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ABSTRACT

This issue of the journal includes these papers on contrastive linguistics: "Tag Questions, Transformational Grammar and Pragmatics" (Wolfram Bublitz); "Toward Contrasting Styles" (Karol Janicki); "Some More Remarks on the Pedagogical Uses of Contrastive Studies" (Waldemar Marton); "Stress in Polish--With Some Comparisons to English Stress" (James L. Fidelholtz); "Some Remarks on the Stability of Lexical Stress in Polish and English" (Grzegorz Dogil); "Lexical Entries for Verbs in a Contrastive Lexicon English-German" (Hans Ulrich Boas); "Focus Constructions--Cleft Sentences in English and Their Counterparts in Polish" (Aleksandra Mieszek); "Some Aspects of Typology of Relative Clauses in English and Polish" (Elzbieta Muskat-Tabakowska); "How Factive are SEE, HEAR and FEEL and their Polish Counterparts" (Barbara Kryk); "Lexical Realization of Benefactive and Beneficiary in Polish and English" (Henry Niedzielski); "A Contrastive Semantic Analysis of Colour Adjectives in Polish and English" (Stanislaw Duczmal); and "French-English Contrastive Linguistics at the Universite Catholique de Louvain" (J. van Roey). (MSE)

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TAG QUESTIONS, TRANSFORMATIONAL GRAMMAR AND PRAGMATICS

WOLFRAM BUBLITZ

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1. Tag questions (TQ) are used to express the speaker's attitudes, expectations and suppositions concerning the content of his utterance, the speech-situation and the hearer.[1] They are a typical and characteristic feature of the English language differing from added questions in a number of related languages. In French and German, to name but two, appended questions have been reduced to single negative or affirmative particles (or a combination of these) in the course of the history of the language, whereas the process of reduction in English has not gone that far.[2] TQ consist of a predicate, a subject (in inversion) and an optional negative particle. The choice of the predicate depends on the preceding verb: a full verb is taken up by a corresponding form of the periphrastic verb *do* ("He *likes* her, *doesn't* he?"), a helping verb, no matter if it has been deleted or not, is repeated in the TQ ("He *couldn't* see me, *could* he?", "Going, *are* you?"). The subject consists of a personal pronoun which refers anaphorically to the preceding subject.

[1] The expression *tag question* is often used to refer to a whole utterance, i.e., to (X+Y) in (It's your birthday today)$_x$—(isn't it)$_y$, whereas in this paper I will distinguish between the declarative sentence (=X) and the appended tag question (=Y).

[2] Consider the appended questions *ja, oder, nicht, was, wie, nein, nicht wahr* in German and *oui, si, non, n'est-ce pas* in French (cf. Morin (1973) for the latter).
H. Wunderlich cites an interesting example of a non-reduced appended question in German:

> "Der Pfarrer würde in diesem Falle sagen: Wenn die Gottesgabe uns nicht freut, so müssen wir wenigstens sorgen, dass andre daran Freude haben. Würd' er das nicht sagen?" (1894 : 180).

The structural similarity between "Würd' er das nicht sagen?" and the corresponding TQ "..., wouldn't he (say so)?" is striking. (Cf. Bublitz (1975b : 169ff) for a more extensive treatment of the German *Zusatz-* or *Vergewisserungsfragen*. Oleksy (1977) investigates the question of tagged sentences in Polish).

The confusing variety of TQ makes it difficult to set up a transparent and systematic classification. Roughly, one can distinguish between two types of TQ, those with a preceding declarative sentence and those with a preceding imperative sentence. In this paper I am not going to say anything about the latter type ("Hand me that towel, will you?", "Put the television on, can you?").[3] TQ following declarative sentences may be distinguished according to intonation and polarity. Both help the hearer to recognize the speaker's attitudes and expectations, or — from the speaker's point of view — they are a means by which he is enabled to signal what kind of speech act he is performing. There are utterances with and without the same polarity in declarative sentence and TQ; consider (1) and (2):[4]

(1) (a) "A perhaps you could · yòu'd !look # at the orìginal of !that for a :mínute #
C I don't !know who's gòt it # (...) àll !right # yèah #
A well nōw # this ——— is the létter # which you ·were ásked about yésterday # That's your :mother's hànd writing # *ìsn't !it* #
B yes it ís #
A fair śample !of it #
B yés #" (S. 11.1.61)

(1) (b) "(B) are you !doing ˙two or, òne ˙paper this ˙year #
A only :òne #
B yès # but that's a !main "!lìne !paper # *ìsn't !it* # so probably :you will !have "!more scrípts # than I shall
A yès #
(B) !have in :two !special !sùbjects # (S. 1.4.57)

---

[3] Neither am I going to deal with lexical TQ such as *right, okay, what, understand* or the "intonational tag" (Bolinger 1957 : 18) *eh* which are used in utterances like "Let's assume that A and B are two triangles, *right*?", "So, you managed to track him at last, *eh*?" (cf. Avis (1972) for a thorough investigation of different kinds of *eh*). Also I won't consider TQ which are introduced by the conjunction *or:* "Because, after all, we are married. *Or* aren't we?" (cf. Erades 1943 : 42); "Where babies come from is a question our children can answer, or can they?" (Cf. Erades (1943); Kirchner (1950); Bublitz (1975a : 208ff), (1975b : 121ff) for a more extensive treatment of *alternative appended tag questions*.
Arbini's (1969) analysis of TQ appended to imperatives is dismissed by Huddleston (1970 : 216ff) who lists a number of convincing counter-arguments.

[4] The following examples are taken from the material of "The Survey of English Usage", University College London (I am grateful to Prof. R. Quirk for the permission to use it) apart from a few utterances which are my own; the number at the end of some of the examples refers to the slip in the Survey files. I have omitted all those citational features which are not relevant to this paper, the others should be self-explaining. Example (2) is taken from P. G. Wodehouse (1971 : 9).

(1) (c) "A wèll # Captain and Mrs Káy # lived in a !flàt # on their òwn #
B yēs #
A and "they didn't cóme !down # until !after !tèa # *did !they* #
B nó #
A some time be!tween # !tea and !chùrch #
B yēs #" (S. 11.1.42)

(2) "(...) the telephone rang and I went into the hall to answer it. 'Bertie?' — 'Oh, hullo. Aunt Dahlia.' (...) 'So you're up and abòut, *àre you*?' she boomed. 'I thought you'd be in bed, snoring your head off.'"

Utterances with identical polarity as in (2) refer back to verbal and non-verbal actions performed by the hearer; this is not the case in (1) with differing polarity (cf. O'Connor 1955 : 101f). In (1) and (2) all nuclear tones are simple falls. Falling intonation usually indicates a marked degree of certainty. The speaker wants the hearer to confirm the truth of the propositional content expressed in the declarative sentence and at the same time he wants to make sure that the hearer shares the speaker's knowledge, attitudes and expectations. I will have more to say about the pragmatics of TQ later on in this paper. To return to the intonation contours in (1) and (2): The simple fall indicates a very strong belief on the part of the speaker that the proposition in question is part of the knowledge he and the hearer share. In accordance with this is the fact that there is no distinct interrogative force of (1) and (2) although they are strongly conducive (or orientated).[5] Following Bolinger (1957 : 39), I believe that all utterances containing TQ are conducive due only to the presence of those TQ. Note that the change of conducive force is partly subject to intonation. In (3)

(3) (a) "A well you see !I was al : lăwed # only !rather only # "twò !hundred !lines of Aristòphanes # I thínk # and three !hundred !Sèneca *wásn't it* #
B sòmething like thát # yès # I forgèt # !how múch # not very mùch cèrtainly #
A wèll # when I first did # Aristóphanes # so I thōught # well I'll !just !take the Clòuds #" (S. 1.4.18)

(3) (b) "You are wanted on the phone." — "It's not that man Smith agáin, *is it*?" — "I'm afraid it !is Mr Smìth".

(3) (c) "RA wéll # it's up to :these two nów # to — rescue Éngland # (...) here comes McKènzie # his first ball to !Párfitt # and Parfitt has !scored one rún # very nearly fōur # "not, fóur # he's

[5] Cf. Bolinger (1957 : 10f; 97ff) for a detailed discussion of conduciveness; Quirk et al. (1972 : 388ff) talk about a positive and a negative orientation with regard to the speaker's expectation of a positive or negative answer to his question.

góne # for a sēcond one # a vēry !chēeky one # by # Jòve # he was jolly nearly òut # fine throw ín # from the boundary thére # (...) who's hè # in the dìstance #
Y Còrling I think it ís :*ísn't it* #
RA oh Còrling yès # " (S. 2.76—43)

the rise causes the hearer to interpret those utterances as near yes-no questions with very little orientation. Nevertheless they still have to be regarded as requests for confirmation rather than for information.

These few introductory remarks should be sufficient to outline the object of the following investigations. My first aim is to find an answer to the question: Has generative transformational grammar been able to provide an adequate account for the derivation of utterances with TQ?

2.0. Within transformational grammar two main treatments of TQ have been considered. First, TQ have been introduced by a transformational copy rule and second, TQ have been derived from the underlying structures of yes-no questions that is to say, their deep structure is generated in the base component by phrase-structure rules.

2.1. Starting with the transformational approach I will first turn to Klima (1964 : 264; 319) who proposes for a sentence like

(4) John didn't meet Bill, did he?

the following underlying structure:

(5) WH-NEG (not)-NP_1 (John)-AUX (Tense : Past)-V (meet)-NP_2 (Bill)

(5) may serve as an underlying string for yes—no questions and for utterances containing TQ. The derivational process following the generation of (5) is specified by Klima (1964 : 319):

> "The string underlying a simple yes-no question can have its initial interrogative marker postponed and included in a tag that carries *neg* if the source is without *neg*. If the source contains *neg*, then the tag is without it."

The optional *tag question formation transformation* (T-tq) copies certain constituents of (5) after the end of that string. For negative declarative sentences it has the following structural description and change:

(6) wh-neg-Nominal-aux1-X ⇒ 2,3,4,5,1, Pro+3,4
1 2 3 4 5

The question morphem *WH*, needed as a trigger element for the question transformation, is moved onto the end of string (5); *neg*, *NP1*, *aux*, *V* and *NP2* are kept in this order and constitute the declarative sentence preceding *WH*,

which is followed by the copied nodes *NP1* (plus the feature [+PRO]) and *aux*; *V* and *NP2* are not copied. The application of T-tq results in the simplified string (7):

(7) NEG (not)-NP_1 (John)-AUX (Tense : Past)-V (meet)—NP_2 (Bill) — WH-[PRO]+NP1-AUX (Tense : Past)[6]

According to Klima's analysis a TQ is derived from its preceding declarative sentence to whose underlying structure a question morpheme has been added. Thus, a TQ is not treated as a reduced form of an independent full sentence. But there are a number of arguments in favour of the view that TQ are in fact reduced forms of interrogative sentences added to independently generated declarative sentences:

(a) TQ are spoken with sentence intonation which is independent of the intonation of the preceding sentence.

(b) TQ and declarative sentence may be divided by a pause which is tpyical for sentence boundaries (cf. Armagost (1972 : 26) for a further treatment of these two arguments).

(c) TQ and their preceding sentences have two distinct grammatical structures, interrogative and declarative.

(d) Armagost (1972 : 50) points out that the question transformation can only operate on sentence phrase-markers. Since only the copied structure undergoes inversion in Klima's analysis the application of T-tq would be simplified extremely if instead of a copying process a TQ would be derived from an independent sentence structure.

In addition there are a number of further counter-arguments to Klima's proposal:

(e) It remains unclear how T-tq is able to fulfil two functions simultaneously, copying nodes and assigning features. Instead of T-tq introducing [+PRO] one could think of applying the well known pronominalization transformation which demands identity of the *NP* involved. But there is another unsolved problem. Klima in (6) takes into consideration only structures with a negative particle in the declarative sentence. It is not entirely clear in which way after the application of T-tq *NEG* may be introduced into the TQ in case the declarative sentence is affirmative. The problem is twofold, first of all transformations are often regarded as being meaning-preserving (at least within

[6] The following derivational process is mainly constituted by a number of transformations which I want to mention briefly in the order of their application: Pre-verbal particle or adverb placement (*NEG* is moved behind *AUX*, cf. Klima (1964 : 265; 320)); neg-contraction (Klima 1964 : 320); WH-attraction (corresponding to the well-known subject-aux-inversion transformation for interrogative sentences, Klima (1964 : 265; 321)); do-support (Klima 1964 : 321) and WH-deletion (Klima 1964 : 265; 321).

the Standard Theory, though not in Klima's framework) and second, the choice of the polarity of the TQ is not necessarily dependent on the polarity of the preceding sentence but has to do with pragmatic conditions of use instead. Both utterances, "It's hot in here, isn't it?" and "It's hot in here, is it?" are perfectly acceptable, their polarity being dependent on the speaker's attitudes and expectations and on the circumstances of the speech-situation.

(f) There is a further difficulty in applying T-tq. According to Klima (1964 : 251) only some elements of the *AUX*-constituent may be copied. He rewrites *AUX* as "Tense (Modal) (have—PP) (be—PrP)". Considering "Jim has been telling you the old story again, hasn't he?" it becomes apparent that the first two elements of *AUX* (=*PRES* — *HAVE+EN* — *BE+ING*) only may be copied. It is for this reason that Klima (1964 : 264) splits the *AUX*-complex into two separate constituents, *AUX 1* ("consisting of Tense and the next helping verb if there is one, or Tense—be") and *AUX 2* ("further constituents of the AUX"). The postulation of two distinct *AUX*-constituents for the purposes of one transformation only is not acceptable as long as there is no further independent syntactic motivation.[7]

(g) As Huddleston (1970 : 216) points out Klima's analysis does not work for TQ following embedded sentences (e.g. "I think we've had enough vodka, haven't we?.")

In the light of the above mentioned shortcomings Klima's transformational approach to the derivation of TQ has to be rejected (or at least substantially modified).

Stockwell et al. (1973 : 623f) propose a transformational analysis for TQ, too, differing from Klima in a number of ways. The copied elements (subject and parts of *AUX*) are immediately dominated by an adverb constituent

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[7] Armagost (1972 : 4) says in this connection:

"... why [T-tq] (...) may be allowed to copy the subject NP, Tense and *have* (...) is a question that general theory must concern itself with. Not only do these elements not form a constituent, but part of the constituent have+en, namely *en*, is ignored in the copying operation."

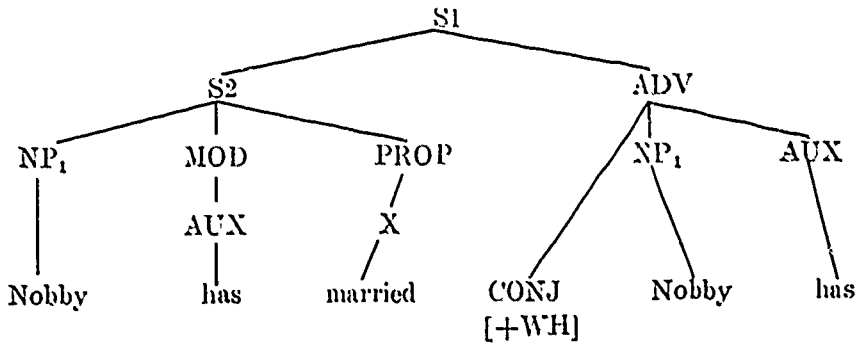
Stockwell et al. (1973 : 620) mention another syntactic restriction (already dealt with in Katz/Postal (1964:38)) which is not met by Klima's analysis. Sentence adverbs, e.g. *certainly*, *probably*, are ungrammatical in yes—no questions but not in utterances with TQ: *"Have you probably seen him before?" vs. "You have probably seen him before, haven't you?" In my view this co-occurrence restriction underlies the supposition that both the declarative sentence and the TQ have to be dominated by independent S-nodes. Stockwell et al. claim that Klima's account cannot cope with the fact that a yes—no question and a corresponding utterance with a TQ share the same underlying structure but that only in the former a sentence adverb is ungramatical. But here again a declarative sentence plus a TQ is mixed up with a TQ alone. The presence of *probably* is sensitive to the absence of a question element. In Stockwell's et al. example the sentence adverb is placed in the declarative sentence and not in the TQ where it would be as ungrammatical as in a yes—no question.

and are co-constituents of a conjunction constituent with the feature [+ WH]; furthermore there is no relation of subordination between the declarative sentence and the TQ since *ADV* and the *S*-node immediately dominating the constituents of the declarative sentence are co-constituents embedded into a higher *S*-node. After the application of T-tq the following phrase-structure tree for

(8) Nobby has married, hasn't he?

can be reconstructed (cf. Stockwell et al. 1973 : 623):

(9)



(9) is not meant to be the underlying structure of a tagged sentence and a yes–no question (the latter is represented by the authors as an alternative question). Apart from counter-arguments mentioned by Stockwell et al. (1973 . 624) themselves, most of the above points which were brought up against Klima's procedure still hold true.

Finally I would like to mention briefly a modified version of Klima's analysis which involves performative verbs. (For a couple of years now, these have been introduced into transformational models to handle syntactic phenomena which so far have only been explained in an uninteresting and ad hoc way, cf. e.g. personal pronouns and their treatment in Ross (1970).) R. Lakoff (1969b) accepting Klima's copy rule[8] inserts as a trigger element not the question morphem *WH* but the performative verb *suppose*. "Billy won, didn't he?" may thus be paraphrased by "I suppose (that) Billy won, didn't he?".[9] According to R. Lakoff utterances (10)–(11) support her theory:

(10) (a) I suppose Peter is dating Diane, isn't he?
(b)* I suppose Peter is dating Diane, aren't I?

[8] She does not specify the T-tq she mentions but from her explicit allusion to Klima (cf. R. Lakoff 1969b : 142; 146) I conclude that she adopts his T-tq.

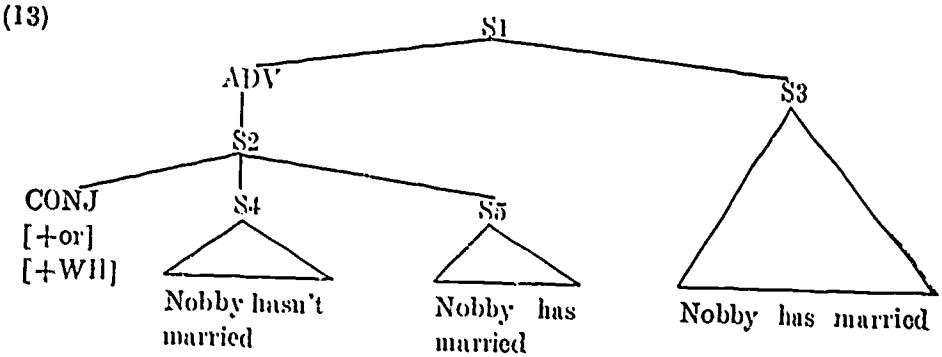
[9] Note that Jespersen (1940 . 481) points out the parallel between TQ and sentences with *suppose*; he treats as equivalent "You wouldn't do it, would you?" and "I suppose you won't do that".

(11) (a) Peter is dating Diane, isn't he?
(b) * Peter is dating Diane, aren't I?
(12) (a) Peter said he would meet me at six, didn't he?
(b) * Peter said he would meet me at six, wouldn't he?

Regarding these pairs the following restriction can be stated. TQ refer back to the matrix sentence as in (12) (a) (or in case of multiple embedding to the highest sentence) unless the verb of the matrix sentence is a performative verb as in (10) (b). It is well known that performative verbs do not fall within the scope of interrogation (and negation).[10] Apart from the fact that again TQ are not derived from an independent underlying sentence structure R. Lakoff's proposal completely disregards the fact that TQ are interrogatives. The trigger verb *suppose* has no interrogative connotations and may be used to account for the declarative sentence but not for the TQ (cf. Armagost 1972 : 24).[11]

2.2. Advocating a generative approach to the derivation of TQ one can argue with Stockwell et al. (1973) and Katz (1972 : 208) that declarative sentence plus TQ can be derived from an underlying complex sentence structure which consists of a declarative sentence as main sentence and an alternative question as subordinate sentence. According to Stockwell et al. (1973 : 622) the underlying structure of (8) can be represented by (13):

(13)

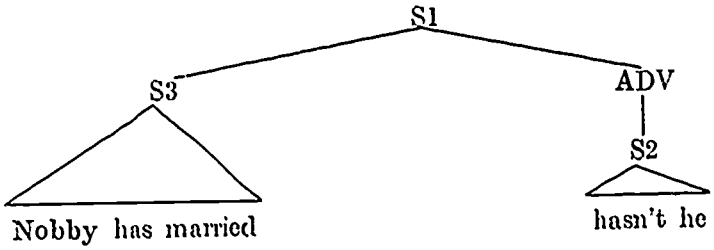


This phrase-structure tree differs from a corresponding Katzean representation (cf. Katz 1972 : 209) of simple yes-no questions only in one respect, the

[10] In this connection R. Lakoff (1969b: 140) only mentions non-factive verbs like *think*, *suppose*, *believe*, *guess*, *want* which refer to the speaker's mental state. But of course TQ may not be preceded by any other performative verb either. It is doubtful whether *suppose* may be used as a performative verb at all (cf. Armagost 1972 : 30f). One can argue that the action of supposing is not performed in saying the sentence in question but before doing so — and that *supposd* is no *verbum dicendi*. Austin (1971 : 152ff) does not regard *suppose* as a performative verb and includes it in his list of doubtful verbs instead. Note that *suppose* used in first person singular active present tense may not be accompanied by the particle *hereby* which normally serves as a useful test to single

question—morpheme *Q* has been replaced by the feature [+WH] which belongs to the feature matrix of the conjunction constituent.
After the application of a number of well-known transformations[12] and T-tq the following phrase-structure marker results:

(14)



In the structural change of T-tq it is specified that *ADV* is moved onto the end of the phrase-structure and *S2* is reduced to *hasn't he*. One of the difficulties which arise is the fact that subject—aux—inversion ordered before T-tq has only been applied to *S2* and not to *S3*. Consequently *S2* and *S3* are no longer formally identical. This is a severe handicap as far as the structural descriptions of those transformations are concerned which are ordered after subject--aux-inversion since all deletion and substitution transformations depend on identity relations (cf. Stockwell et al. 1973 : 623).

It is widely acknowledged that yes—no questions can be derived from underlying alternative questions — or to be more precise from underlying exclusive disjunctions (cf. Katz/Postal (1964 : 95ff), Katz (1972 : 204ff), Stockwell et al. (1973 : 608), Bierwisch (1971 : 169ff) among others). But is has been pointed out that there are a number of severe difficulties which arise especially with respect to negative conducive yes—no questions which I

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out performative utterances: *"I hereby suppose that Peter is dating Diane". (cf. in this connection Cattell (1973 : 621)).

[11] Armagost (1972) dealing with declarative tags ("Plushbottom bit me, he did.") (and utterances with declarative sentences plus TQ and the same polarity) introduces a copying transformation which copies a whole sentence and adjoins it (under a new higher sentence node) to the right of the generated sentence (Armagost 1972 : 1; 6). His analysis is worth mentioning because he himself points out a number of unsolved problems which render the transformational derivation of declarative tags questionable — not to speak of TQ with variable polarity. Among them are two which I have not mentioned yet: contraction and intonation assignment. Contraction of helping verb and negative particle is obligatory in negative TQ appended to negative declarative sentences, optional in negative TQ following affirmative declarative sentences. But — more complicated still — contraction has to take place not only in negative TQ but in the preceding negative sentences as well. Note the ungrammaticality of *"These are not your matches, aren't they?".

[12] In addition to transformations used for the derivation of TQ there are a few others, e.g., the alternative question reduction transformation which deletes one of the generated disjuncts.

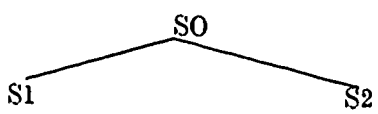
cannot go into in this paper.[13] The derivation of TQ from exclusive disjunctions can be questioned on the same grounds since there is a strong affinity between TQ and yes-no questions which does not only concern the fact that both are conducive (e.g. they share the same set of possible answers, *yes*, *no*, *perhaps*, etc.).[14] For reasons already discussed it seems to be desirable to rank *S2* and *S3* as co-constituents in the hierarchy of the phrase-structure tree (14) thus avoiding the consequence that *S2* is subordinately related to *S3*. Armagost (1972 : 8) presents an alternative solution concerning the derivation of declarative tags ("Plushbottom bit me, he did."), though, which considers coordination of the two sentence structures in the base component, proposing the following rewriting rules:

(15) $S \rightarrow (\left\{\begin{matrix}\text{and}\\ \text{or}\end{matrix}\right\})\ S^n$ (where $n \geqslant 2$)

$S \rightarrow$ (WH) (NEG) NP Aux VP

Leaving aside conjunction the application of the first rule can result in tree (16):

(16)



Finally, a number of transformations has to operate among them an ellipsis-transformation. Again there is the problem of missing identity of *S1* and *S2* since it is not possible to include a condition in the base that both sentences have to be identical. But this objection, discussed by Armagost (1972 : 9) does not strike me as severe. Non-identity would result in the filtering out of the two sentence structures by those transformations which demand identical structures in their structural descriptions; only identical tree-configurations would not be blocked according to this principle. But there is another point: Armagost's analysis has been worked out for declarative and not for interrogative tags — and the coordination of two sentences with different grammatical mood structures (declarative, interrogative, imperative) is quite uncommon.[15]

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[13] Cf. Stockwell et al. (1973 : 618); Bublitz and v. Roncador (1975 : 174f) for further discussion.

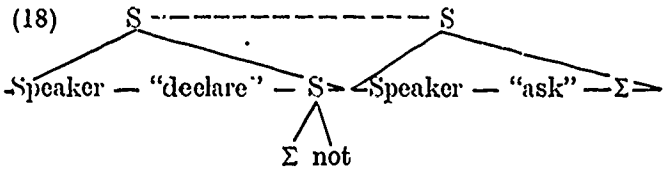
[14] Cf. Armagost (1972 : 15f) for further arguments — and R. Lakoff (1969b : 142f) who notes that certain verbs denoting mental state like *worry* cannot be used in the first person singular in the interrogative mood. This restriction concerns yes—no questions (unless used as echo-questions) and utterances with TQ alike: *"Am I worried?", *"I'm worried, aren't I?".

[15] There are exceptions, e.g., Sadock's (1970 : 228) example "Would you give me a drink and give John one, too." The problem is that with declarative sentence plus TQ we are confronted with identical structures, negation, interrogation and reduction left

There is a way out which Sadock (1971 : 229) examines assuming the coordination of the two hypersentences by which *S1* and *S2* are dominated (in his model). (17) has to be derived from (18):

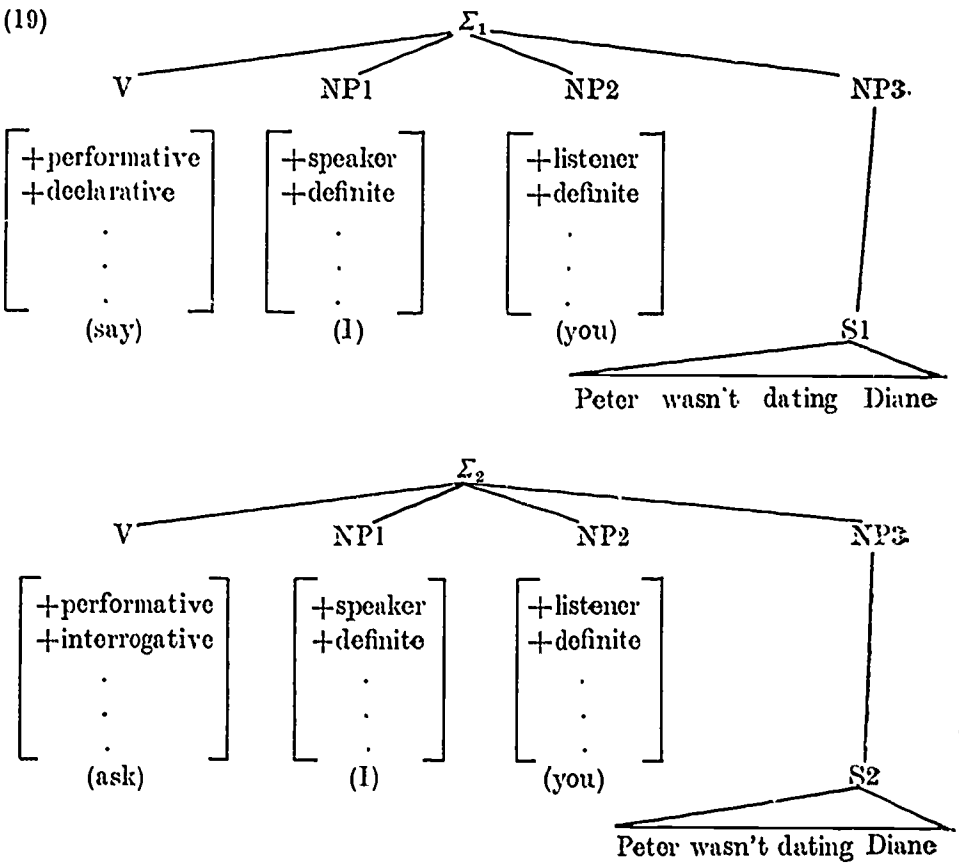
(17) Peter wasn't dating Diane, was he?

(18)



Considering that the performative analysis is better known and more widely accepted than Sadock's theory I will rather deal with the corresponding performative structure (19) (cf. for declarative sentences Ross 1970):

(19)



aside, which usually cannot be conjoined in one speech-act. *"Peter was dating Diane and wasn't he dating Diane?".

According to (19) TQ are derived from independent underlying sentence structures. Σ*1* and Σ*2* have to be conjoined to enable certain transformations to operate; coordination instead of subordination (by an embedding process) seems to be adequate. This view is supported by Huddleston (1970) who argues in favour of an underlying paratactic construction for tagged sentences deriving the TQ from an interrogative sentence. R. Lakoff (1971 : 14) considers coordination of two performative sentences; according to her coordination in general can only take place when there is a common topic shared by both conjuncts or to be more precise: "at least one set of paired constituents must be reducible to partial or complete identity" (R. Lakoff 1971 : 122). The conjunction reduction transformation is then followed by a number of transformations such as equi-NP-deletion, pronominalization, subject-aux-inversion. (The latter has to be applied before the performative deletion rule, cf. Ross (1970 : 249), unless one assumes non-segmental constituents in the highest performative sentence, in that case there is no deletion problem. It is not possible to go into details here).

The performative analysis presented here provides us with the means to cope with a number of otherwise unsolvable problems.[16] The utterance "She has probably left some time ago, hasn't she?" meets the restriction that both sentences have to be identical because — as is well known — the sentence adverb *probably* can be derived from an own underlying sentence structure thus not being a constituent of the declarative sentence into which it is eventually embedded. Of all the proposals to derive TQ by a transformational or generative process within the framework of transformational grammar the analysis that postulates coordination of two underlying independent sentence structures and explains the TQ as a reduced form of a yes—no question using performative sentences seems to have the greatest explanatory force.[17]

But still, there are numerous problems which cannot be dealt with adequately by this approach either. Among them negation (polarity) and inton-

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[16] Oleksy (1977), too, argues in favour of a performative analysis of tagged sentences.

[17] I would like to mention a proposal by G. Lakoff who suggests that "(...) tag questions are really reduced forms of real questions, which have been amalgamated onto the end of the sentence" (Lakoff 1974 : 339f). By a syntactic amalgam he means "a sentence which has within it chunks of lexical material that do not correspond to anything in the logical structure of the sentence" (1974 : 321). In the process of amalgamation certain rules embed or copy in "portions of another derivation" (1974 : 342) when certain syntactic or semantic conditions are met which — for TQ — are not specified by Lakoff. Amalgamation — as he mentions himself (Lakoff 1974 : 343) — reminds the reader of those double-based or generalized transformations typical for the early transformational grammar as specified in Chomsky's *Syntactic structures* (1957). It is a process not investigated enough to advocate its application for TQ in this paper.

ation have to be mentioned in the first place.[18] As has been shown all syntactic rules fail to predict whether e.g. the TQ is negative or affirmative, whether is has to be uttered with a fall, a rise or a level tone. But the interpretation of a declarative sentence with following TQ is dependent on intonation contours and polarity; they signal the speaker's attitudes. It is my opinion that TQ have to be explained within a pragmatic theory. In this respect their treatment is similar to that of such controversial problems as polarity items and the *some—any* distinction. Borkin (1971) for the former and R. Lakoff (1969a) for the latter have also argued against the adequacy of syntactic rules in this connection.[19] In the final section of this paper I therefore would like to consider a pragmatic approach to TQ.

[18] For negation Armagost (1972 : 42ff) has demonstrated convincingly that TQ cannot be said to be always negative when the preceding sentence is positive and vice versa — even regular distribution of polarity provided. His argumentation runs as follows (slightly simplified). Sensitive to the negation in the declarative sentence you have affirmation in the TQ in "Hardly anybody likes Diane, do they?", but this does not hold for "Diane is liked by hardly anybody, isn't she?" where the declarative sentence has been passivized. From these examples you can deduce the rule: "If NEG occurs within or before the Aux when TAG FORMATION applies, then the tag is affirmative. Otherwise, the tag is negative" (1972 : 44) — which has to be revised in the light of an utterance like "Peter has no car, has he?" to: "If when TAG FORMATION applies NEG occurs within the Aux, before the Aux, or after the Aux under certain conditions, then the tag is affirmative. Otherwise the tag is negative" (1972 : 44). These "conditions" refer to lexems such as *few* (derived from *NEG+many* according to Klima (1964 : 276)) and *little* (*NEG+much* (Klima; 1964 : 276)). In addition the passive transformation has to be ordered before T-tq to account for negation. But even though, the grammaticality of the following utterances is not predicted by those rules: "Plush left not half an hour ago, didn't he?"; "No less than six people saw Plush, did they?"; "Plush was seen by no less than six people, wasn't he?"; "No more than six people saw Plush did they?"; "Plush was seen by no more than six people, was he?". These irregularities make Armagost draw the conclusion: "Tag polarity is clearly not the result of the simple process that has most often been mentioned. Even when Klima's account of NEG originating either as sentence negation or constituent negation is taken into consideration, certain irregularities remain" (1972 : 45).
Cf. Huddleston (1970 : 220f) for more arguments against the analysis adopted here.

[19] Briefly, Borkin (1971) observes that interrogative sentences with negative polarity items are only acceptable when the intonation expresses that a negative answer is expected: "Does he do a *goddamned thing* around the house?" (Borkin 1971 : 54); in *wh*-questions the choice of the polarity item depends on the expected answer which again is mirrored in the intonation: "Who drank *a drop of* your cognac?" (1971 : 56); the utterance: 'Won't you sit down?" can be interpreted in one of the following ways according to the particular presupposition: as a means "to question the truth of the sentence "You will not sit down'", as "a disguised order of an invitation", as "an expression of surprise at what appears to be the fact that someone won't sit down" and as "a request for confirmation of the sentence 'You will not sit down'" (1971 : 58). R. Lakoff, too, shows that *some* and *any* are not dependent on interrogation or negation but rather on the speaker's presuppositions, his expectations and attitudes: any rule which is only syntactically motivated cannot take this into account (cf. R. Lakoff 1969a : 612).

3. To my opinion the function which a TQ fulfils in the process of communication is twofold: The speaker seeks confirmation of the truth of his sentence and he wants agreement with his attitudes and beliefs concerning that sentence. Grice (1975 : 45) developing a pragmatic theory of language use and trying to find out what general principles there are that regulate talk exchanges, formulates a cooperative principle which all participants are expected to follow:

> "Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged."

Grice (1975 : 45) then sets up a number of conversational maxims which fall under this general cooperative principle. Of special interest for the purposes of this paper is his maxim of quantity:

> "1. Make your contribution as informative as is required (for the current purposes of the exchange).
> 2. Do not make your contribution more informative than is required."

Kempson (1975 : 162) adds further specific sub-maxims:

> "(i) the requirement that one answer questions appropriately, (ii) the requirement of presenting sufficient information in questions and imperatives to enable one's requests to be successfully carried out, (iii) the general requirement of not saying what is familiar."

In order to clarify the Gricean maxim of quantity Kempson (1975 : 167) chooses the expression *pragmatic universe of discourse* to characterize

> "a body of facts which both speaker and hearer believe they agree on and which is therefore not in dispute: this set of propositions constitute their shared knowledge—knowledge which they believe they share."

The assumption that there is a pragmatic universe of discourse which the participants of the discourse can rely on and which is not static but subject to frequent changes in the course of conversation is a necessary prior condition for any talk exchange. The "set of propositions" which speaker and hearer believe they share must meet the following conditions Kempson (1975 : 167):

(1) S believes Pi
(2) S believes H knows Pi
(3) S believes H knows S believes Pi
(3) S believes H knows S believes H knows Pi

In the light of this new concept the maxim of quantity can now be reformulated (Kempson 1975 : 169):

> Do not assert any proposition p which is a member of the Pragmatic Universe of Discourse. Now, consider example (1) (a): The uttering of "That's your mother's handwriting" in the given context would obviously constitute a breach of the maxim of quantity, namely the sub-maxim of "not saying what is familiar".

By adding a TQ the speaker signals that he knows that the content of his sentence is familiar but that he nevertheless wants to ascertain that it really is part of the pragmatic universe of discourse. The uttering of "That's your mother's handwriting." (=X) would indeed be pointless if the speaker a) believed that X, b) believed that the hearer knew that X, c) believed that the hearer knew that the speaker believed that X and finally d) believed that the hearer knew that the speaker believed that the hearer knew that X. But as soon as the speaker is of the opinion that one of these conditions is not met he can utter X and add a TQ, thus making sure that X belonged to the commonly shared knowledge. This view is supported by Kempson's (1975:170) verdict that only those propositions become part of the pragmatic universe of discourse "which are explicitly agreed by the hearer to be true".

With a TQ the speaker wants to confirm that the hearer knows a certain fact, but when using a question he presupposes that the hearer knows it — or rather, one of the sincerity conditions for the use of questions states that one should ask a question only if one assumes that the hearer knows the answer (cf. for similar sincerity conditions Gordon/Lakoff 1971). I am going to try to disentangle the different functions TQ (with reversed polarity and appended to simple declarative sentences) may fulfil in talk exchanges. I claimed that TQ such as (1) with *falling* intonation and uttered in appropriate contexts can preferably be used to make sure that a certain fact belongs to the pragmatic universe of discourse; they are not used to convey new information. In this respect they seem to be similar to analytic and other non-informative sentences which are known to be frequent in conversation (cf. Larkin /O'Malley 1973). They are typically used to introduce an argument. Although in (1) (b) B knows that A knows that "that's a main line paper" he/she nevertheless utters it because he/she needs that fact as a necessary prerequisite for the following reasoning. It is thus recalled to the hearer's mind; and although B uses a TQ he/she does not even wait for a verbal reply in (1) (b) before he/she proceeds. So, taken literally, the declarative sentences in (1) constitute a breach of the maxim of quantity since they do not convey any new information. But a hearer who assumes that the speaker has no intention to disregard the cooperative principle will — due to the presence of a TQ with a certain intonation and an affirmative or negative particle and due to the particular circumstances of the speech-situation — interpret (1) as conversationally implicating that the speaker wishes to make sure that the proposition in question is part of the pragmatic universe of discourse and that the hearer recalls it for the purposes of the following statements.[20]

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[20] The same holds for tautological statements such as "Women are women" which Grice (1975 : 52) explains in the same way. Cf. for a similar view Bublitz and v. Roncador (1975 : 144f) (with respect to the German modal particle *ja*) and Hudson (1975 : 26).

Although TQ with *rising* intonation as in (3) may be used in the same way they usually convey a certain degree of uncertainty as to the truth of the proposition; they are more strongly or less strongly conducive depending on polarity, intonation and context. It is possible to set up a hierarchy of sentences with interrogative force which includes e.g. (3) (b) with a negative declarative sentence, a positive TQ and rising intonation:

"Is it Mr. Smith or Mr. Jones?"
"Is it Mr. Smith?"
"Isn't it Mr. Smith?"
"It's not Mr. Smíth, ís it?"
"It's not Mr. Smìth, ìs it?"
"It's Mr. Smíth, ísn't it?"
"It's Mr. Smìth, ìsn't it?"
"It 'ís Mr. Smíth?"

(A wider range of variation is of course conceivable.) It seems to be safe to say — even without stating appropriate contexts — that there is a growing degree of certainty as to the truth of the proposition "It is Mr. Smith." and in accordance with that an increasing degree of conduciveness.
To my opinion making a statement and making a request for the confirmation of the truth of the statement is the primary function a speaker performs when uttering a declarative sentence and adding a (reduced) question. Depending on intonation, polarity and context these utterances typically give rise to occasion-specific conversational implicatures concerning the pragmatic universe of discourse and the status of the statement in the process of argumentation (or just conversation).

The strictly syntactic transformational or generative proposals for the derivation of utterances with TQ discussed in section 2 of this paper are unsatisfactory as long as they are situated within a theoretical framework in which it is not possible to explain their implicated meanings. Only a grammatical theory which either includes a pragmatic component or is completed by a pragmatic theory has the explanatory power to do so. As far as the literal meaning of a statement and an appended question is concerned a generative approach to the derivation of the corresponding sentences which derives a TQ from an own underlying interrogative sentence structure is acceptable as long as there is a pragmatic theory (as developed by Grice, Kempson and Gordon/Lakoff).

The claim that utterances with TQ are primarily used to convey the literal meaning, as in (3), or a derived, implicated meaning, as in (1), depending on intonation and polarity rather regularly is supported by corresponding utterances in German. Leaving aside minor details and pragmatic functions such as expressing politeness, surprise, etc. (often signs of idiosyncratic use)

one can say that *Vergewisserungsfragen* (tagged questions) may be used with respect to both functions — but that the German modal particle *ja* always gives rise to implicatures and is used in utterances corresponding to (1) rather than to (3). Thus, in German the different functions TQ fulfil are not only expressed by intonation and polarity but by lexical means as well (which have nothing to do with the truth of the utterance in question). I am convinced that pragmatic considerations help to simplify contrasting especially those linguistic phenomena of two languages which so far have not been described adequately within transformational grammar and which often have no counterparts in the target language (as is true with respect to German modal particles and English).

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TOWARD CONTRASTING STYLES

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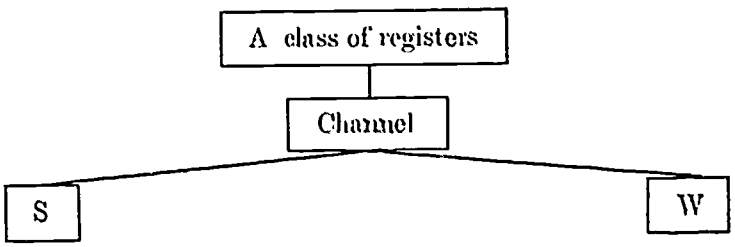
The idea underlying the present considerations is to do away with the arbitrariness of style categories like those isolated by Joos (1959). We want to argue that achieving that goal has to be preceded by research of a more sociological nature. Also, we wish to point out in this paper that accounting for stylistic variation within a contrastive framework bears a lot of relevance to and fruit for teaching purposes.

The terms *register* and *style* have sometimes been used in the literature synonymously, and quite often – meaning two entirely different things. We basically adopt Halliday et al's definition of register, namely "a variety of a language distinguished according to use" (1964 . 87). Unlike dialect characteristics (a variety of a language distinguished according to user) which will not change with a situation shift, register shifts will occur upon any change of exolinguistic factors functional from the point of view of the given dialect. Those factors include 1. setting 2. participants (personnel) 3. channel, and 4. topic. Any change in any of those factors is a potential mechanism for triggering off alternations and adaptations in the linguistic system. The interdependence among the four mentioned factors might be graphically illustrated in the following form:



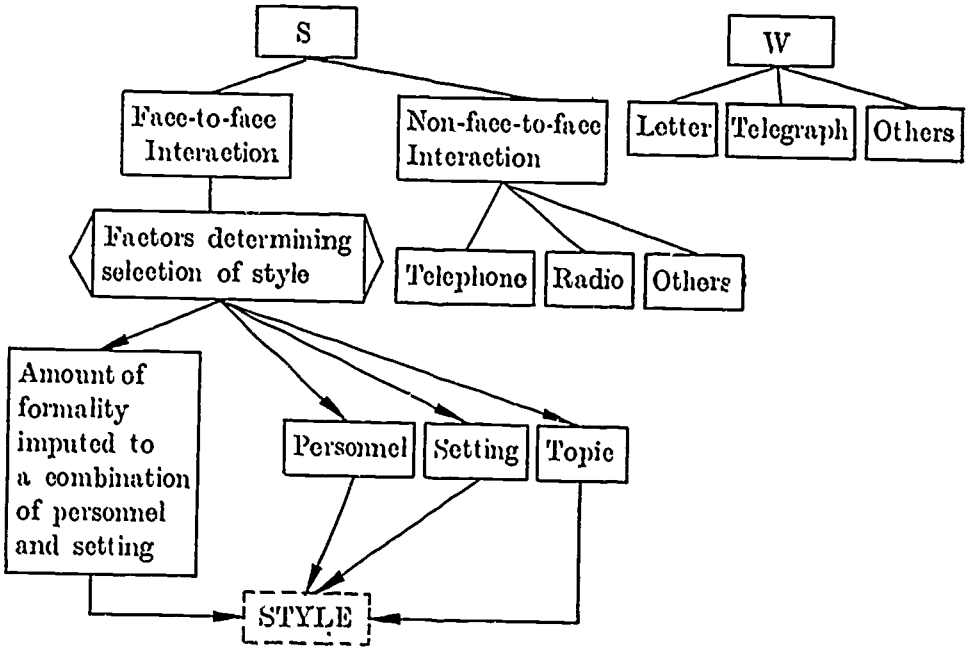


Table 1

The chart should be interpreted in the following manner: Register ought to be analyzed under two headings: 1. spoken language (S), and 2. written language (W). The spoken language will exhibit significant differences depending on whether the verbal interaction is conducted in person or not. In the latter case (e.g., telephone, radio, etc.) further significant divergencies can be detected. In face-to-face encounters the two main non-linguistic factors correlating with linguistic forms are *setting* and *personnel*. The ontological status of *topic* is not the same as those of setting and participants. Topic shifts generally result in changes in the lexicon while other components of language will remain unaltered. A switch in phonology or syntax (upon a change of topic) will be largely dependent on the arrangement of the setting and personnel units, allowing for syntactic or phonological forms of varying degrees of formality.

Referring to the diagram presented above one can define *style* as a language variety (or a kind of register) distinguished according to *setting*, *participants* (in face-to-face interaction), *topic*, and the *amount of formality* culturally associated with a particular setting (a set of settings), particular participants (or sets of participants), and a particular combination of the two. We follow this conception of style throughout this article.

In order to understand better the interrelationships among all the components included in table 1, and in particular the relationship of style to other

kinds of register, it seems useful to reformulate table 1 and present the interrelationships in question in terms of a filtering mechanism:

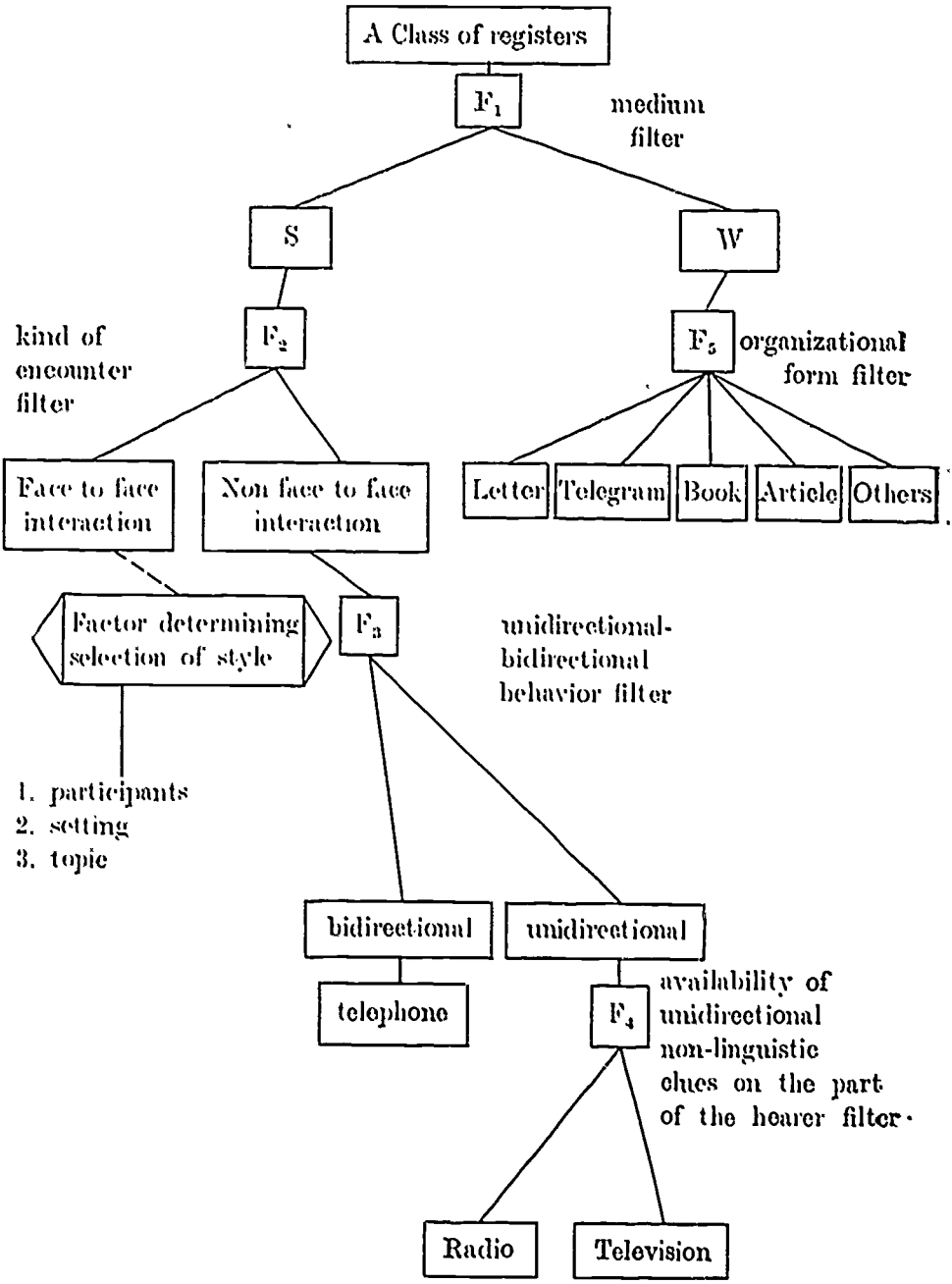


Table 2

Filter$_1$ (F_1) in the case of the choice of S, for example, filters out all the linguistic features (except the common core) that would be ascribed to a given language variety in the case of selecting W. F_2 has two slots — face-to-face interaction and non-face-to-face interaction. In the case of face-to-face interaction the factors determining the language variety called style are participants (P), setting (S), amount of formality (F) assigned to a combination of P and S, and topic (T). The non-face-to-face interaction slot is filtered through F_3 — the unidirectional-bidirectional behavior filter. Bidirectional linguistic behavior in non-face-to-face interaction (where the two different settings are irrelevant to the linguistic selection) is maintained only in case of telephone conversation where the factors determining selection of formal linguistic features are participants and topic. The unidirectional slot is filtered through F_4 — the filter which isolates situations in which there either does or does not exist the availability of unidirectional non-linguistic behavioral clues on the part of the hearer. In this way the two main mass media — television and radio — get separated. In the case of television there exists the above-mentioned availability of nonlinguistic clues. In both cases, the language variety remains more or less the same since the participant component is averaged out and therefore regarded as relatively constant.

The set of decisions required due to the filtering out of S, i.e., the selection of W, is filtered again through F_5 — the organizational form filter. The operation of the organizational form filter (F_5) should be understood in the following way: On deciding to write a letter or a newspaper article, for example, the writer is first exposed to restrictions imposed on him by the form of the writing attempted. These are usually realized by means of inherent instructions like: "omit articles" (telegram), "start your writing with a salutation" (letter), etc. Only after the organizational restrictions of the piece of writing attempted have been taken into account can the second determining factor — recipient — come into play. Topic will also play a role in the selection of the linguistic subcode appropriate for the rendition of a given piece of writing, but, as in the cases of styles and varieties pertaining to the telephone, radio, and television, its ontological status will be different.

If radio language varieties, for example, were to be differentiated and investigated, then recourse to the styles distinguished for face-to-face interaction would have to be taken into consideration. Also, in the case of written language, the equivalents of some face-to-face encounters could be found. Therefore it seems reasonable to first focus on personal encounter styles which will enable us to lay the foundations for further research and possible extrapolations. The reasoning presented above thus allows us to call the varieties pertaining to face-to-face interaction primary.

Depending on the channel characteristics, a sociolinguistic study will focus on different components of language. In an analysis of the language of

letters for example, phonological considerations would obviously be entirely irrelevant, whereas in face-to-face interaction style analyses phonology will certainly be of central interest.

We now wish to expound the relevance of the formality—informality continuum to the notion of style. Members of a particular culture or social group have historically come to perceive social situations[1] as formal, less formal, informal, very formal, etc. In other words, situations are classified on the informal—formal continuum. In our understanding, any sample of language (style) associated with a situation labelled formal is also called formal. If in a formal situation for example, an informal linguistic form occurs, then either 1. the use of language in that particular situation is intended to be marked, or 2. the situation has been redefined by one or some of the participants.

It must be born in mind that any classification of styles proposed for any language is, at the present state of research, arbitrary (cf. for example Joos' categories — frozen, formal, colloquial, casual, and intimate). That state of affairs results from the lack of formal criteria by which situations could be classified. It is not known yet what makes a situation formal or informal in a given culture. As S. Ervin-Tripp indicates "the mere cataloging of cultural units is not likely to bear much fruit unless the features of the situations which effect sociolinguistic rules can be identified" (1971 : 53). It is our contention that such features of situations, i.e., features of personnel and setting, can be identified and made use of in the classifying of situations along the formality—informality dimension.

One of the basic concepts pertaining to personnel, and having sociolinguistic relevance, is that of *status*, which is most often defined as "the worth of a person as estimated by a group or class of persons" (Secord et al. 1976 : 365). Status includes such categories as sex, age, occupation, income, social origin, education, race, clothing, etc. Depending on the culture, it may include other categories, irrelevant to European culture, for example, like the number of wives (Arabic), or bulkiness in figure (Hindu).

In a social encounter involving use of language the participants usually identify more features of status than they take into account when selecting a particular style. Therefore, in an analysis of a particular culture we have to engage in a two-step procedure involving:

1. identification of all the categories making up status in that culture, and
2. identification of all the categories of that set which are functional sociolinguistically.

Thus, the categories interesting to the sociolinguist will constitute a subset of the set of categories relevant to the definition of status. For example, in culture X the following status characteristics may be distinguished: occupa-

[1] *Situation* should be understood here to include setting and personnel.

tion, education, age, income, race, social origin. Out of those six only occupation, education, age and race may turn out to be sociolinguistically functional.

For both theoretical and applied pedagogical reasons the isolation of all the sociolinguistically functional status characteristics is crucial. With respect to the latter — the foreign language learner has to know clearly which are the sociological indices that he should take into account while labelling social situations along the formality continuum.

Once some status characteristics have been found out to be sociolinguistically functional, the next procedural step is to determine which of the isolated categories are primary and which are secondary factors. The distinction between those two kinds of factors will be extremely important again for pedagogical reasons since the foreign language learner, in a foreign language situation, will of necessity direct his attention first to the identification of primary factors whose proper classification will preclude dramatic social consequences, and thus enable a relatively smooth functioning in the foreign community. In the case of Polish culture for example, occupation and education are primary components of status whereas social origin may be considered to be a secondary one.

Attempts have already been made at describing linguistic forms in typical situations. This kind of approach, however, would hardly allow for significant generalizations. The linguistic data so collected would be associated with individual social situations. We would thus arrive at long lists of situations and typically used linguistic forms associated with them. This is the kind of procedure that yields teaching units like "at the railway station" and the enumeration of vocabulary items like "round-trip ticket", "check the baggage", etc. The usefulness of this unsystematic description of languages in typical situations, which has been in progress for quite some time now, cannot be denied in the foreign language teaching process. Many language programs have incorporated the fragmentary information that exists, and used it with some success.

The number of potential situations is infinite, and they may be assumed to be created according to a finite set of rules. Although new situations occur every day, all the situations which have occurred in the past, do occur in the present, and will occur in the future share some relationship to a finite set of rules the knowledge of which should enable us to predict what the potential situations are.

In this way, the reasoning leads us to state that there must exist some identifiable features which make a situation formal, informal, intimate, etc., that is, some as yet not clearly isolated features of personnel and setting should enable us to classify situations along the formality dimension. Finding out what those features are is the first step involving analyses of style.

In the following paragraphs we want to suggest that it is possible to con-

struct a diagnostic model of the social situation. We wish to focus our attention on only one dimension of the situation — the degree of formality. In other words, what we maintain is that it is plausible to produce a predictive system which would assign a certain amount of formality to a potential situation. This would be possible because within the system relevant features of the various degrees of formality would be known.

It is our contention that any fieldwork with respect to style as viewed in this article has to be preceded by an analysis of the situation itself. As S. E. Tripp says it is not clear what makes a situation formal (1971). Only after we have identified the relevant features of situations as distinguished with respect to degrees of formality should we commence systematic linguistic investigations. How do we find out what makes a situation formal in a given culture? There follows an outline of the procedure we propose to follow in this endeavor.

A large population representing culture (speech community) A should be presented an extensive list of clearly defined situations occurring in that culture. The situations described would be mainly typical congruent situations (e.g., a bank teller talking to a customer in a bank, a teacher talking to one of his pupils at school), but they would not necessarily have to be such very typical situations.

A large population representing culture (speech community) B should be presented an equivalent list of situations occurring in culture B. The two lists should include the largest possible number of situations which are sociologically the same or very similar, if possible. It is estimated that the lists in question should include at least 300 (?) examples. Then the informants should be instructed to mark on an 8 (10?) point formality scale the amount of formality they ascribe to a given situation. The results of such a study might take on the following form:

1	20 situations
2	30
3	60
4	70
5	40
6	30
7	30
8	20

The results should be interpreted as: 20 of the 300 situations have been indexed 1, i.e., most formal, 20 have been marked 8, i.e., least formal. Other numbers represent the placement of the remaining situations along the continuum. Some disagreement among the informants may be expected. Ways of solving

that problem can be worked out, however. One possible solution would be to take into account only those ratings that overlap. It is suggested that the scale presented to the informants be relatively large because in this way a mistake of underdifferentiation will not be committed. If, however, two points of the scale turn out not to be functional, they will merge thus yielding one functional entity.

Having grouped the isolated situations with respect to the amount of formality imputed to them by the informants consulted, the researcher's first task will be to identify the features of the situations as grouped in the distinguished categories. For example, it will become indispensable to find out what features the 20 situations (marked 1 on the scale) share that the 30 situations marked 2 on the scale, do not share. In turn, it should be ascertained what features the 30 situations share, that the 60 situations, marked 3 on the scale, do not share, etc.

When we have identified the features which make a situation formal (one of the 20 in our hypothetical study), less formal (one of the 30), etc., then we will be able to generalize and assume that any situation having the same features will be classified by members of the given culture as formal (level 1), less formal (level 2), etc. It is hoped that such a procedure will enable us to construct a diagnostic model of the speech situation,[2] i.e., provided a given situation is defined as having a specific set of features (extracted from the situations grouped together) it will automatically be attributed a defined amount of formality (f), and thus classified in one of the functional situation categories previously differentiated. The following is a rule defining the relationships in question:

$$SS^{X}{}_{y} \varepsilon Z_{(f)} \equiv SSX_{y} \text{ has ABCD... of Z}$$

The rule should be interpreted as: any speech situation X in culture y is a member of the speech situation category Z differentiated with respect to *f* if and only if it has the features ABCD... of category Z.

The features ABCD... will be inherent features of personnel and setting like occupation, education, age, etc. (of personnel), historical significance, artistic value, etc. (of setting).

In this way we will achieve the isolation of *situation types* (not typical situations) correlating with styles appropriate for, or, used in those situations. Each situation type in a given culture should be marked by the presence of a set of features, or the absence of another set the presence of which would mark another situation type.

[2] Any social situation is a potential speech situation, i.e., a situation in which language is used. Although the concept of *formality* is applicable not only to speech situations but also social situations, sociolinguistic analyses of style would obviously not go beyond the limits of the speech situation.

Having differentiated a specific number of speech situation types in a given culture, the researcher should start doing linguistic fieldwork. The sociolinguist would then not care about typical situations (what is a typical situation for some people may not necessarily be so for others). He would be doing fieldwork in various situations which, if our reasoning is correct, should be classifiable in one of the situation types listed for the culture in which the investigation would be carried out. A situation type is an abstract unit. It gets realized in the many concrete situations from which differentiating features are extractable. As opposed to our framework, analyzing language in typical situations (e.g., at the railway station) is not interesting because no overall generalizations can be captured.

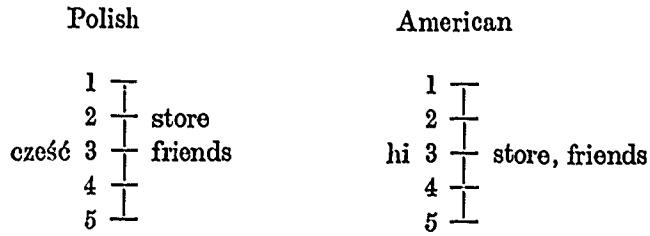
When cultures (speech communities) A and B are compared, the researcher's fundamental concern will be to state whether the features of personnel and setting (possibly others) making up situation types in culture A, are the same as or different from the features making up situation types in culture B. This kind of contrastive analysis offers insights of tremendous significance to foreign language teaching. Where cultures A and B coincide with respect to the features of personnel and setting which make a situation formal, informal, etc., there is no sociological interference and no mistakes of "formality identification" should be expected. In the case of different structures, interference is very likely to start at the sociological level, and enhance the moment language will come into play. Therefore, it seems that the sooner the student (a member of A) knows what features make situations in B formal, informal, etc., the sooner a large number of sociolinguistic mistakes will be eradicated. It is a task within contrastive sociolinguistics (Janicki 1977) to juxtapose the features in question as pertaining to cultures A and B. Pedagogical Contrastive Sociolinguistics (Janicki 1977) will, in turn work out ways of implementing this knowledge in the learning—teaching process.

When fieldwork done within our framework commences, linguistic data will be collected in the various situations, which are subsumable under the isolated abstract situation types. By extension, the linguistic forms encountered in these situations can be subsumed under style categories, the number of which will equal the number of situation types. Such a procedure will allow for the attribution of some value of *f* to each identified linguistic form, depending on the situation or situations in which a given form is found. Obviously most linguistic forms, which constitute the common core of a given language, will not be marked with respect to *f*. This is because words like *book*, *chair*, *lamp*, etc, are used under any situational circumstances. It is only the marginal part of any language that gets marked by some value *f*.

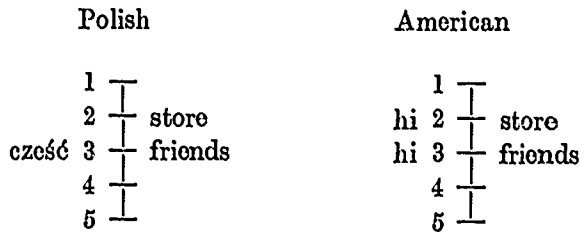
One must be cognizant of the fact that irrespective of the number of styles distinguished in a language, those styles will be described largely in terms of variable rules. Style A may differ from style B (matched with situ-

ation types A and B, respectively) only in the frequency of occurrence of some linguistic variables. Categorical statements can be expected particularly when language varieties which are non-adjacent in the stylistic dimension are juxtaposed.

If our reasoning is correct, then it may be expected that answers will become available to questions like the following: In Polish, two friends will exchange the greeting *cześć*, likewise, two American friends will exchange the greeting *hi*. In an American store *hi* is the most frequently used greeting between the clerk and the customer. In Poland, however, using *cześć* in a store would be deviant. The question we want to put is: Is it that the two different cultures assign to the situation — store+clerk(s)+customer(s) — a different value of *f*, thus not allowing *cześć* to be used in a store?,[3] or is it that the value of *f* assigned to the situation in question is the same in the two cultures, except that in American English *hi* is used in two styles but the Polish *cześć* only in one? Graphically the first alternative might be presented in the following way:



The second alternative would yield:



We believe that answers to questions like the one posed above will have a considerable effect not only on the development of sociolinguistic theory but also on that of language teaching.

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[3] In this case the American culture would be said to assign to the *store+clerk(s)+customer(s) situation* less formality than the Polish one.

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SOME MORE REMARKS ON THE PEDAGOGICAL USE OF CONTRASTIVE STUDIES

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In one of my earlier papers I already recommended using some of the results of contrastive studies for explicit contrastive comparisons in the classroom, which would take the form of grammatical comments and explanations provided by the teacher before intensive drilling or other forms of language practice (Marton 1973). In this paper I would like to further develop and specify these ideas and to show more explicitly how and in what ways contrastive analyses can be used in language pedagogy.

At the beginning I would like to make it clear that the analysis which follows will be developed within the framework of a broadly conceived cognitive approach and that it will concern only the teaching of syntactic structures. It will also be mostly concerned with teaching them to adults at a certain level of intellectual sophistication, such as high school and university students. This does not mean, of course, that I cannot see the usefulness of contrastive studies in teaching phonology and lexicon, it only means that neither my present interests nor the limits of this paper allow me to consider these other components of language. As the term *cognitive approach to foreign language teaching* is still not a very well-defined notion, I would like to say now what I mean by it, emphasizing those features of the cognitive approach which are particularly relevant to the problems discussed in this paper. In other words, I would like to present some relevant articles of my glottodidactic credo, which, to the best of my knowledge and judgement, are very much in agreement with the basic principles of the cognitive approach.

First of all, I must admit that I believe in language teaching, being thus in opposition to the now very popular "naturalistic" trends in glottodidactics (whose representatives are often referred to as the 'new orthodoxy' group), which manifest their disbelief in the notion of language teaching and empha-

size language learning. Of course, I realize and agree that language has to be ultimately learned by the language student, but I believe that effective teaching helps him and guides him in his learning so that his learning is much more efficient and economical than it would be if he relied only on his own heuristic procedures and learning strategies. I particularly believe in the value of language teaching in the conditions of foreign language learning, in contradistinction to the conditions of second language learning in which the student has ample opportunities for out-of-school contacts with the language. In my understanding teaching is not only organizing the input to the student's "black box" and providing feedback to the output. It also, or even primarily, consists in steering the student's mental activities during his fulfilment of the learning task and can thus be seen as interfering with the processes within the "black box". Accordingly, I am very much for the use of such pedagogical devices as mediators and algorithms since to me they represent the very essence of teaching.

Secondly, I believe that the native language of the learner should be treated as an ally in the process of foreign language teaching and that it should be consciously used instead of being ignored and avoided at all costs. I am convinced that, from a psychological point of view it cannot be avoided and that, from a pedagogical point of view, it can facilitate learning if used wisely and deliberately. I completely agree with D. P. Ausubel, one of contemporary cognitive psychologists, who condensed all of his educational research and thinking in the following statement (Ausubel 1968 : vi):

> "If I had to reduce all of educational psychology to just one principle, I would say this: The most important single factor influencing learning is what the learner already knows. Ascertain this and teach him accordingly."

There is little doubt that what the language learner already knows is his mother tongue, through which, more or less consciously, he tries to perceive and assimilate the elements of the target language. Utilizing and controlling this tendency instead of ignoring or fighting it will go a long way towards facilitating learning and ensuring success.

Thirdly, I believe that in learning many syntactic structures of the target language the difficulty is primarily conceptual and not formal, i.e., it is rather connected with learning a new grammatical concept or principle than a new form. Accordingly, the teacher's primary task is to make this concept or principle as clear to the student as possible, and his subsequent task is to help him in assimilating it and making it operative in his attempts at using the language.

Fourthly, I do not believe that language is a set of habits, at least *habits* in the behavioristic sense of the word, i.e., seen as mechanically established

and mechanically reproduced stimulus—response associations. I might agree that there are habits in language performance, but, as far as the use of syntactic structures is concerned, they are different in nature from behavioristically conceived, mechanical habits. They could be rather more appropriately labelled *generative habits*, to use R. Leeson's (1975:7) term, and, as such, they would not be very much different from the notions of a rule or a principle. Anyway, whatever the term, the point is that the conceptual and formal characteristics of a given structure have to be grasped and realized by the student in a flash of understanding before he starts practicing this structure in exercises or other forms of language training. That is why, in my opinion, learning syntactic structures rather resembles concept and principle learning than mechanical conditioning processes used in animal training. This concerns also the low-level syntactic operations, such as, for example, the uses of inflectional endings.

Accordingly, I do not believe in habit formation in teaching grammar and I particularly do not believe that any syntactic habits can be formed in the phase of drilling or pattern practicing, as our audio-lingual colleagues tended or still tend to think. The relevant point is that in drills and pattern practices it is the syntactic form itself which is the stimulus to which the student is trained to respond, while in any communication activity it is the overall semantic plan of the utterance which triggers the choice of particular syntactic structures. The conclusion is that actual syntactic habits, if we still want to use this term, can be formed only in communicative activities, be they real or simulated, in which the student is supposed to express hiw own meanings and not to just manipulate sentences made by someone else. This again does not mean that I see no use for grammar exercises, it means only that I see their functions very differently from audio-lingualists. I think that, first of all, they should serve the function of the clarification of a given syntactic concept or principle introduced by the teacher or the textbook, being thus, psychologically, the continuation or prolongation of the phase of perception. I see them also as serving the purpose of hypothesis testing, but in this case I do not have in mind hypotheses arrived at completely by the student himself but rather hypotheses formed by him with the help of the teacher, which, in spite even of the teacher's skill, can be and very often are erroneous.

Having presented some of the relevant articles of my glottodidactic faith I would like now to pass on to explaining what types of contrastive studies I do have in mind discussing here their pedagogical uses. Of course, I am very much aware of the distinction between theoretical and applied contrastive studies, introduced and supported by J. Fisiak (1973 : 8), and it is undoubtedly the latter which would form a theoretical basis for all kinds of pedagogical applications. Yet within the category of specific applied studies, still using

J. Fisiak's (1973 : 8) terms, I would see a place for a pedagogical contrastive grammar, in a rather restricted sense of the word *pedagogical*. The point is that very often this word is used in the sense synonymous with the word *simplified* and although the term *pedagogical contrastive grammar* has been often used lately it is quite clear that the only pedagogical notion it has utilized has been the notion of simplification, which, in turn, has been most often meant as getting rid of the formidable technical apparatus with the help of which linguistic facts are presented in contemporary theoretical studies. Yet in my understanding of the term and in accordance with the principles sketched above, we can call pedagogical only such materials which are arranged according to a definite pedagogical theory and which utilize special pedagogical devices helping the student to assimilate the learning material in the most economical way. In other words, a pedagogical grammar should aim at something more than just presenting a necessary minimum that the student is supposed to know, it should also strive to shape the student's learning activities and guide him in his learning, thus guaranteeing him a certain measure of success. Since, to the best of my knowledge, no such pedagogical contrastive grammar exists, in this paper I will use as examples facts and statements taken from theoretical contrastive studies, mostly published in the periodicals *Studia Anglica Posnaniensia* and *Papers and Studies in Contrastive Linguistics*. At this point it has to be admitted that rather few of the contrastive analyses published so far in these periodicals and in other places lend themselves to any pedagogical uses. This is not so much caused by their high level of theoretical sophistication, which, after all, should never be an obstacle for the writer of a pedagogical grammar, but rather by two other facts. One of them is that the studies published so far have striven to establish correspondencies at the deep structure level and to compare corresponding transformational derivations, which is rather less important to the learner than the comparison of surface structure differences and similarities. The other reason is that these studies deal very often with structures which do not cause much conceptual difficulty and which do not require the strategy of meaningful learning. The point is that not every syntactic structure requires a contrastive presentation in teaching. Generally speaking, it is useful and profitable to contrastively present these structures which are conceptually difficult to grasp by the student of a given language background, or, in other word, such structures whose usage is rather specific for the given language and not immediately obvious to the learner. On the other hand, there are structures in the target language which are more economically acquired in a rote fashion since either the learning problem they represent is purely formal in nature (i.e., the student has only to learn a new form while the concept or principle is the same as in his own language) or their syntactic analysis, although possible, is not necessary since, psycholinguistically speaking,

they are probably stored and recalled as ready-made stereotypes rather then rules or principles. As a good example of the latter category we might mention nominal compounds in English, which can be analyzed syntactically in terms of relationships holding between their constituents (cf. Marton 1970) but it is rather doubtful whether showing these relationships to the Polish student and comparing then with the relationships in equivalent Polish compounds would really help in the learning and retention of these units.

Probably the kind of contrastive study which lends itself best to pedagogical applications is one dealing with a chosen semanto-syntactic category and showing how this category is syntactically realized in the two languages under comparison. As a good example of this type of study we might mention here the two articles by A. Szwedek (1974), entitled "Some Aspects of Definiteness and Indefiniteness of Nouns in Polish" and "A Note on the Relation between the Article in English and Word Order in Polish", both dealing with the category of definiteness and indefiniteness and revealing how the use of the articles in English corresponds to the use of other syntactic devices such as word order, sentence stress and pronominal reference in Polish. Actually, Szwedek's articles are also very useful for language pedagogy for the reason that they discover certain facts and correspondencies by no means obvious to the Polish teacher of English and Polish materials writer. This does not mean, on the other hand, that when such correspondencies are fairly clear and can be easily discovered by the teacher acting as an amateur comparativist, contrastive analyses have nothing pedagogically worthwhile to offer. It is my belief that they can always help the teacher and the materials writer by systematizing their knowledge, showing some additional facts that they may be not aware of and providing good examples. This last function is by no means insignificant since good examples have a great pedagogical value which lies in this that they can be used as very powerful mediators facilitating the learning and retention of a more abstract principle.

And now, using some facts and examples from Szwedek's papers I would like to demonstrate how contrastive information can be utilized in the teaching/learning process. For the sake of order and convenience this process will be seen here as consisting of the four natural stages which can be distinguished in it irrespective of what approach or method we are trying to follow and which can be named as (a) the stage of presentation of a new material (b) the stage of exercises (c) the stage of communication (d) the stage of reviewing and testing. Let us assume then that we want to teach some of the basic uses of the English articles which constitute a great conceptual difficulty to the Polish learner.

First the very concept of definiteness and indefiniteness of nouns in Polish could be introduced in the initial part of the presentation stage in the form of an advance organizer. The advance organizer is a pedagogical device, very

much supported by D. P. Ausubel (1968 : 148 - 9) and other cognitive psychologists, whose function is to present some relevant concepts and ideas in advance of the learning material itself so as to bridge the gap between what the learner already knows and what he needs to know before he can successfully learn the task at hand. These organizers have to be distinguished from previews of the learning material to follow because, in contradistinction to previews, they are presented at a higher level of abstraction, generality, and inclusiveness than the learning material itself. In our hypothetical case the advance organizer would be introduced before the presentation of the language material containing some examples of the basic uses of the definite and indefinite articles. As far as the format of this advance organizer is concerned, it certainly would not be commendable for the teacher to deliver a lecture on the category of definiteness and its realization in Polish syntax since a procedure like this might only confuse the learner and waste the precious classroom time. But the teacher might instead put on the board the two following sets of sentences, taken from Szwedek's article (1974a : 206, 208):

W pokoju siedziała dziewczyna.
Wszedł chłopiec.
Chłopiec wszedł.

Do domu, który obserwowałem, wszedł mężczyzna.
O 3 : 00 mężczyzna wyszedł.
O 3 : 00 wyszedł mężczyzna.

Then the teacher through asking appropriate questions might make his students aware of the relationship between word order and definiteness of nouns connected with the phenomenon of anaphoric reference. Actually, his task would be simply to introduce and clarify the very concept of syntactic definiteness, which his students might know intuitively as part of their knowledge of Polish and which could yet not be available to them in their attempts to understand the principles guiding the use of the English articles. The teacher would finish his presentation by telling the students that in English the definiteness and indefiniteness of nouns are marked in a different way and that their next task would be to discover this way in the language material to be subsequently presented. Certainly, in his presentation and discussion of these examples the teacher would not use all these metalinguistic terms and would try to make his presentation as simple and as brief as possible.

After the introduction of the advance organizer the essential part of the presentation stage follows. It is not the purpose of this paper to describe each of the four stages of the teaching process in detail so let it suffice to say

that in our hypothetical case the cognitively oriented teacher would introduce a text or a dialog containing some illustrative examples of the usage of the articles and would then try to elicit the principle from his students by the technique of guided discovery, i.e., by asking them appropriately framed questions about these examples. Discovering the principle should not prove too difficult to the students since they would have been already prepared for this task by the introduction of some relevant ideas and facts in the advance organizer, and, of course, the teacher might consciously refer to these ideas and facts in discussing the examples. The guided discovery technique would, of course, eventually lead to the formulation and verbalization of the principle of usage, which could be done either by the teacher himself or by one of the brighter students. The principle would thus represent a fragment of the conscious knowledge about the language which would have to be subsequently converted into a functional rule or stereotype readily available to the student in his attempts at constructing utterances in the target language. This would have to take place since the rule in its totality would take too long to recall and would be too cumbersome to have any operational value in very rapid processes of speech production. This is also where many believers in the traditional grammar-translation techniques fail since they erroneously assume that the presentation of the rule and its understanding by the student will automatically result in the transfer of the rule to all the mental operations performed in the process of speech production. The truth is, however, that, as any experienced teacher will confirm, in very many students this transfer never seems to occur. Probably these students, when called upon to construct sentences in the target language in real or simulated communicative conditions, i.e., under considerable time pressure, find it too difficult to refer to the fragments of conscious knowledge about the language stored in their minds and naturally fall upon various simplification strategies in the fulfilment of their communicative task. The point is, then, that the student should be deliberately trained in this transfer and reduction of his conscious knowledge and, being here in complete agreement with L. K. Engels (1974), I think that this is where mediators have a particularly relevant function to fulfill. By a mediator I mean in this case some condensed and visually representable form of the rule which might mediate between the student's stored knowledge about the language and his use of this knowledge in a communication task. The purpose and the limits of this paper do not allow us to discuss all possible types of mediators in language learning but the point I want to make here is that very often these mediators, just like advance organizers, can be contrastive in nature and can refer a given target language element to its functional correspondent in the native language. Very often, as I have already said, typical and illustrative examples of the usage of a given structure can function very effectively

as mediators. For instance, taking again advantage of Szwedek's (1974a: 207) data, we might construct the following mediator with reference to the use of the articles in English:

Widziałem w oknie kobietę.
↓
(nieokreślona ——→ a)
Kobieta wyszła na ulicę.
↓
(określona ——→ the)

After the presentation of new language material the teacher and his students pass on to the next stage which might be called the stage of exercises. Again, discussing all the types and the whole sequence of grammar exercises agreeable with the principles of the cognitive approach would take us beyond the purpose and the scope of this paper so I want just to repeat what I have already said before that I see the primary function of these exercises as gaining by the student a clear understanding of a given principle and its accompanying concepts and relating this principle to the other elements of the target language system that the student already has in his cognitive structure. Accordingly, as an essential type among these exercises I consider a problem-solving task in which the student has the opportunity of testing and correcting his own hypotheses about the rule or principle being learned. Giving the student this opportunity is necessary because even though his hypotheses are formed with the help of the teacher in the stage of presentation, this fact does not guarantee that the student grasped the full scope and all the implications of the rule being acquired. Among these hypothesis-testing and problem-solving exercises a translation exercise from the native into the target language should certainly play a prominent role since this type of exercise controls the student's natural tendency to rely in his learning on his intuitive knowledge of the native language. As translation exercises have lately fallen from favor with many language teaching methodologists I would like to emphasize that I do not consider them to be the only type of grammar exercise but, on the other hand, I would see at least one good translation exercise as a necessary element in the whole sequence of grammar teaching techniques. And since a grammar translation exercise is par excellence a practical contrastive analysis there is no doubt that contrastive studies can provide very good models for the construction of such exercises. For instance, coming back to our case of teaching the English articles, we could find in Szwedek's (1974a: 207) paper many interesting sets of simple sentences in Polish which would be ideal for a translation exercise, like the following two pairs:

Na podwórzu bawił się piłką chłopiec.
Chłopiec dał piłkę kotu.

Na podwórzu bawił się chłopiec z kotem.
Chłopiec dał kotu piłkę.

In the next stage of the teaching process, the stage of communication, the student is supposed to have practice in expressing his own meanings (however trivial they might be) and in constructing his own utterances in the target language. According to the assumptions of the cognitive approach this is also the stage in which actual language habits or, to use a somewhat different terminology, schemata (Herriot 1970 : 163) are formed in response to stimuli, which have the form of meanings originating in the student's mind. There is no doubt that communicative activities in this stage are very difficult for the student who, trying to encode his meanings into the signs of the target language, is faced with many difficult choices and decisions at a time. Yet in nearly all the teaching techniques suggested for this stage so far no real help has been offered to the struggling student except for the teacher's occasional prompting and correction of errors. Still it is the stage in which the student needs a lot of help which would facilitate transfer from the activities in which he was involved in the two preceding stages to the activities of spontaneous utterance construction. This help should be offered to him in the form of mediators of all kinds and even simple language production algorithms, which should be displayed in the classroom, right in front of the student, on specially prepared charts or on the board. The student should not only be allowed but even encouraged to consult these special cognitive aids when in doubt about the use of a given grammatical rule or principle in his attempts at spontaneous speech production. Since many of these mediators might have a contrastive format utilizing in this way the results of contrastive analyses, we can see now that these results could be pedagogically useful even in the third stage of the teaching process.

As far as the fourth stage, that of revision and testing, is concerned it is fairly obvious that contrastive studies can again provide good models for translation tests, very similar in format to the translation exercises used in the second stage, the main difference being that they would serve not a learning but a testing purpose.

Talking about translation exercises based on the models provided by contrastive analyses, it is also worthwhile to mention that some of these exercises could be particularly useful and appropriate for the advanced level of language teaching. Their usefulness is connected with the fact that advanced learners are often marked by a certain syntactic rigidity and fixedness in their performance in the target language. This rigidity can be described in this way that they functionally overload some of their syntactic schemata, constantly choosing certain structures to the exclusion of other syntactic possibilities, very often, but not always, guided in their preferences by the

criterion of formal congruence holding between the native language and the target one. To teach these students some more flexibility in their handling of the target language syntactic structures the performance of syntactic and semantic paraphrases of target language sentences should be highly recommended, perhaps along the lines suggested by L. A. Jakobovits in his popular book *Foreign language learning* (1970 : 21 - 22). The relevant point is that some contrastive studies very well reveal what are the possible syntactic correspondents in the target language of a given native language structure and thus provide very good models for the construction of appropriate translation exercises. For example, in M. Grala's (1974) study of negated adverbial participles in Polish and their corresponding forms in English I found some Polish sentences accompanied by sets of their possible translational equivalents in English, which could be directly incorporated into an exercise of this kind. Here are two of these sentences (Grala 1974 : 282)

Janek był bardzo zmartwiony nie zdawszy egzaminu.

John was very upset
- a) not having passed the exam
- b) at not having passed the exam
- c) at failing the exam
- d) not to have passed the exam
- e) because he didn't pass the exam
- f) as he failed the exam
- g) to have failed the exam

Nie lubiąc ludzi nie znajdziesz przyjaciół.

- Not liking people a)
- Without liking people b)
- Disliking people c)
- If you don't like people d)

} you won't find friends.

To conclude this discussion I would like to say that it was supposed to demonstrate to the reader that if we get rid of the fear of using our student's minds in their task of foreign language learning and if we adopt at least some of the cognitive principles, we will be able to find many more pedagogical uses for the data provided by contrastive studies than it has been suggested so far.

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STRESS IN POLISH — WITH SOME COMPARISONS TO ENGLISH STRESS*

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In discussions of languages with fixed stress, one will find Polish given prominent position. It is taken as exemplary of languages with penultimate stress.[1] Indeed, there are numerous alternations in stress, such as *język, języka, językami*, which seem to show that regardless of how many syllables are added to the stem, it is always the penult which gets the stress. I will try to demonstrate that stress in Polish is more complicated than may at first sight appear, and has some interesting parallels with English stress rules.

The most obvious rule which one might suggest for assigning stress in Polish is rule (1):

1) $V \longrightarrow [\text{1stress}] / - C_0 V C_0 \#$.

It is immediately apparent that rule (1) must be modified to account for normal monosyllabic words in Polish, such as *piés, być*, etc., which are not stressless, but rather receive stress on their only vowel. Thus, we must allow rule (1) to stress word-final syllables as well:

1') $V \longrightarrow [\text{1stress}] / - C_0 (V C_0) \#$.

There are a small number of foreign words in Polish which are stressed on the antepenultimate syllable, such as *matemátyka, prézydent, státua, ryzyko, káliko, régula*, and *ópera*. In every such case of a foreign word stressed on the

* 'over a vowel will indicate primary stress'; will indicate secondary stress. When necessary, ˘ over a vowel will indicate absence of stress. Vowels irrelevant to the exposition will often not be marked. A primary stressed o will be written ó. Orthographic ⟨ó⟩ will be written [ù] when stressed and [u] when unstressed. A tilde (˜) over a vowel indicates nasalization. Thus *ã*—nasalized (a), but *ą*—orthographic symbol, not necessarily nasalized. The author's knowledge of Polish is limited, and handbooks have been extensively relied on. All the more welcome, then, have been the extremely helpful and insightful comments of Dr B. Marek, M. Pakosz, B. Nykiel, H. Kardela, and others; trenchant discussion at the conference by Dr. L. Biedrzycki, Dr J. Rubach, Doc. dr W. Świeczkowski, Doc. dr J. Cygan, and Prof. dr hab. J. Fisiak has greatly improved the paper. The author hereby exonerates all of them from the errors still remaining, however. It is hoped that the paper will nevertheless be suggestive.

[1] Cf. e.g., Romportl 1971: passim.

antepenult, it is also possible for the word to be stressed on the penult (at least in some circles or circumstances), indicating the strong attraction of stress to the penult in Polish, and of course the tendency for languages to regularize exceptions. There are an even smaller number of native words antepenultimately stressed: *óg[u]lem, szczég[u]ły, okólica.* In order to accomodate such words, we further modify rule (1′) as follows:

1″) $V \longrightarrow [1\text{stress}] / - C_0((V\,C_0)\,V\,C_0)\#$.

With respect to the innermost parentheses in rule (1″), we should observe that in nearly all foreign words which permit stress to skip over the penult, the penult is weak; that is, it is a vowel followed by a single consonant (vowel) sequences are normally not permitted phonetically in Polish.

Such rare examples as Wászyngton (often Waszýngton) are in many varieties of Polish felt to be virtually pronounced in English, and reinforce this pointed: they are like English words such as *partérre* pronounced with a uvular (French-like) *r* which are considered to be pronounced as in French, even if the other segments in the word are English-like and un-French; likewise English Bach pronounced with [x]. In those varieties of Polish where *Wászyngton* is the normal pronunciation, we must account for the stress on these words: perhaps the restriction of rule (2a) below to a single consonant after the penultimate vowel is too strong; nevertheless, words like *Wászyngton*) are clearly exceptional. More examples must be examined, however, before a principled decision can be made on this issue.

Thus, we can modify rule (1) once more, as follows:

2) MSR $V \longrightarrow [1\text{stress}] / - C_0((VC)\,VC_0)\#$.

Rule (2) (what we will call the Main Stress Rule) is an abbreviation for the following three ordered rules (which are, of course, mutually exclusive — cf., the discussion of disjunctive ordering in Chomsky and Halle 1968):

2′) a) $V \longrightarrow [1\text{stress}] / - C_0VCVC_0\#$

b) $V \longrightarrow [1\text{stress}] / - C_0 \quad VC_0\#$

c) $V \longrightarrow [1\text{stress}] / - C_0 \quad \#$.

Rule (2a) is of course a minor rule — that is, only those exceptional words in Polish which are marked to undergo rule (2a) do in fact undergo it. Rule (2c), with the exception of a very few interjections (e.g. *akurát, galóp* — see below) applies only to monosyllables. Note that even these finally-stressed words can only be so stressed when used as interjections — cf., below, and *patatáj* 'the noise produced by a galloping horse', etc.

In order for rules (2) to apply properly, we need various formal mechanisms. Chomsky and Halle (1968 : 173) give conventions for marking words to undergo or not undergo rules. As noted in Levy and Fidelholtz (1971 : 64ff) and elsewhere, these conventions must be modified for minor rules, such as (2a). That is, SPE convention 1 marking all words as [+rule *n*] must be modified to do so for all major rules *n*, but for a minor rule *m*, all words must be marked

[—rule *m*]. Then, by their convention 2 (appropriately modified), all markings on words are correctly changed to reflect the lexical (i.e. idiosyncratic) phonological properties of words. Thus, effectively, all vowels in each word undergo rule (3) (i.e. SPE Convention 1):

3) V ⟶ [—rule (2a)]

and those few words which do undergo (2a) then copy their lexical mark [+rule (2a)] onto the word by SPE Convention 2, thus superseding rule (3). (In some cases, as below, the lexical marking [+Rule (2a)] is supplied by a lexical redundancy rule). Irregular words of the type *akurát* must simply be marked [—Rule (2b)], and they will then automatically undergo rule (2c).

Nearly all foreign words ending in *+yka* or *+ika* are (or may be) antepenultimately stressed: *Áfryka, akústyka, klínika, gráfika*, etc. But compare *motýka* 'hoe' [**mótyka], *spotýka* 'he meets', *mantýka* 'bore' [*mántyka]. Therefore, we have the redundancy rule (4). The morpheme boundary is to keep the rule from applying to *Kòstarýka* 'Costa Rica'.

4) V ⟶ [—rule (3)] / [+Foreign] C_0+[i, y] ka.

Normally in Polish, such vowel sequences as *au, eu* are pronounced with a glided final element [aw], [ew]. The rule turning underlying [u] into [w] — ie [u̯] — must come before the stress rule (2), for we find such foreign words as *terapéutyka, propedéutyka* [—éwtyka]. Note that the glide-formation is optional in some cases, and especially so where it would tend to make the stress more regular. E. g. *fáuna — [fáwna]* or *faúna — [faúna]*. While we do occasionally find the pronunciation (?) *propedeútyka*, it is decidedly rarer than *faúna*, since the former is no more regular than *propedéutyka* (i.e., stress is still antepenultimate). Note the 'peeking' quality of the glide formation rule in this case, indicating that such phenomena should be looked into more carefully. As mentioned above, all such antepenultimately-stressed words may colloquially or nonstandardly (at least) have a variant stressed on the penult. But the instability of the antepenultimate stress is also clearly seen in the phenomenon that frequently-used (i.e., more common and less foreign) words tend towards the variant with pre-final stress (cf., Fidelholtz (1975) for a discussion of word frequency effects in English). A clear example of this is the word *polityka*. In the meaning 'politics' it is usually stressed *polítyka*. But in the more 'common' or 'folksy' meaning '(practical) policy' there is a strong tendency for it to be stressed *politýka*. Indeed, even the newspaper *Polityka* (presumably the former meaning) is quite often referred to as *Politýka*, doubtless under the influence of its commonness or frequency. The same holds for such pronunciations as *matematýka*, etc.[2]

[2] Note that our account of words like *matemátyka* also suggests a partial explanation for the regular behaviour of forms like *matematykámi*. The stem *a* is in the correct environment and gets marked ultimately [+rule (2a)]. Nevertheless, since it is in the

It has not always been noted in discussions of Polish stress that Standard Polish words of four or more syllables always have a secondary stress on the initial syllable (but cf. Dłuska (1976 : 26f) and Wierzchowska (1971 : 217ff)). Thus we have *autóbus*, but *àutobusówy*, never **autòbusówy*. Therefore, it appears that we need an initial stress rule

5) INITIAL STRESS $V \rightarrow$ [1stress] / # C_0 ___.

Cf. Halle (1973b), where it is argued that stress subordination — i.e., lowering of stress on other stressed syllables in a word — occurs only for rules reassigning [1stress] to a vowel which already has [1stress]. Note that rule (5) could be combined with rule (2) (MSR) only in an iterative format. That is, rule (2) applied iteratively (from the end of the word or from any stressed syllable) would always eventually stress the first vowel in the word. This implies that long words in Polish have several stresses. While there is some evidence that this is so (cf. Dłuska (1976 : 27) and the words *Kònstantýnopolitàńczyjkiewicz[ú]wna* and *chlòrowinylodwuchlòroarsýna*), it seems by no means clear (note that the stress pattern of the examples suggests that they

fourth syllable from the end, the structural description of (2a) is not met and it does not apply. Something similar may be going on in some obliquo cases of such words as *rzeczpospólita* 'republic', *uniwérsytet* 'university', etc. Still, the problem is an important one to look at, and we have only a partial solution of such cases at best. Note also that words derivationally related to irregularly-stressed words are always regularly stressed: *èkonomiczny*, etc.

Another possible way to handle such cases would be to postulate a word boundary (#) after the *k* of the *-yk# a*. Of course, then the stress would automatically fall on the 'antepenult' (second syllable before the #). A redundancy rule for certain declension cases would then eliminate the #. With our present understanding of Polish stress, this is merely an ad hoc solution, but note that the *-a* ending does seem to be discrete from the stem in general in Polish: *dziewczyna*, but *dziewczynka*, where independent evidence (cf. Gussmann 1973) suggests a # *r* ___ boundary before the diminutive ending. Note that the *-a* follows the diminutive: **dziewczynak*. Of course, there seem to be no plausible boundaries in such words as *uniwérsytet*, and native words like *kobiéta* show that the feminine *-a* cannot normally be preceded by a word boundary.

The words ending in *-yka/-ika* have yet another peculiarity which bears commenting upon, and is doubtless related to the foreign flavor they have. This is namely the distribution of the endings *-ika/-yka*, which is quite regular: *-ika* occurs after velars (*lógika, psýchika*, etc. (but no examples with *-kika*)), labials (*sylábika, dynámika, épika, gráfika*, etc.), vowels (*prozáika, heróika, etc.*) and the sonorants *n* and *l* (*bazylika, harmónika*); while *-yka* occurs after dental obstruents (*akústyka, semántyka* (cf. *mantýka*), *fizyka, Kórsyka, melódyka*) and *r* (*retóryka, Améryka*). While this distribution is perfectly regular, it is quite peculiar. The principle seems to be: a) make the word as much as possible like the pronunciation of the word in the donor language, but b) without violating the sound pattern of Polish. This boils down to saying: add *-ika*, unless the i-dental palatalization (cf. Gussmann 1978) would effect one of its more spectacular changes (to wit: $r \rightarrow ž$, $s \rightarrow š$, $z \rightarrow ž$, $t \rightarrow ć$, $d \rightarrow dź$). This 'output condition' is not characteristic of foreign words in general, but of this ending in particular. Thus, we find such words as *sinus, Zambézi, bátik, bútik, dintójra* 'bloody revenge', etc. This curious output condition is likely to prove fruitful for further study.

are stressed like several shorter words, rather than iteratively), so we have preferred the separate formulation of rules (2) and (5). Note that the relative order of the two rules as formulated is indeterminate. Such compounds as *dalèkobiéżny* 'long-distance' (cf. Ozga 1974: 133) should be analyzed as *daleko-# #bieżny*, in contradistinction to the single # separating clitics from stems (see below).

After MSR and INITIAL STRESS have applied, rule (6) (what we will call the Nuclear Stress Rule (lowers all the stresses in the word except the last one:

6) NSR [lstress] ---→ [lstress] / __ [-stress]$_0$#.

Note that rule (6) can be extended to sentential contexts, much like the English Nuclear Stress Rule (cf. Ozga 1976b). Wierzchowska ((1971 : 219ff), cited in Ozga (1974 : 133)) suggests that current Polish tends to reverse the positions of the stronger and weaker stresses, e.g. *językoznàwstwo*. In such a case, we would have to modify the NSR, either to stress the first syllable:

6′) [lstress] ---→ [lstress] / # C_0 __

or to stress the penultimate stressed syllable:

6″) [lstress] ---→ [lstress] / __ [—stress]$_0$ [lstress] [—stress]$_0$#.

(6′) is obviously a more likely rule than (6″), but one would have to examine how words with two secondary stresses are pronounced in these varieties of Polish before deciding. Note that the environment of (6′) is, in effect, the mirror image of the environment of (6).

We must also have rule (7) (DESTRESS) to eliminate stress on syllables occurring immediately before stressed syllables:

7) DESTRESS V ---→ [—stress]/__ C_0[+stress]

This rule accounts for the difference in stress in the first syllable of *aut*óbus and that of *àut*obusówy; likewise *Na*łęcz[u]w/*Nàł*ęczowiánka.[3]

Such a treatment, including a rule like (5) (INITIAL STRESS), also accounts for Polish dialects which have initial stress only (cf. Mańczak 1975 : 24): Mańczak suggests this as a step—both historical and geographical—between the 'free stress' dialects like Kaschubian and 'Standard Polish'. Thus, rule (5) seems to be historically prior to the MSR. As mentioned above, rule (5) synchronically could just as well come before the MSR. It is of interest that Mańczak, after noting these dialectal facts, fails to point out that INITIAL STRESS operates even in modern Standard Polish (cf. Dłuska 1976).

All of the stress rules we have discussed must come very late in the rule ordering, after most consonantal changes, vowel deletions and epentheses, etc. Thus *pieséczek* but *pièseczkámi*; *bezé mnie* (see below), etc.

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[3] Words like *àutobusówy* are also a strong argument against a stress cycle below the word level in Polish, since we would have severe problems in eliminating the stress on the second syllable remaining from a putative earlier cycle on *autóbus*.

In addition to the words like *Améryka* and *akurát* discussed above, there are a number of other real and apparent exceptions which bear comment.

One little-discussed class of exceptions includes some interjections, such as *patatáj*, *galóp*; *akurát*, *korékt*; *(h)ohó*, *ahá* ([ahà] or [ãhã́]), *ojéj* 'shucks!', mhḿ ([ʔmhḿ]) 'yes'. The last can be quite variable in both Polish and English. If N represents any nasal or nasalized segment (*m*, *n*, nasalized vowel, even-at least in English—*ŋ* or *l*!), then the sequence: glottal stop — syllabic N — voiceless N — stressed syllabic N represents an instance of the positive interjection. If the voiceless N is changed to another glottal stop, and the intonation appropriately modified, the negative interjection will result. Some segments like *m*, *n*, and shwa are more natural in this context, but any nasalized segment will work. Interjections in all languages may and often do violate the phonological principles of the language. While such violations are the norm and thus to be expected, as the interjections get removed further from their original emotive function and more integrated into the system of the language, their phonology tends to get regularized. Thus, while they remain interjections, we would expect no pressure from the MSR on them to regularize their stress. But if we were to coin a verb *ahać* 'to say *ahá*!', surely it would be stressed *áhać*, and not **aháć*. Observe as well that in such a verb, the irregular nasal vowel would be denasalized: *áhać*, not *[ãhãć]. In this connection, it is interesting to note some uncertainty among native speakers as to the correct form of the noun for *ahá*:

8) Ona powiedziała dużo áhów 'she said a lot of *ahá*'s' (also: 'a lot of *ach*'s')

but

9) ?Jest dużo ahá w tekście 'there are a lot of *ahá*'s in the text'.

Another class of apparent exceptions consist of the forms like (10):

10) a) pracowálabym 'I would work'
b) pracowáliśmy 'we worked'
c) pracowáliście 'you worked'
d) popracowáliby 'they'd better wo*é*k'
e) (po)pracówalbyś 'you'd better work'

Forms (10a, b, and c) are especially bad because they violate the condition in rule (2) that only a 'weak cluster' may be skipped over by the rule in the exceptional words. Indeed, in some similar forms, stress may even be on the fourth syllable from the end:

11) popracowálibyście. 'Why don't you (pl.) do some work?'

Several methods might be suggested to handle these cases: i) a redundancy rule to mark such cases as irregularly undergoing (2a); ii) a word boundary before the offending ending; or iii) that the *i* of the ending is phonologically |j|, which is neutral to stress, and later changes to [i]. Suggestion (i) is quite weak in that it cannot account for the pre antepenultimate stress in (11).

(iii) could in any case only handle some of the exceptions, since (10a) has no [i] in the ending; it would also derive incorrect stress in such forms as *pracowáli*. Therefore, we suggest that there is a word boundary before the ending. There is a good bit of syntactic evidence to support this analysis. E.g., corresponding to (10), we find in (12) (with the same meaning in each case):

12) a) ja bym pracowála
b) myśmy pracowáli
c) wyście pracowáli, or (archaic) wy żeście pracowáli
d) oni by popracowáli
e) ty byś (po)pracował

and corresponding to (11):

13) może byście popracowáli.

These facts clearly show that syntactically the elements in question are independent, and that therefore we have every justification for positing a word boundary before them (cf. Ozga 1974 : 132).

The usually archaic particle *żeś* does show up in contexts like (14):

14) co żeś mu powiedział że taki smutny? 'What have you told him to make him so sad?'.

It is again interesting that despite the syntactically well-motivated word boundary present in these cases, there is still a strong tendency to regularize them phonetically with 'penultimate' stress. In the light of our comments on rule (2a) above, it is noteworthy that this attraction of stress to the phonetic penult is strongest when that penult ends in two or more consonants, as in e.g. *pracowaliśmy*. In fact, **pracowalábym* is nearly impossible, where the penult ends in but a single consonant. Likewise, the particle- *byś* does not change the position of stress in the word to which it is attached:

15) a) poprácuj 'you'd better work'
b) popracówałbyś 'you'd better work' cf: popracował 'he worked'
c) popracowálabyś 'you'd better work' cf: popracowála 'she worked'

Marek[4] has noted that the regularization of stress is as well dependent on rhythmic position. Thus we normally find

16) uniewinniliście go 'you exonerated him'

but often

17) uniewinniliście {tamtégo / óbu} 'you exonerated {that guy / both of them}'.

Another instance of the dependence of stress on rhythmic position is seen in the saying

18) Uczył márcin màrcina, a sam glupi jak świnia 'the blind leading the blind' [lit.: 'a marten taught a marten, and he himself was stupid as a pig']

[4] Observations due to Dr. B. Marek (personal communication).

Here we can see that under the influence of the trochaic rhythm given the saying by the first two words:

19) Uczył márcin...,

we expect stress on the initial syllable of the third word *marcina*. Under this expectation, in most performances of this saying, we find secondary stress on the first syllable: *màrcina*, rather than the expected lack of stress: *marcina*, which we find in normal contexts. That is, under the rhythmic influence, the application of DESTRESS (rule (7)) is impeded.

Stress may also be altered in songs to fit the meter. Thus in the song with the first line 'Gdzie jest ta ulica', the dactylic rhythm of the song line |♩♪♪|♩♪♪| imposes main stress on the first syllable of *úlica*, rather than its normal pronunciation *ulica*.

We have not quite handled the examples of (10)—(15). While the stress is in the correct position, we have not yet accounted for the lack of stress on the added particles. Clearly, either they must be kept from receiving stress, or else their vowels must be destressed by a minor rule to precede the NSR, possibly an extension of DESTRESS.

A similar set of examples is found among the numbers: *cztérysta* 'four hundred', *siédemset* 'seven hundred', *ósiemset* 'eight hundred', *dziéwięćset* 'nine hundred'. Just as above, we want to postulate a word boundary before # *set* (or #*sta*)—i.e., it is a clitic. While this suffix (in these shapes) is not a free form in the same meaning, several facts point to its being a 'word'. Firstly, the forms of a putative neuter noun *sto* 'hundred' are exactly what we find after the appropriate numerals (except for the irregular *dwieście* 'two hundred'). Similarly, the first portion can be declined appropriately, independently of of destressing *-set*.[5] Cf also 4

20) a) Nie mam pięciuset zlotych 'I don't have 500 zloties'
b) Nie mam pięciu set 'I don't have 5 'hundreds''

Note that such clitic destressing rules, irregularly applied, can account for the sporadic counting behavior:

21) ..., dziésięć, jédenaście, dwánaście, trzýnaście, etc.
'ten, eleven, twelve, thirteen, etc.'

It appears that lone monosyllabic pronouns not under contrast cannot bear stress: *zá #mnie* 'for me', etc. (But cf., *nie tú*, under contrast). Likewise, there is evidence that one word boundary before the pronoun is deleted (cf. *bezé #mnie* 'without me', with epenthesis, but *bez # #mnożenia* 'without multiplication') The pronouns, then, behave like the 'particles' discussed above in (10)—(15), and *-set/-sta*. In each case, they appear to act like words in being effectively neutral with respect to stress placement on other words, and yet to be something less than words in not taking stress themselves. We can

[5] But again note that we will have to allow 'correct' penultimate stress in e.g., *siedemsétny*.

thus assume that that they are separated from the words they are attached to by a single #, rather than by the double # # which normally separates words one from another (cf. *dalèko # #biéżny*). We may then keep such clitics from being stressed by restricting the stress rules (i.e., MSR and INITIAL STRESS) to the environment # #X___. This seems the most appropriate way of handling such examples. Nevertheless, we must explain why we get *siédem # set*, but *sièdem # #dziésiąt*. 'Clitics' (i.e., those words which lose a preceding word boundary) are seemingly restricted to monosyllables (cf. Ozga 1976a). This would suggest that the stressless bisyllable *-byście* in (11) is actually *#by#ście*, and this is indeed quite plausible, and has a good deal of syntactic justification. Ozga (1976a : 133), following Topolińska (1961), points out that in certain 'set phrases' consisting of a preposition and a monosyllabic noun, the noun does not bear stress, e.g., *dó snu* 'ready for bed', *ná d[ŭ]l* 'down'. Since these are clearly common, frequent collocations, which types in other instances evidence weakened boundaries, the analysis with # rather than # # is thereby provided further support. Note that the exceptionality of *zá mnié*, in this interpretation, lies in *mnie* and not in *za*. Thus we get *za psá* 'for a dog' from *zá psá* quite regularly by DESTRESS (Note that rule (7) (DESTRESS) must therefore permit a word boundary to intervene between the two syllables). Monosyllabic verbs behave similarly: *nié gra* 'doesn't play', *nié ma* 'doesn't have', but *nie mámy* 'we don't have'.

Gaertner et al. (1968 : 88) provide some examples indicating that prefix boundaries (cf. *zá #mnie*) may only be skipped over if the prefix is nonforeign (or, possibly, only if it ends in a vowel and is monosyllabic):

22) *arcy #léń* 'a very lazy person', *arcy #lótr* 'arch-villain', *arcy #mistrz* 'a master', *eks #mąż* 'ex-husband', *wice #kr[ú]l* 'viceroy', *wice #mistrz* 'runner-up'.

So we should appropriately modify the clitic rule discussed above to account for these cases. There are many further complications in these phenomena which cannot be gone into here. (Note that Polish also has proclitics—eg *ǒ łzý*—cf. Szober (1962 : 24). Note also the cautions in Zwicky (1977) that clitic phonology is very often irregular).

Of the examples considered in this paper, rule (7) only applies to delete stresses which have been applied by rule (5) (INITIAL STRESS). Unless other examples can be found demonstrating the necessity for rule (7) in other environments (e.g., if cliticization is to be handled by an extension of rule (7)), it might be preferable to eliminate rule (7) and place a condition on rule (5) that it only applies before an unstressed syllable in the same word. In that case, we could have rule (5) assign [2 stress] directly, and also eliminate rule (6) (NSR). This would as well require the MSR rule (2) to be ordered before rule (5), to keep the revised rule (5) from applying in immediate prestress

syllables. Note that a rule very like (6) is necessary in any case above the word level (see below). Eliminating DESTRESS would also make it much more difficult to handle the rhythmic stress phenomena discussed above within this framework, which may after all be correct. Another use we have made of rule (7) is to destress cliticized monosyllables. Zwicky (1977), however, gives evidence that in general, it seems universally correct, not that cliticized words are destressed, but rather that unstressed words are cliticized.

All things considered, then, it seems appropriate to modify rules (2) and (5) and to eliminate rules (6) and (7) (although we will need a rule similar to (6) in any case—see below). But further research is necessary to confirm or modify this decision. The rules we have discussed, then, are the following (rules (4) and (3) are lexical—or morphological—rules):

23) 4) $V \rightarrow$ [-rule (3)]/[+Foreign] C_0+[i, y] ka

3) $V \rightarrow$ [-rule (2a)]

2) *Main Stress Rule* (MSR)

$V \rightarrow$ [1stress]/# #X__C_0 ((V C) V C_0) #

5) *INITIAL STRESS*

$V \rightarrow$ [2 stress]/# # C_0__C_0 $\begin{bmatrix} V \\ \text{-stress} \end{bmatrix}$

There will also be a kind of 'Nuclear Stress Rule' to derive the contours of phrases. This will be essentially rule (6) above, but applied on a higher cycle. I have not examined this rule beyond the word level, so there may be other complications which will arise.

One further rule which bears little comment will have to come after all other stress rules. This is the 'contrastive stress' rule which permits stress on any syllable whatsoever, and indeed even sometimes on consonants:

24) a przýsłowie, nie przésłowie
b książką, nie książkę
c kŕwí, nie ni kŕwi ni krówi.

Some derivations with the rules of (23):

25)	*językoznawstwo*	*kod*	*rzeczpospolita*[6]	*matematyka*
RULE			[-rule (3)]	
(4)	———	———	———	[-rule (3)]
(3)	[-2a]	[-2a]	———	———
(2)	1	1	1	1
(5)	2	———	2	2
	językoznáwstwo	*kód*	*rzèczpospólita*	*màtemátyka*
	autobus	*autobusowy*	*siedem # set*	*daleko # # bieżny*

[6] Szober (1962 : 23) suggests, not implausibly, that *rzeczypospólita*, although ostensibly a native word, is actually coined on the analogy of Latin *res publica*, and thereby is by analogy antepenultimately stressed.

RULE				
(4)	— — —	— — —	— — —	— — —
(3)	[-2a]	[-2a]	[-2a]	[-2a]
(2)	1	1	1 — — —	1 1
(5)	— — —	2	— — — — — —	— — — — — —
Nuclear Stress	— — —	— — —	— — —	2 1
	autóbus	*àutobusówy*	*siédemset*	*dalèkobiéżny*

SOME COMPARISONS WITH ENGLISH

It will be immediately apparent to anyone familiar with the workings of the English stress rules that there are striking parallels between and English stress rules. (This is hopefully the result of an unbiased analysis). The most striking resemblance is in the Main Stress Rule, where Polish resembles English even down to the weak cluster in the rule! The Polish rule, of course, is rather less complex than that for English, and case (a) applies only exceptionally. The similarity in the Main Stress rules of the two languages, then, seems to an extent fortuitous. Also, English stress is iterative (or quasi-iterative), whereas Polish stress appears not to be.

Rules (6) and (7), however, provide close parallels to English. Rule (6)—appropriately extended—is very like the English Nuclear Stress Rule, and the effects are quite similar. This causes the broad intonation patterns of the two languages to be generally similar. The DESTRESS Rule (7) (or the restriction on rule (5)) is parallel to the Auxiliary Reduction Rule I of English (cf. SPE), which leads ultimately to the reduction of a wide variety of vowels in pre-stress position. While reduction of vowels in Polish is often claimed to be a rare phenomenon, Rubach (1977) and others have pointed out that it is by no means unusual. And in fact, Polish reduction may occur (with a variety of restrictions—cf. Rubach 1977) in the environments where rule (7) applies.

CONCLUSION

The stress rule for Polish, formally stated, bears a striking resemblance to the Main Stress Rule for English (cf. SPE). But this ostensible similarity masks the fact that, whereas in English the stress can truly fall on any of the last three syllables, in Polish stress is penultimate s predominantly that exceptions to penultimate stress strongly tend to get regularized. Indeed, exceptions to penultimate stress in Polish are of basically only two types: (1) Foreign words with a weak penult stressed on the antepenult (with perhaps three or four native words so stressed, and even some of these—eg

óg[u]lu, szczég[u]lu—may have a sort of phonetic partial explanation); and (2)[7] interjections stressed on the final syllable. With the exception of monosyllabic words, I know of no noninterjections with final stress. This seeming non-compatibility of very similar rules in different languages has been discussed before. Cf. Fidelholtz (1973 : 90f) for a Spanish/English example, and Gussmann (1975 : 121) for a different Polish/English example.

The integration of secondary stress phenomena into the description of Polish stress allows us to account for a wide range of facts about Polish stress. The distribution of dialects with free stress and those with initial stress can be readily explained with such an integrated description. The treatment of clitics and clitic-like monosyllables can be simply treated as an example of stress deletion. Likewise, we can account for many of the facts discussed in Dogil (forthcoming) by merely assuming that contrast tends to wipe out the normal main stress, or at least subordinate it to that of the contrasted syllable.

It appears to be a problem for linguistic theory that there is nothing in the formal description of Polish stress which would indicate that Polish is a 'penultimate-stress' language, as compared with the similar rules in English, which is essentially a free-stress language, in the sense in which that term has been used in Slavic studies. Resolution of this problem may likewise shed light on the historical relation of Polish stress to that of the other Slavic languages generally. Cf. in this regard the analysis of Russian stress in Halle (1973a), and more generally Kiparsky (1973).

There are many further stress phenomena which we have not examined, especially in the stressing of phrases. But if I have been able to indicate that Polish stress is an interesting area of study, I will have accomplished my purpose.

APPENDIX

Example words and affixes in the article:

	page		page
Afryka	49	arcymistrz	55
-aha ahać	52	autobus	50, 51, 51n, 56
-akurat	48, 49, 51, 52	autobusowy	50, 51, 51n, 56
akustyka	49, 50n	batik	50n
Ameryka	50n, 52	bazylika	50n
arcyleń	55	beze mnie	51, 54
arcyłotr	55	butik	50n

[7] Biedrzycki (personal communication) points out that in vocatives a stress (or better: intonation) peak may be found on the final syllable, with certain attitudinal meaning.

	page		page
trzynaście	54	wicemistrz	55
ulica	54	wyście	53
uniewinnili	53	-yka	49, 50n, 60n
uniwersytet	50n	Zambezi	50n
Waszyngton	48, 60n	za (mnie)	54, 55
wicekról	55	żeś żeście[a]	53

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[a] Since submitting the paper I have consulted Comrie (1976) at first hand. He handles exceptions by making e.g. the *y* of *-yka* lexically – stressable, which throws stress onto the antepunult. While his analogue to rule (2) comes somewhat closer to capturing the penultimate nature of Polish stress than mine, the problem still remains.

Several more words like Waszyngton have come to my attention: Luksemburg, Amsterdam, etc. The restriction to 'c' in rule (2) may be too strong. We should perhaps substitute C_0 for the innermost 'c' in rule (a) (cf. also 'státo').

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SOME REMARKS ON THE STABILITY OF LEXICAL STRESS IN POLISH AND ENGLISH*

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In this paper I will try to account for the phenomenon of lexical stress shift in two sound systems that differ quite considerably as to their use of stress. Lexical stress in English has a phonemic function (it is non-fixed) whereas in Polish it is basically penultimate, thus it is never phonemic. However, the lexical stress systems of both languages show a certain degree of instability. Thus the stress can be shifted within the lexical item, and in specific constructions it can fall on the syllable which is never stressed when the word is pronounced in isolation.

It will be argued that in English the shift of lexical stress in constructions like:

I am talking about CONfirmation not about AFfirmation

is the case of so-called "hypostasis" (see Pike 1967: 63, 102, 107—8, 132, 292, 454, 484). This particular case may be called "focussing hypostasis" — language is used to probe itself rather than some other part of reality.

In Polish, on the other hand, the shift of stress:

Chciałbym podkreślić ważność komunikacji SAmochodowej.

is the case of emphasis, i.e., the shift of stress crucially contributes to the semantic interpretation of the sentence.

It will be suggested that the difference in the function of the phenomenon of stress shift in both languages follows from the differences in the two sound systems. Thus the relative (in comparison with English) instability of Polish stress is the result of the fact that in non-emphatic conditions Polish stress

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does not contribute to the differentiation of meaning (it marks neither morphological nor syntactic categories). Hence when we want to emphasize some word in Polish we have two options to choose from:

1. we put an extra prominence on the lexically stressed syllable

...samochoDOwej...

2. we shift the stress

...SAmochodowej...

In English only the first option is used for emphatic purposes whereas the second is much more restricted and can be used only in these cases which have been labelled "hypostasis".

Finally I will attempt a formalization of the processes of stress shift in both languages. The thing that I will be looking for in my description is its explicitness. A generative grammar is one that is fully explicit. This means that the reader of the grammar is not required to use any knowledge of the language being described or any intelligent guesswork in determining what the grammar says about any given sentence — whether or not it is well formed and, if so, what its analysis is at all levels. The particular kind of generative grammar that will be used in this paper is "autosegmental phonology". Autosegmental phonology has been devised recently (Goldsmith 1974, 1976) partly as a result of a growing dissatisfaction of linguists: "first, because no totally satisfactory theory of suprasegmentals has been proposed in any framework yet, and secondly, because even the rudiments of a successful theory of suprasegmentals is not to be found in generative phonology" (Goldsmith 1976 : 26).

As it is the suprasegmental phenomena that I am dealing with, I will try to check what predictions the autosegmental approach allows me to make in this limited analysis.

PART I. SOME OBSERVATIONS ON THE LEXICAL STRESS SHIFT IN POLISH AND ENGLISH

A. THE DIFFERENCES BETWEEN POLISH AND ENGLISH STRESS

Jassem (1959 : 253) introduces the concept of stress in the following way: "Stress is a phonologically relevant feature, or a relevant set of mutually exclusive and complementary features, of a syllable which marks the syllable as "stressed" (if present) or "unstressed" (if absent) in the morphologic and syntactic system of the language." This statement, which I find representa-

tive of many recent presentations of stress, makes it apparent that stress can be defined in basically two ways: first, in terms of its phonetic properties; second in terms of its linguistic function. I will return to the phonetic properties of stress in both languages in the second part of this paper.

The differences between stress in Polish and English is transparent when we look at the function of it in both languages. The major distinction that runs among stress systems is that between free vs. fixed stress. In the first group (free stress systems), prominence can occur on different syllable, pending on the word. In English we have the following pairs of words:

pérvert — pervért
éxport — expórt
cónvict — convíct
cómbine — combíne

Since stress can occur on the first syllable in one word but on the second in another, stress is said to be phonemic in English, i.e., it performs an important function of differentiating these lexical items. It also has syntactic function: "A combination" "primary plus primary" contrasts with "primary plus secondary"

móving ván — móving vàn

in the former one syntagmeme qualifying the other as to the feature, and in the other as to purpose". (Jassem 1959 : 254).

In Polish, on the other hand, stress has no morphologic or syntactic function: its position is fixed and has been generally characterised in the following way:

a) disyllables and trisyllables have stress on the penult
b) quadrisyllables and words of more than four syllables have "primary" stress on the penult and "secondary" stress on the first syllable.

Exceptions may be found in any full description of Polish grammar or phonology.

Thus it has been generally assumed that the only linguistic function that the stress has in Polish is that of "delimination", i.e., it usually signals the end of a word.

The purpose of this paper is to account for differences in the stability of stress in these two systems. A measure of the stability of stress position is how readily it yields to pressures to move it somewhere else. My analysis will be quite limited for two reasons:

— I will consider the position of lexical stress only
— Only one type of pressure to move the stress, which I will call "emphatic conditions" or "contrastive stress" will be paid greater attention to.

B. STRESS SHIFT IN ENGLISH[1]

Although English words withstand the pressures to move the stress pretty strongly, the position of the stress is not absolute. This position can be affected when two or more items are contrasted and a preference indicated for some member or members of the group. Consider the following examples:

(1) This whiskey was not EXported from Ireland, it was DEported.
(2) It isn't what you PREtend, it's what you INtend.
(3) The book refers to CYtology, not to HIStology.
(4) I would call that legal action PERsecution, not PROsecution.
(5) Which kind of compound is it, sulFATE or sulFITE?
(6) You may DEtain them but don't REtain them.
(7) The phenomenon we are noting may be called the relationship between length and UNfamiliarity, or between condensation and FAmiliarity (or even faMIliarity).
(8) I am talking about CONfirmation not about AFfirmation.
(9) I didn't say CONvert, I said DIvert.
(10) I meant albuMEN, not albuMIN.
(11) First we have to persuade our patient that he is a stalagMITE not a stalacTITE.
(12) Favour foods that are DIgestible — avoid those that are INdigestible.
(13) On the one hand you have the densest UNintelligibility and on the other the clearest INtelligibility (or inTElligibility).

From the above mentioned examples it is evident that there is no obvious structure or direction that can be attributed to the phenomenon of stress shift in these cases. It can move to the left (the majority of cases), but it can also move to the right as in (5), (10) and (11). It is usually shifted to the strong syllable, but as in (2), (6), (9), (10) it can appear on the syllable that in normal pronounciation has a reduced vowel. It can also shift over one, two, or even three syllables from its usual place. I will try to group these examples into classes that have something in common.

I

Sentences (1), (2), (4), (6), (8), (9), and (12) show that when everything except the prefix is identical, it is the prefix that will get extra prominence. The large number of funcionally active prefixes in English makes the phenomenon of leftward stress shift rather lively:

replace — displace
transplant — implant
reprint — imprint
consent — assent — dissent etc.

[1] Most of the material presented in this section is taken from Bolinger (1961).

Though the independent meaning of these prefixes is difficult to establish they are still able to serve as differentiating elements.

II

In sentences (7), (12), (13) affirmative and negative of the same concept are contrasted. This process is no less lively than that in I., due to productive prefixes:

anti-, un-, in-, ir-, pre-, non-,

which have meanings that easily lend themselves to contrast. As we see from (7) and (13) the place on which the contrastive stress will appear is not as fixed as in I. Thus we have:
in (7) FAmiliarity or faMIliarity contrasted with UNfamiliarity
in (13) INtelligibility or inTElligibility — UNintelligibility
It is also possible that only one member of the opposition is contrastively stressed, usually the negative. Our example:
(12) Favour foods that are DIgestible — avoid those that are INdigestible.
if its coordinate elements are changed can be pronounced as
(12a) Avoid foods that are indiGEstible — favour those that are DIgestible.
if saying one member of the opposition the speaker has not yet established the contrast. If contrast had been established, and there had been a shift in the first word, there might or might not have been a shift in the second member of the pair. The simplest situation obtains when the member of the pair that has the distinctive syllable comes last:
(12b) Favour foods that are diGEstible — avoid those that are INdigestible.

III

There seem to be no restrictions to the shift of stress if the differentiating syllable is strong. The stress can go both to the left as in (1), (3), (4), etc., and also to the right (5), (11). The relatively small number of examples of the second type is due to the fact that there are few English words ending with a full vowel. It is also conditioned by the fact that suffixes are much less productive than prefixes in English.[2]

IV

The situation is much more complicated in the cases where the differentiating syllable is weak. When this syllable is to the left of the lexical stress, the shift is usually possible:
(2) It isn't what you PREtend, it's what you INtend.
(9) I didn't say CONvert, I said DIvert.

[2] -less and -ful constitute possible exceptions — cf. Bolinger (1961 : 109).

However this would not be possible if the contrasted units were pronounced with their reduced vowel:

It isn't what you 'pɪtend, it's what you i'nɪt end
I didn't say [kónvə : t], I said [dóvə:t].

The stress shift can be performed only if the vowel retains its full quality. J.H.D. Allen, Jr. (1956 : 252) calls these "reconstituted vowels"; Bolinger (1958) treats these as cases of spelling pronunciation. I do not find Bolinger's explanation particularly convincing (though it accounts for (9) nicely) as many languages do not have any spelling system and still have means of expressing contrast by means of "reconstituted vowels". I would not be surprised if these reconstituted vowels were comparable to the underlying representations (systematic phonemes) of various generative descriptions.[3] Generative phonology could easily explain this situation by ordering the stress rule before vowel reduction.

Coming back to contrastive stress on weak syllables, we observe that in words where weak syllables after the normal position of the stress are the only contrasting elements, we do not as a rule shift the stress. The only example where the stress has been shifted is:

(10) I mean albuMEN, not albuMIN.

which I found in Bolinger (1961). Bolinger was not sure himself if the stress was shifted in this case. He summarised the situation in the following way: "If it appears that we can make our point by going almost the limit, we may shift. The limit would be to spell the words out". (1961 : 111).

In the sentences:

(14) Did you say adventurous or adventuresome?
(15) Would you rather be reverend or reverent?
(16) The word I used was not regiment but regimen!

the stress is not shifted (Bolinger's judgement). The contrast is brought about by other means. In (16) we can exaggerate the release of [t]: [rédʒɪmɪnt^{h}]. In (15) the contrast can be established by releasing [t] in [révərənt^{h}] and fully voicing [d] in [révərənd].

The phenomenon of stress shift is not a recent one and it has left many traces in the English sound system. A permanent shift of stress has been observed in a number of pairs of words whose members are more often encountered together than separatly. Thus:

rétail	coupled with	whólesale
éxtroverted	with	íntroverted
éxhale	with	ínhale

[3] Cf. SPE on the similarities between English spelling and underlying representation.

The stress is also shifted in the names of nationalities that end with -ese. One sometimes hears: Pórtugese, Chínese, Jápanese (especially in parallel structures). There is also a large number of wavering pairs of the type:

outside — inside
outdoors — indoors
upgrade — downgrade

where the shift has not been established yet, but speakers are very likely to shift stress when they have the opposite at the back of their minds.

In the preceding sections I noted the various similiarities between the examples quoted at the beginning. Still I did not note the stricking similarity between all of them. Examples from (1) to (13) exhibit the same structure. This structure which Chomsky (1971 : 205) called "parallel construction" caused many problems for linguistic theory. What is so troublesome about these "parallel constructions" is the fact that:

> "In most examples of this type the contrast being made is phonological rather than semantic, in that the speaker is trying to correct the hearer's mistaken impression of what words were just said". (Jackendoff 1972 : 242).

This shifted, contrastive, stress is not "phonemic" in the sense that shifting stress to some other syllable will not change its meaning, causing it to point to something completely different in the world beyond language. Thus the shift from normal [expórt]j to contrastive EXport in:
(1) This whiskey was not EXported from Ireland, it was DEported.
does not contribute to the change of the lexical category of the item which is contrastively stressed. The shifting of stress does not contribute anything to the semantic interpretation of the sentence either. The cases where the language is used to probe itself rather than some other part of reality have been called "hypostasis". The non-semantic character of hypostasis is very troublesome for generative grammar, which, as any other grammatical system, attempts at providing the correspondence between sound and meaning, and also pertains to describe the linguistic competence of a speaker hearer. If hypostasis is non-semantic then it should be excluded from such a grammar, but if grammar is required to describe competence adequately hypostasis must be included, since "parallel constructions" form an active part of language. Jackendoff (1972 : 242) summarised this problem in the following way:

> "There seem to be three alternatives: first, accounting for these cases with an entirely different rule; second, extending the Emphatic Stress Rule to these cases; third, calling these cases ungrammatical but necessary to say sometimes, and hence derivatively generated by a temporary weakening of the conditions on the Emphatic Stress Rule."

This problem is interesting, however, the discussion of it would lead us too far afield.

I would not like to leave the impression that hypostasis is the only case which determines the shift of lexical stress in English. Bolinger (1972 : 643) observes:

> "In excitedly emphatic speech the pressure toward the right frequently interferes with the lexical stresses of the words that fall there. I have recorded dozens of examples:
>
> They will follow up their onthusiásms.
> I found great onthusiásm.
> They center around the sacrament of baptísm.
> This altered the program somewhát.
> That's where the more tars and nicotínes are."

As these cases are due to intonation they will not be accounted for in this preliminary discussion. For the moment we state that the shift of lexical stress is due to "hypostasis" in English.

C. STRESS SHIFT IN POLISH

As in English, "hypostasis" is fairly common in Polish. Thus similarly to the examples of I. in section B., we find the cases of "hypostasis" in Polish where two prefixes are counterbalanced:

(1) Nie chciałem go PRZEgadać, chciałem mu PRZYgadać.
(2) Prosiłem o ODpowiedź, nie o PODpowiedź.
(3) Ten facet to nie INtrowertyk, to EKStrawertyk.
(4) Nie wystarczy ZArobić, problem to się DOrobić.
(5) Dowody się PRZEprowadza, nie WYprowadza.

If everything but the prefix is identical then the contrastive stress falls on the prefix. The high frequency of productive prefixes in Polish creates the possibility of shifting.

When the negative and the affirmative of the same concept are contrasted the stress is liable to shift as well:

(6) Mówiłem, że to jest WARtościowe (warTOściowe), nie NIEwartościowe.
(7) Ten pies nie jest NIEspokojny, jest bardzo SPOkojny (spoKOjny).
(8) Źle mnie zrozumiałeś; nie byłem NIEzadowolony, mówiłem już wtedy, że jestem ZAdowolony (zaDOwolony).

The situation here is exactly like that encountered in English.

The stress can be shifted to the left when the differentiating syllable precedes the penult. (1) to (5) exemplify the shift to the first syllable. Many more come to mind:

(9) Ja zajmuję się HIStologią, nie PSYchologią.
(10) Nauka o której mówimy to ANdragogika, nie PEdagogika.

It can also appear on the second syllable:

(9a) Ja się zajmuję hisTOlogią, nie psyCHOlogią.
(10a) Nauka o której mówimy to anDRAgogika, nie peDAgogika.
(11) Chciałem powiedzieć, że to, co Nixon wniósł do polityki, to nie rozWInięta demokracja, lecz rozMInięta demokracja.
(12) Nie mówiłem zaMIErzony, tylko zaWIErzony.

The stress can also be shifted to the right. I have recorded the following "parallel constructions":

(13) A więc śpiewajcie studenci uniwersyteTU, awueFU, waTU i wuesWU.

This is the final line of the popular song "Student żebrak ale pan". This instance of hypostasis does not aim at bringing about the differences between heavily stressed syllables but points to the similarity among them.[4] The other examples of rightwards shifted stress are the following:

(14) Nazywam się karGOL, nie karGÓL.

(14) was pronounced by one of my students when I mispronounced her name.
(15) Moje nazwisko FiSIAK.

(15) Was produced by the editor of this journal while making a telephone call. Examples (1) to (15) all point out that the speakers may shift stress to any syllable when they want to correct a misinterpretation or even when they anticipate a possible misinterpretation.

Polish has also many pairs of words which more often then not appear together and have undergone a permanent shift of stress:

SOcjalizm — KApitalizm
EKSpresjonizm — IMpresjonizm
DEdukcja — INdukcja etc.

However, initial stress in Polish is not limited to the "parallel constructions" exclusively. Consider the following examples:

(16) Chciałbym podkreślić ważność komunikacji SAmochodowej.
(17) Należy zwracać uwagę na Ideologiczne wartości kształcenia.
(18) ARtystyczna zabudowa plakatu jest tym, czego poszukuję.
(19) Wzmożona działalność DEmagogiczna po śmierci Mao...

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[4] Chomsky (1971 : 205) quoted similar example:
(72) John is neither easy to please, nor eager to please, nor certain to please, nor inclined to please, nor happy to please, ...

(20) SPOkojniejsza starość to to, co nasz dom zapewnia.
(21) Tego typu zachowanie jest po prostu NIEdopuszczalne.

Examples (16) to (21) do not have anything that they are contrasted with. My interpretation of this case of the shift of stress is that the initial stress signals the special semantic quality of the items that bear it. It is not the morphological structure of that item that we are focussing our attention on (like in the case of "hypostasis") but its special semantic value within the sentence. Examples (16)—(21) are the cases of what has been usually called emphasis. Summarising this observation it is claimed that initial stress is a case of emphasis in Polish.

There are a few lexical items in Polish that are almost always emphasized when they appear in sentences. An example of this may be "faszyzm" (lexical stress on the first syllable) the derivatives of which will almost always have an initial stress:

FAszystowski
FAszyzujące etc.

If we review Polish political speeches we are likely to find that lexical items like: polityka, gospodarka, społeczeństwo, ideologia, and their derivatives are more often then not initially stressed. Similarly, I do not think it would be an exaggeration to say that hardly any Pole participating in this conference has the main stress on the penultimate in words like: językoznawstwo, fonologia, fonetyka, etc.

The assumption that strong initial stress in Polish marks emphasis, causes difficulty in interpreting the initial cases of "hypostasis": examples (1) to (8) p. 70. In these cases the distinction between emphasis seems to be blurred. I would not be able to decide for sure if the presence of extra prominence on the initial syllable in (1) to (8) causes the reinterpretation of the meaning of the whole sentence (emphasis) or not (hypostasis). I will return to this problem in Part II — section D.

D. ENGLISH AND POLISH STRESS IN CONTRAST

Pulling together the results of this preliminary discussion we can draw the following conclusions:

1. The position of lexical stressses is absolute neither in Polish nor in English.
2.a) In English stress can be shifted to any syllable in "parallel constructions" if this is the only syllable which establishes the contrast between the counterbalanced lexical items. The shift of stress within a lexical item contributes nothing to the semantic interpretation of a sentence within which this lexical item is encountered.

2.b) In "parallel constructions" in Polish stress may be shifted to any syllable which differentiates the lexical items which are being counterbalanced. Such a shift of stress contributes nothing to the semantic interpretation of a "parallel construction".

3. In Polish if the stress is shifted from its normal position (the penult) to the initial syllable it crucially contributes to the semantic interpretation of a sentence in which this item is encountered.

4. Lexical stress in English shows a much greater degree of stability than lexical stress in Polish (due to 3).

A tentative explanation of 4. might be that English lexical stress is already phonemic, whereas Polish lexical stress has not such a function. As the primary function of stress is to mean contrast, the Polish speaker can use this function in some specific conditions. In the case of Polish lexical stress these conditions may be labelled "emphatic". The behavior of lexical stress "under emphatic conditions" in both languages can be summarised in the following way:

English: extra prominence is placed on the syllable marked by primary stress.

Polish: 1) extra prominence is placed on the penult, the syllable marked by primary stress.

2) in quadrisyllabic words and words containing more than four syllables extra prominence may be placed on the initial syllable.

The factors determining the shift of lexical stress in both languages may be so strong that they cause a permanent shift of stress.

This is what is going on in the languages. A requirement of explicit grammar is that specific rules be formulated. Providing such explicit rules in the framework of generative phonology of the sixties and early seventies would mean struggling with the obvious inadequacies of that descriptive framework. What I mean to say is that generative phonology of the SPE type did not create even the rudiments of a successful theory of suprasegmentals. Its incompatibility with the phenomena discussed in this paper has been acknowledged generally.[5] Recently a new approach has been proposed, which, among other things, claims to provide an explicit analysis of suprasegmental phenomena, within a slightly modified generative framework. I will try to test this new hypothesis on the data sketched in Part I. Finally a tentative account of emphatic stress will be presented with the use of this new theory.

Since the publications concerning the theory of autosegmental phonology are not easily accessible yet, I will start by summarizing its more important assumptions.

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[5] Cf. Halle (1973), Liberman (1975), Marek (1975).

PART II. AUTOSEGMENTAL INDEX OF EMPHASIS

A. AUTOSEGMENTAL PHONOLOGY – BASIC ASSUMPTIONS

Autosegmental phonology is a particular theory of phonological representations which claims that this type of representation does not consist of one linear string of feature bundles. Phonological representation contains several concurrent levels of structure, each consisting of a string of single-column matrices called subsegments or autosegments. This theory has recently been developed for the generative treatment of suprasegmental phenomena. "It is an interesting realization that the formalism of generative phonology is insufficient, and that a multi-linear geometry is needed to deal with what tradicionally have been called suprasegmentals." (Goldsmith 1976 : 274 - 5).

Autosegmental theory is a suprasegmental theory in a sense that it recognizes some features as having the domains longer (or shorter) than a segment (a systematic phoneme, for instance). Thus together with other suprasegmental theories it states that: "...the pitch melody of a word or phrase constitutes an independent linguistic level" (Goldsmith 1974 : 172). In contrast to other suprasegmental theories autosegmental phonology claims that each level of this multi-level representation consists of full-fledged segments in their own right, which never lose their identity throughout the derivation. Hence the names: autosegment, autosegmental tier and autosegmental phonology.

The immediate consequences of this are:

a) in tone languages "...there are two simultaneous segmentations of the phonological representation: there is one string of non-tonal (standard) segments, and one (parallel) string of tone segments, or tonemes. "(Goldsmith 1974 : 172).[6]
b) in languages exhibiting vowel harmony the two segmentations will be: standard representation, and (parallel) string of harmony determining features. (cf. Clements 1976).
c) in languages where nasalization is suprasegmental (autosegmental) the segmentations will be: standard representation, and (parallel) string of "velic closure" specifications. (cf. Leben 1973· Goldsmith 1976).

Formally these will be represented:

a) C V C V — syllabic tier
   L H — tonological tier
b) C V C V — syllabic tier
   ±ATR ±ATR — autosegmentalised Tongue Root tier

[6] The same is incidentally true of all natural languages — cf. Goldsmith (1974, 1975), Liberman (1975).

c) C V C V — syllabic tier
O N — autosegmentalised nasalization tier

The autosegments of related levels are formally associated with each other by convention. In case (a) when the syllabic tier is associated with the tonological tier the convention reads as follows:

Well-Formedness Condition.

1. All tones must be associated with some syllable and all syllables must be associated with some tone.

2. Association lines may not cross. (cf. Goldsmith 1976 : 216).

This convention has two functions:

a) that of defining a set of well-formed associations;
b) that of monitoring the well-formedness of representations through the course of a derivation.

As a result every rule application has a unique output, and every derived representation has an unambiguous interpretation with respect to subsequent rule applications and to phonetic interpretation.

The application of this Well-Formedness Condition to various suprasegmental phenomena has produced very promising results (on tone, accent and nasalization cf. Goldsmith 1974, 1976; on intonation cf. Liberman 1975; on vowel harmony cf. Clements 1976). The theoretical implications of autosegmental phonology are no less interesting.[7] Now I will try to use this theory to interpret some of the findings of Part I of this paper.

B. AUTOSEGMENTAL ANALYSIS OF POLISH AND ENGLISH WORD ACCENT

Throughout Part I. I have been using the term "stress" without providing any phonetic definition of what this term means. In this section, after Bolinger (1958) and Jassem (1959), I will refer to the melodic pattern of Polish and English words as "accent". Thus I want to stress the fact the that pitch extrusion (rather than loudness or intensity) is the main clue to establishing which syllable is given an extra prominence.

I assume after Goldsmith that the tone melody for English words spoken in isolation (under neutral intonation) is:

H L or M H L

The corresponding tone melody for Polish words is:

H L — for mono and disyllabic words

[7] I lack space to present them here. The interested reader should consult Goldsmith (1976 : 264 - 275).

M H L — for trisyllabic words
H M H L — for quadrisyllabic words and those containing more then four syllables.[8]

Both Polish and English are accentual, i. e. they distinguish one syllable as perceptually prominent. Autosegmental phonology will mark this prominent syllable with an abstract mark: a star (*). he assignment of the star is accomplished by the following rules:

English.

$$V \rightarrow * / \_\_ Q(VC_0(+y)) \# \#$$
$$\text{Condition: } Q \neq [+\text{stress}]$$

(cf. Halle 1973)

Polish.

$$V \rightarrow * / \_\_ (C_0V)C_0 \# \#$$

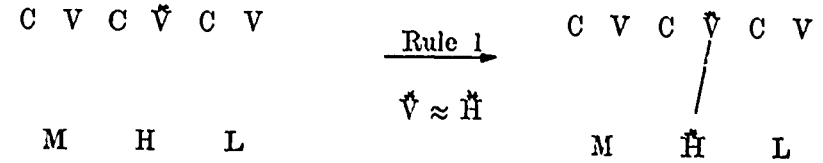
But placing the star on some syllable does not constitute a word melody. The second thing is to provide rules that will associate tonological and syllabic tiers of autosegmental representation. This association may be carried out in the following way in English:

Rule 1. $\overset{*}{V} \approx \overset{*}{T}$ ("≈" means "is associated with")
("T" means "toneme")

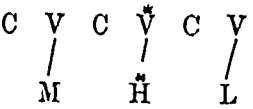
The melody for English neutral declarative intonation is — H L — or — M H L. The star (accent) is on the H — cf. Goldsmith (1974 : 174) Leben (1976 : 74). Thus rule 1 for this melody will be:

$$\overset{*}{V} \approx \overset{*}{H}$$

The association will precede:

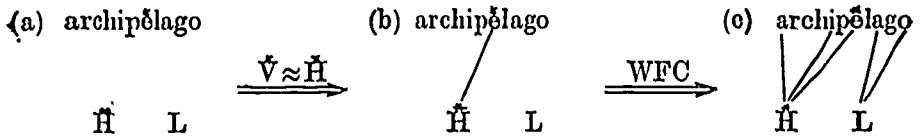


The WFCondition will associate M and L tones producing:



[8] This is my tentative interpretation of the phonetic findings presented in Jassem (1959).

Taking a real word like "archipelago" we get the following derivation — cf. Goldsmith (1976: 215 - 17):



(c) satiofies the WF Condition, but co do (d) and (e)

While (d) contains (c) in itself, as it is not the minimal way to fulfill the WFCondition, it is ruled out by the evaluation metric. (e) on the other hand, while not violating the WFCondition is still an incorrect derivation. To capture this we must make reference to the star, for (e) would have been the correct structure, had the star been on the fourth syllable rather than the third. Goldsmith (1976 : 216) suggested emending the WFCondition in accentual systems in the following way:

(2) "Given ambiguity in ways to fulfill the Well-Formedness Condition, do not reassociate a starred segment."[9]

This buys us two things: firstly, it secures the function of the star (*) as indicating prominence, or accent, secondly, the more general the WFCondition is, the less language specific rules are necessary, and the autosegmental phonology as a theory of wellformedness of linguistic structures makes more sense. I shall call the WFCondition with (2) a strong version of WFCondition in accentual systems.

Turning to Polish we observe that Polish is accentual, exhibiting the major pitch extrusion in accordance with the following rule:

$$V \rightarrow */\_\_ (C_0V)\,C_0\#\,\#$$

Under neutral declarative intonation the star is on the High, followed by Low and the word boundary. Polish words are characterised by the following melodies:

(a) in mono and disyllabic words — H L — illustrated by derivations like:

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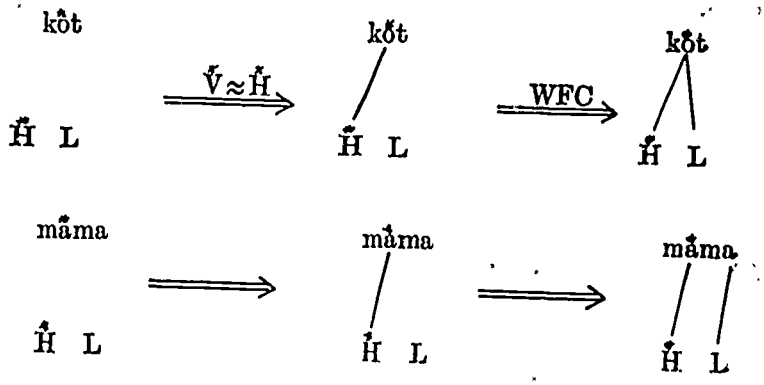
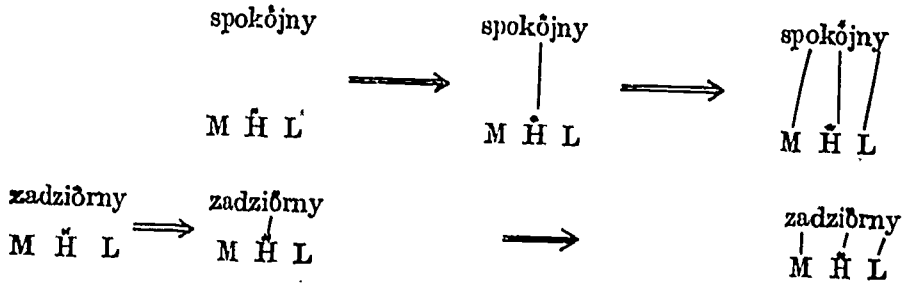
[9] Clements in his work on vowel harmony found that this condition should be more general:

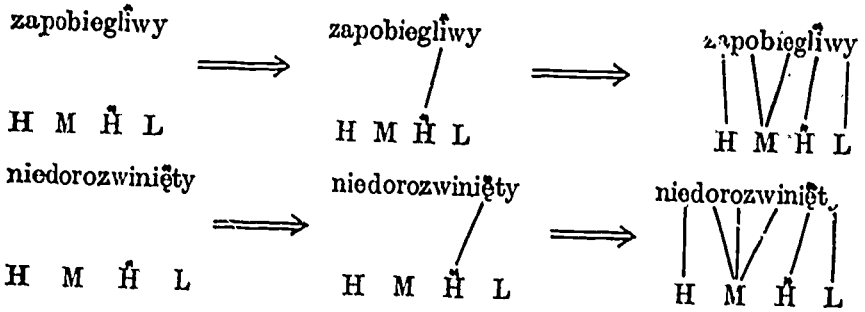
"WFCondition requires unbound autosegments to take priority over bound autosegments".



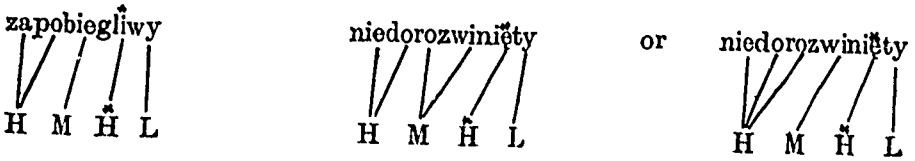
(b) in trisyllabic words the melody is: M H L



(c) in quadrisyllabic words and words containing more than four syllables the melody is — H M H L — illustrated by the following associations:



Notice, however, that even the strong version of the Well-Formedness Condition may not rule out deviant associations like:



I propose to wriggle out of this problem by suggesting that after the melodic association rule:

Rule 1. $\overset{*}{V} \approx \overset{*}{H}$

we develop the tone melody for Polish words that contain more than four syllables according to the strong version of the WFCondition:

(1) **All tones must be associated with some syllable and all syllables must be associated with some tone.**
(2) **Association lines may not cross.**
(3) **Unbound (unassociated) autosegments take priority over bound (associated) autosegments.**

by matching the tones up with the syllables one-to-one starting from the left. I will exemplify this by repeating the association of "niedorozwinięty":

niedorozwinięty
H M H L

Rule 1. $\overset{*}{V} \approx \overset{*}{H}$

niedorozwinięty
H M H L

Rule 2. (left to right spreading) $V \approx T / \neq X \begin{matrix} V \\ T \end{matrix}$

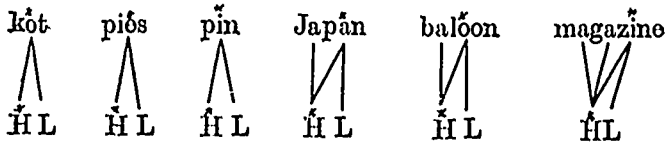
niedorozwinięty
H M H L

WF Condition

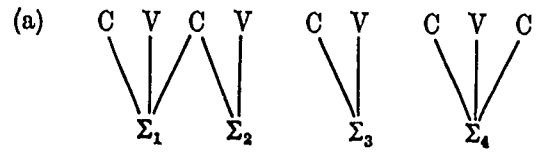
niedorozwinięty
H M H L

In this section I have illustrated the first function of the Well-Formedness Condition, i.e., that of defining the set of well-formed association. Moreover, I hope to have presented arguments that autosegmental analysis has clarified the insights of Bolinger (1958) and Jassem (1959), that accented syllables in Polish and English are manifested as pitch extrusions, either up or down.

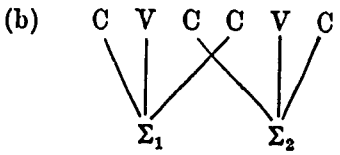
Furthermore the autosegmental analysis of word accent given above specifies that extrusions are essentially level in tone, except in the cases when the main accent is word final, in which case the WFC will create a gliding tone:



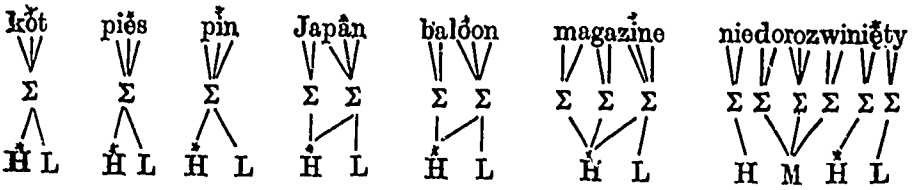
Another interesting aspect of the WFC is the way in which it describes syllables. The syllable has always created problems for linguistic theory. Many schools have not been able to provide adequate definitions of it, and Generative Phonology ignored it completely. In non-linear generative phonology the syllable may be considered an autosegmental level. The string of C and V segments can be broken into an autosegmental representation where the second tier is composed of syllables:



The WFC permits structures like (a) but not like (b):



All segments occur in at least one syllable. It is not only the formalism that is an advantage of this system. However, I can not go into the details of this interesting discussion — cf. Goldsmith (1976 : 6 - 9). Syllabic tier will be necessary in the account of the emphatic stress in sentences which have been presented in Part I of this paper. Anticipating that, and in order to avoid formal incoherence I will stipulate that tones every where are associated with syllables rather than with vowels. Thus the derivations presented above now look like the following:



Accordingly I will reformulate melodic association rules 1 and 2 which wil now assign tones to syllables and not to vowels:

Rule 1. $\overset{*}{H} \approx \sum / X \overset{\overset{*}{V}}{\underset{V}{\sum}} X$

Rule 2. $H \approx \sum_1 / \# \sum_1 \sum_n \#$ $\quad n \geqslant 4$.

Now I will turn to the more complex function of the WFC; that of monitoring the well-formedness of associations through the course of a derivation.

C. AUTOSEGMENTAL APPROACH TO EMPHASIS

I suggest that emphasis can be realised on the accent contour by associating an "extra" toneme E with the appropriate syllables. The circle around E means that this toneme is optional.
I mark it with an arbitrary "E" symbol because I have not been able to carry out any experiment to point out the detailed characteristics of this tone. However, some arguments will be presented that point at certain characteristics of "E".

Consider example (7) from page 11:

(7) Ten pies nie jest NIEspokojny, jest bardzo SPOkojny.

The final word of this sentence—spokojny—is characterised by the melody M H L when pronounced with neutral declarative intonation:

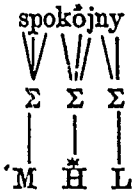
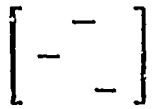


diagram 1.



When under emphatic conditions the melody is like the one illustrated by the following diagram:

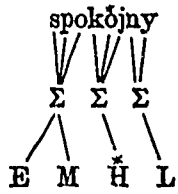
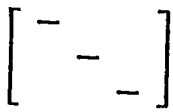


diagram 2.



The diagram 2 suggests that the emphatic toneme E is high as it causes the downstep of the following H tone. Furthermore it suggests that the tonological sequence (E M), which now equals (H M) is realised as High phonetically in Polish.

Consider now the cases of "excitedly emphatic speech" presented in Bolinger (1972 : 674):

They will follow up their enthusiásms.
I found great enthusiásm.
They center around the sacrament of baptísm.
This altered the program somewhát.
That is where more tars and nicotínes are.

Under neutral intonation the melodic association rules and the Well-Formedness Condition will create the following associations for the final elements of the sentences given above:

In the excitedly emphatic speech the emphatic toneme E will be associated with the final syllable:

Notice that he (E L) sequence on the final syllable is perceptually felt as a gliding, falling tone:

— enthusiásm
— baptísm
— nicotínes

This suggests that E is intrinsically high, i.e., the result is as that coming from the previous analysis.

For the time being we can observe that from the perceptual point of view the toneme E seems to be a forceful extrusion in pitch, which is level in tone

except in the case when the emphatic accent is phrase final. In this case the "extra" toneme E may be associated by the WFC creating a gliding tone.

Having assumed that E means a major pitch extrusion, and that pitch is the basic clue to accent in Polish and English, I will argue that E always carries a star (*) with it. This is natural as the function of the star is to explicitly indicate the most prominent syllable in a phrase. Now I turn to the analysis of the two cases of emphatic stress presented in Part I.

Hypostasis; or emphatic stress in parallel constructions

Chomsky (1971 . 205) claims that what is involved in parallel constructions is the parallelism of the surface syntactic structure. To say this is not enough, which is easy to see on the examples that have been already discussed in Part I. For the sake of clarity I will repeat them here:

English:

(1) This whiskey was not EXported from Ireland, it was DEported.
(2) It is not what you PREtend, it is what you INtend.
(3) The book refers to CYtology, not to HIStology.
(4) I would call that legal action PERsecution, not PROsecution.
(5) Which kind of compound is it, sulFATE or sulFITE.
(6) You may DEtain them but do not REtain them.
(7) The phenomenon we are noting may be called the relationship between length and UNfamiliarity, or between condensation and FAmiliarity (or even farMIliarity).
(8) I am talking about CONfirmation not about AFfirmation.
(9) I did not say CONvert, I said DIvert.
(10) I mean albuMEN, not albuMIN.
(11) First we have to persuade our patient that he is a stalagMITE not a stalacTITE.
(12) Favour foods that are DIgestible — avoid those that are INdigestible.
(13) On the one hand you have the densest UNintelligibility and on the other the clearest INtelligibility (or inTElligibility).

Polish:

(1) Nie chciałem go PRZEgadać, chciałem mu PRZYgadać.
(2) Prosiłem o ODpowiedź, nie PODpowiedź.
(3) Ten facet to nie INtrowertyk, to EXtrowertyk.
(4) Nie wystarczy ZArobić, problem to się DOrobić.
(5) Dowody się PRZEprowadza, nie WYprowadza.
(6) Mówiłem, że to jest WARtościowe(warTOściowe,nie NIEwartościowe).
(7) Ten pies nie jest NIEspokojny, jest bardzo SPOkojny.
(8) Źle mnie zrozumiałeś; nie byłem NIEzadowolony, mówiłem już wtedy, że jestem ZAdowolony.

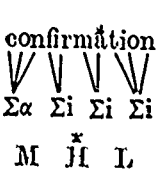
(9) Ja się zajmuję IIIStologią, nie PSYchologią.
(10) Nauka o której mówimy to ANdragogika, nie PEdagogika.
(11) Chcialem powiedzieć, że to co Nixon wniósl do polityki to nie rozWInięta demokracja, lecz rozMInięta domokracja.
(12) Nie mówilem zaMIErzony, tylko zaWIErzony.
(13) A więc śpiewajście studenci uniwersytcTU, awucFU, waTU i wuesWU.
(14) Nazywam się KarGÓL, nie KarGOL.

The highly annotated surface syntactic structure of the Extended Standard Theory would show nothing about the parallelism of the above examples, an would explain even less the reason why there might be a need to shift the stress.[10] Facts like shift of stress in the sentences above could not be explained unless specific reference to the syllabic structure had been made. Having hinted at the possibility of the syllable as an autosegmental level of non-linear phonological representation we can construct a formalised association rule for hypostasis in Polish and English:

Rule 3. (association of toneme E in parallel constructions)
$E \approx \ldots \sum_\alpha \ldots \sum_\beta \ldots / \# X \# (\sum_i)_n \sum_\alpha (\sum_i)_m \# X \# (\sum_i)_n \sum_\beta (\sum_i)_m \# X \#$

1) # means phrase boundary
2) # means word boundary
3) i=i; j=j; $\alpha \neq \beta$

Now the derivations will look something like the following: Consider the word "CONfirmation" in (8)
(8) I am talking about CONfirmation not about AFfirmation.



Rule 1. $\overset{*}{H} \approx \sum / X \overset{*}{\sum} X$

[10] I will argue in the final word of this paper that the cases involving stress shift are of no interest to semantic interpretation in generative grammar. Notice that in the case like:

(a) Max [IMports]s and Rix [EXports]s. (shifted)
(b) Mack's [IMports]S and Rick's [EXports]S. (not shifted)

While both (a) and (b) are parallel-constructions, the fact that stress is shifted in (a) results in an ambiguous structure. It is rather the fact (a) is a sentence, and (b) a NP that will be of any use in semantic representation of both. (This observation is due to Tom Wachtel).

confirmation
Σα Σi Σi Σi

(E) M H L

Rule 3.

confirmation
Σα Σi Σi Σi
E M H L

WFC

confirmation
Σα Σi Σi Σi
E M H L

We also need an extra rule referring to the star. This rule will provide that the star is always associated with the E toneme and is placed on the peak of the syllable with which this toneme is associated.

Rule 4. $V \rightarrow */ \overset{(C)\ V\ (C)}{\Sigma}$
E

The application of the rule will produce the following result:

confirmation
Σ Σ Σ Σ
E M H L

This result is counter intuitive. The reason for this is that the derivation above has been in error.[11] Notice that we have analysed a single lexical item in which stress has been shifted. From the examples 1 - 13 above and rule 3

[11] I wish to thank Nick Clements (personal communication) for pointing it to me. The analysis that will proceed is largely due to his observations and suggestions. Naturally all oversights and analytical errors are my own responsibility.

it is easy to see that the basic requirement for the stress to be shifted in English the two similar (morphologically) lexical items have to occur in the same sentence, i.e., the parallel construction. In isolation we never get the shifted stress. Thus what we need to do is analyse the tune of the whole parallel construction, rather than some chunks of it. Clements (personal communication) has tested his own intuitions and the intuitions of three other native speakers on the following sentence:

I said AFfirmation, not CONfirmation.

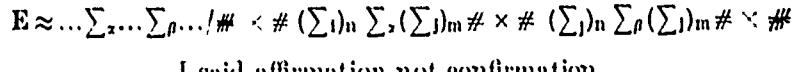
Two speakers agreed in placing H on the stressed syllables (capital letters) and L on everything else (one had a slight extrusion, barely noticable, on *not*). The third speaker (a native of Georgia) placed H on *AF* and *not*, M to rising tone on *CON* (with slight downdrift between the two H peaks on *not* and *CON*) and L on everything else. Clement's own intuitions (prior to the inquiry) agreed with the first two speakers. This would suggest that the usual pattern for parallel emphasis might be something like L H L, with H starred; the third speaker might be putting an independent pitch-accent on *not*, though this sort of thing has been very poorly investigated.

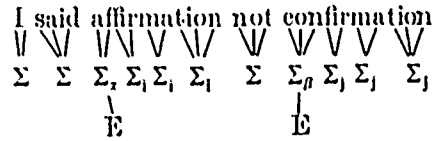
Notice that these results are explicitly described by the formal apparatus constructed for the tune-text association in parallel structures developed in this paper. Given the syllabic tier and the tonological tier, by the application of rules 3, 4, 1, and WFC we get the result as described in the experiment.

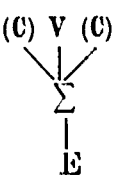
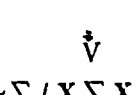
Syllabic representation: I said affirmation, not confirmation.

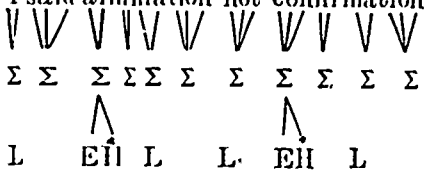
Tonological representation: Ⓔ L H L

We match up these two representations applying first rule 3.





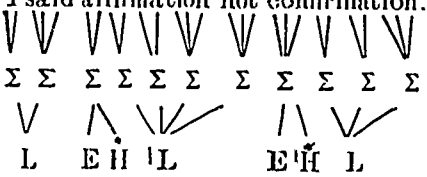
Rule 4. $V \rightarrow */$  and Rule 1. 



Well-Formedness Condition and Leben's (1973) Obligatory Contour Principle:

"At the phonetic level any contiguos identical tonemes must be collapsed into each other."

will secure the well formedness of the tune-text associations like the following:



This preliminary analysis presented above can be extended to all the cases of hypostasis in Polish and English that have been discussed in this paper.[12] However, many things have to be clarified before such an analysis is descriptivly adequate. For instance; rule 3 refers explicitly to syllables but the question of what these syllables are has not been fully answered in autosegmental theory as yet. Until it is, we will not be able to say why the accent does not shift in:

(14) Did you say adventurous or adventuresome?
(15) Would you rather be reverend or reverent?
(16) The word I used was regiment not regimen!

or why the shift is arbitrary as in:

(13) On the one hand you have the densest UNintelligibility, and on the other clearest INtelligibility (or inTElligibility).

Before the syllable is clearly defined and its structure explained, cases like these will resist clear explanation.

Emphatic accent in non-parallel constructions

In English declarative sentences emphasis is realised as a forceful pitch extrusion on the accented (starred) syllable[13] — the tune being L H L. Consider the following examples:

[12] For the more extended analysis, including, among others, the analysis of parallel question — cf. Dogil (in preparation).

[13] For the analysis of question — cf. Sag and Liberman (1975), Dogil (1977), Dogil (in preparation).

It is your particiPAtion that is important.
Our AUtomobile industry must be improved.

The rule which takes care of these cases is fairly simple:

Rule 5. $E \approx \sum / X \overset{*V}{\sum} X$

The association will precede in the following fashion:

It is your participation that is important

Σ Σ Σ Σ ΣΣΣ Σ Σ Σ Σ Σ Σ

(E) L H L

Rule 5. $E \approx \sum / X \overset{*V}{\sum} X$

and

Rule 1. $H \approx \sum / X \overset{*V}{\sum} X$

It is your participation that is important

Σ Σ Σ Σ ΣΣΣ Σ Σ Σ Σ Σ Σ

L E H L

WFC

It is your participation that is important

Σ Σ Σ Σ ΣΣΣ Σ Σ Σ Σ Σ Σ

L E H L

(C) V (C)

Rule 4. $V \rightarrow */X \sum X$ applies vacuously here.

E

The situation in Polish declarative sentences, when the emphatic stress is on the word containing less than four syllables, is identical. Consider the following sentences:

To jest MÓJ pies.
To nie WAsza znajoma.
Nie drażnij moJEgo psa.

The derivations will be exactly like those presented above.

If in Polish declarative sentences emphasised element contains four or more syllables there are two ways in which emphatic toneme E can be associated with the text. Firstly, it may be associated with the penult, i.e., the accented syllable of the emphasised element. This may be illustrated on the following examples:

(i) Chciałbym podkreślić tutaj ważność komunikacji samochoDOwej.
(ii) Wzmożona działalność demagoGIczna po śmierci Mao.

The natural way in which these are intoned is L H L, thus it is pointless to repeat the derivation as it is the same as in the English sentences analysed above.

Another option of emphatic stressing of such cases is to highlight not the penult but the initial syllable of the emphasised element. Consider the following examples:

(ia) Chciałbym podkreślić tutaj ważność komunikacji SAmochodowej.
(iia) Wzmożona działalność DEmagogiczna po śmierci Mao.

The derivations in these cases will look like the following:

(iia) Wzmożona działalność demagogiczna po śmierci Mao

Σ Σ Σ Σ Σ Σ Σ Σ Σ Σ Σ Σ Σ | Σ

E L H L

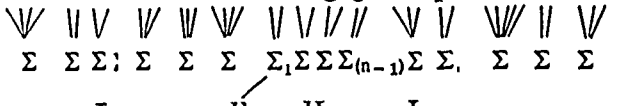
The proper association of E will be taken care of by rule 6:

Rule 6. $E \approx \sum_1 / \# \; \sum_1 \sum_{(n-1)} \sum_n \#$

where $n \geqslant 4$

This rule yields the following result:

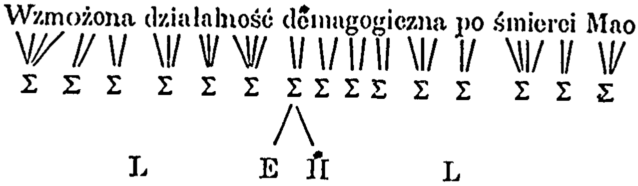
Wzmożona działalność demagogiczna po śmierci Mao



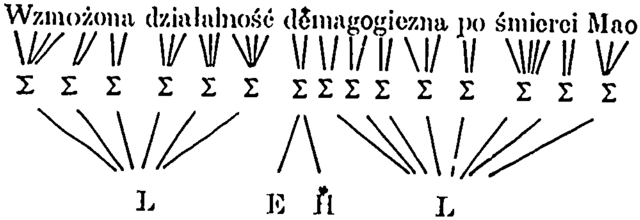
Σ Σ Σ Σ Σ Σ $\Sigma_1 \Sigma \Sigma \Sigma_{(n-1)} \Sigma \Sigma$ Σ Σ Σ

L E H L

Rule 4. $V \rightarrow * / X \underset{E}{\overset{(C)\ V\ (C)}{\Sigma}} X$ will shift the star and create the environment for **Rule 1.** $\overset{*}{H} \approx \Sigma / X \overset{\overset{*}{V}}{\Sigma} X$ to apply:



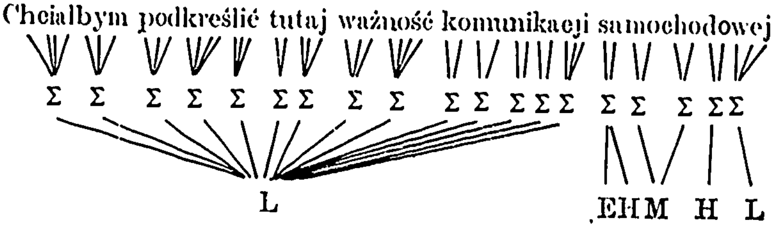
The **WFC** will assign the well-formed tune-text association like the following:



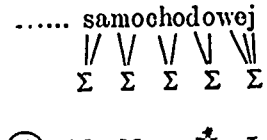
There is a possibility of an alternative tune-text association especially if the emphasised element is rightmost in the sentence. (ia) is an example of such a sentence Apart for the phonetic representation derived as above:

(ia)

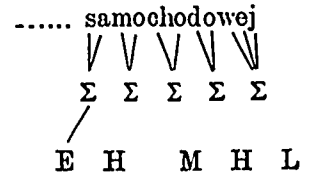

There is an alternative, more "wailing", pronunciation which should be represented like the following:



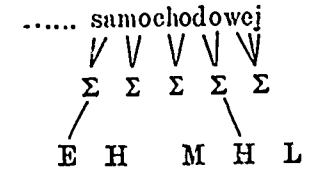
In this case "samochodowej" is pronounced as if it were in isolation. The derivation of it follows without much ado from the principles of tune-text association developed in this paper.



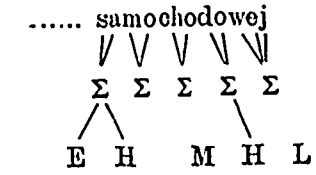
Rule 6. $E \approx \sum_1 / \# \sum_1 \sum_{(n-1)} \sum_n \#$ $\quad n \geqslant 4$



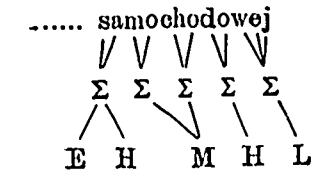
Rule 1. $\mathring{H} \approx \sum / X \sum X$



Rule 2. $H \approx \sum_1 / \# \sum_1 \sum_n \#$ $\quad n \geqslant 4$



WFC



To finish this discussion I just want to point to the fact that there is an interesting difference in the semantic interpretation between the sentences in which stress has been shifted and those in which it has not been shifted in Polish — cf. Dogil (1977).

D. English and Polish word accent in contrast

Now comparing again the stability of word accents in Polish and English we may state the following:

(1) The position of word accent is not absolute in either of the two language.

(2) In parallel constructions accent can move according to the autosegmental rules 3 and 4.

Rule 3. $E \approx \ldots \sum_{\alpha} \ldots \sum_{\beta} \ldots / \# \times \# (\sum_{i})_{n} \sum_{\alpha} (\sum_{j})_{m} \# \times \# (\sum_{i})_{n} \sum_{\beta} (\sum_{j})_{m} \# \times \#$

where: # means phrase boundary
# means word boundary
i=i; j=j; $\alpha \neq \beta$

Rule 4. $V \overset{\bullet}{\rightharpoonup} */ X \begin{array}{c} (C)\ V\ (C) \\ \diagdown\ |\ \diagup \\ \sum \\ | \\ E \end{array} X$

The WFC will secure that the tonological and syllabic tiers are properly associated, thus producing a set of well-formed phonetic representations.

(3) In non-parallel constructions accent does not move in English under emphatic conditions. In Polish it may move, and this movement is governed by the autosegmental rules 6 and 4.[14]

Rule 6. $E \approx \sum_{1} / \# \sum_{1} \overset{\overset{\bullet}{V}}{|} \sum_{(n-1)} \sum_{n} \#$

$n \geq 4$

Our explanation of the data sketched in Part I, which was made possible by the autosegmental analysis, would get a lot more support if it could be phonetically established that the toneme E is characterised by the upward extrusion in pitch. This seems to be intuitivly true. If it is so, we might say that the toneme E is much more likely to associate with the H toneme, as the interaction between the autosegmental rules 1 - 6 stipulates, since this is the least costly modification of the contour — L H L; $\overset{*}{H}$ M $\overset{*}{H}$ L (for the "wailing" pronounciation).

[14] We disregard the "wailing" pronunciation which is the special, stylistic case.

I would like to finish this paper by alluding once again to the distinction between emphasis and hypostasis. This distinction has been kept throughout for the purpose of exposition. I assumed that it would make the contrast between Polish and English more transparent. As we saw, however, the distinction in Polish has been blurred. It is also difficult to say that emphatic accent in English parallel constructions is non-semantic in character (hypostasis). Compare the following:

a) I said AFfirmation, not CONfirmation. (hypostasis)

b) I want confirMAtion. (emphasis)

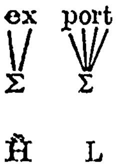
In (b) emphatic accent highlights the lexical (semantic) content of "confirmation". In (a) emphatic accent highlights just the lexical entries "confirmation" and "affirmation", but lexical entries themselves are meaningful too. Notice that "emphatic stress rule" has been used in generative grammar to define the presuppositions of sentences like (b) — cf. Jackendoff (1972: ch. VI). Hypostasis (emphatic accent in parallel constructions) was not assumed to have this function - cf. Jackendoff (1972 . 242). Recently the status of presupposition as semantic category has been questioned in Literature — cf. Kempson (1975). Wilson (1975). It is argued that presuppositions (logical or pragmatic), have no role to play in formal grammar. It is claimed that semantics should be truth-conditional and based on two-valued logic. Kempson and Wilson defend this claim against the obvious charge that such a semantics cannot handle questions, imperatives, promises and other non-truth-functional sentence types. Emphasis and hypostasis are non-truth-functional too. It would be an interesting realization of the theory of autosegmental phonology if it could be argued that some of these non-truth functional or "attitudinal" meanings have their own structure which is realised on the melodic contour. I argued that Polish and English speakers distinguish between two autosegmental tiers, syllabic and tonological. It can be claimed that these separate sequences of segments:

syllabic [[C V C V]$_{NP}$ [C V C V C V]$_{VP}$ [C V C V C V C V]$_{NP}$]$_S$
tonological # H L # M H L # H M H L #

would then each constitute items that would have separate entries in the lexicon. Thus there will be entries (syllabic in character) that function in truth-conditional semantics. ex., NP, VP, COMP, t, etc., and lexical entries (tonological in character) for non-truth-functional concepts like question, imperative, promise, emphasis, hypostasis, etc. The lexical entries for these will be the specific sequences of tonemes.[15] Thus the syllabic entry [expórt)$_V$

[15] Nick Clements (personal communication) pointed to me an oversimplification that this suggestion carries with it. We can have segmental entries for non-truth functional concepts, as well as tonal entries for truth functional concepts (e.g., verb system in Tiv or Akan, where affirmative and negative verbs are distinguished primarily by tone).

and the separate tonological entry H L (declarative), may form the following representation:

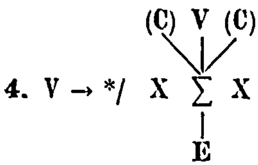


The autosegmental phonology would develop melodic association rules to link these two lexical entries together. When [export]v appears in emphatic environment the tonological declarative pattern associated with it will be modified by rule 5.:

Rule 5. $E \approx \sum / X \overset{\acute{V}}{\sum} X$

When it appears in a parallel construction (for instance contrasted with "import" or "deport")the tonological pattern is modified by rules 3 and 4.:

3. $E \approx \ldots\sum\alpha\ldots\sum\beta\ldots/\#\times\#\ (\sum_i)_n \sum\alpha\ (\sum_j)_m \#\times\ \#\ (\sum_i)_n \sum\alpha\ (\sum_j)_m \#\times\#$



If such a view of linguistic theory can be defended, then the distinction between hypostasis and emphasis is not that one is semantic and the other non semantic, but that it is the difference between the rules of emphatic toneme assignment.

It should be stressed that autosegmental phonology, a theory which differs in many ways from standard, linear views of phonology, is a theory still in puberty whose consequences for many other areas of research still remain to be explored.

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LEXICAL ENTRIES FOR VERBS IN A CONTRASTIVE LEXICON ENGLISH—GERMAN

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In this paper I would like to examine some of the problems that have to be coped with if one tries to set up a contrastive lexicon English-German on the basis of lexical entries that have been formulated within the frameworks of case-grammar based generative models and valence theory. I will therefore be mainly concerned with comparing the format of lexical entries for verbs as it emerges from the works of Fillmore and from Stockwell et al. (1973) to the one used in Helbig and Schenkel (1973) and in Emons (1974).

In connection with his distinction between three linguistic levels, the level of the system, the level of the norm and the level of speech Coseriu (1972) has criticized contrastive grammar for taking as the basis of its comparisons the "Redebedeutung" or even the "Satzbezeichnung", i.e., the referential meaning of individual sentences in particular situations. A contrastive grammar thus runs the risk of confronting radically different functions of linguistic structures in different languages for the only reason that in certain contexts they may have the same reference (cf. Coseriu 1972 : 47). According to Coseriu, contrastive grammar can therefore be solely attributed a descriptive value of its own if it contrasts the systematic function of linguistic structures of different languages (cf. 1972 : 48).[1]

The theory of a contrastive grammar outlined in Krzeszowski (1972) and (1976) overcomes Coseriu's criticism by distinguishing explicitly equivalent sentences of two languages Li and Lj from sentences which are translations of

[1] Coseriu's critique of the par aphrase principle of generative grammar (cf. 1972 43 - 44) cannot be gone into here in detail. This principle may be defended on the grounds that if a linguistic grammar is expected to describe all the structures of a language it should also correlate those which are paraphrases of each other.

each other. The knowledge that two sentences S_i and S_j are equivalent is part of the linguistic competence of a bilingual speaker whereas the translation of a sentence of L_i into L_j is part of the translational performance of the speaker (cf. Krzeszowski 1972 : 80). In the former case Krzeszowski postulates identity of input structure, i.e., semantic representation, which may result in partially different surface structures, as against the latter case where corresponding sentences go back to distinct input structures.

It follows from this identity postulate for semantic input structures that a contrastive generative grammar has to include at least five structural levels. On the first, the semantic level, the basic sentence semantic relations are represented in terms of universal, category-neutral structures which serve as inputs to derivations. The categorial level maps these semantic representations onto language specific categories such as noun phrase, verb, adjective, tense, modality, etc. On the third level, the level of syntactic transformations, major syntactic categories (nouns, verbs, adjectives, adverbs) are put into the linear order in which they may appear on the surface (cf. Krzeszowski 1272:82). The fourth level seems to correspond to Chomsky's (1965) level of deep structure in so far as lexical items are inserted into the derivations in accordance with the requirements of strict subcategorization for which they are marked in the lexicon. The post-lexical transformations of the fifth level generate the linear order in which minor categories show up on the surface.

The aims and the theoretical consistency of this model of a contrastive generative grammar are, without any doubt, very appealing. It raises however, at once the question whether it can be used to contrast any pair of languages and which of the generative systems presently available is to be chosen. The answer to both of these questions crucially depends on one's assessment of the role of linear order of elements and of syntactic relations in natural languages. If one accepts the arguments against the underlying linear order of constituents in the grammar of inflecting languages which I have given in (1975) and (1975a) this model cannot be used to contrast, say English and German, since linear order of major categories is introduced on the third level, i.e., before the level of lexical insertion is reached. The co-occurrence possibilities of verbs in German and other inflecting languages can, however, be defined solely in terms of morphologically marked nouns or noun phrases as, for example, Helbig and Schenkel's valence dictionary for German verbs shows.

Krzoweszki's introduction of linear order after the level of semantic structure rules out, on the other hand, a generative semantic type of representation for the input structures, because one of the basic tenets of generative semanticists like, for example, McCawley is that syntactic and semantic representations are of the same formal nature, namely label trees (cf. McCawley 1968 : 71) in which the syntactic function of noun phrases can only be kept apart by referring to their linear position. Thus McCawley (cf. 1970 and 1972)

tries to justify verb-first order in the semantic structure underlying English on the grounds that the linear arrangement VSO serving as input to the system of syntactic transformations simplifies the formulation of these transformations significantly.

This may suffice to indicate that we have to look for another kind of semantic representation if it is to be universally applicable in the sense of providing for linearly unordered category-neutral structures. Among the proposals I am familiar with it is especially Fillmore's case grammar approach (cf. Fillmore 1968) and Brekle's (1970) sentence semantic system which come close to meeting these requirements. Both start out from the observation that the syntactic function of subject of a sentence can be dispensed with in deep underlying structure and assume that a sentence can be divided into a proposition or propositional concept and a modality component. This proposition constitutes the relational nucleus of a simple sentence that has been stripped of all factors involving assertion, quantification, negation, interrogation, tense, mood and aspect. With Fillmore this propositional core consists of a verb and one or more nouns which exhibit semantic case relationships like agent, instrumental, experiencer, locative and some others with respect to this verb. Fillmore's unfortunate choice of rewrite-rules for formalizing these notions as in (1) obscured the nature

(1) $S \rightarrow M+P$

$P \rightarrow V+C_1+_2...+C_n$

of the semantic cases (cf. Fillmore 1968 24).[2] They do not represent categories but semantic relations. Within Brekle's model this point is clarified from the outset. In his sentence semantic formulas which stand for propositional concepts relational constants specify the relations that hold between argument variables of different levels, i.e. language specific categories like verb, noun or adjective do not occur but are introduced later from the lexicon of a natural language. Thus a formula as in (2) (cf. Brekle 1970 : 161) represents the propositional concept

(2) CAUS [w, AEFF (R, y)]

"(some) man beating (some) dog"[3] "w" and "y" are one-place predicate variables of the first level which usually stand for nouns in this case *man* and *dog* respectively. "R" is a two-place predicate variable of the second level for transitive action verbs like *beat* and relational verbs of state. "CAUS" and "AEFF" are two place relational constants standing for the supposedly universal relations of 'causing' and 'affecting' or 'effecting'. Other such constants are assumed for locative, directional, temporal and instrumental

[2] This is explicitly admitted in Fillmore (1975).

[3] Brekle demonstrates convincingly the advantages of assuming relational constants over a representation like R (w, y) which leaves the relation between the predicate R and its arguments unspecified (cf. 1970: 64ff).

relations and for some additional ones. See, for example, the formulas under (3) (cf. Brekle (1970 : 171, 149) respectively).

(3) CAUS {w, INSTR [AEFF (R, y), z]}
"someone cutting tomatoes with a knife"
"someone building a house with bricks"
AFF [LOC (R, y), w]
"(some) mouse living in a hole"

Adjectives and a subset of intrasitive verbs appear as one-place predicate variables of the second level and degree and manner adverbials as one-place predicate variables of the third level.[4] The sentence semantic formulas thus express the semantic relations that hold between the members of the major word classes in simple sentences independent of language specific syntactic or morphological categories and of other semantic factors such as quantification, negation, aspect, etc. Determining the nature and number of such relational constants is an empirical matter just as with Fillmore's semantic cases (cf. Boas 1976). It involves a process of abstracting these meta-relations from primary linguistic data, i.e., from judgments of speakers about paraphrase relationships without, however, identifying the paraphrase of a lexical item with its semantic structure, as it is done by generative semanticists. Since no mechanical discovery procedures can be given their number depends ultimately on whether, in constructing grammars, preference is given to generality of descriptive categories or to explicitness of information.

Evidence supporting the postulation of certain relations has already come from psycholinguistic research and research in cognition. In Edwards (1973), for example, a close correspondence is found between the relational meanings that are apparently expressed universally in the two-word speech of young children and such phenomena of their sensory-motor intelligence as the concepts of permanent objects and their spatial relations and the concepts of persons as physical objects and as active beings who may cause changes in the locality of objects.[5]

Other aspects of Brekle's system which relate to the purposes of a contrastive grammar are the introducing of the grammatical subject-predicate relation and the insertion of lexical items. Notice first that the relation between grammatical subject and predicate in the sense of the topic being talked about

[4] Such adverbials occur in "lacing some shoe tightly" ⇒ tight-lacing (cf. Brekle 1970 : 174 - 175).

[5] For references to psycholinguistic studies which suggest that lexico-semantic valence plays a role in sentence retention and reproduction see Fink (1976). Seyfert seems to be unaware of such kinds of psycholinguistic evidence: "Die Relationen, in denen die Argumente zum Prädikat stehen, sind nicht aus einem beschränkten universalen Fundus menschlicher Erfahrung gegriffen, (zumindest besteht keinerlei Ursache für eine solche sehr weitgehende Hypothese), denn sie bestehen nicht *unabhängig* von den einzelnen Prädikaten" (1976 : 215).

versus the linguistic predicate assigned to the topic, must be assumed to be expressible in any language, otherwise the exchange of information would be impossible. To render this relation Brekle assumes a topicalization operation which produces topic-comment structures that constitute a second level of sentence semantic structures. Formally, the result of this topicalization operation is a λ-expression such as (4) (cf. Brekle 1970 : 124) which represents a subclass of the class designated by the argument term which

(4) λ w CAUS (w, F)

is preceded by "λ".[6] Although this operation has been devised primarily to reflect the determinatum/determinant relationship holding between the sentence semantic constituents of nominal compounds, Brekle's main domain of investigation, it can in principle be used to express semantically the different selection of syntactic subjects in active and passive sentences. Brekle mentions as further examples for this type of topicalization cleft sentences as in (5) (cf. Brekle 1970 : 130).[7]

(5) I saw him in England last summer $\Rightarrow$ { It was him whom I saw... / It was in England where... / It was lasts ummer when... }

Leaving details aside, the function of such topicalization operations is to represent the fact that any of the variables contained in a well-formed sentence-semantic formula may end up as the determinatum of a morphologic syntagma (cf. (6)) and that

(6) "someone eating some apple" $\Rightarrow$ { apple eater / apple eating / eating apple }

in simple sentence syntagmas any one-place predicate of the first level, i.e. substantive, may become the syntactic subject. Since, according to Brekle, such topicalized expressions render the semantic structures and categories by which objects, facts, states and processes are perceived or realized, the lexical items of a language must be marked as to their membership in a certain class of predicates, i.e., their logical level and valency must be indicated. For verbs in particular this means that they can only be inserted into a topicalized sentence semantic formula if this formula is in accordance with their possibilities of subject selection and contains the same semantic relations as are conceptually or at least linguistically required by them. Compare such well-known examples as *like* and *please* and (7) (cf. Brekle 1970)

(7) Some event lasting for some time
Someone reading something in the garden

[6] For an extensive discussion of the properties of λ-expressions see Brekle (1970).

[7] Notice that in the sentence underlying these cleft constructions, the syntactic topic, i.e. the subject of the sentence, is identical to what may be called the semantic topic as against in *It was me who saw him in England last summer.*

where *last* requires for linguistic and conceptual reasons two semantic relationships as against *read* with which from the conceptual point of view *someone* and *something* are conceptually necessary but on the linguistic surface only *someone* is obligatory.[8]

Although Brekle's remarks on these points are highly tentative it seems that his system can provide a way out of the dilemma that the results of a paraphrase-based approach to the semantic structures of natural languages can always be refuted on the grounds that, as constituents of these paraphrases necessarily members of language-specific categories occur which can neither be claimed to be universal nor to have exactly the same semantic readings as their monomorphemic counterparts. Thus, McCawley's famous paraphrases of *kill* as "cause to die" or "cause to become not alive" may show up in contexts where *kill* cannot be substituted for them. Assuming a level on which logically definable relational constants[9] that have been abstracted from the sentences of natural languages specify semantic relations between category-neutral predicate variables can serve best as an explanatory model of the bilingual speaker's competence to detect equivalent realizations of the same sentence semantic structures in different languages. That these theoretical constructs themselves must be paraphrasable in terms of natural language expressions is a reflex of natural languages being the ultimate meta-languages.

Having outlined a system that meets the requirement of making available a universal sentence-semantic basis for a contrastive grammar I will now examine the formats in which lexical entries for verbs have been given by Fillmorian case grammars and by Helbig-Schenkel's and Emons' versions of valence theory. A main issue to be investigated obviously relates to the ways in which the differences between these theories are reflected in the information associated with lexical entries. From these differences one should be able to determine in how far the theories in question are compatible with the aims of a contrastive grammar.

Take as basis of comparison the lexical entries for the simplex verb *believe* in Stockwell et al. (1973) (cf. (8)) and for *glauben* in Helbig-Schenkel (1973) given below. Notice first that Stockwell et al. disregard in their grammar a

[8] Compare Heger's (1966) and Lipka's (1972) distinctions between formal and conceptual valence and between the valency of verbs and the valency of predicates respectively. Contrary to Fillmore's (1975 : 31) view that "it may not be necessary to believe that everything that is included in our understanding of a sentence is necessarily a part of the grammatical deep structure of that sentence" it may turn out that in the semantic base of certain contrastive grammars all conceptually obligatory constituents must be present. This seems probable if the degree of typological difference between the confronted languages is very high such that, for example, a certain semantic relation is linguistically required by most of the verbs in one language as against the other.

[9] See Brekle (1970 : 113ff) for the description of these two-place relational constants in terms of homogeneity and symmetry.

number of factors listed in Fillmore (1968a) and (1971) as belonging to a complete description of a verb, namely its central sense, its selectional restrictions, certain presuppositions or 'happiness conditions' which have no obvious syntactic consequences and its morphological relatedness to other items. It must also be mentioned that they adopt Chomsky's (1965) second model of a syntactic base, i.e., the one in which a context-free phrase-structure grammar generates a string of dummy-symbols and grammatical formatives. Substitution transformations whose structure indices are the complex symbols associated with the lexical entries insert them if the tree meets the conditions of the structure indices.

Believe is characterized in (8) (cf. Stockwell et al. 1973 : 755) by a complex symbol in which three types of features have to be distinguished: categorial features, contextual features and rule features.

(8) *BELIEVE*
+V
−ADJ
+[__+NEUT+DAT−LOC−INS−AGT]
−FACT
−IMPER
−WH−S
*PASS
+STAT−REDUCT
*RAISE−TO−OBJ

The fourth type, inherent features, are not specified because of the exclusion of selectional restrictions. Since adjectives and verbs are subsumed under the symbol *V* in the base, the categorial feature *-ADJ* of *believe* ensures that 'BE — insertion' does not take place. The contextual features are represented by a 'case-frame' in which the obligatory cases are specified positively, the impossible ones negatively and the optional ones are omitted. The number of cases for verbs being maximally five, *believe* lacks any optional ones. The specification of rule features refers to the transformations which can apply to the lexical item. *-FACT*, for example, marks *believe* as a non-factive predicate, i.e., it can only be inserted into a deep structure in which the embedded proposition is not presupposed to be true. The syntactic reflex of this is that in the deep structure tree *NEUTer* must dominate *'that S'* and not *'the fact that S'* (cf. Stockwell et al. 1973 : 507). The features *-IMPERative* and *-WH-S* constrain the sentential realization of *NEUTer* to indicative sentences, i.e., they exclude a sentence like (9). *-WH-S* as such prevents true indirect questions as in (10) from occurring. That the embedded sentence in (11) is a pseudo-interrogative is shown by the impossibility of paraphrasing (11) as *I believe the answer to the question what he said* (cf. Stockwell et al. 1973 : : 576).

(9) *I believe that a bridge be built.
(10) *I believe who left early.
I know who left early.
(11) I believe what he said.

The starred notation of a feature like *PASS* means that the lexical item must be specified either positively or negatively before the complex symbol is inserted into a tree. The feature +STATive-REDUCTion has the effect of blocking the application of the rule 'RAISE-Subject-to-OBJect' if the verb of the sentential object is a non-action one, i.e. if, as in (12) (cf. Stockwell et al. 1973 : 570), it has neither 'progressive' nor 'past' nor 'perfect' in its 'auxiliary'-constituent.

(12) a) I believe that he works hard.
b)*I believe him to work very hard.
c) I believe that he is working very hard.
d) I believe him to be working very hard.
e) I believe that he has worked very hard.
f) I believe him to have worked very hard.[10]

At this point a difficulty has to be mentioned which results from the nature of categorial, contextual and rule features and is characteristic of generative transformational grammars in general. These features together with the categorial rules of the base and the transformations are not meant to represent an algorithm for generating any particular sentence containing the verb *believe*, but determine systematically its possibilities of occurrence in all types of sentential structures. It is therefore only if the generative grammar is interpreted as a production system, i.e., if it is used to generate structures at random by a computer, for example, that the problem of a parasitic growth of deep structures (cf. Miller 1975) arises. In this case many deep structure trees can be randomly generated which must be filtered out by the transformational component. This cannot happen, however, if the generative grammar is interpreted according to Chomsky's original intention, namely as a set of statements about well-formedness. Given a particular sentence, the generative grammar assigns to it a structural description. This structural description is the result of taking the "right" options while going through all the rules of the base. From most of the stages of such a base derivation it is possible to arrive at a sentence more or less different from the original one. Thus, from the systematic point of view it is only after having chosen a certain sequence of structural options and feature values that the surface shape of a derivation is definitely fixed. Although the amount of randomly generatable deep structures that are to be filtered out is considerably reduced in Stockwell

[10] According to Stockwell et al. this sentence is ambiguous between simple past tense and perfective aspect (cf. 1973 : 570).

et al. as compared to Chomsky (1965) by making verbs selectionally dominant over nouns, i.e., by adopting the case grammar approach and inserting verbs first,[11] the distinction between generalized statements about, for example, the possible occurrence of a lexical item and its derivational history in a specific structure must still be kept in mind, especially in the case of verbs which exhibit optionality of certain cases in their lexical entry.

It appears that most of the criticisms, levelled by workers in valence theory such as Emons (1974) and Heringer (1973) against case grammar in general and the optionality of cases in Fillmorian frames in particular, are due to their misconceptions about these aspects of derivations in generative grammars and about the conceptual versus linguistic obligatoriness of certain constituents which was discussed above. Thus, in pointing out that "Man weiß auch nicht, wie Fillmore (7) (in our numbering (13)) mit dem angegebenen *case-frame* überhaupt beschreiben würde" (Emons 1974 : 50),

(13) John killed the man with a chisel.

Emons either misconceives the deep structure status of the case frame for *kill* (cf. 14) (cf. Emons 1974 : 49)

(14) *kill*+[__D (I X A)] (D=Dative)

or he ignores that in generative grammar there is more to the description of sentences than the characterization of lexical entries, namely the other rules of the grammar. His discussion of Helbig's (1971) attempt to relate the distinction between obligatory and optional actants versus free complements in valence theory (cf. 1., 2. and 3. under (15)) (Helbig 1971 : 36) to Chomsky's notions of deep and surface structure suggests that he does both.

(15) 1. Mein Freund wohnt *in Dresden*.
2. Er wartete *auf seinen Freund*.
3. Er aß sein Brot *in der Schule*.

Helbig gives two reasons for an element not to occur on the level of surface-structure in a particular sentence. First, if it is a free complement, it is also absent in deep structure. The free prepositional complement *in der Schule*, for example, does not play any role in the derivation of *Er aß sein Brot*, but must be present in the deep structure of (15.3).[12] Secondly, if it is an optional actant on the surface, it must be present in some form or other in deep structure, but has been deleted on the way to the surface. Thus, *Er wartete* is possible, but implies *Er wartete auf jemanden*. This kind of deletion is, however, prohibited with obligatory actants as in (15.1.), because under normal conditions *Mein Freund wohnt* is ungrammatical. Emons concludes from his assessment of optional actants that *Er wartete auf seinen Freund* and *Er*

[11] Chafe (1970 : 97) also assumes the centrality of verbs: "it is the verb which dictates the presence and character of the noun, rather than vice versa".

[12] In Fillmore's (1968) model such a free adverbial would be considered as a constituent of the M (odality) -- complex (cf. 1968 : 26, footnote 34).

wartete auf seine Freundin would have the same deep structure and, even worse, that these three would therefore have to be identical in meaning, which they are not (cf. Emons 1974 : 72). This contradiction obviously follows only if one has misunderstood the method of deriving similar surface structures from the same deep structure configuration. The derivational stage of deep structure of these three particular sentences is certainly distinct. On the other hand, *Er wartete* and *Er wartete auf jemanden* would receive the same semantic interpretation, just like *she was reading* and *she was reading something* (cf. (7) above). But this is not the only instance of a misunderstanding of generative transformational grammar in Emons' study which tries to describe English verbs in terms of valence theory. In criticizing Helbig for explaining certain free actants as reduced sentences he writes:

> Die Entscheidung über zugelassene Tiefenstrukturen richtet sich nach Erfordernissen der Beschreibungssprache, genauer, danach, was man als eine angemessene Beschreibung bestimmter Phänomene ansieht. Man kann aber niemals aus der Art der Konstruktion der Beschreibungssprache umgekehrt Kriterien zur Beurteilung von Phänomenen in natürlichen Sprachen ziehen, wie es Helbig tut. (Emons 1974 : 75).

It is correct to maintain that one cannot derive criteria for the evaluation of natural languages from the kind of meta-language one is using. One is, however, allowed or even forced to derive such criteria from the requirements of a linguistic theory and its corresponding grammatical model if they can be externally justified, as, for example, by their descriptive and explanatory adequacy in reflecting not only the monolingual but also the potentially multilingual competence of speakers of natural languages. In the case at hand and in other cases to be discussed below this means that it is legitimate to explain certain surface constituents as remnants of underlying clauses even if the data of the language one is concerned with seem to contradict such an analysis.

Consider now the lexical entry for the simplex German verb *glauben* as specified in Helbig-Schenkel (1973) (cf. 16)). In accordance with one of its practical purposes, namely to provide the teacher of German and the learner of a foreign language with the means to check his intuitions about the use of German verbs, their partial synonomy and their role in didactic sentence models, Helbig-Schenkel describe what they call "Mitspieler", i.e. actants of verbs, in German on three levels (1973 : 185—186). On the first level the number of actants is indicated. Optional actants are represented in parentheses, obligatory ones without.

(16) *glauben*

I. glauben_2 (V1=denken, meinen)

II. glauben → Sn, Inf

III. Sn → Hum (*Der Lehrer* glaubt, alles bedacht zu haben).

Inf → Act (Er glaubt, *alles berücksichtigt zu haben*).

I. glauben $_{2+(1)=3}$ (V2=vermuten, für wahr halten)

II. glauben → Sn, Sa/$NS_{da\beta}$, (Sd)

III. Sn → Hum (*Der Vater* glaubt jedes Wort).

Sa → Abstr (Er glaubt *seine Worte*).

NS → Act (Er glaubt, *daß er ihn sehen wird*).

Sd → Hum (Er glaubt *dem Lehrer* jedes Wort).

I. glauben$_2$ (V3=vertraufen auf)

II. glauben → Sn, Sd

III. Sn → Hum (*Der Schüler* glaubt dem Lehrer).

Sd → 1. Hum (Er glaubt *seinem Freund*).

2. Abstr (als Hum) (Er glaubt *der Sektion*).

3. Abstr (Er glaubt *seinen Beteuerungen*).

The second level specifies these actants qualitatively, i.e., the syntactic environments of the verb are listed in terms of formal, morphological categories such as *Sn*, *Sa* and *Sd* for substantives in the nominative, accusative and dative respectively. *Inf* stands for 'infinitive with *zu*', *NSdaß* for subordinate clause introduced by *daß*. Helbig-Schenkel emphasize that these formal categories must permit the generation of actual sentences if they are combined with rules in the sense of generative grammar (cf. 1973 : 51 and footnote 185), i.e. these morphological categories correspond to strict subcategorization rules. On their third level the semantic environment of verbs is determined by giving the features elements must exhibit in order to fill the actant positions listed on the second level. For the three variants of *glauben* we are dealing with these features are *Hum* (*an*), *Act*(*ion*)a' ˙ *Abstr*(*act*). They obviously have the same function as selectional restrictions.

It is also obvious, however, that Helbig-Schenkel's descriptions are basically surface-oriented. In spite of their occasional suggestions regarding paraphrase relationships between the fillers of certain actant positions, as for example, between (17) and (18) (1973 : 186) where the propositional substantive constitutes the third obligatory actant they do not establish such a relationship between the infinitive in *V1* and the *daß*-clause in *V2*.

(17) Sie glaubt, daß er in Sicherheit ist.

(18) Sie glaubt ihn in Sicherheit.

Once such relationships are accepted, there is no doubt that Helbig-Schenkel's valence indications can be incorporated into a case-based generative grammar of German. Helbig's view that syntactic and logico-semantic valence models supplement each other (cf. Helbig 1975 : 45) then has to be modified in so far as the relation between these two models is not a matter of supplementation but of incorporating the one into the other because of the greater descriptive and explanatory power of a generative transformational grammar.

Evidence for this claim comes, for example, from comparing the lexical entry for *believe* in the above format to the ones given in Emons (1974) and to those for *glauben* just presented. Without going into the details of Emons' justifications for the constitution formula associated with each verb let me simply comment on the role and function of the combinations of symbols in (19) (Emons 1974 : 177—178).

(19) *believe* 12

S12 [P12+E1 [NOM1/ES1]+E2 [NOM2/ES2 [*that*]]]

(1) *I believe that story.*

(2) *I believe that you come.*

believe 125

S125 [P125+E1 [NOM1/ES1]+E2 [NOM2/ES2]+E5 [NOM5/ /IK5 [*to*]/ES5]]

(1) *I believe him a coward.*

(2) *I believe him to be a coward.*

The indices 1 and 2 of the first entry characterize the valence of the simplex verb *believe* quantitatively and qualitatively, i.e. as taking elements from the commutation classes *E1* and *E2*. This numbering appears again in the constitution formula with *S* for sentence and *P* for verb. The elements within the first brackets, *P*, *E1* and *E2*, are parts of the sentence *S*, the + sign representing the symmetric part-hole relation, not the concatenation-operator. The symbols contained in the brackets following *E1* and *E2* specify the subsets out of which elements of this class may be chosen. In (20) I have indicated what these symbols stand for.

(20) NOM = nominals such as proper names, personal pronouns, nouns with or without relative clauses, verbal nouns, etc., (cf. Emons 1974 : 144ff).

IK = infinitival constructions with or without *to*, or in *-ing* or *-ed* in certain commutation classes (cf. Emons 1974 : 151ff).

ES = complement clauses of different kinds introduced by *that*, *what*, *when*, etc., (cf. Emons 1974 : 167ff).

A first inspection of the operations by which commutation classes are constituted already suggests that such classes of surface valencies cannot be sufficiently motivated for English. Having given up linear order as a determining factor, Emons' only evidence for distinguishing *E1* from *E2* is the fact that personal pronouns such as *him* and *he* (cf. Emons 1974 : 116—117) cannot be substituted for each other and that in German case-morphemes justify this distinction. The setting up of the commutation class *E5*, which appears in the second entry is, however, even more detrimental to Emons' approach. It forces him not only to assume two entries for *believe*, which ignores the obvious relationships between (21), (22) and (23), but also prevents him from being able to explain in a principled contrastive way why all the German

equivalents except for two in (22) are ungrammatical whereas certain equivalents in (23) work in German.

(21)	Mary$_1$ believes that she$_1$ is safe.	— Mary$_1$ glaubt, daß sie$_1$ sicher ist.
	Mary believes that she is safe.	— Mary glaubt, daß sie sicher ist.
	... that he is a coward.	— ..., daß er ein Feigling ist.
	... that he has caught a cold.	— ..., daß er sich erkältet hat.
	... that he has been cheated by Bill.	— ..., daß er von Bill betrogen worden ist.
(22)	Mary$_1$ believes herself to be safe.	— Mary$_1$ glaubt, sicher zu sein.
	Mary believes her to be safe.	— Mary glaubt, *sie sicher zu sein.
	... him to be a coward.	— ..., *ihn ein Feigling zu sein.
	... him to have caught a cold.	— ..., *ihn sich erkältet zu haben.
	... ?him to have been cheated by Bill.	— ..., ?ihn von Bill betrogen.
(23)	Mary$_1$ believes herself$_1$ safe.	— Mary$_1$ glaubt sich$_1$ sicher.
	Mary believes her safe.	— Mary glaubt sie sicher
	... him a coward.	— ... *glaubt ihn einen Feigling.
	... *him having caught a cold.	— ... *ihn sich erkältet habend.
	... *him having been cheated by Bill.	— ... *ihn von Bill betrogen worden seiend.

It is only if the English constructions in (21), (22) and (23) are recognized as instances of the same verb whose complement clause may undergo the transformations of 'raise-subject-to-object' and 'to-be-deletion' that its German equivalent can be shown to disallow the first of these transformations but to permit 'equi-NP' instead and under certain conditions a variety of 'to-be-deletion'. This depends, however, on deriving infinitival constructions from sentential origins, which is rejected by Emons on the grounds that (24) is not equivalent to (25) (cf. Emons 1974 : 155; 151 respectively).

(24) *John sees something. He grows.*

(25) *John sees him grow.*

He also refers to Heringer (1973) who on the basis of German data like (22) and (23) argues that infinitival constructions as against complement clauses cannot contain *EI's* (cf. Emons 1974 : 236—237), i.e., the subject of an infinitival verb must be identical with the subject of the main clause in German. But this is exactly where German and English differ as our examples in (22) show. In English the direct object of the main clause may function at the same time as the subject of the infinitive without any morphological indication. If it is an element other than a personal pronoun one cannot decide whether it is part of the main clause or of the remnant of the subordinate clause.

For such reasons valence theorists will have to give up their language-specific classifications in favor of analyses that admit of a common theoretical frame-work within which contrastive statements can be made, namely a version of a case-grammar based generative model. In this frame of reference the difference in complement-clause reducing possibilities[13] just described can also be related to other differences between English and German such as the degree of complexity of prenominal modifiers, the non-existence of chopping-transformations across sentence boundaries in German and the fact that with English verbs more noun phrases can, in general, be subjectivalized than with verbs in German.[14] All these differences are ultimately due to the highly inflecting character of German as against English.[15]

The conclusion to be drawn from our considerations are that for a contrastive generative grammar a sentence-semantic system like Brekle's must be assumed which can be combined with case-grammar based syntactic generative grammars of English and German in which lexical entries for verbs are characterized by rule features referring to transformational properties. In the case of German the formulation of these rule features has to incorporate the results of syntactic valence analyses, i.e. the morphological markings of German surface structures must be acounted for.

What has been left open, however, is the question where exactly after the insertion of lexical items linear order of elements has to be introduced in German, immediately after the level of deep structure or at a shallow level of structure. Another open question concerns the way in which similarities between a lexical item and its semantic paraphrase in one language and the non-equivalence conditions of basically equivalent lexical entries of different languages should be accounted for. It may be that, in order to arrive at relevant generalizations about such phenomena, it is necessary to examine more closely Brekle's (1969) suggestion that two generative components should be assumed: a syntactic and a semantic base component, both stating well-formedness for their respective domains.

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[13] For similarities between English and German with respect to relative clause reducing processes see my paper (1976a).

[14] I have dealt with these phenomena in (1975), (1975b) and (1976).

[15] The role of morphological marking is also obvious in *Sie hält ihn für einen Feigling* as against **Sie glaubt ihn einen Feigling* and *Sie glaubt von ihm, sich erkältet zu haben* versus **Sie glaubt ihn, sich erkältet zu haben*. *Für* and *von* guarantee that the particular syntactic relations of their complements are discernible.

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FOCUS CONSTRUCTIONS — CLEFT SENTENCES IN ENGLISH AND THEIR COUNTERPARTS IN POLISH[1]

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The communicative function of language presupposes a certain organization of the message in a sentence or in a discourse. The situational context and the speaker's attitude towards the listener or the subject of the discourse result in the assignment of different communicative values to individual elements in a sentence.

The major devices involved in the organization of the information conveyed by the sentence are stress and intonation, word order, syntactic and lexical devices, illustrated by the following sentences:

(1) a. John hit *Mary* (not Ann)
    b. Jan uderzył *Marię* (nie Annę)
(2) a. *Mary* John hit
    b. *Marię* Jan uderzył
(3) It was *Mary* that John hit
(4) To *Marię* Jan uderzył

In (1) a - b the element *Mary/Maria* is brought into the 'foreground' due to the contrastive stress that falls on it. In these sentences the focus word is put in the sentence final position, where the regular sentence stress applies. The contrastive stress, however, can fall on any element in any sentence position. (2) a - b are examples of topicalized constructions, i.e., *Mary*, the non-subject constituent which is the topic of the sentence has been shifted to the sentence initial position and stressed. In English, sentences like (3)a are

[1] I would like to thank George Horn for his comments.

focally bound independently of stress, as their word order differs from the regular S—V—O order. In Polish, the initial sentence position is usually taken up by lexical items with coreferential interpretation (previously mentioned in the text), and the occurrence of a non-subject constituent in that position does not mark it for focus. It is, therefore, a combination of position and stress that makes the word *Maria* prominent. (3) illustrates the use of a special syntactic construction in which *Mary*, the focus element, is placed in post-copular position and is modified by the out-of-focus relative clause. Sentence (4) involves the insertion of emphatic *to* in front of the topicalized element *Maria*.

In this paper we will concentrate on the types of structures shown in (3) and (4), i.e., cleft sentences in English and their Polish counterparts with the initial *to*. The analysis we are going to use, however, will enable us to grasp the relation between all the above-listed sentences. We will compare semantic representations of the English cleft sentences and their Polish counterparts, discuss transformations involved in their derivation, restrictions that these sentences impose on the elements that can occur in the focus position, and briefly talk about their relation to other sentences in the text.

We claim that cleft sentences in English and sentences with the initial emphatic *to* in Polish, have the same semantic representations containing constituents PRSP and FOC — presupposition and focus. We assume after Muraki (1970 : 390; 1974 : 15) that the presupposition is a two-place predicate PRESUPPOSE (or *is presupposed for*) which relates two sentences as in [Prsp S_1 S_2], meaning that S_1 is presupposed for S_2. The semantic representation of (3), for instance, will be:

(5) Prsp [hit John Δ] [hit John Mary]

Δ represents a 'dummy' position or unfilled position in the presupposition, that can be read 'someone', so example (3) presupposes that John hit someone and asserts that it was Mary.

The presence of PRSP as a primitive predicate[2] in the deep structure of sentences makes it possible to distinguish between their assertions and presuppositions, which in turn, will help us capture the relation between such pairs of sentences as (1) - (4). All these sentences have the same presupposition (John hit someone) and the assertion (John hit Mary), hence they have the same meaning The main difference between them lies in the transformations that have applied to them resulting in three different surface structures.

According to the framework we have adopted in the present paper (cf. Muraki 1970 : 1974) the semantic structure of (1) will be something like:

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[2] i.e., "not to be defined by other predicates" (Muraki 1970:390).

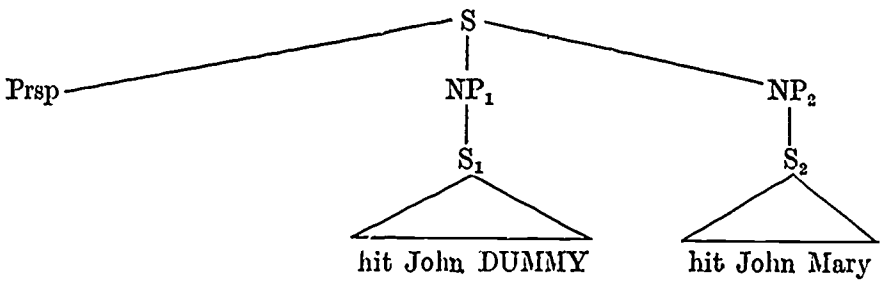
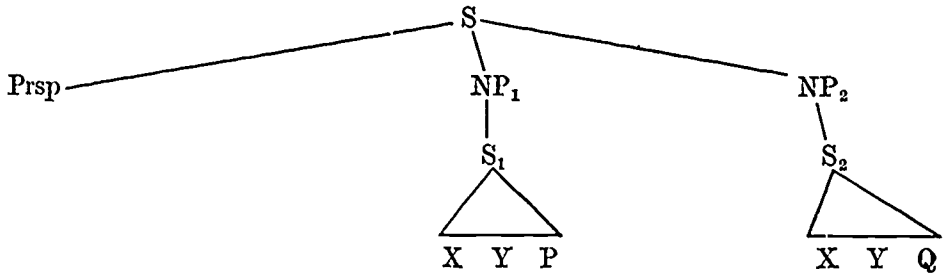


Fig. 1

Contrastive stress is assigned by a rule like the following (Muraki 1970 : 394) which applies to structure like Fig. 2:



X=hit P=DUMMY
Y=John Q=Mary

Fig. 2

The structural description of the rule is:

1. s[Prsp S_1 S_2]
2. For every constituent in S_1, there is a corresponding constituent in S_2.
3. Every S_1 constituent is either a dummy or identical to the corresponding S_2 constituent.

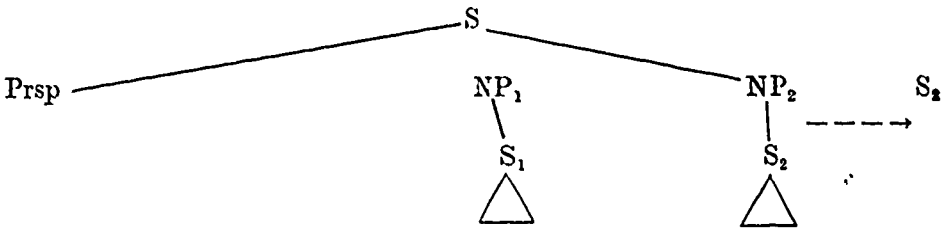
Its structural change is:

1. For every S node which satisfies the SD, specify each focus as [+sts]. (If a constituent in S_2 is not a dummy but corresponds to a dummy in S_1, it is called a 'focus').
2. If a non-terminal node is [+sts], all its constituents are also specified as [+sts].
3. Every constituent of the P-marker which is not specified as [+sts] will be [−sts].

For example, in Fig. 2 P=dummy and Q=*Mary*, therefore *Mary* is assigned

contrastive stress; PRSP and NP_1 are deleted and the resulting surface form will be:

(1) John hit *Mary*



Presupposition deletion

Fig. 3

Sentences like (2)a require a topicalization transformation that moves the stressed object-NP to the sentence initial position, after the rules of stress assignment and PRSP deletion have applied.

Polish sentences of the type (1)b have the same semantic structure as their English counterparts:

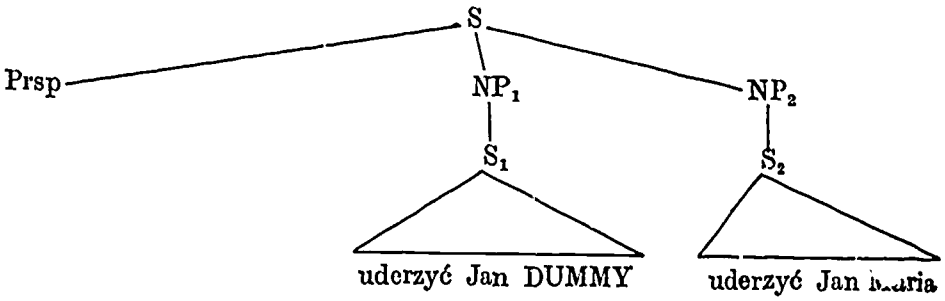


Fig. 4

They also undergo the obligatory and precyclic stress placement rule, and in case of (2)b the rule that moves the stressed item to the sentence initial position after the deletion of presupposition.

The semantic structure of (3) and (4) will look like the one shown above. After stress specification, however, the syntactic transformations apply in English. Let us analyse (3) first.

(3) It was *Mary* that John hit

The following is the structure after stress assignment:

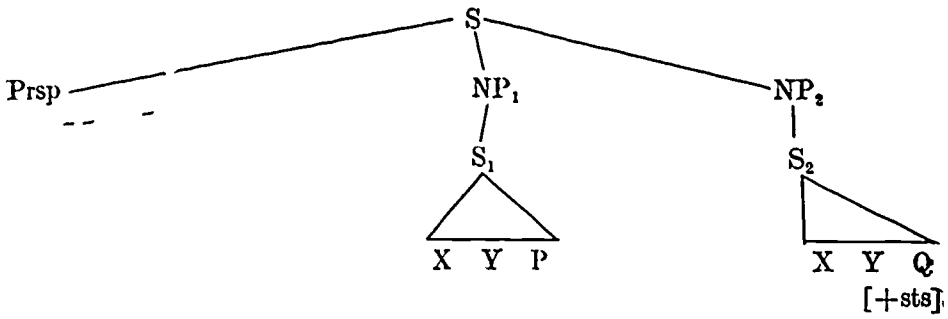


Fig. 5

The rule of cleft formation, which has the following SD now applies (Muraki 1970 : 393):

1. s[Prsp S_1 S_2]
2. Q is a constituent in S_2 and includes a focus (i.e. *Mary*)
3. There is no focus outside of Q
4. is the S_1 constituent which corresponds to Q (dummy)

The processes involved in clefting include:

1. Chomsky-adjoining of that/who[3] to S_1
2. Chomsky-adjoining of *it* to the left of the NP_1
3. Deletion of S_2 except Q
4. Deletion of P
5. Presupposition-copula substitution[4]
6. Subject preposing
7. Extraposition

The heavy (emphatic) stress and the post-copular position of *Mary* make it the focus of (3). This however, does not mean that in general, the clefted constituent is equivalent to the focus.

The structural description of cleft formation specifies that Q be a constituent in S_2 and INCLUDE a focus. If we take a NP like *an ex-convict with a red shirt* (Jackendoff 1972 : 233) we can distinguish four different elements that could become a focus in the cleft sentence, namely,

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[3] *That/who* are not the only forms that can occur in cleft sentences. *Whose, where,* or 'zero' are also possible. According to Quirk (1972 : 953) "*whom* and *which* are only marginally possible and it is virtually impossible to use *whom* and *which* preceded by a preposition". The sentence *It was the dog to which I gave the water* is not a cleft sentence.

[4] Other forms of be are also possible, though less usual (cf. Quirk 1972 : 952), e.g.,
(1) It must have been at night that the two cars collided.
(2) It may have been Henry who hit Mary
(3) It might be his brother that you saw

1. (an) ex-convict with a red shirt
2. with a red shirt
3. a *red* shirt
4. shirt

Since it is impossible to single any element out of a complex NP (Ross 1967), cleft sentences like (6) and (7) are unacceptable:

(6) *It is *with a red shirt* that I saw an ex-convict

(7) *It is *shirt* that I saw an ex-convict with a red

The third process involved in clefting was "delete S_2 except Q (=focus)". If, however, the focus is included in a complex NP, the deletion of the remainder of S_2 except for the stressed constituent will produce an unacceptable sentence: (8) *It was RED that I saw an ex-convict with a shirt

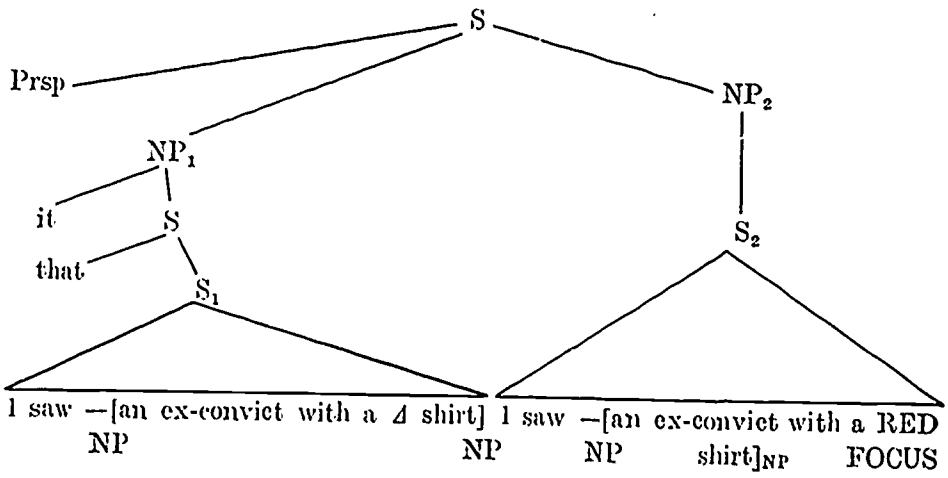


Fig.6

Thus process 3 as well as process 4 must be subject to the Ross constraints, i.e., in S_2 (NP_2) the entire NP containing the focus must remain in S_2, and only the remainder of S_2 outside this NP must be deleted; and in S_1 (NP_1) the whole NP, not only the element corresponding to the focus in NP_2, must be deleted.

The following example is ungrammatical because these processes of cleft formation violated another island constraint: the prohibition of movement of an element from a 'because' subordinate clause.

(9) It was that decided to return because was ill.

This contrasts with (10), which involves no such violation: (10) It was because he was ill that we decided to return (Quirk 1972 : 953)

Additional examples are not difficult to construct.

The Polish sentence *To Marię Jan uderzył* has the same semantic representation as the one postulated for the English cleft sentence *It was Mary that*

John hit (cf. Fig. 4). If, however, we used the same derivational procedure as in case of the cleft sentence (3), at some stage of the derivation we would get an ungrammatical structure:

(11) *To jest Maria, którą Jan uderzył

This structure could be more acceptable if we replaced *Maria* with a noun like *dziewczyna*

(12) To jest dziewczyna, którą Jan uderzył

(12) however, is clearly a relative sentence, and not a sentence like (4), in which we identify a person who John hit with Mary. We could try to delete the copula, as it does not occur in (4). After all it does not always appear in the surface structure of other constructions either, e.g.

(13) Połowa nowych książek to pamiętniki

(14) A to niespodzianka!

(15) To mój brat

In these examples, however, the copula is recoverable. It is used in the past and future (to była niespodzianka!), so in the present it is simply optional. In sentences like *To Marię Jan uderzył*, it never occurs, though, e.g.,

(16) To dlatego chodzę czarno ubrana jak wrona

a. *To jest dlatego chodzę czarno ubrana jak wrona

(17) Przecież to właśnie dzięki tobie zawarliśmy pakt z Gustawem Szwedzkim (Sz. 1977 : 7)

a. *Przecież to właśnie było dzięki tobie zawarliśmy...

Besides, even if the copula was present in the underlying structure and was later obligatorily deleted, how shall we explain the fact that NPs that occur after *to* can have various case forms depending on the sentence VP? The copula would impose the nominative case on them. Therefore, the presence of *to* without the copula cannot be attributed to the reduction of the *to jest* expresion.

Now that we have rejected the possibility of the copula deletion, we will have to explain the presence of *to* in the analysed sentences. Doroszewski (1967) gives many examples for the use of *to*. *To* is defined as an "uninflected word of expressive character, enhancing or emphasizing words that it accompanies, parts of the sentence, or sentences in which it is used" (Doroszewski 1967 : 164; translation mine).

(18) To się człowiek strachu najadł (164)

(19) Ci dyplomaci to nie masz pojęcia ile to oni rzeczy wiedzą (164)

(20) Zginę to zginę (165)

(21) Jedyna przyjemność Wikty to stanąć pod bramą i patrzeć na świat (166)

(23) Jej to dał jabłko a mnie nie

The above examples show that *to* can appear in various sentence positions and in front of various of its elements. We could, then, say that *to* in sentences

like (4) is the same type of emphatic pronoun that appears in the contiguity of the focus element in topicalized sentences.

The next thing to explain is the absence of relative pronoun in Polish sentences like (4). In English the relative pronoun *that* or *who* is necessary, as it joins two sentences *It was Mary* and *John hit Mary*. Again, we could delete that pronoun from the structure (11) — if, of course, we tried to adopt the same derivation as in case of the English cleft sentences. In English, for instance, *that* can be deleted when the focus element is an object NP, e.g.,

(24) It was Mary John hit

In Russian, the use of both the copula verb and relative pronoun is optional. Thus the sentence

(25) To Iwan dzwonił

may have the form

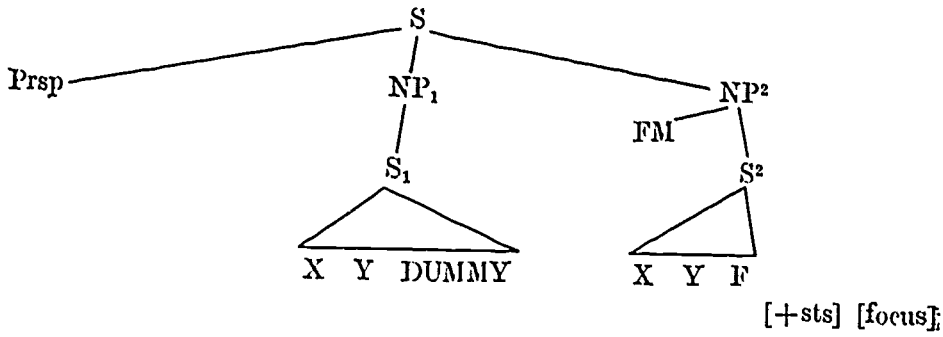
(25)a. Eto Ivan zvonil

or

(25)b. Eto byl Ivan kotoryj zvonil (Gundel 1976 : 6)

In Polish sentences with the initial *to* relative pronoun does not appear under any circumstances. Thus the obligatory deletion would be very weakly motivated. The absence of the relative pronoun in the Polish sentences would point to another derivational difference between the latter and the English clefts. In Polish the final product of the derivation is a simple sentence (*To Marię Jan uderzył*) whereas in English it is a complex one (*It was Mary that John hit*).

Summing up, we cannot use the same procedure in deriving Polish counterparts of English cleft sentences. The semantic structure of both is identical, and this enables us to consider them semantic equivalents. However, the transformations that apply to derive (3) and (4) are different. In case of the Polish sentences like (4) we use the following rules: first we assign stress to one of the elements (*Maria*), thus making it the focus of the sentence; then, we join the uninflected emphatic word *to*, which we will call the focus marker, to the left of focus element.



FM=focus marker

Fig. 7

Next all the elements of S_2, except for the focus, are deleted. From S_1 we delete the empty element that semantically corresponds to the focus in S_2. After the presupposition deletion, the focus together with the preceding *to* is shifted to the sentence initial position.

It should be emphasized that *to* in the analysed sentences can occur only at the beginning of the sentence.[5]

(26) To pieniądz był moim władcą, a nie pan (Sh 135) (it was money that used to be my master - 122)

(27) To tutaj zostanie zbudowany nowy uniwersytet
(it's here that a new university will be built)

In Polish focus sentences very often the focus element is accompanied by such words as *właśnie, dopiero, tylko, przecież* which are referred to as 'modulanty' (Jodłowski 1976 : 21). These words (and negation) undergo the so-called association with focus,[6] e.g.,

(28) Właśnie te namiętności, co do których się mylimy tym bezwzględniej nas tyranizują (W22)

(29) To właśnie tutaj

(30) Pojechaliśmy tam dopiero w sobotę

The above-mentioned words, however, cannot be considered to be pure-focus markers, since apart from specifying the focus they also carry some additional information about it. *To* on the other hand, has only an emphatic function. It points to the only possible element brought into the foreground of a given utterance.

Both English and Polish impose restrictions (in addition to the above-mentioned) on the constituents that can occur in the post-copular position of cleft sentences and in the focus position of the *to* — constructions. English cleft sentences can cleave out NPs, nominals, PPs and adverbials of time and place.

(31) It was *Bill* that John saw the other day (NP)

(32) It was *yesterday* that I talked to Jan (Adv_t)

(33) It was *in the garage* that Bill was murdered (PP)

(34) It is *writing books* that he likes most (nom)

The constituent that cannot appear in the focus position of cleft sentences include predicate nominatives and predicate adjectives (Emonds 1970 : 127), e.g.

(35) *It is *quite happy* that Bill is

(36) *It was *impudent* that Mary seemed

(37) *It was *sick* that children became

(38) *It was *tired* that he grew

[5] *To* precedes focus element. It can only follow pronouns, e.g., On *to* właśnie kupił tę posiadłość.

[6] Unlike *to*, they can occur in any sentence position.

(39) *It's a *genius* that he is
(40) *It's *a lecturer* that I am now (Quirk 1972 : 952)
(41) ??It's *dark green* that we've painted the kitchen (marginally acceptable — Obj. Comp. cf. Quirk (1972 : 952))

Verb and participles do not lend themselves to clefting either:

(42) *It's *blow up some buildings* that you should do
(43) *It's *to buy a new house* that I wanted
(44) *It's *playing for time* that they are doing
(45) *It would be *for her to be late* that would upset me now (Emonds 1970 :127)

Quirk (1972 : 952) suggests that "one could circumvent the restriction on V as focus by rendering the verb in a non-finite form either as an infinitive or as a participle:

It's teach(ing) that he does for a living"

in which case "the verb DO comes into use". Even so, the above sentence sounds unacceptable to a number of native speakers of English.

There is also a restriction on cleaving out sentences.

(46) *It was *that Mary came home early* that John was happy (about)
(47) *It was *that they all leave early* that the teacher required.

In the Polish focus constructions, the elements that can be preceded by the initial emphatic *to* include NPs, nominals, PPs, time and place adverbials and PRO-forms, e.g.,

(48) To *Jan* przyjechał (it's John who has arrived)
(49) To właśnie *pisania listów* nie znosił
(it was writing letters that he could not stand)
(50) To właśnie *w tym ogrodzie* zamordowano Billa
(it was in this garden that Bill was murdered)
(51) To *w ten sposób* trzeba wychowywać dzieci
(it is this way that one should raise children)
(52) To *ona* nauczyła ich tańczyć
(it was she who taught them dancing)

Verbs, headless relative clauses, predicate nominatives and predicate adjectives cannot appear in the focus position marked by *to*, e.g.

(53) *To *uderzył* Marię Jan
(54) *To *geniuszem* Jan jest[7]
(55) *To (właśnie) *wysoki* Jan jest

Many of these restrictions may be syntactic rather than semantic in both languages. We will not discuss them in this paper.

Polish word order allows for more manipulation than English and fairly often what is cleaved out in English can be rendered in Polish not only by

[7] We can say *Jan to geniusz*, where *geniusz* will be the focus. This sentence, however, is not the kind we are analysing.

means of lexical emphasis (*to*) but by changes in the word order (this being determined by stylistic considerations). In many cases, for instance, the sentence final position is chosen for the focus constituent, which occurs after the initial *it is* in English cleft sentences:

(56) Najsubtelniejsze poprawki do historii nasuwały mu się *w gorączce zwierzeń* (H 125)
(It was *in the heat of talk* that his finest emendations of history occurred to him — 133)

(57) Wszystko było winą portretu (W 251)
(It was the portrait that had done everything — 283)

(58) Musi teraz myśleć o sobie, o swojej przyszłości (W 251)
(It was of himself, and of his own future that he had to think — 283)

The focused constituent can sometimes appear at the beginning of a sentence and is marked for emphasis by means of word order changes, e.g.,

(59) *Gracja pierwsza* dotrzymała słowa (vs Gracja dotrzymała słowa pierwsza) (H 83)
(It was Grace who first kept her promise (78))

(60) *Piękność jego* pchnęła go do zguby, piękność jego i młodość (W 280)
(It was his beauty that ruined him, his youth and beauty — 288)

Neither English cleft sentences nor the Polish focus constructions under discussion can begin a discourse. They require a preceding context of some kind, be it a sequence of sentences, situation or the context provided by the general knowledge of the speaker and the addressee. That requirement is not sufficient though, as the constructions in questions cannot be used in an arbitrarily chosen point of the discourse, c.f.:

(61) John, Mary and Tom went to Spain last summer
a. *It was *by train* that they got to Spain
b. *It was *with difficulty* that they got there
c. *It was *Philip* that they didn't take with them
d. It was *there* that they found good jobs
e. It was *then* that they got to know each other better
d. It was *Tom* who suggested the whole trip

Similarly in Polish:

(62) Wieś, w której mieszkała księgowa zostanie zalana
a. *To właśnie zbiornik, o którym mi mówiono w Warszawie powstanie tutaj
b. To właśnie tutaj powstanie zbiornik, o którym mówiono mi w Warszawie
(the village in which the book-keeper lives will be flooded. It's here that the reservoir I've been told about in Warsaw will be built)

In (66a - c) neither of the clefted phrases has an antecedent in the preceding sentence, nor is it the case with the focused constituents in the Polish sentence (67)a, whereas *there*, *then*, *Tom* (66d - f) and *tutaj* (67b) have their referents

n the sentence (66) and (67), respectively. What should be taken into account, then, is the notion of coreferentiality.

According to Lakoff (1971 : 261) "the semantic content of the focus is the assertion of coreferentiality". In his example *the TALL girl left* "it is presupposed that some girl left and it is presupposed that some girl is tall. The new information is that some girl who has left is coreferential with the girl who was presupposed to be tall". In the example like (68)

(68) It was *Mary* (that) John took out to dinner

we have the similar type of coreferentiality, i.e., it is presupposed that John took someone to dinner (Dummy in our semantic representation) and it is presupposed that Mary is "someone"; what is not presupposed is the identity of Mary with the person that John took out to dinner.

We think a similar relation of coreferentiality must exist between the focus constructions in question and the sentences with which they can form sequences. Notice that many focus sentences contain a pro-form in the focus position, which presupposes the presence of an antecedent in the preceding context. This illustrated by (66d - e), (67b) and the following:

(69) The year I left, we took separate holidays, and it was *then* that I decided that our marriage was over.

(70) ... but a great deal of intonational and phonetic preparations has been taking place for some three months previously, and it is *this* we wish to reflect...

(71) ... Herbert uśmiechał się w ten sam sposób — nagłym uśmiechem pełnym dobrodusznej życzliwości. *Ten* uśmiech właśnie uniemożliwiał, przynajmniej w moim wypadku, potraktowanie go z należytą bezwzględnością (H 38).

It would not be correct, however, to say that focus constructions can form a coherent sequence only with sentences that contain a constituent that corresponds to the focused element. The "intersentential coreference" in the following sentences, for instance does not involve lexical items repeated in the focus position of S_{foc} either in their original form or as their pro-forms:

(72) Still, it was her business and in no way mine. If she felt that she could be happy with Rodney, well, then, poor idiot! let her be happy. And so on. It was *with reflections like these* that I solaced myself (H 81)

(73) He would come to my house for dinner. I'll never forget the flurry of these preparations — putting flowers in vases, changing sheets, thumping knots out of pillows, trying to cook, putting on make-up and keeping my brush near by in case he arrived early. The agony of it! It was *with difficulty* I answered the doorbell, when it finally rang (O 14)

(74) The famous experiments of Pavlov (...) showed how dogs can be conditioned to salivate to the signal of a bell. But it is not only animals that can be 'brainwashed' in this way (S. T.)

Let us look at the general principle governing the coherence of the discourse. The main prerequisite of a coherent sequence of sentences is that some logical connection obtain between them. Such a connection can be, for instance provided by a distinctive common topic (Ruhl 1973) the sentences share. In the sequences we have quoted, the topic is made explicit by selecting one of the few mentioned individuals from the preceding context and repeating it either in the form of a definite noun, or a pro-form, or some semantically related phrase. The selected (identified) element is assigned heavy stress and function of comment (focus) (cf. Dijk 1972). Thus the relation between focus constructions and the preceding text involves a coreference between the presupposition of S_n (focus construction) and the presupposition of the preceding sentence(s). The focused constituent, then, must be 'semantically coreferential' with some constituent or constituents in the preceding context.

Lakoff (1971 : 70) says that "an anaphoric expression may have as its antecedent an expression which is not in the sentence itself, nor in the presuppositions of the sentence but in some line of deduction based on those presuppositions". This, in a very general way, could account for the well-formedness of the sequences quoted above. These principles, however, are as yet ill-defined and are not statable in any more precise way. Further research is necessary to arrive at any sort of solution to this problem.

SUMMARY

The relation holding between English cleft sentences and Polish sentences with the initial focus marker *to* is that of semantic equivalence, i.e., they have the same semantic representations. The diversification begins at the level of transformations which bring about a change of the syntactic structure in case of English and insert lexical exponents of focus in Polish. Both English and Polish focus constructions impose similar restrictions on the elements permissible in their focus position. Their distribution in the text is similar, i.e., they can follow sentences whose presuppositions are coreferential with the presuppositions they contain.

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SOME ASPECTS OF TYPOLOGY OF RELATIVE CLAUSES IN ENGLISH AND POLISH

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1.1. English relative clauses are traditionally divided into two categories: restrictive and non-restrictive, or appositive. Depending on their functions, members of the latter group are further subdivided into noun and sentence-modifiers. Criteria of the above division, as well as mutual relationship between members of both categories and restrictions conditioning their occurrence, have been recently frequently discussed by numerous linguists. The moot point of the discussion is the problem of the origin of relatives.

According to the first of the two generally accepted explanations, restrictive relatives result from embedding of a clause under a coreferential NP by a rule of the base, while non-restrictive relatives come as the output of the operation of a transformational rule on the second of two sentences conjoined by the conjunction *and*. (For discussion, see eg. Aissen 1972). On the other hand, some linguists believe that, in view of syntactic and functional similarities between both types of relative clauses, conjunction should be considered as their common underlying representation (cf. eg. Thompson 1971). The evidence presented further in this paper provides some arguments for the second of those hypotheses, thus following the observations made in one of my earlier papers (Muskat-Tabakowska, forthcoming).

1.2. A comparison of formal properties of relative clauses in English and Polish shows certain basic similarities between the two languages: both in English and in Polish the head noun precedes the relative clause, the basic type of relative involving movement of an interrogative word.[1] Functionally,

[1] The other two types which occur as superficial structures of English, i.e., deletion of the coreferential NP and deletion and insertion of the invariant marker *that*, are considered as forms derived from the basic structure. Such treatment was first proposed by Arthur Schwartz; for a discussion see Morgan (1972).

they are also analogous: in both languages they serve as modifiers of the head NP, or, in case of sentence modification, of the entire main clause. Yet the typology offered in traditional Polish textbook grammars does not in general correspond to the restrictive vs. non-restrictive dichotomy. To the best of my knowledge, the only exception in this respect is the classification offered by Zawadowski (1952), who supplies both semantic and syntactic evidence to motivate a clearcut division of Polish relatives into two categories: *dystynkcyjne* (distinctive), which serve as attributes of main clause head NP's, constitute an element of the NP and cannot be either parenthesised or omitted, and *narracyjne* (narrative), which do not function as attributes, do not constitute an element of the NP and do not provide a 'necessary complement' of the semantic import of the main clause. Thus Zawadowski's treatment of relative clauses in Polish corresponds to the typology presented in most traditional textbook grammars of English.

A more refined classification was offered by Klemensiewicz (1963) His division of relative clauses (i.e., clauses 'introduced by junction pronouns' — 'zaimki zespolenia') comprises three categories:

1. *przydawkowe wyszczególniające* (specifying attributive clauses), which 'specify the content introduced in a general way by a demonstrative pronoun *ten, ów, taki* which is under logical stress' (Klemensiewicz 1963 : 86). In other words, this group includes restrictive relative clauses with definite head NP's. But, like in English, rules of relative clause formation in Polish allow also for restrictive modification of non-definite NP's, cf. eg.,

(1) Brat mój ... wstąpił w związek małżeński z *dziewczyną, z którą* łączyły mnie wcześniejsze kontakty. ('Prawo i Życie', 33 (1976)) (My brother married *a girl with whom* I had previously kept in touch)

Moreover, the demonstrative pronoun may not be overtly present, and its absence does not necessarily mark the noun as non-definite:

(2) Popatrzyłam na *mężczyznę, który* miał na głowie czerwoną przepaskę.

(2a) I looked at {a / the} man who was wearing a red bandana.

Klemensiewicz's typology does not make it possible to clasify sentences like (1) and (2) in a satisfactory way: both of them would have to be listed as members of the second category, i.e.,

2. *przydawkowe znamionujące* (distinguishing attributive clauses), which serve as attributes of 'one of the nominal constituents of the main clause', the second clause including a coreferential NP (Klemensiewicz 1963 : 86). Although rather vague, this definition must be taken to cover those relative clauses which English grammars describe as non-restrictives. As I attempted to show

elsewhere (Muskat-Tabakowska, forthcoming), formal and semantic criteria offered by Klemensiewicz to serve as means of differentiating between categories 1. and 2. cannot be considered satisfactory. Consequently, no clearcut division between the two types of relatives is possible.

Following some earlier typologies, Klemensiewicz describes a third category of relative clauses, i.e.

3. *rozwijające* (developing clauses). Although their surface structure is identical to that of *specifying* and *distinguishing* clauses, their semantic import and communicational function is different: they provide a 'non-necessary development' of the semantic content of the main clause. In respect of their structure, they can be included into one of two subcategories:

a. those in which 'the entire content of the main clause is introduced through relativization into the subordinate clause by means of the pronoun *co*, which becomes its subject' (Klemensiewicz 1963 : 100), i.e., non-restrictive sentence modifiers, and
b. those which 'develop and continue the action of the main clause and organize their content by relating it in a purely external way to one of the constituents of the main clause' (Klemensiewicz 1963 : 101).

Formal and semantic status of some members of this category of relatives in Polish is the subject-matter of a series of articles by Twardzikowa (1969, 1970a, 1970b), to which I will repeatedly refer further in this paper.

1.3. The discussion presented in the following sections of this paper is based on the assumption that, in view of formal and functional similarities between relative clauses in English and Polish, some typological principles can be established which will provide an adequate means of classification, applicable to both these languages. An analysis of linguistic data could perhaps lead to the formulation of a set of criteria of such a classification, thus providing a contribution towards a theory of relatives. It is my purpose to propose such a typology, to present some evidence by which it is motivated and to show its bearing upon some other related aspects of English and Polish grammars.

1.4. The assumption that an appropriate underlying representation for relative clauses of all types is some sort of conjunction obviously renders the criterion of derivational distinction useless as a basis for their classification. I believe that it is precisely the type of conjunction involved in their formation that can serve as a principle of taxonomic classification. Accordingly, I will postulate, both for English and for Polish, the existence of three categories of relatives, which I shall discuss in the following sections of this paper.

2.1. In her discussion of relative clauses Smith (1969) points to the obvious

relation between selectional restrictions concerning relatives and the degree of definiteness of the head NP. Having suggested a threefold classification of English determiners as to their definiteness — i.e., Unspecified, Specified and Unique — she claims that restrictive relative clauses can only occur with the first two groups. Indeed, proper nouns can function as head NP's of restrictives, but only if preceded by a determiner, which implies the loss of their property of establishing unique designation, e.g.,

(3) Mosby had evoked ... a Lustgarten whose doom was this gaping comedy. (Saul Bellow, 'Mosby's Memoirs')
(3a) Mosby powołał do życia *takiego* Lustgartena, którego przeznaczeniem była ta rozłażąca się w szwach komedia.
(4) The Lustgarten whom Mosby had evoked never really existed.
(4a) *Ten* Lustgarten, którego Mosby powołał do życia, nigdy nie istniał naprawdę.

As shown in sentences (3)—(4a), the restriction is identical for English and Polish, which requires superficial occurrence of a deictic pronoun that serves as a [-Def] or [+Def] specified determiner. Thus it seems justified to restrict further discussion to specified and unspecified designation only.

2.2. Let us consider the following sentence:

(5) The Texas sheriff who hates his deputy is tracking down a bankrobber. (From a 'Time' film review)

The underlying representation of (5) is

(6) (Texas sheriff is tracking down a bank-robber) (Texas sheriff hates his deputy)

As the determiner of the head NP in the main clause is [+Def], it can be legitimately assumed that it is the relative clause that satisfies the generally acknowledged requirement of 'previous mention'. Then underlying (5) is

(7) 1. A Texas sheriff hates his deputy
2. The Texas sheriff is tracking down a bank-robber

Granted the coreferentiality of NP's in (7) 1 and (7) 2, the constituent that appears as the embedded clause in (5) is a means of establishing the designation of the NP in the main clause, i.e., it performs the 'restricting' function. On the other hand, it will be noticed that the underlying representation of

(8) The Texas sheriff who is tracking down a bank-robber hates his deputy is

(9) 1. A Texas sheriff is tracking down a bank-robber
2. The Texas sheriff hates his deputy,

where (9) 1 restricts the designation of the head NP in (9) 2. The choice between (5) and (8) seems to depend on the language user's presuppositions concerning the extent of the recipient's knowledge: (5) presupposes something like

(10) There is a Texas sheriff who hates his deputy,

while the presupposition that conditions the choice of (8) is

(11) There is a Texas sheriff who is tracking down a bank-robber.[2]

Thus it can be stated that although the constituent sentences of (5) are mutually dependant in respect of their function of establishing the degree of specification of the determiner of the coreferential NP, the embedding is superficial, in the sense that the choice of the embedded simplex depends solely on the presupposition made by the user of language. However, the underlying conjunction is asymmetrical, as the presupposition conditions the ordering of the underlying constituents.

2.3. It has been frequently noticed that 'relative clauses with indefinite nouns do not 'restrict' these nouns in the way that relative clauses with definite nouns seem to' (Thompson 1971 : 82), and it seems that structures underlying embedding provide some evidence for this difference. Consider e.g.,

(12) A Texas sheriff who hates his deputy is tracking down a bank-robber.

Underlying (12) is (6); however, specification of determiners of the coreferential NP's in both constituents entails

(13) 1. Some (or at least one) Texas sheriffs hate their deputies[3]
2. One of those Texas sheriffs is tracking down a bank-robber,

as the restriction in (12) is the restriction to a certain set of entities (Such Texas sheriffs that hate their deputies) rather than to a single object. Contrary to (5), establishing coreference in (12) does not entail establishing unique designation. Consequently, underlying

(14) A Texas sheriff who is tracking down a bank-robber hates his deputy.

is

(15) 1. Some (or at least one) Texas sheriffs are tracking down bankrobbers
2. One of those Texas sheriffs hates his deputy.

The choice between (12) and (14) depends on presuppositions made by the user, as (12) presupposes the recipient's knowledge of

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[2] For a discussion see Thompson (1971 : 80ff).

[3] The number of entities in a given set in structure like (12) remains undetermined, cf. ex. (39) below.

(16) There is at least one Texas sheriff who hates his deputy,

while (14) presupposes

(17) There is at least one Texas sheriff who tracks down bank-robbers.[4]

2.4. So called predicate sentences, i.e., those with *is* as the main verb, which usually require special treatment because of their specific properties, yield to the above interpretation. Thus, underlying

(18) My sister is the doctor who cured Allan[5]
is

(19) 1. A doctor cured Allan
2. My sister is the doctor.

2.5. As was pointed out in Stockwell et al. (1973 : 428ff), the only correct paraphrase of relatives with generic NP's (i.e., with generic *a*, *the* and the unspecified determiners) is a conditional of the type 'if,... then', i.e., sentences like

(20) Every sheriff who hates his deputy tracks down bank-robbers single-handed

are equivalent to

(21) If a sheriff hates his deputy, he tracks down bank-robbers single-handed.

The 'restrictive' character of sentences like (20) and (21) comes clearly from their common underlying representation:

(22) 1. Some (or at least one) sheriff hate their deputies
2. Every one of those sheriffs tracks down bank-robbers single-handed,

which postulates two sentences that are ordered, in the sense that the second one performs the function of restricting the designation of the coreferential NP, as it occurs in the first one. Thus (20) is analogous to (12): the designation is narrowed down to a set of entities.

2.6. Consider in turn the Polish equivalents of (5)—(22), the full list of which is given below.

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[4] I am well aware of the fact (pointed out by Schachter (1973 : 43)) that there exist such relatives which do not contain 'refering' NP's and which, consequently, do not express existential presuppositions of this type. However, the 'non-refering' NP's are generic, and relatives in which they occur involve the aspect of conditionality, thus constituting a specific subclass which will be discussed in the following section of this paper.

[5] Example quoted by Smith (1969 : 257).

(5a) Szeryf z Teksasu, który nienawidzi swego zastępcy, tropi włamywacza
(5b) Włamywacza tropi ten szeryf z Teksasu, który nienawidzi swego zastępcy
(7a) 1. {Jakiś / Pewien} szeryf z Teksasu nienawidzi swego zastępcy[6]
2. Ten szeryf z Teksasu tropi włamywacza
(8a) Szeryf z Teksasu, który tropi włamywacza, nienawidzi swego zastępcy
(8b) Swego zastępcy nienawidzi ten szeryf z Teksasu, który tropi włamywacza
(9a) 1. {Jakiś / Pewien} szeryf z Teksasu tropi włamywacza
2. Ten szeryf z Teksasu nienawidzi swego zastępcy
(10a) Istnieje {jakiś / pewien} szeryf z Teksasu, który nienawidzi swego zastępcy
(11a) Istnieje {jakiś / pewien} szeryf z Teksasu, który tropi włamywacza
(12a) Włamywacza tropi {jakiś / pewien} szeryf z Teksasu, który nienawidzi swego zastępcy
(12b) {Jakiś / Pewien} szeryf z Teksasu, który nienawidzi swego zastępcy, tropi włamywacza
(13a) 1. Niektórzy (lub przynajmniej jeden) szeryfowie z Teksasu nienawidzą swoich zastępców
2. Jeden z takich szeryfów z Teksasu tropi włamywacza
(14a) Swego zastępcy nienawidzi {jakiś / pewien} szeryf z Teksasu, który tropi włamywacza
(15a) 1. Niektórzy (lub przynajmniej jeden) szeryfowie z Teksasu tropią włamywaczy
2. Jeden z takich szeryfów z Teksasu nienawidzi swego zastępcy
(16a) Istnieje przynajmniej jeden szeryf z Teksasu, który nienawidzi swego zastępcy
(17a) Istnieje przynajmniej jeden szeryf z Teksasu, który tropi włamywacza

As can be seen from the above examples, in spite of the fact that the lack of article in Polish has made linguists look for other criteria of classification of relatives than the restrictive function of the embedded clause in respect of designation of the coreferential NP, relevant grammatical rules for Polish require that analogous semantic distinctions are made. The difference between

[6] The exact meaning and the difference between undefinite pronouns *jakiś* and *pewien* requires a detailed discussion, which would go beyond the scope of this paper.

restriction to a definite specific designation as different from restriction to a certain set of entities is achieved either by word order or by overt presence of indefinite or definite pronouns. In (5a) the definiteness of the head NP is marked by its sentence-initial position, while the indefinite NP in (12a) occurs in the clause-final position. Thus examples (5a) and (12a) confirm observations concerning word order in Polish which were made by Szwedek (1976 : : 26ff), as well as his hypothesis that 'the lack of the pronoun does not mark the noun as indefinite'(Szwedek 1976 : 266). On the other hand, as seen from (5b) and (8b), the presence of definite pronouns in the surface structure clearly marks it for contrast; using this marker (called in Klemensiewicz 'zapowiednik zespolenia' — 'augury of junction') as the principle of classification entails restricting this group of relatives to a set of specifically marked sentences and thus overlooking the relevance of their semantic function: the underlying representation of surface structures both marked and unmarked for contrast is the same ((7a) for (5a) and (5b), (9a) for (8a) and (8b)).

The same observations hold true for predicate sentences and sentences with generic NP's, cf.

(18a) Lekarką, która wyleczyła Allana jest moja siostra
(18b) Tą lekarką, która wyleczyła Allana jest moja siostra

with the underlying

(19a) 1. {Jakaś / Pewna} lekarka wyleczyła Allana
2. Tą lekarką jest moja siostra

and

(20a) Każdy szeryf, który nienawidzi swego zastępcy, tropi włamywaczy sam

paraphrased as

(21a) Jeśli jakiś szeryf nienawidzi swego zastępcy, to tropi włamywaczy sam,

with the underlying

(22a) 1. Niektórzy (lub przynajmniej jeden) szeryfowie nienawidzą swoich zastępców
2. Wszyscy ci szeryfowie tropią włamywaczy sami.

In (21a) the indefinite pronoun is obligatory in sentence-initial position (cf. Szwedek 1976 : 267).

2.7. To conclude, it could be stated that for both English and Polish a class of relatives can be established for which

1. designations of the coreferential NP's in constituent simplexes are different,

the scope of designation of the head NP being restricted to a definite entity (with specified [+Def] NP determination) or to a set of entities (with specified [—Def] or unspecified determination),

2. although the underlying constituent simplexes are joined by simultaneous (as different from entailing) conjunction, the conjunction is asymmetrical, i.e., the order of constituents cannot be changed without affecting the meaning.

3.1. The second category traditionally established for English relatives includes those relative clauses that come as the result of embedding through a transformation operating on the second of the two conjoined sentences. According to Smith (1969), the transformation applies when the coreferential NP in the main clause is Unique or Specified in respect of definiteness. There is some evidence to claim that, both in English and in Polish, the ordering of simplex sentences from which this class of relatives is derived is optional, thus pointing to the symmetrical character of conjunction.

3.2. Consider the following set of sentences:

(23) Sheriff Jackie Gleason, who hates his deputy, is tracking down a bank-robber

(24) Sheriff Jackie Gleason, who is tracking down a bank-robber, hates his deputy.

Underlying both (22) and (23) is

(25) Sheriff Jackie Gleason hates his deputy
Sheriff Jackie Gleason is tracking down a bank-robber.

(26) The Texas sheriff, who hates his deputy, is tracking down a bank-robber

(27) The Texas sheriff, who is tracking down a bank-robber, hates his deputy.

Underlying both (26) and (27) is

(28) The Texas sheriff hates his deputy
The Texas sheriff is tracking down a bank-robber.

And finally

(29) A Texas sheriff, who hates his deputy, is tracking down a bank-robber

(30) A Texas sheriff, who is tracking down a bank-robber, hates his deputy,

with the underlying representation

(31) A Texas sheriff hates his deputy
The same Texas sheriff is tracking down a bank-robber.

As can be seen from these examples, irrespective of the degree of definiteness of the coreferential NP (Unique in (23)—(25), Specified [+Def] in (26)—(28), Specified [—Def] in (29)—(31)), its designation is identical for both constituent sentences, i.e., neither one performs the restrictive function in respect of the other. Hence, the ordering of constituents (that is, the choice between the main and the subordinate clause) is optional, in the sense that it depends entirely upon the user's preference as to which out of the two pieces of information should be given more prominence. This conforms to the intuitive feeling that the function of a 'non-restrictive' relative is to give an additional fact about an entity already identified: in (23) and (24) identification is achieved by the use of a proper noun, in (26) and (27) the designation of the coreferential NP is established by context, consituation or some sort of presupposition (in this case, inherent presupposition introduced by the definite article). However, the designation of the coreferential NP can also remain unidentified, either because it is not known to the language user, or else because he chooses not to make it known (cf. (29)—(31)).

3.3. Consider in turn the Polish equivalents of (23)—(31):

(23a) Szeryf Jackie Gleason, który nienawidzi swego zastępcy, tropi włamywacza

(23b) Szeryf Jackie Gleason, który to szeryf nienawidzi swego zastępcy, tropi włamywacza

(23c) Szeryf Jackie Gleason, który { nawiasem mówiąc / nota bene / zresztą / etc. } nienawidzi swego zastępcy, tropi włamywacza

(24a) Szeryf Jackie Gleason, który tropi włamywacza, nienawidzi swego zastępcy

(24b) Szeryf Jackie Gleason, który to szeryf tropi włamywacza, nienawidzi swego zastępcy

(24c) Szeryf Jackie Gleason, który { nawiasem mówiąc / nota bene / zresztą / etc. } tropi włamywacza, nienawidzi swego zastępcy

The underlying representation of (23a)—(24c) is

(25a) Szeryf Jackie Gleason nienawidzi swego zastępcy
Szeryf Jackie Gleason tropi włamywacza.

(26a) Szeryf z Teksasu, który nienawidzi swego zastępcy, tropi włamywacza.

(26b) Włamywacza tropi ten szeryf z Teksasu, który nienawidzi swego zastępcy

(26c) Szeryf z Teksasu, który to szeryf nienawidzi swego zastępcy, tropi włamywacza

(26d) Szeryf z Teksasu, który {nawiasem mówiąc / nota bene / zresztą / etc.} nienawidzi swego zastępcy, tropi włamywacza

(27a) Szeryf z Teksasu, który tropi włamywacza, nienawidzi swego zastępcy

(27b) Swego zastępcy nienawidzi ten szeryf z Teksasu, który tropi włamywacza

(27c) Swego zastępcy nienawidzi szeryf z Teksasu, który to szeryf tropi włamywacza

(27d) Swego zastępcy nienawidzi szeryf z Teksasu, który {nawiasem mówiąc / nota bene / zresztą / etc.}, tropi włamywacza

The underlying representation of (25a)—(27d) is

(28a) Szeryf z Teksasu nienawidzi swego zastępcy
Ten szeryf z Teksasu tropi włamywacza.

And finally

(29a) {Jakiś / Pewien} szeryf z Teksasu, który nienawidzi swego zastępcy, tropi włamywacza

(29b) {Jakiś / Pewien} szeryf z Teksasu, który to szeryf nienawidzi swego zastępcy. tropi włamywacza

(29c) {Jakiś / Pewien} szeryf z Teksasu, który {nawiasem mówiąc / nota bene / zresztą / etc.} nienawidzi swego zastępcy ,tropi włamywacza

(29d) Włamywacza tropi {(jakiś) / (pewien)} szeryf z Teksasu, który nienawidzi swego, zastępcy

(30a) {Jakiś / Pewien} szeryf z Teksasu, który tropi włamywacza, nienawidzi swego zastępcy

(30b) {Jakiś / Pewien} szeryf z Teksasu, który to szeryf tropi włamywacza, nienawidzi swego zastępcy

(30c) {Jakiś / Pewien} szeryf z Teksasu, który {nawiasem mówiąc / nota bene / zresztą / etc.} tropi włamywacza, nienawidzi swego zastępcy

(30d) Swego zastępcy nienawidzi {(jakiś) / (pewien)} szeryf z Teksasu, który tropi włamywacza.

The underlying representation of (29a)—(30d) is

(31a) {Jakiś / Pewien} szeryf z Teksasu nienawidzi swego zastępcy
Ten sam szeryf z Teksasu tropi włamywacza

Examples (23a)—(31a) show that there exists a category of relatives in Polish whose semantic function, as well as formal properties, correspond closely to non-restrictive relative clauses in English. The absence of determiners, as well as lack of a differentiating intonation marker in the written medium (commas are used, in a purely conventional way, in all types of relatives) is compensated by two kinds of surface markers: 1. repetition of the coreferential NP followed by the demonstrative pronoun *to*, whose function is merely to emphasise the fact that the noun had already been identified in respect of its designation (Skorupka 1959 : 65), ex. sentences (23b), (24b), (26c), (27c), (29b), 30b), and 2. presence in the subordinate clause of certain adverbials ('wskaźniki zespolenia' — 'markers of conjunction'), (cf. Muskat-Tabakowska, forthcoming, Twardzikowa 1969), which can also occur in coordinate clauses and whose function is to imply the 'additive' character of information contained in the relative clause, e.g. sentences (23c), (24c), (26d), (27d), (29c), (30c).

As was the case with restrictive modifiers, the overt presence of the demonstrative definite pronoun *ten* (with the necessary shift of word order) marks the sentence for contrast ((26b), (27b)).

3.4. It is interesting to mention in this connection the type of relative construction exemplified by

(32) Marvin Grosswirth is a freelance wirter who never leaves the house without his rubbers (From Introduction to an article about weather forecasts, 'Science Di est')

Like for predicate sentences with a [+Def] NP in object position (cf. ex. (18)

above), sentences of this type do not allow for non-restrictive relativization:

(33) *Marvin Grosswirth is a freelance writer, who never leaves the house without his rubbers,

(cf. Smith 1969 : 257—58).

The interpretation of (32) as a restrictive relative would require an underlying representation

(34) 1. Some (or at least one) freelance writers never leave their houses without their rubbers
2. Marvin Grosswirth is one of those freelance writers.

However, the interpretation which seems more in agreement with common intuition is rather

(35) Marvin Grosswirth is a freelance writer

Marvin Grosswirth never leaves the house without his rubbers,

thus suggesting non-restrictive modification. Indeed, (32) can be paraphrased as

(36) Marvin Grosswirth, who is a freelance writer, never leaves the house without his rubbers.

In Polish, the translation equivalent of (32) gives an ungrammatical sentence:

(32a) *Marvin Grosswirth jest współpracującym z redakcją pisarzem, który nigdy nie wychodzi z domu bez kaloszy,

which can be paraphrased as a plausible coordinate conjunction

(37) Marvin Grosswirth jest współpracującym z redakcją pisarzem *i* nigdy nie wychodzi z domu bez kaloszy

or a non-restrictive relative

(36a) Marvin Grosswirth, który jest współpracującym z redakcją pisarzem, nigdy nie wychodzi z domu bez kaloszy.

3.5. Sentence-modifying relative clauses will not be discussed in this place. In view of considerable similarities of their semantic function and syntactic properties in the two languages considered it seems possible to find common criteria of their typological classification. However, the problem requires further research and a detailed discussion which would go beyond the scope of this paper.

3.6. In view of the above discussion, it can be stated that for both English and Polish it is possible to establish a class of relatives for which

1. designations of coreferential NP's in constituent simplexes are the same, 'coreferentiality' not being tantamount to 'definiteness',
2. the underlying constituent simplexes are joined by a symmetrical conjunction, i.e., the order of constituents can be changed without changing the meaning, the choice being conditioned only by the user's judgement concerning relative importance of information that he wants to express.

This class has not in general been defined in a consistent way in traditional taxonomies of Polish relatives, as the surface structure alone cannot provide satisfactory classificatory criteria, for two main reasons: 1. deictic pronouns are overtly present only in some sentences of this type, i.e., the relatives marked for contrast (cf. (5b), (8b), (26b), (27b)), and 2. some Polish relatives (in their written form) are ambiguous in respect of designation of the coreferential NP (the surface structure of (5a) is identical to that of (26a), although the underlying representations of these two sentences differ). The resulting problem of interpretive differentiation between restrictive and non-restrictive modification in Polish remains to be investigated.

4.1. In addition to the above mentioned categories, there is another class of relative clauses that can be differentiated in both English and Polish. In traditional taxonomies they are considered as non-restrictive modifying relatives in English, and *zdania pozornie przydawkowe*, or *rozwijające*, in Polish, i.e., they are not differentiated as constituting a separate sub-class of relatives. The only exception that I am aware of is Twardzikowa's treatment of Polish subordinate clauses introduced by *gdy*, *jeśli* and *kto*, which she considers as different from 'regular' relatives and conditionals (Twardzikowa 1969, 1970a, 1970b). In both languages this third class of relatives is formally unspecified: there are no specific surface markers by which they might be distinguished from non-restrictive (rozwijające) clauses. They allow for the use of all relative pronouns, except *that* in English. A coreferential NP must occur in their underlying representation, whose designation, like in non-restrictives, is identical in both constituent simplexes. However, the semantic relationship between the constituents is different, which provides the basis for making the distinction. The specific property of those structures is that, in logical sense, no modification is involved, the mutual relation between the constituents being of some other semantic character.

Consequently, contrary to the other two categories, restrictions on the degree of definiteness of the coreferential NP seem to be less strict. Consider the following examples:

(38) John, who was the only boy in the group, paid the bill[7]
(38a) Jan, który był jedynym chłopcem w grupie, zapłacił rachunek

[7] The example taken from Aissen (1972), who discusses the occurrence of a similar class of relatives in Attic Greek.

(39) On his way to Blackpool John met a friend, who gave him a lift in his car

(39a) Po drodze do Blackpool Jan spotkał pewnego znajomego, który go podwiózł swoim samochodem

(40) He waited in the anteroom, where the rabbi's bearded followers went in and out in long coats (Saul Bellow, 'The Old System')

(40a) Czekał w przedpokoju, gdzie wchodzili i wychodzili brodaci uczniowie rabiego ubrani w długie płaszcze.

In (38 - 40a) the determination of the coreferential NP is, respectively, Unique, Specified [+Def], and Specified [—Def]. This type of relative clause can also occur, at least in Polish, with certain Unspecified determiners of the coreferential NP, cf.

(41) Najbardziej go zmartwiło, że nie mógł tam hodować żadnego zwierzęcia, którego przecież nie mógłby codziennie sprowadzać z dziesiątego piętra (from a daily newspaper)

(41a) ?What worried him most was that he could keep no pet there, which he would not be able take down from the 10th floor every day.

Underlying each of (38) - (41a) is a set of two sentences, but — contrary to the first two categories of relatives — the semantic import of the conjunction is not the symmetrical non-entailing *and*. This can be clearly seen if we consider that (38) - (41a) allow for paraphrases in which the coreferential NP in the second simplex is replaced by an appropriate anaphoric pronoun (which can be subsequently deleted) and the two constituents are joined by a copulative conjunction which expresses the semantic relation that holds between them:[8]

(42) John was the only boy in the group and (therefore) he paid the bill

(42a) Jan był jedynym chłopcem w grupie, więc zapłacił rachunek

(43) On his way to Blackpool John met a friend and (then) the friend gave him a lift in his car

(43a) Po drodze do Blackpool Jan spotkał pewnego znajomego, a następnie ów znajomy podwiózł go swoim samochodem

(44) He waited in the anteroom, and (there) the rabbi's bearded followers went in and out in long coats

(44a) Czekał w przedpokoju, tam zaś wchodzili i wychodzili brodaci uczniowie rabiego ubrani w długie płaszcze

(45) Najbardziej go zmartwiło, że nie mógł tam hodować żadnego zwierzęcia, bo przecież nie mógłby go codziennie sprowadzać z dziesiątego piętra

[8] For a discussion of Polish material, see Twardzikowa (1969 : 118).

(45a) What worried him most was that he could keep no pet there, as he would not be able to take it down from the 10th floor every day.

As seen from (42) - (45a), the semantic function of the conjunction is to express one of the following types of priority of the first sentence in respect of the second:

1. causal ((42), (42a), (45), 45a)),
2. temporal ((43), (43a)),
3. locational ((44), (44a)),

which are also the three basic semantic functions of asymmetrical *and*, as defined by Robin Lakoff (1972).

4.2. The examples discussed in section 4.1. provide some evidence which justifies the assumption that the third class of relatives comprises complex sentences which are in fact pseudo-relative, in the sense that relativization as applied to these sentences is merely a surface phenomenon, a kind of stylistic device of syntactic connection. In fact, the semantic relationship between constituent simplexes is that of coordination, which is proved by the existence of synonymous coordinate sentences, cf. (42) - (45a). While the connectedness of sentences underlying the other two types of relatives is achieved mainly by the presence of a coreferential NP, in the third type additional linkage is provided by temporal, locational and causal relations, i.e., all basic types of intersentential linkage within a discourse. Consequently, the conjunction underlying sentences like (38) - (41a) does not serve any of the two purposes generally considered as basic functions of coordinating conjunctions, i.e., indicating contrast or reducing repetition (cf. Gleitman 1969 : 88). In fact, all Polish coordinate structures (i.e., (42a), (43a), (44a), (45)) require conjunction other than *i*, which seems to prove that the 'unmarked' (cf. Aissen 1972 : 197) conjunction *and* in English is inherently ambiguous, the extent of the ambiguity exceeding that of its Polish counterpart *i*. However, any systematic discussion of conditions restricting the use of *and/i* when joining sentences underlying the type of relatives under discussion would require further research. At the present moment I do not find it possible to state any rules, however tentative.

4.3. In connection with the above analysis it obviously becomes necessary to consider the problem of recoverability of the conjunction deleted during relativization of the type discussed in 4.1. and 4.2. It seems that the explanation offered by Aissen (1972 : 196ff), who claims that, at least for English, the only conjunction that can be deleted (prior to relativization) is *and*, cannot be considered satisfactory in view of the ambiguity of *and*. Moreover, in Polish the range of conjunctions that allow this type of deletion is considerably larger, the list including, in addition to *i*, at least such conjunctions

as *więc*, *a*, *zaś* and *bo*. As neither English or Polish seems to utilize any syntactical means that might secure the recoverability of the deleted conjunction, there obviously exists a possibility of producing potentially ambiguous outputs.

Indeed, in Polish sentences like (39a) are systematically ambiguous, as underlying (39a) is

(46) 1. {Jakiś / Pewien} znajomy podwiózł kiedyś Jana swoim samochodem
2. Po drodze do Blackpool Jan spotkał tego samego znajomego
(1) A friend once gave John a lift in his car
2. John met the same friend on his way to Blackpool)

or

(47) 1. Po drodze do Blackpool Jan spotkał {jakiegoś / pewnego} znajomego
2. Następnie ten sam znajomy podwiózł go swoim samochodem
1. On his way to Blackpool John met a friend
2. Then the same friend gave him a lift in his car)[9]

4.4. An ad hoc list of factors which, both in English and in Polish, serve the purpose of disambiguating relative structures in terms of the relationship between the two constituent clauses comprises the following elements:
1. *Tense/mood/aspect* of the verb in the second constituent,[10] cf.

(48) On his way to Blackpool John met a friend (,) who could have given him a lift in his car
(48a) Po drodze do Blackpool Jan spotkał pewnego znajomego, który mógł był go podwieźć swoim samochodem.

(restrictive or non-restrictive modification, cf. also (39) and (39a))
2. *Surface structure markers*. adverbials overtly present in the surface structure, cf.

(49) On his way to Blackpool John met a friend (,) who once gave him a lift in his car
(49a) Po drodze do Blackpool John spotkał pewnego znajomego, który go kiedyś podwiózł swoim samochodem

[9] For a discussion, see Tabakowska 1966. In English, the ambiguity is often resolved by the use of a grammatical tense, cf.

(39) On his way to Blackpool, John met a friend, who gave him a lift in his car (pseudo-relative).

(39b) On his way to Blackpool John met a friend, who had given him a lift in his car (non-restrictive modification).

[10] The relevance of the time sequence in some pseudo-relatives in Polish is discussed in detail in Twardzikowa (1969).

(restrictive or non-restrictive modification, cf. also (39) and (39a))

(50) My brother, who, after all, is a heart surgeon, smokes three packs a day (cf. Although my brother is a heart surgeon...)

(50a) Mój brat, który przecież jest kardiologiem, pali trzy paczki papierosów dziennie.[11]

(relationship of causality, a pseudo-relative construction)

Cf. also

(51) Po drodze do Blackpool John spotkał tego znajomego, który go podwiózł swoim samochodem

(restrictive modification marked for contrast, or non-restrictive modification of the previously determined NP; a pseudo-relative is ruled out due to the presence of the demonstrative pronoun)

3. *Context*, cf.

(52) John missed the last train, but fortunately he met a friend, who gave him a lift in his car

(52a) John spóźnił się na ostatni pociąg, ale na szczęście spotkał pewnego znajomego, który go podwiózł swoim samochodem.

4. *Presuppositions*, cf. the pragmatic presupposition 'It is boys, and not girls, who usually pay bills' underlying sentences (42) and (42a).

5. *Intonation*, which is the chief factor resolving the ambiguity between restrictive and non-restrictive relatives. It is intuitively felt that, in the absence of other markers, it is possible to use intonation to distinguish also between relative and pseudo-relative structures (cf. e.g., the discussion in Twardzikowa 1970b). However, any attempt at a systematic treatment of this problem would by far exceed the scope of this paper.

6. Even a random analysis as the one given above makes it clear that the ultimate decision concerning the recipient's interpretation of a relative structure depends on the nature of particular lexical material, cf.

(53) I came up in the lift, which had been mended (Iris Murdoch, 'A Word Child')

(53a) Wyjechałem na górę windą, która została naprawiona.

Both (53) and (53a) are ambiguous, as they can be interpreted either as non-restrictive relatives or as pseudo-relatives:

(54) I came up in the lift
The lift had been mended

(54a) Wyjechałem na górę windą
Winda została naprawiona

[11] The example taken from Aissen (1972), whose analysis, however, does not allow for such an interpretation.

and/or

(55) I came up in the lift because it had been mended (On the previous occasion I had to climb the stairs)

55a) Wyjechałem na górę windą, ponieważ została ona naprawiona (Poprzednim razem musiałem wejść pieszo)

However, no causative interpretation is possible in

(56) I came up in the lift, which had been repainted

(56a) Wyjechałem na górę windą, która została odmalowana.

5.1. In the above discussion I suggested that relative constructions in English and Polish can be divided into three categories: restrictives, non-restrictives and pseudo-relatives. It seems that, apart from language-specific distinctions (e.g. the absence of articles in Polish), it is possible to formulate a set of criteria that allow a taxonomy universal in respect of the two languages under consideration. In view of the use of formal surface markers, which in both languages seems to be considerably non-systematic these criteria should be based on semantic representations that underlie the relatives.

Postulating the existence of a third category, the pseudo-relatives, makes it possible to resolve the ambiguity inherent in certain constructions and to provide a better understanding of the semantic nature of conjunction.

However, I am perfectly aware of the fact that, in its present form, this paper poses a lot of questions to which it gives no answers.

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HOW FACTIVE ARE *SEE*, *HEAR*, *FEEL* AND THEIR POLISH EQUIVALENTS?

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The aim of the paper is to test the degree of factivity of the three selected verbs and their Polish equivalents.[1] Thus, the analysis proper will refer to and attempt to develop some of the observations provided by certain linguists and briefly mentioned in the next section. The subsequent parts of this paper will deal with the verbs in question in their 'perceptive' and 'cognitive' uses (the latter term has been coined here due to the lack of any better word which could, to my knowledge, cover the meanings of *see*, *hear*, *feel* denoting 'understanding', 'having got the information', and 'belief' or 'conviction', respectively). The relevant English assertions and their Polish equivalents will be exposed to semantic and syntactic factivity criteria, which will hopefully give some insight into the problem of incorporating the verbs under discussion into the factivity framework. The present sketchy treatment of the issue does not offer any explicit theory; it is simply a set of remarks which may be a stimulus for a further much deeper study.

1. THE PROBLEM

The question of the truth value of propositions is of vital importance for linguists, and semanticists in particular. Much has already been written on this subject, but it was the work of Kiparsky and Kiparsky (1971) which

[1] The three verbs have been chosen out of the five because of their peculiar two-fold syntactic and semantic characteristics. Besides their perception meaning, requiring either a participial or infinitival clause to complement them, *see*, *hear*, *feel* can also denote 'understanding', 'having got the information' and 'belief' or 'conviction', respectively. In this sense they usually take typical factive complements of the structure *that S*, which are rarely found with *smell* and *taste*.

shed some new light upon the classification of verbs and their complements. According to the semantic and syntactic criteria postulated by the authors, they could be labelled either factive or non-factive. These criteria seem worth mentioning here since the subsequent studies of factivity are to a large extent based on the Kiparskys' observations. We shall not, however, discuss the noun *fact*, which was claimed to be present in the underlying structure of those verbs, a solution later criticized and abandoned by, for instance, Karttunen (1971b : 23).[2] Moreover, the conditions under which a verb may be termed factive will be of great help to our analysis as they will clarify the semantic/syntactic relations holding between the relevant verbs and their complements (cf. Kiparsky and Kiparsky 1971 : 346—8).

1.1. A logical (semantic) criterion

The speaker presupposes that the embedded clause expresses a true proposition and makes an assertion about the proposition. All predicates behaving syntactically as factive have this semantic property and almost none of these which behave syntactically as non-factives do. Thus, factivity depends on presuppositions, not assertions, and presuppositions asserted to be true must be distinguished from those presupposed to be true.[3]

1.2. Syntactic criteria

a) For factives extraposition is optional and for non-factives it is obligatory:

1. That there are porcupines in our basement makes sense to me
2. It makes sense to me that there are porcupines in our basement
3. *That there are porcupines in our basement seems to me
4. It seems to me that there are porcupines in our basement

b) Only non-factives allow turning the initial NP of the subordinate clause into the subject of the main clause and converting the remainder of the subordinate clause into an infinitival phrase:

5. He is likely to accomplish even more
6. *He is relevant to accomplish even more.
7. There seems to have been a snowstorm.
8. *There is tragic to have been a snowstorm.

c) Only factive verbs allow the full range of gerundial constructions and adjectival nominalizations in *-ness* to stand in place of the *that*-clause:

9. His being found guilty is tragic.
10. The whiteness of the whale makes sense to me.

[2] This criticized syntactic criterion will be abandoned in our analysis, too, since its contribution to the present subject is rather dubious. Cf. the oddity of the assertions with *see*:

?I saw the fact that John drank a lot.

?I saw the fact of John's drinking a lot.

[3] On the role of presupposition with factive predicates, cf. Morgan (1969 : 167) and Leech (1974 : 396—7).

11.*His being found guilty is sure.

12.*The whiteness of the whale turns out.

As has already been mentioned, the discussion of factive verbs was followed by other authors. For instance Karttunen (1970; 1971a; 1971b) provided a more thorough analysis of predicates taking sentential complements, thus winding up with a much more detailed classification encompassing besides factive verbs proper also implicative, negative implicative, if— and only if-verbs.[4] The criteria justifying this subdivision consisted of checking the truth value of the verb complement under various transformational operations a given proposition was exposed to, e.g., question, negation, modality, counterfactual conditional, etc. On the basis of those measures Karttunen (1970 : 335) noticed that *see*, *hear*, *feel*, while denoting perception, commit the speaker to the truth of their complement S only in affirmative statements, whereas in negations they are non-committal in this respect. Consequently, they are associated with one part of presupposition and they merely express the sufficient condition for S to be true:

13. $v(S) \supset S$, where v=verb
S=sentential complement

'v(S) is a sufficient condition for S'

Since the negation test fails with these verbs, hence the other, i.e., the necessary condition for S: $\sim v(S) \supset \sim(S)$ is not fulfilled. To recapitulate, Karttunen is of the opinion that the verbs in question do not meet the requirements qualifying them as full factives, i.e., they do not presuppose the truth of their complements, thus the implication holds only in one direction. Being one-way implicative they are labelled if-verbs.

This type of relation is also termed entailment and was defined by Leech (1974 : 306—7), who followed Karttunen's (1971a) division of predicates into pure factives, implicatives and non-factives. Consequently, *see*, *hear*, *feel* belong according to Leech to the second group and thus differ considerably from pure factives as to the relation holding between them and their complements. As has already been noted, the latter presuppose the truth of their complements, whereas the former only entail it.

The impact of presuppositions on the illocutionary force of a proposition was also dealt with by Jackendoff (1972), who distinguished two types of presuppositions. focal (derived by focus assignment) and inherent (introduced by factive verbs). He claimed that the latter satisfies the widely accepted definition of "information assumed by the speaker to be shared by him and the hearer." (Jackendoff 1972 : 276).[5]

The relevant problems were also analyzed by Givón (1972). In his article

[4] For a more detailed discussion of the relevant problems, cf. Karttunen (1970).

[5] The formalization of inherent presuppositions and their status in the underlying structures of factives is dealt with in Jackendoff (1972 : 276—8).

he distinguished two groups of verbs: Aspectual/Modal ordinarily taking infinitival and gerundive complements and Perception/Knowledge verbs followed by *that S* complements. This classification roughly corresponds to Karttunen's (1970) distinction between implicatives and factives, respectively. It is based on the already mentioned entailment vs. presupposition relation holding between verbs and their complements. Having exposed the three perception predicates to a series of syntactic tests, Givón lists *see* and *hear* under the heading Perception/Knowledge, i.e., factive verbs, whereas *feel* is grouped as a definitely non-factive (Givón 1972 : 43—6).[6]

Much more has been said on the subject of factivity and the impact the logical relations of presupposition and entailment have upon the truth value of the verbal complement. These studies include Karttunen's whole series of articles (1970; 1971a; 1971b), Hurford (1973), and Choon-Kyu Oh (1974), to mention just a few. They will not, however, be discussed here as they deal with some other aspects of the notion of factivity which do not concern us directly here.

Thus, the present paper will be confined to the investigation of factivity as exhibited by *see, hear, feel* in their perceptive and cognitive uses and their respective Polish equivalents. Also, the observations and conclusions arrived at by some linguists will serve as a point of reference in this tentative analysis which, for the clarity of presentation, will be divided into two sections. The first one will be devoted to the perception verbs proper, their most common types of complements, i.e., the participial clause and the infinitival construction, analyzed simultaneously as to their power of affecting the factivity of the main verb. It must be noted here that the selection of the two structures is semantically determined. Hence, to denote duration progressive aspect is needed and the former complement is employed; on the other hand, the latter expresses completion of the action, thus represents perfective aspect.[7] Moreover, as was mentioned above, participial and infinitival clauses are usually considered the most typical complements of perception verbs. However, other structures are also used, though less frequently. One type involves the passivization of complement S, hence the passivization of 14. and 15. renders 14a. and 15a., respectively (14b is very rarely accepted):

14. He saw them beat his team.
14a. He saw his team beaten.
14b. He saw his team be beaten.
15. He saw them beating his team.

---

[6] A more detailed justification of factivity label with *see, hear* vs. non-factive *feel* can be found in Givón (1972 : 43—7).

[7] The aspectual/semantic difference between the two types of complements is given a more detailed account in Lewandowska (1976 : 222).

15b. He saw his team being beaten.[8]

The *that* S complement can also be encountered with *see, hear, feel* in their perceptive sense, cf.

16. I saw that the glass was dirty.

However, it is much more characteristic of the cognitive use of these verbs, cf. below. Since the discussion of all minor types of complements is beyond the scope of this paper, we will assume the criterion of frequency of occurrence to be sufficient for limiting the analysis to the most typical structures, i.e., infinitival and participial clauses (Section 2.1).

The second part of the paper will deal with the three verbs in their 'cognitive' sense (cf. ft. 1). Again, only the most typical complementation will be taken into account, i.e., the *that* S construction, the other structures being disregarded at the moment for the reasons stated above.[9] Each section will contain a set of English sentences and their Polish equivalents which will be tested for their factivity on the basis of the above-ennumerated criteria. In the first place, the logical relations holding between the verb and its complement will be examined and then various syntactic tests will be applied to show how the 3 English verbs and their Polish counterparts can be incorporated into the factivity framework and how they fit there. Secondly, the juxtaposition of the two bodies of data will reveal the relations between the corresponding structures of the two systems as well as the syntactic contrasts in the surface realizations of equivalent propositions. Finally, the present observations may raise some questions for further discussion concerning the problems to be sketched briefly here.

2. THE ANALYSIS

1.2. *See, hear, feel* as perception verbs.

2.1.1. Let us take into account the logico-semantic criteria of factivity first. Consider the following examples:

17. I saw John drinking milk
17a. ? Widziałam Jana pijącego mleko
17b. Widziałam jak Jan pił mleko.
18. Did you see John drinking milk?
18a. Czy widziałaś jak Jan pił mleko?
19. I did not see John drinking milk

---

[8] For the discussion of these examples, cf. Palmer (1965 : 168).

[9] The following marginal cases will be excluded from our analysis: *see to* and *see that*, being neither cognitive nor perceptive; *hear say* and *hear tell* carrying special meanings, *feel* in structures, like:

He felt the plan to be crazy, etc.

19a. Nie widziałam jak Jan pił mleko
20. John was drinking milk
20a. Jan pił mleko
17' I saw John drink milk
17a' Widziałam, że Jan (wy)pił mleko
18' Did you see John drink milk?
18a' Czy widziałaś, że Jan (wy)pił mleko?
19' I did not see John drink milk
19a' Nie widziałam, {że / żeby} Jan (wy)pił mleko
20' John has drunk his milk
20a' Jan (wy)pił mleko[10]
21. I heard her scolding the baby
21a. ? Słyszałam ją karcącą dziecko
21b. Słyszałam, jak karciła dziecko
22. Did you hear her scolding the baby?
22a. Czy słyszałaś, jak karciła dziecko?
23. I did not hear her scolding the baby
23a. Nie słyszałam, jak karciła dziecko
24. She was scolding the baby
24a. Ona karciła dziecko
21' I heard her scold the baby
21a' Słyszałam, że ona (s)karciła dziecko
22' Did you hear her scold the baby?
22a' Czy słyszałaś, że ona (s)karciła dziecko?
23' I did not hear her scold the baby
23a' Nie słyszałam, {że / żeby} ona (s)karciła dziecko
24. She has scolded the baby
24a' Ona (s)karciła dziecko
25. I felt tears fillig my eyes
25a. Czułam łzy wypełniające mi oczy
25b. Czułam, jak łzy wypełniały mi oczy[11]

[10] The problem of aspect in Polish is still a complicated issue in this type of sentences. The author feels completion is better expressed in Polish by perfective aspect, however, two forms are given in this paper since some native speakers of Polish claim that the non-perfective form is equally possible. Note also two conjunctions accompanying the negative sentences. Although both may be used here, *żeby* seems to be preferred to *że*, particularly, if the content of proposition is questionable.

[11] *Czuć* has two possible complements equivalent to English *feel* with participial complement, i.e., both the present participle and the subordinate sentence with *jak* conjunction are used as perfectly grammatical. Note the restriction in the case of *widzieć* and *słyszeć* which allow only the latter complement.

26. Did you feel tears filling your eyes?
26a. Czy czułaś, jak łzy wypełniały ci oczy?
27. I did not feel tears filling my eyes
27a. Nie czułam, jak łzy wypełniały mi oczy
28. Tears were filling my eyes
28a. Łzy wypełniały mi oczy
25' I felt tears fill my eyes
25a' Czułam, że łzy wypełni(a)ły mi oczy
26' Did you feel tears fill your eyes?
26a' Czy czułaś, że łzy wypełni(a)ły ci oczy?
27' I did not feel tears fill my eyes
27a' Nie czułam, że łzy wypełni(a)ły mi oczy
28' Tears filled my eyes
28a' Łzy wypełni(a)ły mi oczy

Affirmative assertions with the three verbs in the main clause commit the speaker to the belief that the proposition expressed by the complement is also true. If we report a process of perceiving an event with one of our senses, i.e., we state that we *see*, *hear* or *feel* something happening, the impression corresponds to real facts, unless we lie or our perceptors work improperly. It must be noted that the syntactic differences together with aspectual and semantic contrasts between the two English sentences with perception verbs will be ignored at present since they do not affect the factive — non-factive relation holding between the verbs and their complements, cf. the meaning postulates 29. and 30. Besides, the relevant syntactic issues will be discussed in a separate section below. Consequently, uttering 17, 21, 25 and their syntactic—semantic variants 17', 21', 25', respectively, we take for granted the truth of their corresponding presuppositions, i.e., 20, 24, 28 as well as 20', 24', 28', so that sufficient condition for the complement S is fulfilled:

29. $v(S) \supset S$, where $v \rightarrow$ *see, hear, feel*

$$S \rightarrow X \left\{ \begin{array}{l} \text{Part. Cl.} \\ \text{Inf. Constr.} \end{array} \right\} Y$$

Thus, whenever *see*, *hear*, *feel* are complemented by a sentence S realized as either a participial clause or an infinitival clause, (cover symbols X, Y stand here for any element preceding or following these structures), then the sufficient condition for the truth of the complement is fulfilled.

However, it is no longer true with questions and negations, cf. 18, 19, 22, 23, 26, 27 and 18', 19', 22', 23', 26', 27'. Apparently, when the assertions with *see*, *hear*, *feel* in their perceptive sense are questioned or negated they are non-committal with respect to the truth value of their presuppositions. Also, our intuitive judgements confirm this observation since, if we have no information about the perception of an event, or if we state that what happened was not seen, heard or felt, then this event cannot be evaluated:

as either true or false. Thus, the necessary condition for the truth of the complement is not satisfied:

30. $\sim$v (S)$\dot{p}\sim$S, where v → *see, hear, feel*

$$S \rightarrow X \left\{ \begin{matrix} \text{Part. Cl.} \\ \\ \text{Inf. Cl.} \end{matrix} \right\} Y$$

The present semantic analysis leads to the conclusion that the relation between the verbs discussed and their complements is that of entailment since the conditions for presupposition are not met by them. Therefore, they are notfull factives but only implicatives (or conditional factives — cf. Leech 1974 : 304).

Turning to the Polish corpus, one may notice the striking relevance of the above remarks concerning the English sentences to their Polish equivalents. Similarly, the affirmative propositions 17b, 21b, 25a, b as well as their structural variants 17a′, 21a′, 25a′, imply the truth of their complements. Note that 17a, 21a imply the direct translation of the English participial clause which sounds odd in Polish, hence a subordinate sentence with *jak* conjunction is used instead, but only in the case of *widzieć* and *słyszeć*, since *czuć* takes both complements, cf. the section devoted to syntax. However, the same structures when questioned or negated do not commit one either to the truth or to the falsity of the presupposed complements, cf. 18a, 19a, 22a, 23a, 26a, 27a and the corresponding sentences 18a′, 19a′, 22a′, 23a′, 26a′, 27a′. Thus, as in the case of their English equivalents, *widzieć, słyszeć, czuć* only entail the content of their complement clauses and are grouped under the same label, i.e. that of implicative verbs.

To conclude, the consistancy of English and Polish as to the implicative nature of perception predicates is a challenge for linguists. Some more detailed cross-linguistic studies may reveal an unexpected universality in this correlation.

2.1.2. Syntactic criteria.

Before the analysis proper, some general remarks on the syntax of sentences with the three English perception verbs and their Polish equivalents may be worth presenting here:

a) English perception verbs involve two basic types of complements, i.e., infinitival and participial constructions. The choice between the two is determined by some semantic-temporal relations between the verb and its complement, such as duration and completion of the action, respectively.

b) in Polish the completion of the action is expressed by means of a finite clause complement or a nominal derived from a perfective verb. The present corpus, however, is limited to the first case, since nominalization, when applied to the examples discussed, will result in such odd structures, as:

31. *Widziałam Jana wypicie mleka

32. *Słyszałam jej skarcenie dziecka

33. *Czułam wypełnianie moich oczu łzami

Moreover, the final clause complement is conjoined with the main clause by the conjunction *że* which in negative sentences is in the relation of free variation with *żeby* (cf. ft. 10). Finally, denoting completion and being a finite structure, the complement in Polish is normally in the past tense. However, according to some native speakers of Polish, English infinitival construction may sometimes be translated into Polish as a present, non-perfective verbal form, cf.:

17a′. Widziałam, że Jan $\left\{\begin{matrix}\text{wypił}\\ \text{pił}\end{matrix}\right\}$ mleko

Nevertheless, the author believes the first interpretation to be more plausible.

c) the sentences with participles render hardly acceptable structures in Polish if the corresponding active participial construction is employed in case of *widzieć* and *słyszeć*. Instead, a subordinate S with *jak* conjunction is used. *Czuć* allows, however, both complements (cf. 25a, b. and ft. 11).[12]

2.1.2.1. Extraposition transformation

If we look at examples 17, 17′, 21, 21′, 25, 25′, it becomes apparent that their structural descriptions do not allow the application of extraposition. It is the participial and infinitival complements which, in contradistinction to *that*-clauses, block this transformation. Besides, the noun in the main clause is in the subject, not object, position. Thus, the syntactic criterion of factivity is irrelevant with the English verbs of perception.

On the other hand, the presence of *że* in front of the infinitival complement clause in Polish sentences may fulfill the conditions for the application of extraposition. However, they again do not meet the criterion that the main clause NP is in the object and not in the subject case as it is in 17a′, 21a′, 25a′. Consequently, the extraposition transformation is not applicable to the Polish corpus either, and the present criterion must be omitted in our analysis.

2.1.2.2. Subordinate clause NP fronting

If we perform the operation of fronting the initial NP of the complement clause in 17, 21, 25 and 17′, 21′, 25′, it will automatically trigger (as was mentioned above), the convertion of the rest of the sentence into an infinitival clause. These transformations will, however, result in utterly ungrammatical structures:

34. *John to have drunk milk I saw

35. *Jan wypić mleko widziałam

[12] The problem of contrasting English and Polish types of verb complementation is discussed in Lewandowska (1976).

Hence, what is additionally required here is the passive rule which when also applied to the relevant examples will render the following sentences (note the inapplicability of the two rules to the Polish corpus):

36. *John was seen (by me) to be drinking milk
36a. *Jan był widziany (przeze mnie) pić mleko
36b. Widziano Jana jak pił mleko
37. *John was seen (by me) to have drunk milk
37a. *Jan był widziany (przeze mnie) wypić mleko
37b. Widziano Jana, że wypił mleko
38. ?She was heard (by me) to be scolding the baby
38a. *Była słyszana (przeze mnie) karcić dziecko
38b. Słyszano ją jak karciła dziecko
39. ?She was heard (by me) to have scolded the baby
39a. *Była słyszana (przeze mnie) skarcić dziecko
39b. Słyszano ją, że skarciła dziecko
40. ?Tears were felt (by me) to be filling my eyes
40a. *Łzy były wyczuwane (przeze mnie) wypełniać mi oczy
40b. Czułam łzy jak wypełniały mi oczy
41. ?Tears were felt (by me) to have filled my eyes
41a. *Łzy były wyczuwane (przeze mnie) wypełnić mi oczy
41b. Czułam, że łzy wypełniły mi oczy

The above-presented analysis has revealed a varying degree of acceptability with respect to the structure in question. Thus, asterisks denote total ungrammaticality, cf. the examples with *see*, whereas all the questioned sentences are judged by native speakers as possible but very artificial in a normal discourse. Moreover, they feel 36 and 38 could be used in legal jargon, if the bracketed phrase *to be* were omitted which would not then fit our pattern.

To summarize, all three English perception verbs have passed this negative factivity test which encourages us to proceed with the analysis. If we consider the relevant Polish examples, it is obvious that the three transformations do not work on this body of data, either. If the complement NP is fronted and infinitival phrase constructed out of the rest of the sentence and then the passive rule is applied — ungrammatical sentences result. The only possibility is an impersonal construction with the fronted NP preceded by the impersonal verbal form (hence, contrary to our assumptions). Consequently, this criterion is not fulfilled in Polish, either and the verbs under discussion share one of the syntactic characteristics of factive verbs, i.e., they do not allow turning the initial NP of the subordinate clause into the subject of the main clause and converting the remainder of the subordinate clause into an infinitival phrase.

2.1.2.3. Gerundial constructions

Consider the following examples:

42. *John's having been drinking milk was seen (by me)
42a. *Jana picie mleka było widziane (przeze mnie)
43. *John's having drunk milk was seen (by me)
43a. *Jana wypicie mleka było widziane (przeze mnie)
44. *Her having been scolding the baby was heard (by me)
44a. *Jej karcenie dziecka było słyszane (przeze mnie)
45. *Her having scolded the baby was heard (by me)
45a. *Jej skarcenie dziecka było słyszane (przeze mnie)
46. *The having been filling my eyes with tears was felt (by me)
46a. *Wypełnianie moich oczu łzami było odczuwane (przeze mnie)
47. *The having filled my eyes with tears was felt (by me)
47a. *Wypełnienie moich oczu łzami było odczuwane (przeze mnie).[13]

Again, the given syntactic operations have produced ungrammatical sentences in both languages. Thus, this criterion is met neither by English nor by Polish perception verbs and exhausts the above-established factivity tests.

To recapitulate, this two-fold analysis has pointed to a weak correlation between perception and factivity both in English and in Polish. The verbs discussed exhibit total resistance to the relevant syntactic tests, thus proving to be syntactically non-factive. Nor are they full factives when tested for their semantic peculiarities. One-way implication relating them to their complements allows for the label 'implicatives' to be assigned to *see, hear, feel* and their Polish equivalents. More accurately, they should be referred to as semantically implicative verbs.

2.2. *See, hear, feel* as cognitive verbs

2.2.1. Semantic analysis

Consider the following sentences:

48. I saw that John hated TG
48a. Widziałam, że Jan nienawidzi TG
49. Did you see that John hated TG?
49a. Czy widziałaś, że(by) Jan nienawidzi(ł) TG?
50. I did not see that John hated TG
50a. Nie widziałam, że(by) Jan nienawidzi(ł) TG
51. John hates TG
51a. Jan nienawidzi TG
52. I heard that Mary smoked grass
52a. Słyszałam, że Maria pali trawkę
53. Did you hear that Mary smoked grass?
53a. Czy słyszałaś, że(by) Maria paliła) trawkę?
54. I did not hear that Mary smoked grass

[13] Any attempt of fronting complement NP and converting it into a genitive case resulted in absolutely shocking combinations.

54a. Nie słyszałam, że(by) Maria pali(ła) trawkę
55. Mary smokes grass
55a. Maria pali trawkę
56. I feel that she has burnt the cake
56a. Czuję, że ona spaliła ciasto
57. Do you feel that she has burnt the cake?
57a. Czy czujesz, że(by) ona spaliła ciasto?
58. I do not feel that she has burnt the cake
58a. Nie czuję, że(by) ona spaliła ciasto
59. She has burnt the cake
59a. Ona spaliła ciasto

Examples 48 and 52 show that the assertions with *see, hear* in the main clause commit the speaker to the truth of the presuppositions expressed by their sentential complements (51 and 55, respectively). Thus, if we see or hear that something has happened, it is normally understood to be true, so the sufficient condition for the presupposition is fulfilled:[14]

60. v (S)⊃S, where v → *see, hear*
S → *that* S

However, it is no longer true with interrogatives and negatives, cf. 49, 50, 53, 54, the situation being analogous to the meaning postulates of these verbs in their perceptive sense. Since questioning and denying of what was seen or heard affects the presupposition, the necessary condition for the truth of the complement expressing this presupposition does not take place.

The same one-way implication holds true for *widzieć* and *słyszeć*, cf. the corresponding a. examples, which, whenever affirmative presuppose the truth of their complements but do not commit the speaker to the belief that 51a, 55a, 59a are either true or false when questions or negations are formed.

Consequently, it leads us to the conclusion that *see, hear* and their Polish equivalents fail the semantic factivity test since the truth value of the propositions they appear in does not remain constant in questions and negations. The relation between them and their complements is that of entailment, as it was with their perceptive homonyms, thus they will also be called implicatives. However, *hear* requires one restriction, (cf. ft. 10), hence its label will be modified to 'weak implicative'.

Feel — on the other hand — is not factive at all, in that it expresses our convictions or beliefs rather than any objective state of affairs. Thus, subjective predictions, like 56, cannot have any impact upon the truth of their

[14] Note the difference in meaning between the perception *hear* and its homonym which denotes 'getting the information' and not 'perceiving'. Hence, the meaning postulates are valid as long as the source of information is not questionable. *See*, on the other hand, can be paraphrased here as 'conclude on the basis of some apparent evidence'.

presuppositions, i.e., we do not infer from 56 that 59 is true. Similarly, the Polish examples lack this relation, so that neither *feel* nor *czuć* followed by *that* S and *że* S, respectively satisfy the criteria of factivity or implication.

To recapitulate, the three verbs under discussion whenever complemented by *that* S lose their perception characteristics, simultaneously exhibiting a diminishing degree of factivity (or rather implication) if we proceed from left to right on the following scale:

61. IMPLICATIVE → WEAK IMPLICATIVE → NON–IMPLICATIVE.

see	*hear*	*feel*
widzieć	*słyszeć*	*czuć*

see and *widzieć* are full implicatives; in the case of *hear* and *słyszeć* it is externally conditioned by the reliability of the source of information, whereas *feel* and *czuć* do not imply the truth of their presuppositions at all, thus are non-implicatives.

2.2.2. Syntactic analysis

Having established the degree of factivity characterizing the given English and Polish verbs according to their logico-semantic features the propositions involving them are worth checking against a set of syntactic criteria. This test is to investigate to what extent the structure of these propositions confirms our conclusions of 2.21. No specific syntactic description is needed here, thanks to the uniformity of both corpora as to their form:

62. $Prop_{cog} \rightarrow XV_{cog}$ + that (S), where $V_{cog} \rightarrow \begin{bmatrix} \text{see} \\ \text{hear} \\ \text{feel} \end{bmatrix} \begin{bmatrix} \text{widzieć} \\ \text{słyszeć} \\ \text{czuć} \end{bmatrix}$

'a proposition with cognitive verbs (hence the subscript *cog*) is to be rewritten as one of the cognitive verbs followed by a *that*-clause, where X is a variable. It is to be noted that these structures are labelled in Polish 'wypowiedzenie złożone z podrzędnym zdaniem dopełnieniowym', i.e. complex proposition with object subordinate clause, cf., Jodłowski (1976. 185). These introductory remarks have brought us to the analysis proper which will be carried out as above.

2.2.2.1. Extraposition

63. *It was seen (by me) that John hated TG

63a. *Było widziane (przeze mnie), że Jan nienawidzi TG

64. It $\begin{Bmatrix} \text{seemed} \\ \text{appeared} \end{Bmatrix}$ (to me) that John hated TG

64a. Wydawało (mi) się, że Jan nienawidzi TG

64'. It looked (to me) $\begin{Bmatrix} \text{like, as if} \\ \text{that} \end{Bmatrix}$ John hated TG

64a'. Wyglądało (mi) $\begin{bmatrix} \text{jakby} \\ \text{na to, że} \end{bmatrix}$ Jan $\begin{bmatrix} \text{nienawidził} \\ \text{nienawidzi} \end{bmatrix}$ TG

65. *It was heard (by me) that Mary smoked grass

65a. *Bylo slyszane (przeze mnie), że Maria pali trawkę

66. It sounded (to me) $\left\{\begin{matrix}\text{like}\\\text{as if}\end{matrix}\right\}$ Mary smoked grass

66a. *Brzmialo (mi), jakby Maria paliła trawkę

66b. Słyszało (mi) się, jakoby Maria paliła trawkę

67. *It is felt (by me) that she has burnt the cake

67a. *Jest odczuwane (przeze mnie), że ona spaliła ciasto

68. It feels like she has burnt the cake

68a. Czuję się, że ona spaliła ciasto [15]

The propositions to be discussed here are derived by means of passive and extraposition transformations applied to the base structures of the form: XV_{cog} + *that* S. The English sentences 63, 65, 67 exhibit total ungrammaticality if *see*, *hear*, *feel* are employed. However, when we use $\left\{\begin{matrix}\textit{seem}\\\textit{appear}\\\textit{look like}\end{matrix}\right\}$, *sound like*, and the active form of *feel*, respectively, then the transformations work neatly resulting in grammatical structures, like 64, 64′, 66, 68. It is to be noted that both *like* and *as if* can be used with these suppletive variants, although the British speakers prefer the latter conjunction, considering the former to sound more American.

Similarly in Polish all extraposed sentences with the specified personal object *przeze mnie* 'by me', are also utterly unacceptable, cf. 63a, 65a, 67a. Nevertheless, they still have quite grammatical counterparts when the impersonal construction is used, (cf. ft. 15). At the same time, the Polish equivalents of the English examples with lexical suppletion (64a, 64a′, 68a) are perfectly grammatical (note, however, the unacceptability of 66a, with the Polish equivalent of *sound*, i.e. *brzmieć*, where the impersonal construction 66b. must be used). Finally, the above examples show the parallel between the optionality of *to me (mi)* with paraphrases of *see, hear* in both corpora as opposed to the lack of a specified subject in impersonal constructions with *feel* and *czuje się*.

To conclude, extraposition works in an analogous way in both languages, rendering grammatical structures only when lexical suppletion with *see* and *widzieć* is involved. Thus, for these verbs the extraposition criterion is simply irrelevant, the reason being that without the necessary suppletive variants it is neither obligatory nor optional — but blocked. Consequently, the ana-

[15] Note, however, the grammaticality of the same verbs in impersonal constructions with no object specified:

It was seen that John hated TG 'it was obvious that...'

Widziano, że Jan nienawidzi TG.

It was heard that Mary smoked grass.

Słyszano, że Maria pali trawkę.

†Odczuwano, że ona spaliła ciasto.

lysis conducted above is not adequate for determining the factivity of these verbs in the combination XV_{cog}+*that* S. With the second verb under discussion lexical suppletion is again used in English, i.e., *sound* substituted for *hear*, whereas Polish employs impersonal construction, thus in the former case extraposition is irrelevant to the analysis of *hear*, and in the latter it is obligatory. Consequently, neither *hear* nor *słyszeć* meet the criterion of optionality of extraposition.

Finally, in the case of *feel*, no lexical suppletion is required, provided some syntactic and categorial changes are introduced. Namely, *feel* can no longer be passivized, otherwise the sentence is incorrect. Furthermore, *like* is substituted for *that*. Note the parallel between this structure with its Polish equivalent and an extraposed sentence with a full factive verb, the only difference being the lack of a prepositional object with *feel* and *czuć*:

69. It makes sense (to me) that
69a. Ma sens (dla mnie), że
70. It feels like
70a. Wygląda na to, że

} she has burnt the cake / ona spaliła ciasto

With *feel* and *czuć* extraposition is obligatory, cf. the ungrammaticality of:

71. *Like she has burnt the cake it feels[16]
71a. *Jakby ona spaliła ciasto czuje się
71b. *Że ona spaliła ciasto wygląda na to

Since with full factives this transformation is optional ,neither of these verbs satisfy the second factivity condition.

In summary, it has been noticed that *see*, *hear*, *feel* in the syntactic configurations discussed share the transformational characteristics of their Polish equivalents. Namely, extraposition is either blocked or it is obligatory. On the basis of these observations it may be concluded that in both languages none of the three verbs qualifies as a factive predicate.

2.2.2.2. Subordinate clause NP fronting

If we turn the initial NP of the subordinate clause into the subject of the main clause, the operation will also trigger passivization and the convertion of the remaining part of the sentence into an infinitival phrase, cf. the following sentences:

72. *John was seen (by me) to hate TG
72a. *Jan był widziany (przeze mnie) nienawidzieć TG
73. John {seemed / appeared} to hate TG
73a. Jan wydawał się nienawidzieć TG[17]

[16] Assuming *like* to be the categorial variant of *that* here.

[17] Note a similar synonymous sentence:
Wydawało się, że Jan nienawidzi TG.
which does not, however, contain an infinitival phrase.

73′. John looked like he hated TG
73a′. Jan wyglądał na to, że nienawidzi TG
74. *Mary was heard (by me) to smoke grass
74a. *Maria była słyszana (przeze mnie) palić trawkę
75. *Mary sounded to smoke grass
75a. *Maria brzmiała palić trawkę
76. Mary sounded like she smoked grass
76a. *Maria brzmiała jakby paliła trawkę[18]
77. *She is felt to have burnt the cake
77a. *Jest wyczuwana spalić ciasto

The situation is similar to that of the application of extraposition to our corpus. In this case also the series of rules render ungrammatical structures both in English (cf. 72, 74, 77) and in Polish, cf. the corresponding a. sentences. However, as was the case with extraposition, the same suppletive variants for *see* and *hear*, i.e., *seem*, *appear* or *look like* and *sound like*, respectively, form correct sentences in English, cf. 73, 73′, 76. 75 is a somewhat dubious case, with *sound* substituted for *hear*, the *sound like* form being preferred. With *feel*, however, no substitution is possible, hence it cannot be used in this syntactic pattern at all. Again, as was noted above, this may be due to its subjective meaning involving personal opinions and convictions. If passivized, it loses its semantic overtones of a private verb. Thus, there arises a conflict between its semantic and syntactic representations.

What the analysis of the English verbs has shown is that in their pure form they satisfy this negative criterion for being factive as they disallow the operations of subordinate clause subject fronting followed by passivization and convertion of the rest of the sentence into an infinitival clause — transformations characteristic only of non-factive predicates.

The Polish corpus, on the other hand, supplies even stronger evidence. Not only are all the equivalent structures utterly ungrammatical, but even the sentences corresponding to the English ones containing suppletive variants are acceptable only in the case of *wyglądać* and *wydawać się* substituted for *widzieć*, the rest being incorrect (cf. 75a, 76a, 77a). Consequently, it may be concluded that the criterion under discussion supports our claim that factivity may be of some relevance in the interpretation of English cognitive verbs and their Polish equivalents.

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[18] According to some native speakers of English sentences 72 and 74 would be acceptable without the prepositional phrase specifying the object of perception. Also, 76 means rather that her voice suggests drug addiction, not that we have got the information concerning that fact.

2.2.2.3. Gerundial constructions replacing *that*-clause

Consider the following examples:

78. *John's {hating / hatred for} TG was seen (by me)

78a. *Jana nienawiść {dla / do} TG była widziana (przeze mnie)

79. John's {hating / hatred for} TG was apparent (to me)

79a. Jana nienawiść {dla / do} TG była widoczna (dla mnie)

80. *Mary's smoking grass was heard about (by me)

80a. *Marii palenie trawki było słyszane (przeze mnie)

80b. *Palenie trawki przez Marię było mi znane ze słyszenia

81. *Her having burnt the cake is felt (by me)

81a. *Jej spalenie ciasta jest wyczuwane (przeze mnie)

81b. ?Spalenie ciasta przez nią było (dla mnie) wyczuwalne

If the sentences discussed in the previous section are exposed to the transformation converting infinitive phrases into gerundive nominals and triggering assignment of genitive case to the subject — ungrammatical constructions like 78, 78a, 80, 80a, 81, 81a result in both corpora. Lexical suppletion works only with *see* and *widzieć*, where a categorial change takes place, i.e., adjective is substituted for passivized verb. With the two remaining verbs, no suppletive variants can be found in English, whereas Polish offers a possibility of paraphrasing the ungrammatical sentences with passivized *słyszeć* and *czuć* (*wyczuwać*) by means of deverbal adjectives (or passive participles according to Polish terminology) to be substituted for the verbs. Note, that these participial forms must be preceded by *być* in the appropriate tense and person. Simultaneously, the genitive case noun modifying the subject of the sentence is moved to the post NP position and changes its form into a prepositional phrase typical of passive sentences, e.g., *przez Marię* 'by Mary', *przez nią* 'by her'.

These remarks do not, however, affect the overall results of the nominalization and passivization test which when applied to the cognitive verbs proper has failed to prove their factivity either in English or in Polish. The results obtained above when confronted with the previous conclusions deny the correlation holding on the syntactic level between factivity and cognition as represented by *see*, *hear*, *feel* and their Polish equivalents. Thus, again the three verbs are in both languages assigned the label 'syntactically non-factive' whereas they belong to three different semantic categories characterized by decreasing degree of factivity, i.e., implicative, weak (or conditioned) implicative, and non-implicative, respectively.

3. CONCLUSION

In summary, the present investigation of the selected perception verbs and their cognitive homonyms in English and Polish has led to the conclusion that syntactically both types of predicates proved to be non-factive. Semantically, however, the notion of perception always involves implication between the predicate and its presupposition. On the other hand, cognition when expressed by predicates homonymous to those of perception cannot be treated in a uniform way, since there exists a scale which reflects the degree of implication holding between these verbs and their complements. Thus, cognitive *see* can be included among the implicative verbs, for *hear* some restrictions need to be stated, whereas *feel* is definitely a non-implicative verb.

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LEXICAL REALIZATION OF BENEFACTIVE AND BENEFICIARY IN POLISH AND ENGLISH

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0. INTRODUCTION

Benefactive is sometimes defined as a verbal aspect expressing that the action or state denoted by the verb is performed or brought about by someone for his own benefit or that of another person.

He bought (himself) a car
Kupił (sobie) samochód
He found (himself) a perfect girl
Znalazł (sobie) doskonałą dziewczynę
The policeman gave Tom a ticket
Policjant dał Tomkowi mandat

The reader will please notice that benefits are relative and must be considered from the point of view of pragmatics. Each cloud has its silver lining and only time will tell whether the ticket Tom got should be construed as a positive benefit or a negative benefit (a loss).

The above definition is quite incomplete because it does not account for situations where the deep structure Benefactive case is not determined by semantic features in the verb but rather by "the nature of the noun's participation in the state, process, or action expressed by the verb" (Cook 1972 : 16). Usually, these situations are syntactically marked in the surface structure by a preposition, most commonly *for* and *dla*.

Any description of the lexical realizations of Benefactive must, therefore, include at least both categories, semantically intrinsic benefactives and syntactically marked ones. The criteria used in my classification of intrinsic

verbal benefactives and semantico-syntactic benefactives are based on definitions given by Chafe (1970) and by Brown (1973). Most examples of structures are borrowed from these two authors and from Hill (1968) as well as Wood (1967).

1. DEFINITIONS

1.1. Intrinsic benefactives

Chafe (1970 : 147 ff) distinguishes three basic types of intrinsically benefactive English verbs describing benefactive situations in which someone (called beneficiary) benefits from whatever is communicated by the rest of the sentence. All these verbs are obligatorily accompanied by the beneficiary NP which is, usually, [+animate] and appears in the surface structure as a subject in the absence of any agent, as in 1.1.1. and 1.1.2., or with another function and syntactic order when an agent is present as in 1.1.3.

1.1.1. Verbs with prime features including [+state, +benefactive] V_+ [—Bj, O] (Cook 1972 : 18)

Tom has (or Tom's got) the tickets
Tomek ma bilety

where Tom is in the transitory possession of something (the tickets);

Tom has (or Tom's got) a convertible
Tomek ma kabriolet

where Tom is in the non transitory possession of something (a convertible), provided he is not a car dealer (Radden 1976)

Tom owns a convertible
Tomek posiada kabriolet

where something (a convertible) is the private property of Tom.

1.1.2. Verbs with prime features including [+process, +benefactive] V^+[—B, C] (Cook 1972),

Tom lost (found, won) the tickets
Tomek zgubił (znalazł, wygrał) bilety

where an event took place introducing a change in the disposition of the patient (tickets). Tom has ceased (come) to be in the transitory possession of the tickets.

Tom acquired (sold) a convertible
Tomek nabył (sprzedał) kabriolet

where Tom has come (ceased) to be in the transitory possession of a convertible. In both cases Tom is the beneficiary of the process.

1.1.3. Verbs with prime features including:
[+action, +process, +benefactive] V_+[−A, B, O] (Cook 1972 . id)

Mary sent (gave) Tom the tickets
Maria poslala (dala) Tomkowi bilety

where Tom comes to be in the transitory possession of the tickets benefiting from Mary's action

Mary bought (sold) Tom a convertible
Maria kupila (sprzedala) Tomkowi kabriolet

where likewise Tom benefits from Mary's action and comes to be in the non transitory possession of a convertible.

1.1.4. Verbs with prime features including: [+action, +benefactive] V_+ [−A, B].

Although Chafe placed upon benefactive verb types the restriction that "only nonaction verbs are intrinsically benefactive" (Chafe 1970 : 146), Cook has demonstrated the existence of this type of intrinsic benefactive. I have marked it with an asterisk because its nature is quite different from the other three types as it contains verbs which are usually derived from 1.1.3. through lexicalization of [0] into the verb and its deletion (Cook 1972 : 24). This transformation appears language bound and more frequent in English than in Polish.

John bribed the waiter
Jan przekupił urzędnika

but

John tipped the waiter
Jan dał kelnerowi napiwek.

The official and the waiter benefit from John's actions and come to be in the possession of a bribe and a tip respectively. These situations are similar to those expressed in 1.1.3.

Marginal examples for this type were given to me by Radden (1976):

Mary gave the flowers fresh water
Mary watered the flowers

and

Mary gave the car a new coat of paint
Mary painted the car
Maria wymalowała samochód

where the flowers and the car probably benefit from Mary's actions but, according to Chafe's (my 1.1.) and Brown's (my 1.3.) definitions, would be patients rather than beneficiaries.

1.2. Semantico-syntactic benefactives

In addition to intrinsic benefactives, it appears possible to have benefactive expressions containing a verb which is not intrinsically benefactive.

Jane wrote Christina a letter
Jasia napisała Krystynie list

where Christina benefits from Jane's action. The prime features of the main verbs appearing in this type of construction include: [+action, ±process]. The expression becomes semantically and syntactically benefactive whenever an optional beneficiary NP is added. In the example above, the beneficiary shows up as a noun directly following the verb, it could also appear "as a sentence-final noun preceded by the preposition *for*" (Chafe 1970 : 151).

Jane wrote a letter for Christina
Jasia napisała list dla Krystyny.

As we shall see, other prepositions may also be used with some verbs. It seems that this post prepositional position is preferred for emp tic or otherwise marked statements.

1.3. Datives and benefactives

In *The case for case* (1968 : 24) Fillmore defined the dative more or less as the animate being affected by the state or action identified by the verb. This definition has shown to be inadequate to describe fundamental differences among sentences containing a patient, an experiencer or a beneficiary.

Brown (1973 : 8) has summarized the basic distinctions among these three cases. As I have used his definition of beneficiary to decide which of the sentences I analyzed constitute good examples of benefactive constructions, I shall quote him:

	Definition	Examples
Patient	Someone or something either in a given or suffering a change of state	*The wood* is dry. John murdered *Bill.* (Brown 1973 : 133)
Experiencer	Someone having a given experience or mental disposition	*Tom* saw the snake. *Tom* wanted a drink.
Beneficiary	Someone who profits from a state or process including possession.	*Mary* has a convertible. Tom bought *Mary* a car.

It becomes clear that all beneficiaries are datives but not all datives are beneficiaries. That is where our problem begins. Already Chafe (1970 : 148) stated that there are some differences in the semantic functions of the experiencer and the beneficiary although both relations may be represented as datives in surface configurations. Seuren (1973 : 36) after having a long list of verbs taking two complements in French or English

ex: Enseigner le français à l'étudiant
Teach French to the student

equates deep structures object and beneficiary with surface structure accusative respectively.

Polish (and some English) surface structures are often ambiguous whenever the beneficiary NP follows the verb directly because dative is used and thus:

Jasia napisała Krystynie list
Jane wrote Christina a letter

means only

Jane sent a letter to Christina
Jasia posłała list do Krystyny

although we still don't know whom the letter was intended for (for Christina), for Jane herself or some third party).

2. CLASSIFICATION

Since surface structures appearing in the dative may represent a patient, an experiencer or a beneficiary, we must discover their semantic prime features in order to distinguish among the three possible cases. This is not always easy to do and some heuristic questions may prove very useful. Based on Brown's definitions (my 1.3.), the following questions helped me to classify my 150 sample sentences:
for patients. What (new) inherent characteristic does the NP exhibit?
for experiencers: What happened to the NP? What influence does he (she undergo? How does the NP feel?
for beneficiaries. Who profits from a particular voluntary action? Who becomes (is) the possessor? Who ceases to possess?[1]

[1] Brown (1973 : 322) states that "it makes sense to say of a voluntary action that it was done for someone other (benefactive), but it does not make sense to speak so of an involuntary action

He eats spinach for his mother's sake but not
He likes spinach for his mother's sake".

I thus discovered 31 utterances with a patient
(Charlie was taken to drink, I fear
Obawiam się, że Karolek zaczął pić)
25 with an experiencer (I am not keen on cold mutton
Nie mam ochoty na zimną baraninę)
35 with an intrinsic benefactive and 59 semantico-syntactically benefactive.

2.1. Intrinsic benefactives

As seen above (1.1.) all intrinsically benefactive utterances obligatorily contain a verb describing benefactive situations. Most of these verbs can be replaced by have, get (come to have) or cause to have (cf. Niedzielski 1976: tables 2 and 3).

2.1.1. Stative

These are [+state, +benefactive] verbs.
They answer the heuristic question: Who is the possessor?
In addition to the example quoted in 1.1.1., we find

He holds (has) a checking account in this bank.
Posiada (ma) konto czekowe w tym banku.
I keep (have) two horses on my farm.
Trzymam (mam) dwa konie na swojej farmie.

2.1.2. Dynamic

With the meaning of 'come to have', these are [+process, +benefactive] verbs.
They answer the heuristic question: Who becomes the possessor? In addition to the examples quoted in 1.1.2., we may list obtain, conquer, procure, secure, catch, beget, gain, take and steal, corresponding to wydobyć, zdobyć, wystarać się, zapewnić sobie, złapać, porodzić, zyskać, wziąć, ukraść. We may add the following verbs answering the heuristic question: Who profits from a particular voluntary action? — benefit by, benefit from, learn, study and korzystać z, uczyć się, studiować.

2.1.3. Causative

With the meaning of 'cause to have', these verbs are essentially [+process, +action, +benefactive].
They answer the heuristic question: Does anyone profit from a particular voluntary action? To the examples quoted in 1.1.1., we may add provide, and zaopatrzyć, pożyczyć.

The director provided us with enough liquor for a whole week.
Dyrektor zaopatrzył nas w wódkę na cały tydzień.

2.2. Semantico-syntactic benefactives

Our analysis of 59 benefactive expressions containing a beneficiary but no intrinsically benefactive verb revealed two disturbing facts:

a. *for* (*dla*) is not the only preposition used to introduce the beneficiary; on the other hand it has various other functions,[2]

b. the beneficiary is not always expressed through a surface structure dative. This surface structure case seems to depend on the preposition introducing it; in turn, this preposition seems to depend on some intrinsic features of the verb to which it is added. However, whenever the beneficiary follows the verb directly without any preposition, as it may happen with most intrinsic benefactives, the case is dative.

Table 1 gives an indication of the relative frequency and distribution of the various English prepositions and their Polish translations as found in our example sentences. Of course, I do not claim that this sample is large enough to be valid for an absolute generalization but it does offer an insight into general trends.

	dla 30	na 10	za 7	do 3	w 3	u 2	verb 2	ku 1	o 1
for 37	𝍸 𝍸 𝍸 𝍸 𝍸	𝍷	𝍸	𝍷	𝍷	𝍷		𝍷	𝍷
to 15	𝍸	𝍸 𝍷	𝍷	𝍷					
(be) in +NI 4			𝍷			𝍷	𝍷		
ON (+N) 3		𝍷			𝍷				

2.2.1. FOR

About two thirds of our sample sentences contain the preposition *for* and in the great majority of cases the Polish translation uses *dla*. This is no surprise since most linguists and dictionary makers give as first definition

[2] A vivid illustration of the complexity of the question is the example of some prepositions used after or with the noun *benefit*. "When *benefit* is used as a noun, the following are the chief prepositional constructions in which it occurs. confer a benefit *on* someone, derive benefit *from* something, do something *for the benefit of* a person – or for someone's benefit, be *of* benefit *to* someone, be *to* one's benefit ("It would not be to my benefit to do that"), be *in* benefit, be *out of* benefit. In the last two *benefit* is used in a special sense – that of entitlement to draw money from a club, society, fund, etc., in times of sickness or unemployment. A person is said to be *in benefit* when he fulfils the necessary conditions that entitle him to the benefit, and *out of benefit* when he does not fulfil them. "Wood 1967 : 137 – 138).

'to convey the idea of benefit or advantage, or reverse' (Wood 1967 : 33) or to introduce the person (thing which receives) suffers something or gets the benefit of something (Hill 1968 : 61).

2.2.1.1. FOR=DLA

In general, *for* is used to introduce a beneficiary which is explicitly [+animate, + direct instigator]. The latter feature means that the beneficiary initiates the action or triggers the reaction.

Whom do you work for?
Dla kogo pracujesz?
"He is a selfish, uncouth fellow, who has no respect for anyone" (Wood 1967 : 448)
To egoista, nieokrzesany typ, który nie ma żadnego szacunku dla nikogo

In all semantico syntactic benefactive sentences containing *for* translated as *dla*, it would seem that, in addition to the features indicated above, the beneficiary, is [+ intention]. This feature is particularly clear in a sentence like:

Do it for the sake of your family
Zrób to dla dobra twojej rodziny

If the agent and the beneficiary are identical, the construction is semantically and syntactically reflexive.

ex: I work for myself
Pracuję dla siebie

The following sentence probably exhibits all the above mentioned features best:

I shave myself for my wife
Golę się dla (swojej) żony

In addition, it suggests that there may be more than one beneficiary for a single benefactive action.

Since reflexivization appears possible with all types of semantico syntactic benefactives, I shall not mention it any longer unless it exhibits some special traits.

Whenever the beneficiary has at least one feature differing from those stated above, another preposition is used in Polish even when English uses *for*. Generally, it is a directional preposition, which points to the beneficiary.

2.2.1.2. FOR=DLA

I work only for my children
Pracuję tylko dla dzieci

Vote for Wilson
Głosuj na Wilsona
I have learnt some very good exercises for the legs
Nauczyłem się paru doskonałych ćwiczeń na nogi.

The beneficiary is [+animate] but it may be only an inalienable possession of a living being. When it is [+human] it is also indirect [+instigator] and/or indirect [+beneficiary].

2.2.1.3. FOR=ZA

I work for (instead of) my wife
Pracuję za żonę
I cannot speak for others
Nie mogę mówić za innych

The main difference between *na* and *za* seems to lie in the fact that, generally, *za* is used when some kind of substitution takes place — usually, that of the agent for the beneficiary who thus benefits indirectly from the action of the agent. Quite often, the beneficiary is [−concrete] but [+animate] through personification:

They gave their lives for their country
Oddali życie za ojczyznę
Walczymy za wolność waszą i naszą
Let us fight for our liberty, yours and ours.

2.2.1.4. FOR=DO

I have a question for you
Mam pytanie do ciebie

The objective is [+abstract] The action is intended for someone (*for*) and addressed to him (*do*).

2.2.1.5. FOR=U, W

He used to play for Tottenham Hotspur
On grywał w (dla) Tottenham Hotspur
My father worked for an elderly bookseller
Mój ojciec pracował u (dla) starszego księgarza

Although *dla* would generally be grammatical, *w*, *u*, are used in sentences denoting or implying a location.

2.2.1.6. FOR=KU

The Lord created Eve out of Adam's rib for his pleasure
Stworzył Pan Bóg Ewę z kości, Adamowi ku radości

The beneficiary includes a mental disposition, or feeling, which is the destina-

tion of the action. While *do* implies that the goal is reached, *ku* considers the movement toward the goal, which might never be reached.

2.2.1.7. FOR=O

Who will provide for her now that her father is dead?
Kto będzie się o nią troszczył, kiedy umarł jej ojciec?

This sample shows that other prepositions may be used in Polish but actually it belongs to the class of intrinsic benefactives. (provide for, troszczyć się) described under 1.1.4.

2.2.2. TO

The second most widely used preposition to introduce a beneficiary in English is *to*. Accordingly, some of the definitions I have found are almost identical with those listed under *for*. The only differences that Hill (1968 : 61 & 165) reports are syntactic. While *for* may be used in at least six different types of constructions, *to*, introducing a beneficiary, may be used only in two patterns N_1—P_xN_2 or Adj. - P_xN.[3]

It is a hindrance to progress
To jest przeszkoda dla postępu
He was very good to us
Był dla nas bardzo dobry

It is probably easier to distinguish these two prepositions semantically as *to* emphasizes the aim or direction of the action (or process) while *for* stresses its intention.

2.2.2.1. TO=DLA

Quite a number of English benefactive sentences containing *to* translate into Polish sentences with *dla*.

Youth should always show respect to old age
Młodzież powinna zawsze okazywać szacunek dla starszych
This book is available to everyone for reading it
Ta książka jest dostępna do czytania dla każdego.
He will be a great help to you
Będzie wielką pomocą dla ciebie

We may observe some general trends, some of which have already been reported by Wood (1967 : 78 & 80). The adjectives concerned in structures like

[3] Hill (1968 : 165) states that "the meaning is that the N after the P gets the benefit of N_1/Adj, or suffers the bad effects of the latter; e.g. in *It is a hindrance to progress*, progress (N_2) suffers the bad effects of the hindrance (N_1); and in *He was very good to us*, we (N) get the benefit of the goodness (the nominal idea contained in the Adj.)".

She was always kind to children
Była zawsze uprzejma dla dzieci

generally describe an attitude or a conduct *towards* the beneficiary. This beneficiary is [+animate] (or personified), [−direct instigator], [+direction] (or aim). Quite often, it is found after an intrinsically benefactive verb like *give*.

2.2.2.2. TO=NA

Another large area of correspondence is that found between *to* and *na*.

I will say nothing to the detriment of my colleagues
Nie powiem nic na szkodę kolegów
He took off his hat to the ladies
Zdjął kapelusz na cześć pań

The beneficiary is made up of a N+its nominalized attribute, the preposition directly introduces the NP's characteristic and the possessing NP follows; in English the characteristic may be elided. Thus, like in 2.2.1.2., we have an indirect beneficiary. Often, the agent's action is directed towards the realization of a wish.

Let us drink to the health of the bride
Wypijmy za zdrowie panny młodej

2.2.2.3. TO=ZA

Similar semantic features may be observed in

Let us drink to the success of your voyage
Wypijmy za sukces twojej podróży

One possible difference is that the [+animate] beneficiary is not directly expressed, but rather one of his activities which, on the surface, substitutes for it.

2.2.2.4. TO=DO

Jane wrote a letter to Christina
Jasia napisała list do Krystyny

The correspondence between Polish and English is perfect re; both prepositions have as their basic meaning 'in the direction of'. They point to the person to which the activity is directed. Destination takes precedence over intention which may actually be totally unimportant if the letter Christina receives is not for her at all.

Most of those present were in favour of the proposal
Większość z obecnych były za propozycją
He is not in favour with the powers that be
On nie ma względów u obecnych władz

His brother came in his stead
Jego brat przyszedł za niego
I write this on behalf of my assistant
Piszę to na rzecz mojego asystenta

In most benefactive utterances containing *in* this *in* is followed by an abstract noun expressing an attitude of mind intending to help or hurt the beneficiary. Quite often this prepositional phrase is preceded by the verb *be* paralleling *to be for*. In Polish, generally, some locative preposition is used to indicate the position of the agent in relation to the beneficiary.

2.2.4. ON (+N)

He is just a scrounger, who lives on other people
To jest sknera, który żeruje na innych

This is probably a metaphoric usage of *on*, reminding of predators on their preys.

I am writing on behalf of my client
Piszę w obronie mojego klienta

This should actually be in behalf of (2.2.1.) but a confusion seems to exist in many speakers' mind. Originally, *on behalf of* meant only *on the side of*.

2.3. Emphatic benefactives

Both English and Polish seem to use the same device to emphasize the feature of benefactive. Of course, there are differences in its distribution between the two languages.

2.3.1. Intrinsic benefactives

2.3.1.1. State benefactives

Since state benefactives are characterized in 1.1.1. with the features $V_+[-B_s, O]$, it should be clear why it is possible to emhasize B_s only. The most frequent device in English is to appose the appropriate reflexive pronoun next to the beneficiary; in Polish, the appropriate form of *sam* is preposed to the beneficiary.

Tom, himself, owns a convertible
Sam Tomek posiada kabriolet

2.3.1.2. Process benefactives

The same devices are used as for state benefactives:

Tom, himself, lost the tickets
Sam Tomek zgubił bilety

Although considered substandard, structures like

? I found me a house

are more and more frequent in US English and must be noted.

2.3.1.1. Process-Action benefactives

He bought a car
Kupił samochód

versus

He bought himself a car
Kupił sobie samochód

The reflexive structure emphasizes the [+beneficiary] feature of *he* which is also [+agent]. The dual function of *he* is already present in the non reflexive structure but it could pass unnoticed.

The same devices are used as for state benefactives and process benefactives:

John bribed the officials themselves
Jan przekupił samych urzędników

Note that for all three groups in most cases where *sam* is used it is possible and sometimes clearer to use *nawet*.

2.3.2. Semantico-syntactic benefactives

2.3.2.1. Stative

As semantico syntactic benefactives imply an action (or possibly a process), this set will remain empty for the time being (until futher research).

2.3.2.2. Dynamic (cf. 2.1.2.)

Let everyone speak for himself
Niech każdy mówi za siebie
I am washing (myself) a shirt
Piorę (sobie) koszulę

According to Lyons (1971 : 374), "the reflexive implication in sentences like this might be described as 'benefactive' (for the benefit of, in the interest of)".

It is worthwhile to note that with pseudo intransitive benefactive verbs, which are semantically reflexive, the emphatic expressions do not use full verbal structure (eg. to shave oneself, to dress oneself). The original reflexive marker remains deleted:

I am shaving by myself
Golę się sam
I am dressing by myself
Ubieram się sam

In Polish, a subgroup of this class exists. In a sentence like:

W czasie jazdy trzymać się uchwytu

(W czasie jazdy trzymać uchwyt)
Please hold on to the rail

what is implied is something like: for your own good (dla twojego dobra). In all these sentences, the beneficiary is also the agent.

2.3.2.3. Excessive (Visan-Neuman 1972 : 126)

Two syntactic subgroups of excessive benefactives (actually malefactives) can be distinguished in their surface structures. Semantically, they are similar. They have the general meaning of damaging oneself by doing an action to excess. One subgroup prefixes the verb with the preposition *over*

He overate (himself)
Przejadł się

The other subgroup follows the pattern

$V_{[+action]}$+refl.+$adj._{[+inherent\ characteristic]}$

in English and, generally,

perfective verb+refl.+*do*+N

in Polish:

He shouted himself hoarse
Zakrzyczał się do zachrypnięcia.

2.3.2.4. Causative (cf. 2.1.3.)

He got himself hired
Wynajął się do pracy

With the meaning 'He caused someone to hire him=He made someone give him a job', these sentences contain an ergative initiator: the unspecified hirer who is at the same time the object of the main causative predication: He caused someone... and the subject of the downgraded predication: someone hired him.

The non emphatic construction would just state:

He got hired
Dostał pracę

It is dynamic, instead of causative, and corresponds to:

Someone hired him
Ktoś dał mu pracę

It is an action-process benefactive with *he* as beneficiary.

3. CONCLUSION

Although no definite rules have been arrived at, some general trends have been observed:

3.1. Surface structure-dative often, but not always, represents a semantic benefactive; it is traditionally referred to as 'dative of interest'. Semantic prime features must then be established, especially to account for lexical realizations of various types of benefactive. Transforming the surface dative into its corresponding prepositional structure will help to determine these features and, consequently, will facilitate translation from one language into the other.

3.2. Whenever a verb is intrinsically benefactive, the corresponding underlying sentence is also benefactive.

3.3. When the verb is not intrinsically benefactive, the sentence may be made benefactive through the use of a special preposition.

3.4. The basic benefactive prepositions are *for* and *dla*. Some other prepositions, mostly locative, may be used, the most frequent being *to* and *ná* or *za*. These 'locative' prepositions are usually directional and stress one of the prime features which may characterize a benefactive (where an action or process brings benefit, profit or loss to the beneficiary). The most basic of these prime features and the prepositions expressing them are summarized in the following table:

	Semantico Syntactic Benefactives	
	BENEFICIARY [+animate, ± direct instigator, +intention +direction...]/prep	
Basic Distinctive Feature	+Intention +Direct Instigator FOR	+Direction +Direct Instigator TO

	Essential Specific Semantic Features	
DLA		DLA
NA	indirect beneficiary [±direct instigator]	NA
ZA	substitution	ZA
DO KU	approaching destination tending toward destination	DO
U, W	location	

3.5. A surface structure reflexive may be used for purposes of emphasis with intrinsic benefactives or with semantico syntactic benefactives.

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A CONTRASTIVE SEMANTIC ANALYSIS OF COLOUR ADJECTIVES IN POLISH AND ENGLISH

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1. The lack of isomorphism between the lexical systems in the vocabularies of different languages is already a well recognized and accepted fact which has found its manifestation in the fundamental law of semantics referring to the divergency between substance and form or between content and expression planes. Thus languages are referred to as non-isomorphic by imposing a specific form on the a priori universal and undiferentiated substance (cf. Lyons 1969).

2. The aim of this paper is, therefore, to define the degree of the above mentioned isomorphism by means of comparing the semantic fields of colour adjectives used metaphorically in Polish and English, mainly in their attributive function in the adjective+noun sequence or in set phrases. We shall consider, therefore, the following structures:

a) adj.+N, for instance: *white collar*
b) V+adj., „ „ *to feel blue*
c) compounds, „ „ *blacksmith*

3. For our purpose in this paper, the defition of semantic field will be a group of words subsumed under one colour term and fulfilling the above mentioned conditions. The discussion will be based on juxtaposing each Polish example with its English translation (equivalent) respectively as given in the dictionaries (see references). Archaic and rarely used entries will not be discussed.

4. Such an approach is expected to reveal interesting and important facts about the degree of isomorphism between the two languages in question as far as the colour terms are concerned and consequently it may provide some

insights for the error analysis, native language interference and all the aspects that the pedagogical grammar deals with.

5. Even casual observation indicates that an understanding of colour involves not only physics but language communication as well. When analysing the occurrence of colour adjectives one is immediately aware of the fact that they form either restricted or unrestricted classes according to the given noun they modify. Thus, a *pen* may be modified either as *black, blue, red, green* etc. while *ingratitude* is usually referred to as *black*. Moreover, we speak of *wine* or *hair* as *red* which in fact is *brownish* or *rusty*. We may, therefore, distinguish two classes of colour reference, basic i.e. unrestricted and peripheral i.e. restricted or metaphorical. The first exhibits one-to-one correspondence while the other one differs to a more or less considerable extent.

6. It has also been demonstrated that there are languages which use different colour terms for a definite range of colour in the spectrum (cf. Lyons 1969). Some of the languages use more than one term while others lack one. Such a divergency is due to the culture which the language represents and consequenly reflects in language communication. The degree of cultural overlap bears, therefore, on the range of differences.

7. On the whole English and Polish do not differ radically in their naming of physical colours. This can be very easily observed when comparing the definitions of colour entries given in the respective dictionaries, for example:

— biały — of the colour opposite to black, characteristic of snow.
— white — of the colour of fresh snow, or common salt.
— niebieski — of the colour of clear sky, the flowers of flax.
— blue — colour like the sky on a clear day, or the deep sea when the sun is shining.
— zielony — of the colour between blue and yellow... the colour of fresh grass.
— green — of the colour between blue and yellow... the colour of growing grass... etc., etc.

As follows from the above presentation the principal colour adjectives in Polish and English possess a similar reference when in their basic meaning. The only exception is *blue* which, like the Russian *sinyi, goluboi*, has two counterparts; *niebieski, błękitny* in Polish. It still remains to be mentioned that colours in physics used to be classified into. primary (red, yellow, blue), secondary (orange, green, violet) that is the combination of primary colours, and tertiary, that is the combination of secondary. For our purpose, however, we shall restrict ourselves to the most frequently used colour adjectives in language communication, namely: *white, black, red, green, blue, yellow, grey, pink* and *brown*.

8. The correspondence between colour adjectives in English and Polish may be demonstrated as follows:

A. Full isomorphism: close one-to-one correspondence, i.e.

białe wino-white wine

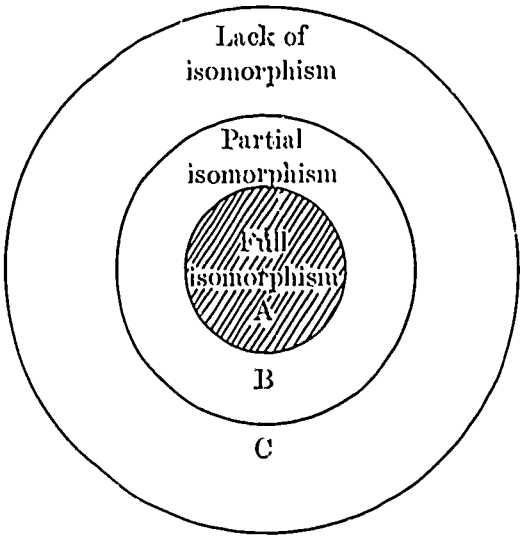
B. Partial isomorphism:

1) where the noun remains identical while the adjective differs:
białe tango — ladies' tango
2) where the adjective remains identical while the noun differs:
biała figura — white chessman

C. Lack of isomorphism.

1) different equivalents:
białe szaleństwo — skiing
2) descriptive translation:
biały mazur — mazurka danced at dawn
3) reverse equivalents (rare)
biały kruk — black swan

The above range of isomorphism may be represented graphically. It is supposed to account for the degree of difficulty in foreign language vocabulary acquisition. The learner is likely to meet more difficulties in memorizing lexical units located far away from the kernel of the diagram:



In our discussion the semantic fields B and C will be combined together as non-isomorphic. Thus we shall introduce a double subdivision only, full- and non-isomorphic.

A. BIAŁY — WHITE

1. biały kruk	— black swan
2. biały wiersz	— blank verse
3. biały mazur	— (descriptive)
4. biały świt	— dawn
5. biała płeć	— women
6. białe szaleństwo	— skiing
7. biały murzyn	— drudge
8. biała karta	— a clean sheet
9. białe noce	— polar nights
10. biały dzień	— high day
11. biała broń	— side arms
12. biała blacha	— tinned sheet
13. biały mróz	— hoar-frost
14. białe tango	— ladies' tango
15. biała księga	— white paper
16. biała figura	— white chessman

17. biała kawa	1. — white coffee
18. białe mięso	2. — white meat
19. białe pieczywo	3. — white bread
20. białe wino	4. — white wine
21. białe ciałka krwi	5. — white corpuscles of blood
22. biała substancja mózgu	6. — white matter in brain
23. Biały Orzeł	7. — White Eagle
24. Biały Dom	8. — White House
25. biały metal	9. — white metal
26. białe karły	10. — white dwarfs
27. biała magia	11. — white magic
28. biały cukier	12. — white sugar
29. biała gorączka	13. — white fever
30. biała niewolnica	14. — white slave
31. biały niedźwiedź	15. — white bear
32. biały człowiek	16. — white man

	17. — white hot	— rozpalony do gorąca
	18. — white sale	— wyprzedaż płócien
	19. — white bait	— smażone rybki
	20. — white caps	— grzywiaste fale
	21. — white collar	— urzędnik
	22. — white livered	— tchórzliwy
	23. — white lipped	— z wargami sinymi ze strachu
	24. — whitesmith	— blacharz
	25. — white washer	— obrońca reputacji
	26. — white lie	— nieszkodliwe kłamstwo
	27. — white sheet	— szata pokutnika
	28. — white tie	— (descriptive)
	29. — white slavery	— prostytucja
	30. — white slave trafic	— handel żywym towarem

B. CZARNY — BLACK

1. czarny człowiek	— darked-skinned man	
2. czarna dusza	— wicked soul	
3. czarny charakter	— mischief-maker	
4. czarna godzina	— rainy day	
5. czarna strona	— dark side of	
6. czarna robota	— dirty work	
7. czarny kontynent	— The Dark Continent	
8. czarna polewka	— (descriptive)	
9. czarny chleb	— brown bread	
10. czarny towar	— black ivory	
11. czarna kawa	1. — black coffee	
12. czarna jagoda	2. — blackberry	
13. czarna porzeczka	3. — blackcurrant	
14. czarna księga	4. — black book	
15. czarna owca	5. — black sheep	
16. czarna rozpacz	6. — black dispair	
17. czarny postępek	7. — black deed	
18. czarna nienawiść	8. — black ingratitude	
19. czarna śmierć	9. — black death	
20. czarny rynek	10. — black market	
21. czarna reakcja	11. — black reactionary	
22. czarna magia	12. — black magic	
23. czarna msza	13. — black mass	
24. Czarna Pantera	14. — Black Panther	
25. Czarna Siła	15. — Black Power	
26. Czarne Koszule	16. — Black Shirts	
27. czarny strach	17. — black fear	
28. Czarne Zaglębie	18. — Black Country	
29. czarna komedia	19. — black comedy	
	20. — black lead	— grafit
	21. — black leg	— łamistrajk
	22. — black mail	— szantaż
	23. — black Maria	— suka
	24. — black pudding	— kiszka
	25. — blackout	— zaciemnienie
	26. — blacksmith	— kowal
	27. — black spot	— (descriptive)
	28. — black mood	— ponury nastrój.
	29. — black beatle	— karaluch
	30. — blackboard	— tablica
	31. — black box	— (descriptive)
	32. — black coated	— urzędnik
	33. — black frost	— suchy mróz
	34. — blackbird	— kos
	35. — blackcock	— cietrzew
	36. — black jack	— maczuga
	37. — black letter	— pismo gotyckie.
	38. — blackguard	— szubrawiec
	39. — black water fever	— malaria
	40. — black friar	— dominikanin
	41. — blackhead	— wągr

1. czerwony kur — (descriptive)		
2. czerwony złoty — (descriptive)		
3. czerwony barszcz — (descriptive)		
4. Czerwony Krzyż	1. — Red Cross	
5. Czerwony Sztandar	2. — Red Flag	
6. Czerwona Armia	3. — Red Army	
7. Czerwony Półksiężyc	4. — Red Crescent	
8. Czerwona Gwiazda	5. — Red Star	
9. czerwone wino	6. — red wine	
10. czerwone ciałka krwi	7. — red corpuscles of blood	
11. czerwona płachta	8. — red rag	
12. czerwony żar	9. — red heat	
13. czerwone oczy (od płaczu)	10. — red eyes (with weeping)	
	11. — red hands (-with)	— zakrwawionymi rękoma
	12. — red carpet	— (descriptive)
	13. — see red	— wściekać się
	14. — red Brick	— (descriptive)
	15. — red cap	— (,, ,,)
	16. — red ensign	— (,, ,,)
	17. — red book	— (,, ,,)
	18. — red box	— (,, ,,)
	19. — red light district	— (,, ,,)
	20. — red hat	— purpurowy kapelusz
	21. — red hot	— rozpalony, podniecony
	22. — red letter day	— dzień świąteczny
	23. — red meat	— (desc.)
	24. — red tape	— biurokracja
	25. — red weed	— mak
	26. — red herring	— (descriptive)
	27. — red coat	— żołnierz brytyjski
	28. — red blooded	— krzepki

D. ZIELONY — GREEN

1. Zielone Świątki	— Whit Sunday		
2. zielone pojęcie	— faint idea		
3. zielona granica	— (descriptive)		
4. zielony wybieg	— (descriptive)		
5. zielone użytki	— meadows		
6. zielony karnawał	— (descriptive)		
7. zielony stolik	— gambling table		
8. zielona linia	— (descriptive)		
9. zielona trawka	— get fired		
10. zielony dzięcioł	— green peak		
11. zielone tereny	— green belt		
12. zielona herbata	1.	— green tea	
13. zielone nawozy	2.	— green manure	
14. być zielonym	3.	— to be green	
15. zielona pasza	4.	— green crop	
16. zielony ze strachu	5.	— green with fear	
	6.	— green food	— zielonka
	7.	— greengrocer	— zieleniarz
	8.	— green hide	— surowa skóra
	9.	— green old age	— czerstwa starość
	10.	— green stuff	— warzywa
	11.	— green winter	— bezśnieżna zima
	12.	— green Christmas	— B. Narodzenie
	13.	— green wound	— niezagojona rana
	14.	— green memories	— świeże wspomnienia
	15.	— green house	— szklarnia
	16.	- greenhorn	— żółtodziób
	17.	— green room	— (descriptive)
	18.	— greensickness	— blednica
	19.	— green sward	— murawa
	20.	— green yard	— zagroda
	21.	— green eyed	— zazdrosny

E. NIEBIESKI — BLUE

1. niebieski ptaszek	— adventurer		
1. niebieskie migdały	— (descriptive)		
3. niebieski lis	— arctic fox		
4. niebieska krew	1.	— blue blood	
5. niebieska wstęga	2.	— blue ribbon	
	3.	— blue film	— niecenzuralny film
	4.	— blue jokes	— nieprzyzwoite kawały
	5.	— blue moon (once in a)	— rzadko
	6.	— blue collar	— robotnik
	7.	— blue jacket	— marynarz M. W.
	8.	— blue print	— odbitka
	9.	— blue stocking	— sawantka
	10.	— blue laws	— purytańskie prawa
	11.	— blue water	— otwarte morze
	12.	— feel blue	— mieć chandrę
	13.	— blue fear	— panika
	14.	— blue bonnet	— bławatek
	15.	— blue ointment	— szara maść
	16.	— blue despair	— czarna rozpacz
	17.	— blueberry	— czarna borówka
	18.	— blue in the face	— do utraty tchu
	19.	— drink till all is blue	— upić się do nieprzytomności

F. RÓŻOWY — PINK / ROSY

1. różowa przyszłość	— rosy prospect
2. różowe nadzieje	— „ „
3. różowy nastrój	— in high spirits
4. różowy humor	— „ „
5. różowe okulary	— rose-coloured spectacles
6. w różowych kolorach (—widzieć)	to take a rosy coloured view
	pink elephant — białe myszki

G. ŻÓŁTY — YELLOW

1. żółtodziób	— green-horn		
2. żółty człowiek	1.	yellow man	
3. żółta rasa	2.	yellow race	
4. żółta febra	3.	yellow fever	
5. żółta plamka	4.	yellow spot (medicine)	
	5.	yellow press	— brukowiec
	6.	yellow bellied	— tchórz
	7.	yellow metal	— mosiądz
	8.	yellow back	— (descriptive)
	9.	yellow boy	— złota moneta
	10.	yellow dog	— szuja
	11.	yellow Jack	— żółta febra

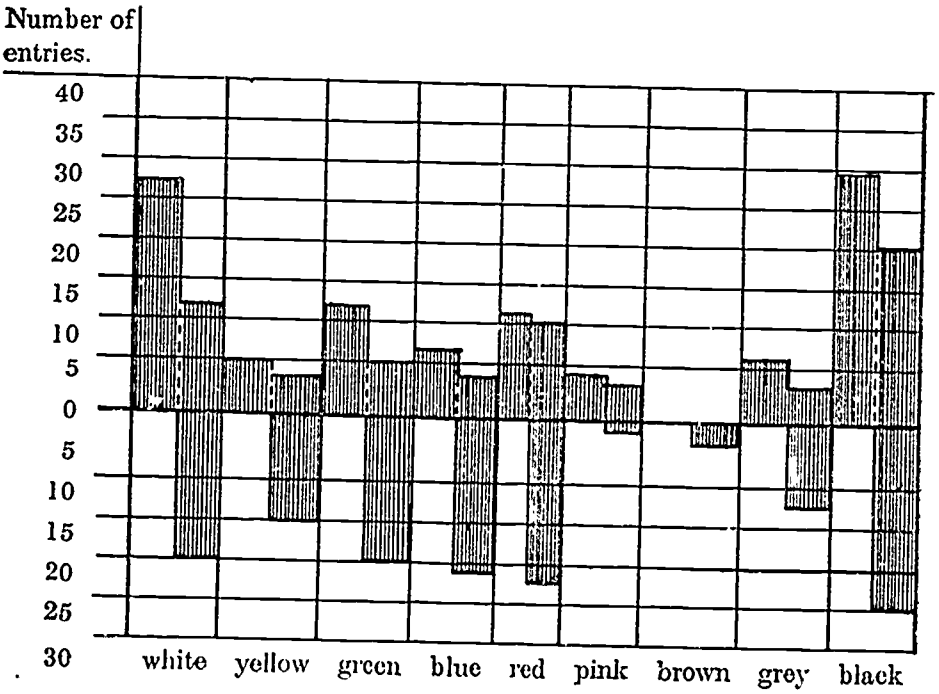
H. SZARY — GREY

1. szary tłum	— the rabble		
2. szara godzina	— dusk		
3. szare życie	— dull life		
4. szary koniec /być na	— bring up the rear		
5. szara eminencja	— éminence gris		
6. szary człowiek	— plain man		
7. szare płótno	— brown linen		
8. szare mydło	— soft soap		
9. szary papier	— brown paper		
10. szara maść	— blue ointment		
11. szara substancja mózgu	1.	grey matter of brain	
12. szara gęś	2.	grey goose	
	3.	grey beard	— starzec
	4.	grey-headed	— weteran
	5.	grey hound	— chart
	6.	grey friar	— franciszkanin
	7.	grey monk	— oysters
	8.	grey sister	— terojarka

I. BRĄZOWY — BROWN

0	1.		
0	0		
	1.	brown bread	— razowy chleb
	2.	brown paper	— szary papier
	3.	brown sugar	— nieoczyszczony cukier
	4.	to be in a brown study	— zamyślony

Colour adjectives in Polish and English vs. the degree of isomorphism.



CONCLUSIONS

1. The above diagram illustrates the degree of isomorphism between colour adjectives in both languages measured by the number of corresponding entries. It is an easily observable fact that the adjectives *white* and *black* possess the highest frequency of occurence, which seems to support the hypothesis put forward by Berlin and Kay (1970) (see Lehrer 1974 : 153) that... "three is a definite hierarchy in importance and in the development of color words. They find that all languages have terms for *white* and *black*. If there is a third term, it will be *red*...".

2. Moreover, the respective semantic fields as presented in our discussion might be characterized in isolation in four categories:

a) — frequency of occurrence, i.e. the number of entries,
b) — the dimension of the fully isomorphic field,
c) — non-isomorphic Polish (semantic field) in relation to English,
d) — non-isomorphic English (semantic field) in relation to Polish.

Thus, points a) and b) would require no elaborate comment as they are

easily conspicuous, while c) and d) would be made explicit due to such motivation as: a different cultural background, set phrases, idiomatic expressions, associative and connotative features, symbolic meaning, etc.

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FRENCH -ENGLISH CONTRASTIVE LINGUISTICS AT THE UNIVERSITÉ CATHOLIQUE DE LOUVAIN

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It is probably no exaggeration to say (as I already did elsewhere) that no other world languages have been in closer contact than English and French. This is true in more than one sense. we all know that the Norman Conquest was not only a territorial but also a very spectacular linguistic affair, that English and French have ever since been the privileged language of diplomats and scientists, and that today French is taught as a foreign (often second) language in most English speaking countries and vice-versa. It is rather surprising therefore that contrastive study of these two languages should not have been practised on a larger scale. True enough, a few great names are connected with such research (Mackey, Vinay, Darbelnet, Ullmann, Wandruszka and others), but there is, to my knowledge at least, no recent or systematic effort comparable with the contrastive projects undertaken in such countries as Poland, Yugoslavia, Rumania, Sweden or Germany. A look at two recent bibliographical lists confirms this. volume four of the Papers and Studies in Contrastive Linguistics of the Polish – English Contrastive Project lists some 100 published books or papers for a period of hardly 10 years, whereas our own French- English bibliography in vol. 3 of the Contrastive Analysis Series lists about the same number of items for a period three times as long.

It would be preposterous on my part if I said that our Centre d'Etudes Anglaises of the Université Catholique de Louvain intends to fill this gap and has plans for something great and systematic. After all, our department is large only in terms of numbers of students, staff and budget are small, and hence mainly invested in teaching. Yet, ever since in the sixties our University of Louvain ceased to be a bilingual institution, the French speaking future teachers of English have no longer been a kind of subgroup in a numerically

and therefore linguistically dominant Flemish group, but have had their own, specific curriculum and teaching staff. This has taken us straight into problems of contrastive linguistics, for we share the general belief that the structure of the learners' first language should to some extent determine the way a second language is taught. On the other hand it would be wrong to say that pedagogical considerations have been our only incentive. it seems obvious that much relevant information about the grammar and vocabulary of a language emerges from careful and systematic comparison with another language. All linguistic description is, after all, at least covertly contrastive.

The present situation at our Centre d'Etudes Anglaises is one where English–French contrastive research centres round a few doctoral projects and a considerable number of "licence" dissertations. Only a small part of this has so far found its way to books or journals, but a few representative papers have been collected in volume 3 of the "Contrastive Analysis Series". A look at these writings will show that our Centre is not the place of worship of one particular linguistic faith. We have never thought of adhering to one theoretical approach or model of analysis to the exclusion of all other approaches or models. The fact that there is no school of thought but has produced excellent contrastive analysis probably shows that the choice of a model should be made subservient to the nature of the problem to be studied and to the aim of the investigation. A compromise position of the kind Randolph Quirk adopts in his recent *Grammar of contemporary English* strongly appeals to me personally (Quirk 1972).

Although phonology has on the whole so far been rather marginal in our activities, research has been conducted for some time by J. Heiderscheidt into the relation between graphic and stress phenomena and the possibility of working out strategies enabling French learners to cope more efficiently with stress problems when confronted with a written text. The starting-point for these strategies are the stress rules at word- and phrase-level as proposed in the Sound pattern of English, but further simplified in the sense suggested in Halle's reformulation (*Linguistic inquiry* 1973). The parameters considered at word-level are 1. word-class, 2. number of syllables and syllabic structure, 3. morphological structure and derivational history, 4. origin (Latin, Greek, French, etc.). The validity of these rules is tested, e.g., by means of Dolby and Resnikoff's "Reverse word list" (1967), and experiments undertaken with learners of our Department suggest that the rules are efficient in 85% of the cases.

Contrastive syntax has from the beginning been our favourite field of investigation. A considerable number of "licence" memoirs have been devoted to such various subjects as the structure of the noun phrase and the adjective phrase, the use of the tenses, the function of the infinitive and the participle, etc. More large-scale research is at present being conducted on two

points: the use of the passive voice and the use of conjunctions in English and French, by S. Legrand—Granger and by J. Colson respectively.

The study of the passive starts from the analysis of all forms with *be*+past participle and être,+"participe passé" and from the difficult question as to what criteria will sort out passives from such non-passive structures as *I was interested* or *ils sont déçus*. French and English on the whole raise the same problems here. From a descriptive point of view considerable differences emerge from the analysis of the novel corpus: first of all the passive is about twice as frequent in English as in French, which apparently has to do with restraints on subject selection and use of the infinitive in passive structures in French, as well as with the more frequent use of the indefinite subject *on* and of reflexive verbs in this same language. Investigations of the reasons why passive should be preferred to active leads to much the same answers in both languages: omission of the agent is a fundamental reason; in cases where the agent is expressed, the passive is accounted for by several factors, the main one being the order theme—rheme.

The contrastive study of the use of conjunctions by J. Colson is to be seen as an attempt to go beyond the level of the sentence and to explore text and context. Conjunctions appear as one class of the various markers on which the structure of a text hinges. If their specific role is associated with the logical articulation of discourse, it is clear also that discourse has its own logic, only partly overlapping with formal logic, to which the pragmatic context of utterance is not irrelevant. A characterization of conjunctions must therefore cover their function both at the semantic level of utterance content and at the level of the interlocutors' discursive interaction. This distinction among conjunctions between logical operators (*He is sick because he has eaten too much*) and speech act markers (*Where is he? Because I wanted to speak to him*) seems to be an overall linguistic phenomenon. Its manifestation in English and French at least seems to take place according to rather similar patterns.

In recent years special attention has also been given to problems of contrastive lexicology. If the contrastive study of any two lexical systems is quite a rewarding (and perhaps also a much neglected) field for the linguist to explore, that of the French and English vocabularies is particularly challenging. As we all know, no transfer of words from one language to another is comparable with the massive influx of French lexical items into the English vocabulary in the centuries following the Norman Conquest. It was of such a radical nature that it led A. C. Baugh to conclude his survey of that process in *The history of the English language* (1957) with a reassuring paragraph "The Language still English". Still English no doubt, but, as every English teacher in France or Belgium well knows, full of pitfalls lying in wait for the French speaking pupil. The study of deceptive cognates has therefore naturally enjoyed a privileged status in French—English contrastive studies, as Maxime

Koessler's sixth and three times enlarged edition of *Les faux amis des vocabulaires anglais et américains* (1975) clearly shows. Yet this impressive scholarly work is clearly intended for translators, and more particularly for translators of literary texts. We feel that there is still room — and even a real need — for a more systematic treatment of the "faux amis" frequently occurring in informal spoken and written English, perhaps in the light of recent componential analysis, whereby the referential components of meaning (E. *assassinate* has the feature (political reason), which Fr. *assassiner* lacks), stylistic components (E. *maternal* vs. Fr. *maternel*) and collocational ones (E. *a *rapid conclusion* vs. Fr. *une conclusion rapide*) are clearly distinguished. Other aspects of the "faux amis" problem need further investigating, of course. One such aspect is the formal one, i.e., the problem of what might be called "deceptive paradigms", illustrated by the following sets:

habiter	*inhabit*
habitable	*inhabitable*
habitant	*inhabitant*
habitation	*habitation*
inhabitable	*uninhabitable*
inhabité	*uninhabited*

When cognates are only partially deceptive, the problems are in fact the same as those one gets with "translational equivalents" in general (mainly that of wider or different extension of meaning), and here too some research has been undertaken. As we all know, even the best of dictionaries let the learner and the researcher down all the time. When working with monolingual dictionaries, they will find e.g., that the pipe-smoker's pipe is only the 4th meaning given for the word *pipe* in Webster's *New collegiate dictionary*,[1] whereas it is the basic meaning of F. *pipe* according to the *Larousse du XXe siècle* — which is not a very realistic image of the situation. When working with a bilingual dictionary, they may find e.g., that *tirer* has five English cousins. *pull, tug, draw, dray, haul*, which presentation suggests that they are interchangeable quins.

A few dissertations have so far been devoted to such problems, but the focus has been mainly on differences of a referential nature. Here again, a far more delicate but no less important task is the description of contrasts on the level of style, connotation and collocation. It is clear from the spoken and written English of even our most advanced learners that "collocational competence" is the most difficult foreign language skill to acquire, and this area of research is therefore a very challenging one. If *un vent fort* and *une forte marée* are F. *a strong wind* and a *strong tide* respectively, why then should

[1] See R. Quirk in "A world of words", Times literary supplement, Oct. 22, 1976,

une forte brise be *a stiff breeze*, *une forte pluie* a *heavy rain*, *de fortes chaleurs intense heat*, etc., etc.? By combining the Firthian approach to the problem and the selectional restrictions of TG grammarians, a step forward has been taken by some (E. Roos 1975). But in fact even such a combined approach seems to cope efficiently only with "habitual" collocation types, leaving it an open question whether more can be said about "close" collocations than that they should be considered and learnt as lexical items.

This picture would be incomplete if I did not say a few final words also about a domain complementary to contrastive linguistics, i.e., error analysis. A representative amount of materials has already been examined (i. al. by T Peeters, A. Senck), and if we face of course the same theoretical problems as any researcher in any country in this field (is a given form grammatical or ungrammatical? acceptable or unacceptable? does it pertain to grammar or lexis?), the English of French speaking learners in bilingual Belgium poses a more intricate problem with regard to interferential analysis than in many other speech communities. Tentative figures show that, if of all grammar mistakes 31% can be accounted for by intralingual interference, no fewer than 15% of the interlingual ones might be due to Dutch (Belgium's second national language), as against 85% to French. The same figures show that the major trouble spots for our learners are 1. correct use of the article (esp. zero article with uncountables and plural countables in generic use), 2. the verbal oppositions progressive/non progressive and simple past/present perfect, 3. correct placing of adverbs in sentences, 4. selection of the appropriate preposition. The preparatory stage, we may say, is nearing its end in this field, and the time has come for more definite conclusions. We fully realize that here, as in other fields of investigation we have embarked upon, closer cooperation with other research centres is one of the things that would increase the quality and the pace of our work. First contact has recently been made with the Polish linguistic world: a book by one of our staff members, S. Legrand--Granger, and her colleague B. De Vlamminck is at present being translated into Polish (*Tendances interprétatives et génératives en grammaire transformationnelle*). May it be the starting-point for further fruitful cooperation and exchange.

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