these SS's function in the surface, that is, how they behave in SQ's in English and Polish. The presentation will be limited to the most frequent occurrences of 'who', 'what', 'whose', 'which', and 'what' in English and their respective counterparts in Polish, i.e.; 'kto', 'co', 'czyj ...', 'który ...', 'jaki ...'. Of particular interest here are occurrences of QW's with Prepositions in English. The basic difference between English and Polish in this respect is the position of prepositions. As is well known, in Colloquial English the preposition is usually stranded from the QW and occupies the final position in SQ's. In Polish, on the other hand, the preposition occurs right after the QW and is never stranded from it. Thus the combination QW and Preposition is more flexible in English than in Polish. According to Leech and Svartvik (1975 : 114) the final position of preposition in English SQ's signals an informal style. The flexibility of the QW and Preposition combination in English is well illustrated in (70 - 73).

70. What did he write it with? (informal)
71. With what did he write it? (formal)
72. What with? (informal)
73. With what? (formal)

However, prepositions consisting of more than one word, we shall call them,

after Leech and Svartvik (1975 : 275), Complex, are rarely placed at the end of a SQ in English. Notice the oddity of 75 as opposed to 74.

74. In connection with what were two men interviewed at the police station?

75. *What were two men interviewed at the police station in connection with?

Let us now concentrate on the presentation of surface representations of the SS's proposed above. For brevity the presentation will be tabulated.

76. Semantic Structure	Surface Representation	
	English	Polish
NP (N — FM) [+Int, —Def, +Ident, —Select, —Poss] Person Osoba	1. Who/whom	3. Kto, Kogo, Komu, Kim
	1. about	1. o kim
	2. as	2. jako kto
	3. at	3. na kogo, kogo, do kogo
	4. for	4. dla kogo, na kogo, kogo
	2. Who- 5. from	4. 5. od kogo
	6. in	6. w kogo, komu
	7. of	7. o kim
	8. on	8. na kim
	9. to	9. do kogo, komu
	10. with	10. z kim

77. Semantic Structure	Surface Representation	
	English	Polish
NP (N — FM) [+Int, —Def, +Ident, —Select, —Poss] Thing Rzecz	1. What$_1$	3. Co, Czego, Czym
	1. about	1. o czym
	2. as	2. jako co
	3. at	3. na co, do czego
	4. for	4. na co
	2. What$_1$ 5. from	4. 5. od czego, z czego
	6. in	6. w co
	7. of	7. o czym, o co, na co, z czego
	8. on	
	9. to	9. do czego, czemu
	10. with	10. w co, czym

78. Semantic Structure	Surface Representation	
	English	Polish
NP (N — FM) [+Int, —Def, +Ident, —Select, +Poss]	1. Whose	3. Czyj..., Czyjego..., Czyim
	1. about	1. o czyim...
	2. as	2. jako czyj...
	3. at	3. na czyj..., z czyjego...
	4. for	4. na czyjego..., dla czyjego...
	2. Whose-5. from	4. 5. od czyjego..., z czyjego
	6. in	6. w czyjego...
	7. of	7. czyjego..., o czyim...
	8. on	8. na czyjego...
	9. to	9. czyjego..., do/na czyjego...
	10. with	10. z czyim

79. Semantic Structure	Surface Representation	
	English	Polish
NP (N — FM) [+Int, —Def, +Ident, +Select, —Poss]	1. Which	3. Który..., Którego... którym
	1. about	1. o którym...
	2. as	2. jako który...
	3. at	3. na którego..., z którego...
	4. for	4. dla którego..., na/po którego...
	2. Which-5. from	4. 5. od którego...,
	6. in	6. w którego...
	7.	7. o którym...
	8. on	8. na którym...
	9. to	9. do którego...
	10. with	10. z którego..., którym...

80. Semantic Structure	Surface Representation	
	English	Polish
NP N FM	1. What₂	3. Jaki..., Jakiego..., Jakim
	1. about	1. o jakim...
	2. as	2. jako jaki...
	3. at	3. na jakiego..., w jakim...
	4. for	4. na/dla jakiego..., jakiego...
+Int —Def +Ident —Select —Poss	2. What₂ 5. from	4. 5. od jakiego...
	6. in	6. w/do jakiego...
	7. of	7. o jakim...
	8. on	8. na jakiego...
	9. to	9. do jakiego...
	10. with	10. z jakim..., jakim...

Throughout (76 - 80), 1, in English corresponds to 3 in Polish, (2.1.) in English corresponds to (4.1.) in Polish, etc.

It can be added that we have ignored such things as case, number, and gender in the case of Polish counterparts; in fact, we have selected masculine whenever gender had to be selected.

We are aware of the fact that our presentation of the surface representation of SS's for QW's in English and Polish is not complete. However, we have been limited to the data that were available to us.

Conclusions. In the above discussion we have tried to defend a hypothesis that QW's are derived from indefinite NP's. In order to support the indefiniteness hypothesis we have provided arguments based upon the speaker-based presuppositions that are usually associated with questions containing QW's, i.e. SQ's. Next, we have proposed that QW's be derived from semantic structures SS which contain two elements; a pro-form N and a feature matrix FM. SS's for the QW's under investigation have been found to be identical in English and Polish and thus the respective QW's in English and Polish have been found to be equivalent. It has been claimed that semantic differences among QW's can be related to differences in their respective SS's. Finally, SS's for 'who', 'what', 'whose', 'which', and 'what₂' in English and 'kto', 'co', 'czyj...', 'który...', and 'jaki...' in Polish, together with the most frequently occurring surface representations of these SS's, have been presented.

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